FINAL
Preliminary Assessment Report
Camp Rilea, Oregon

Perfluorooctane-Sulfonic Acid (PFOS) and Perfluorooctanoic Acid (PFOA) Impacted Sites
ARNG Installations, Nationwide

February 2020

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Acronyms and Abbreviations

°F	degrees Fahrenheit
AECOM	AECOM Technical Services, Inc.
AFFF	aqueous film forming foam
AMSL	above mean sea level
AOI	area of interest
ANG	Air National Guard
Argonne	Argonne National Laboratory
ARNG	Army National Guard
bgs	below ground surface
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CSM	conceptual site model
DEQ	(Oregon) Department of Environmental Quality
FTA	fire training area
OMD	Oregon Military Department
ORARNG	Oregon Army National Guard
PA	Preliminary Assessment
PFAS	per- and poly-fluoroalkyl substances
PFOA	perfluorooctanoic acid
PFOS	perfluorooctanesulfonic acid
PIL	Pollutant Initiation Level
SI	Site inspection
U.S.	United States
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
UTES	Unit Training Equipment Site

Executive Summary

The United States (U.S.) Army Corps of Engineers (USACE) Baltimore District on behalf of the Army National Guard (ARNG)-Installations & Environment Division, Cleanup Branch contracted AECOM Technical Services, Inc. (AECOM) to perform *Preliminary Assessments (PAs) and Site Inspections (SIs) for Perfluorooctanesulfonic acid (PFOS) and Perfluorooctanoic acid (PFOA) Impacted Sites at ARNG Facilities Nationwide*. The ARNG is assessing potential effects on human health related to processes at facilities that used per- and poly-fluoroalkyl substances (PFAS) (a suite of related chemicals), primarily in the form of aqueous film forming foam released during firefighting activities or training, although other PFAS sources are possible.

AECOM completed a PA for PFAS at Camp Rilea in Warrenton, Oregon, to assess potential PFAS release areas and exposure pathways to receptors. Camp Rilea has operated at the Warrenton location since 1927 under the jurisdiction of the State of Oregon as a training facility for ARNG. Camp Rilea's mission for the federal government is to provide facilities and resources as a training center contributing readiness and military capability for the armed forces of the U.S. and Oregon (Oregon, 2018). Camp Rilea's mission for the State of Oregon is to provide community service support and serve as the regional base for Oregon's North Coast emergency response and recovery operations.

The performance of this PA included the following tasks:

- Reviewed data resources to obtain information relevant to suspected PFAS releases
- Conducted a 1-day site visit on 11 September 2018
- Interviewed current and retired Camp Rilea personnel during the site visit including:
  - Oregon Military Department (OMD) Environmental Manager, James Arnold
  - OMD Natural Resources Conservation Manager
  - OMD Wildland Fire Manager
  - OMD Camp Rilea Range Operations Officer
  - OMD Camp Rilea Training Site Manager (former State Aviation Officer)
  - OMD Camp Rilea Fire Rangers
  - OMD Camp Rilea Public Works Facilities Manager
  - OMD Camp Rilea Mechanic Unit Training Equipment Site
  - OMD Real Estate/Property Manager
- Completed visual site inspections of the facility and documented with photographs
- Developed a conceptual site model (CSM) to outline the potential release, pathway, and receptors of PFAS for Camp Rilea

Two areas of interest (AOI) related to potential PFAS releases were identified at Camp Rilea during the PA. The AOIs are shown on **Figure ES-1** and described below.

Area of Interest	Name	Used by	Potential Release Dates
AOI 1	Former Fire Station	ORARNG	1970s to 1980
AOI 2	UTES: Former Fire Truck Parking	ORARNG	1989 to 1995

Based on potential PFAS releases at the AOIs, there is potential for exposure to PFAS contamination in surface soil to site workers, construction workers, and trespassers via ingestion of soil and inhalation of dust at both AOIs; subsurface soil to site and construction workers via ingestion and inhalation at both AOIs; and in groundwater at AOI 2 to site and construction workers, trespassers, and on-Post recreational users via ingestion. Public groundwater systems are used for drinking water sources off-Post, including the Sunset Lake RV Park (located approximately 0.5 miles to the south) and the City of Warrenton (located less than one mile to the north). However, based on the hydrologic gradient at the facility, the potential for exposure to PFAS contamination in groundwater to off-Post recreational users and residents via ingestion is incomplete. The CSM for Camp Rilea is shown on **Figure ES-2**.

CLIENT	ARNG			
NOTES	Preliminary Assessment for PFAS at Camp Rilea, OR			
REVISED	12/18/2018	GIS BY	MS	12/18/2018
SCALE	1:7,200	CHK BY	MB	12/18/2018
Base Map: Sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS,		PM	RG	12/18/2018

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Summary of Findings

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Figure ES-1

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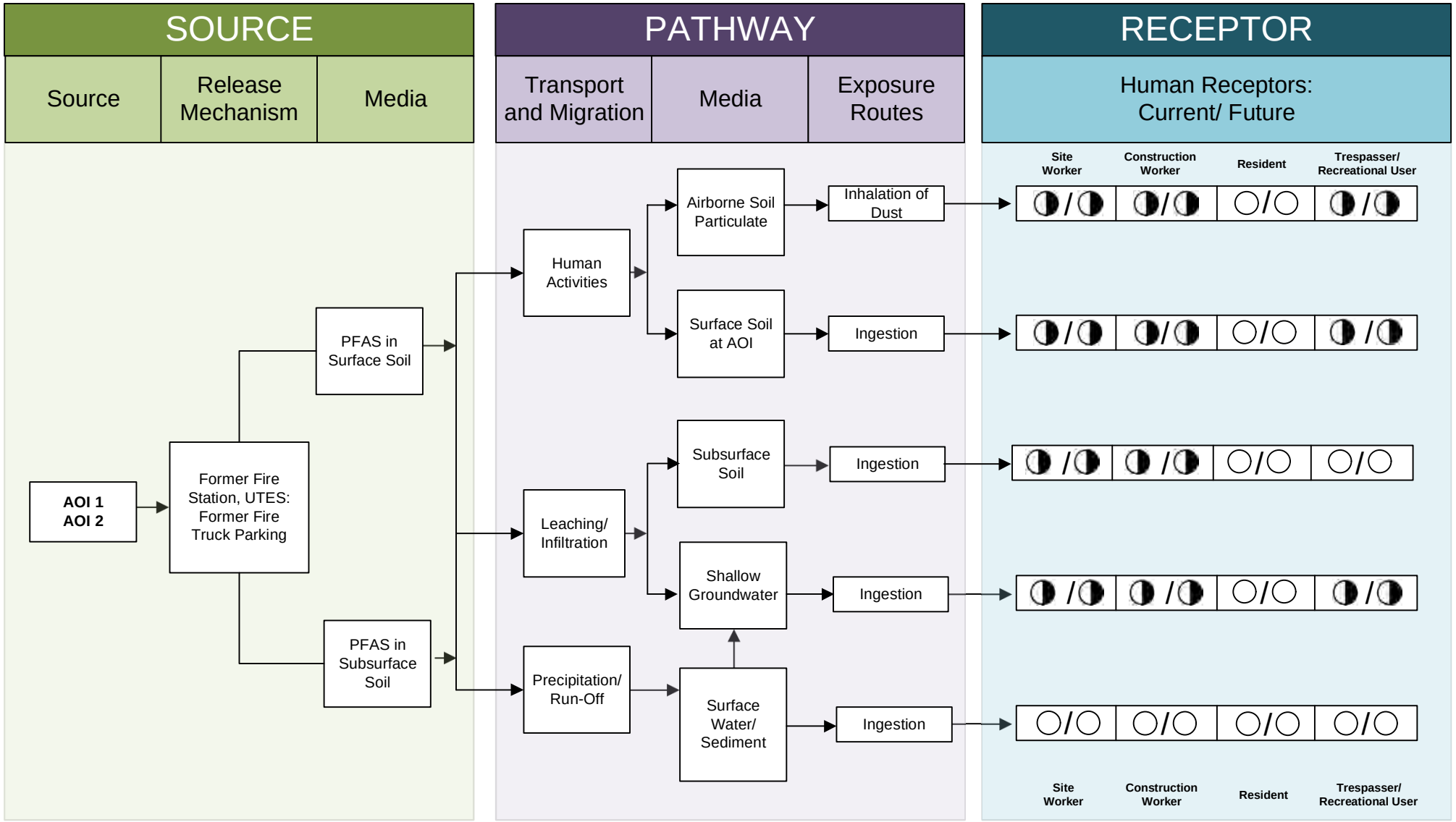


LEGEND

- Flow-Chart Stops
- Flow-Chart Continues
- Partial / Possible Flow
- Incomplete Pathway
- Potentially Complete Pathway
- Complete Pathway

Figure ES-2
Conceptual Site Model
Camp Rilea

1. Introduction

1.1 Authority and Purpose

The United States (U.S.) Army Corps of Engineers (USACE) Baltimore District on behalf of the Army National Guard (ARNG)-Installations & Environment Division, Cleanup Branch contracted AECOM Technical Services, Inc. (AECOM) to perform *Preliminary Assessments (PAs) and Site Inspections (SIs) for Perfluorooctanesulfonic acid (PFOS) and Perfluorooctanoic acid (PFOA) Impacted Sites at ARNG Facilities Nationwide* under Contract Number W912DR-12-D-0014, Task Order W912DR17F0192, issued 11 August 2017, and Modification 01 issued 30 September 2017. The ARNG is assessing potential effects on human health related to processes at their facilities that used per- and poly-fluoroalkyl substances (PFAS) (a suite of related chemicals), primarily releases of aqueous film forming foam (AFFF), although other sources of PFAS are possible. In addition, the ARNG is assessing businesses or operations adjacent to the ARNG facility (not under the control of ARNG) that could potentially be responsible for a PFAS release.

PFAS are classified as emerging environmental contaminants that are garnering increasing regulatory interest due to their potential risks to human health and the environment. PFAS formulations contain highly diverse mixtures of compounds. Thus, the fate of these PFAS compounds in the environment will vary. The regulatory framework at both federal and state levels continues to evolve. The U.S. Environmental Protection Agency (USEPA) issued Drinking Water Health Advisories for PFOA and PFOS in May 2016, but there are currently no promulgated national standards regulating PFAS in drinking water. In the absence of federal maximum contaminant levels, some states have adopted their own drinking water standards for PFAS. The Oregon Department of Environmental Quality (DEQ) has Pollutant Initiation Levels (PILs) for PFAS/PFOA, which are not water quality standards (DEQ, 2017). According to OAR 340-045-0100, only facilities that operate under National Pollution Discharge Elimination System and Water Pollution Control Facility permits in Oregon are required to analyze effluent for PFAS/PFOA and report concentrations that exceed the PILs.

This report presents findings of a PA for PFAS at Camp Rilea in Warrenton, Oregon, in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, the National Oil and Hazardous Substances Pollution Contingency Plan (40 Code of Federal Regulations Part 300), and USACE requirements and guidance.

This PA documents potential locations of where PFAS may have been released into the environment at Camp Rilea. The term PFAS will be used throughout this report to encompass all PFAS chemicals being evaluated, including PFOS and PFOA, which are key components of AFFF.

1.2 Preliminary Assessment Methods

The performance of this PA included the following tasks:

- Reviewed data resources to obtain information relevant to suspected PFAS releases
- Conducted a 1-day site visit on 11 September 2018
- Interviewed current and retired Camp Rilea personnel during the site visit including:
  - Oregon Military Department (OMD) Environmental Manager
  - OMD Natural Resources Conservation Manager

  - OMD Wildland Fire Manager
  - OMD Camp Rilea Range Operations Officer
  - OMD Camp Rilea Training Site Manager (former State Aviation Officer)
  - OMD Camp Rilea Fire Rangers
  - OMD Camp Rilea Public Works Facilities Manager
  - OMD Camp Rilea Mechanic Unit Training Equipment Site (UTES)
  - OMD Real Estate/Property Manager
- Completed visual site inspections of the facility and documented with photographs
- Developed a conceptual site model (CSM) to outline the potential release, pathway, and receptors of PFAS for Camp Rilea

1.3 Report Organization

This report has been prepared in accordance with the USEPA *Guidance for Performing Preliminary Assessments under CERCLA* (USEPA, 1991). The report sections and descriptions of each are:

- **Section 1** – **Introduction:** identifies the project purpose and authority and describes the facility location, environmental setting, and methods used to complete the PA.
- **Section 2** – **Fire Training Areas:** describes the FTAs at the facility identified during the site visit.
- **Section 3** – **Non-Fire Training Areas:** describes other locations of potential PFAS releases at the facility identified during the site visit.
- **Section 4** – **Emergency Response Areas:** describes areas of potential PFAS release at the facility, specifically in response to emergency situations.
- **Section 5** – **Adjacent Off-Site Sources:** describes sources of potential PFAS release adjacent to the facility that are not under the control of ARNG.
- **Section 6** – **Conceptual Site Model:** describes the pathways of potential PFAS transport and receptors at each area of interest (AOI).
- **Section 7** – **Conclusions:** summarizes the data findings and presents the conclusions of the PA.
- **Section 8** – **References:** provides the references used to develop this document.
- **Appendix A** – Data Resources
- **Appendix B** – Preliminary Assessment Documentation
- **Appendix C** – Photographic Log

1.4 Facility Location and Description

Camp Rilea is on the Pacific Coast in northwest Oregon in Clatsop County, approximately 1.4 miles to the southwest of the City of Warrenton and 5.7 miles to the southwest of the City of Astoria. The facility is located to the west of Highway 101 and encompasses approximately 3 miles of ocean frontage along the Pacific Coastline (**Figure 1-1**). The facility is occupied and operated by the Oregon Army National Guard (ORARNG) as a military training center for military personnel, encompassing 1,850 acres. Civilians also use certain areas throughout

Camp Rilea for recreational purposes throughout the year. Camp Rilea's mission for the federal government is to provide facilities and resources as a training center contributing readiness and military capability for the armed forces of the U.S. and Oregon. Camp Rilea's mission for the State of Oregon is to provide community service support and serve as the regional base for Oregon's North Coast emergency response and recovery operations (Oregon, 2018).

Camp Rilea has used up to 352,000 acres of private and public land for military training under landowner agreements and permits. The facility consists of the cantonment area and armory (450 acres), training and range areas (1,400 acres), and a wastewater treatment facility adjacent to a spray irrigation area (20 acres) (Army, 2001). The Air National Guard (ANG) facility operates on approximately 6.25 acres along the central/eastern property boundary (DEQ, 2014).

The property which Camp Rilea currently occupies is owned by the State of Oregon, with operations beginning in 1927. The facility was formerly known as Camp Clatsop until the name was changed to Camp Rilea in 1959. Numerous improvements were made to the original facility during the 1930s. Prior to World War II, the facility was used as a mobilization site for the 249th Coast Artillery. After the war, the facility was used as an annual training site by the 237th Air Defense Group (later named the 249th Air Defense Group) and by air defense units from Washington, Nevada, Delaware, and Pennsylvania (Shaw, 2010; Navy, 2001). Camp Rilea has been used by various military units to conduct annual or inactive duty training, including ARNG infantry, field artillery, and engineering units; Infantry Divisions (2nd, 25th, and 75th); Special Forces Groups (1st, 19th, and 20th); various ANG communications units; Marine Corps; Coast Guard and Navy Reserve Units; Search and Rescue Organizations; Oregon State Defense Force; Oregon State Police and other police organizations; Housing Authority of Portland for Camp Rosenbaum; and by various local and civic organizations.

1.5 Facility Environmental Setting

Camp Rilea is in the Coast Range of the Pacific Border geologic province of Oregon (DEQ, 2013; USDI, 2018). The facility is bordered by the Pacific Ocean to the west, low lying sand dunes to the north and south, and low-lying wetlands and agricultural land to the east. The Coast Mountain Range is located further to the east. The western facility boundary is comprised of sand dunes, paralleling the beach from north to south. A series of five sand dune ridges and five interdune areas, oriented north to south, are located throughout the facility. The dunes are separated by lakes and creeks (Navy, 2001; URS/Arcadis, 2013).

The facility is moderately hilly throughout, with steeper slopes found in the western portion characterized by sand dunes. Slopes of the sand dunes are less than 10 percent. Elevation throughout the facility ranges from sea level at the beach up to 75 feet above mean sea level (AMSL) at the sand dunes. Many of the dunes are covered by vegetation (i.e., brush and trees). Elevation along the eastern facility boundary averages 45 feet AMSL, with a low of 25 feet AMSL in the northeastern portion (Navy, 2001; Google Earth, 2018).

1.5.1 Geology

Camp Rilea is located in a geologic area characterized as Dune sand of the Holocene age. Dune sand consists of large areas of windblown sand composed of rock-forming minerals, mostly feldspar and small amounts of quartz. Constituents are characterized as unconsolidated, coarse-detrital sand (USGS, 2018a). This geological feature is found along the northern Oregon Coast line, extending south to Tillamook Head (approximately five miles north and 11 miles south of Camp Rilea, respectively) (Frank, 1970).

Dune sand of the Pleistocene and Holocene age overlies eroded surfaces of the Astoria Formation of the Tertiary age. This rock formation underlies the eastern edge of the dunes and

constitutes bedrock of the sand-dune area, characterized as fine grained and tightly compacted, primarily carbonaceous sandstone. The Astoria Formation is a layer up to 1,400 feet thick; however, this formation does not extend beneath Camp Rilea. Dune sand layers may be greater than 100 feet thick. The geology of the northern Oregon Coast area is characterized by a small extent of alluvium of the Quaternary age, characterized by clay, silt, and sand. Dune sand ranges in size from coarse to very fine, consisting mostly of quartz with lesser amounts of feldspar, magnetite, mica, and rock fragment. Sand is loosely compacted and unconsolidated (Frank, 1970; Navy, 2001).

1.5.2 Hydrogeology

Soils beneath Camp Rilea consist of six different series. From west to east across the facility, the soil series are: beaches, dune lands, Gearheart fine sandy loam, Heceta-Waldport fine sand, Waldport fine sand, and Warrenton loamy fine sand (URS/Arcadis, 2013; USDA, 2018). Beaches are present along the entire western border at the edge of the Pacific Ocean. Dune lands are present along the entire western boundary east of the beaches. The beaches and dune lands are characterized with high infiltration rates. Warrenton soils are presently only in the northeastern portion of the facility. With exception for beaches and dune lands, all the soil series consist of very deep and poorly-drained to excessively-drained soils formed in sand, dune sands, or eolian sands located in interdunal depressions or on stabilized sand dunes (Navy, 2001).

The Dune sands are the primary water-bearing unit in the area (Navy, 2001). Camp Rilea is situated above the Pacific Northwest basin-fill aquifer, characterized as unconsolidated sand and gravel aquifers at or near the land surface. This type of aquifer is prevalent along stream valleys and in low lands associated with erosional basins and yields a sufficient supply of fresh water (and salt water along the Coast) for public drinking via wells and springs. These deposits are mostly alluvial but also consisting of eolian, glacial, or volcanic deposits in other areas. The thickness of the deposits in stream valleys is typically less than 250 feet. Permeability of the aquifer is variable, depending on the soil series. Sand and gravel commonly yields groundwater to wells in the range of 20 to 20,000 gallons per minute (USGS, 1994; USGS, 2018b; USGS, 2018c).

Because precipitation infiltrates Dune sands fairly rapidly, precipitation recharges groundwater and is distributed fairly evenly throughout the dune area. Approximately five inches of precipitation on a monthly basis raises groundwater levels from their low stages. Hydraulic gradients near the sides of the Dune sand aquifer steepen, causing groundwater to flow towards discharge areas. Neacoxie Creek receives groundwater recharge throughout the year and flow increases in a downstream direction (Frank, 1970).

Regionally, the water table in the Dune sand fluctuates in association with recharge from precipitation. Dune sand absorbs and stores water from precipitation quickly. During warm weather months with little to no precipitation (spring and summer), groundwater levels in wells decline. Water level fluctuations have also been reported in the area as a result of tidal movements. Perched groundwater in the area is noted seasonally, primarily during the wet months of fall and winter. (Frank, 1970). The aquifer of the Astoria Formation is recharged in the Coast Range to the east of Camp Rilea and discharges at the range margins, both to the east and west. Groundwater flow beneath Camp Rilea in the bedrock aquifer is toward submarine recharge zones to the west. With relatively low hydraulic conductivity, there is likely little interaction between the Dune sand and bedrock aquifers (Navy, 2001).

The estimated depth to groundwater at the facility, measured historically at several onsite groundwater wells in 2001, ranged from 22.6 to 32.8 feet below ground surface (bgs) (Navy, 2001) Groundwater flow beneath Camp Rilea is generally from east to west, towards the Pacific Ocean. However, groundwater flow may vary in localized areas of groundwater recharging to

surface water, such as Neacoxie Creek in the eastern portion of the facility (Navy, 2001; URS/Arcadis, 2013). Neacoxie Creek flows off-Post to the east, eventually discharging into the Columbia River approximately three miles to the northeast of the facility, ultimately discharging into the Pacific Ocean (AMEC, 2009). A United States Geological Survey monitoring well (135 feet bgs) located on the facility (Site No. CLAT0050230) reports depth to groundwater ranging from 10 to 17 feet bgs (USGS, 2018c) (**Figure 1-2**).

Camp Rilea obtains drinking water from two onsite water supply wells located in the central/western portion of the facility (Wells #50381 and #50378) (DEQ, 2018c; OWRD, 2018) (**Figure 1-2**). Well #50387 was completed in 1997 to a depth of 172 feet bgs with groundwater reported at a depth of 126 feet bgs. Well #50381 was completed in 1997 to a depth of 157 feet bgs with groundwater reported at a depth of 45 feet bgs (OWRD, 2018). The drinking water wells at Camp Rilea were sampled in April 2017 and analyzed for PFAS/PFOA. All sample results were reported below laboratory method detection limits. The reported laboratory method detection limits were below the DEQ's PILs and the EPA's drinking water healthy advisory level (USEPA, 2016).

Public groundwater systems used as drinking water sources are located at off-Post facilities, including the Sunset Lake RV Park (located approximately 0.5 miles to the south) and the City of Warrenton (located less than one mile to the north) (DEQ, 2018c). Within a four-mile radius of Camp Rilea, the Clatsop Plains Aquifer is used for private water supplies (Navy, 2001).

1.5.3 Hydrology

Camp Rilea is located within the Necanicum River subbasin of the North Coast/Lower Columbia basin. Within this feature, the eastern portion of the facility is located within the Skipanon/River-Frontal Columbia River Watershed, the western portion of the facility is located within the Arch Cape Creek-Frontal Pacific Ocean Watershed, and the southeastern portion of the facility is located in the Lower Necanicum River Watershed (**Figure 1-3**). Rivers in the North Coast subbasin generally begin in the steep terrain of the Coast Mountain Range, located east of Camp Rilea. Rivers to the west of the Coast Mountain Range, near the Pacific Coast, are surrounded by wetlands and agriculture (DEQ, 2003).

Surface waterbodies at the facility include Neacoxie Creek (including a slough), Sunset Lake, and Slusher Lake. Neacoxie Creek originates south of the facility flowing north paralleling the eastern property boundary (east fork), entering the central/eastern properly and turning 180 degrees to flow south along the eastern property boundary (west fork), before flowing offsite to the east into the Skipanon River, which ultimately discharges to the north into the Columbia River. Sunset Lake is located in the southeastern corner of the property, where drainage flows south to the Necanicum River, ultimately discharging into the Pacific Ocean to the west (Navy, 2001). Slusher Lake is located in the south/central portion connected to a smaller lake on the adjacent property to the south, discharging to Neacoxie Creek (Frank, 1970; Navy, 2001; Shaw, 2010).

Surface stormwater runoff from paved areas of the facility enters a storm drainage conveyance system located throughout the majority of the cantonment area, discharging to an outfall in Neacoxie Creek (west fork), located to the west of the ANG facility. Stormwater throughout unpaved areas of the property infiltrates the sandy soil (Navy, 2001; Shaw, 2010). Because precipitation infiltrates Dune sands fairly rapidly, surface water runoff throughout the facility is negligible. Surface water runoff at Camp Rilea would only occur during heavy precipitation events where precipitation exceeds the infiltration rate of the sandy soil (Frank, 1970).

1.5.4 Climate

Climate at Camp Rilea is considered marine temperate. Climate of the North Coast Basin is cool and moist, characterized by mild summers and wet winters, with moderately low temperatures. The area receives heavy rainfall from easterly storms originating in the Pacific Ocean that traverse the Cascade Mountain Range to the east. The majority of precipitation occurs as rain during the fall and winter, with heavy rainfall experienced between November and March. AT least one or two heavy storm events occur annually. Snowfall is rare and the area experiences a frost-free period for 200 to 240 days annually. Winds prevail from the northwest during summer months and from the southwest (off the Pacific Coast) during winter months (Frank, 1970; DEQ, 2003; URS/Arcadis, 2013).

Temperatures recorded for a period of three decades (1961 to 1990) at the Astoria Regional Airport weather station (located approximately 2.8 miles northeast of the facility) ranged from a low of 36 degrees Fahrenheit (°F) in January to a high of 69°F in August, averaging 51°F for the year. Precipitation recorded for this same time period ranged from an average low of 1.2 inches in July to an average high of 10.6 inches in December, averaging 6.6 inches for the year (DEQ, 2003).

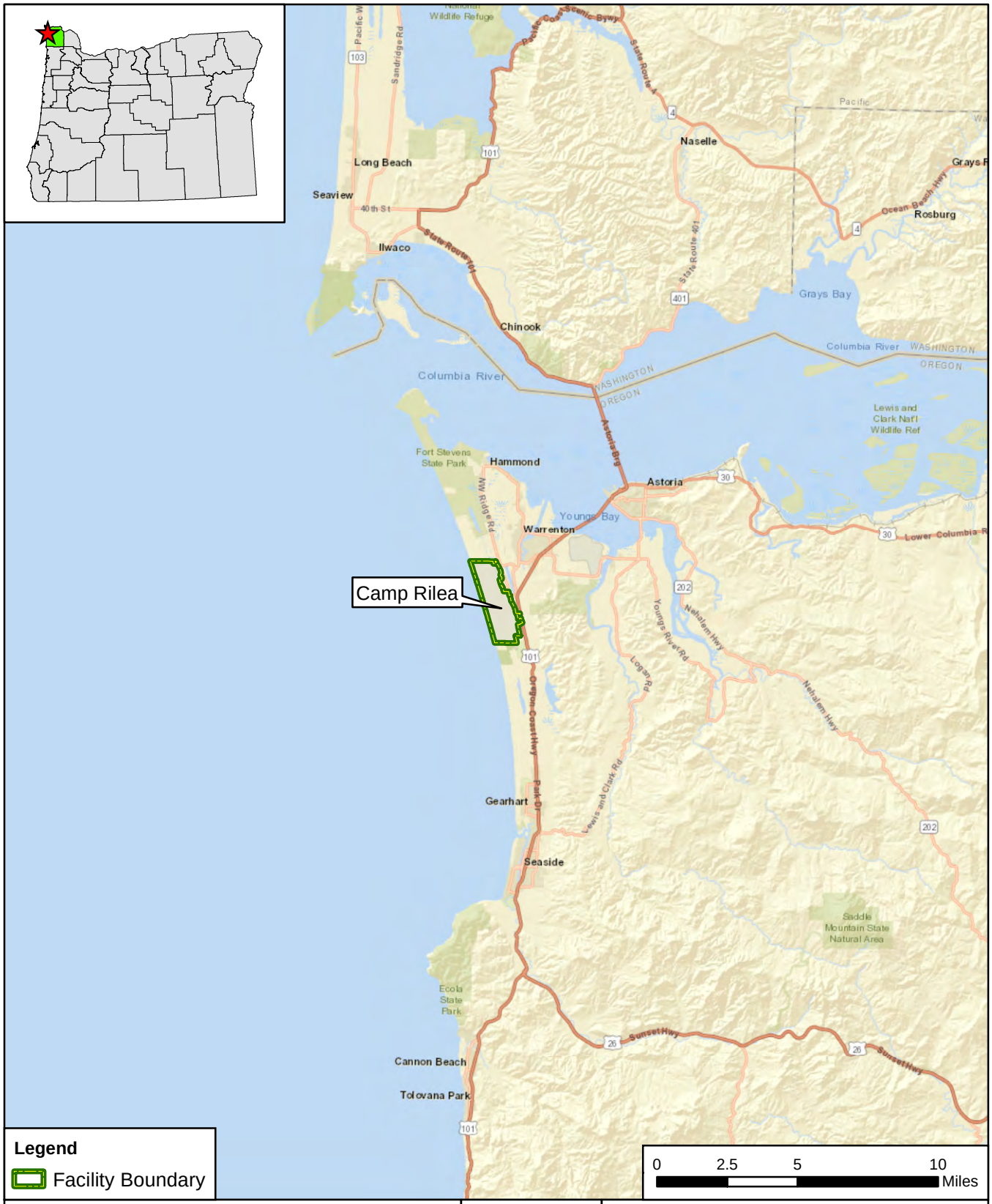
Temperatures recorded for the most recent time period (2017) at Astoria Regional Airport weather station ranged from a low of 39°F in January to a high of 61°F in August, averaging 51°F for the year. Precipitation for this same year ranged from a low of 0.10 inches in July to a high of 14 inches in March, averaging 7.0 inches for the year. Snow was not reported (NOAA, 2018).

1.5.5 Current and Future Land Use

Camp Rilea is comprised of a cantonment area with dining and support facilities, including temporary living facilities. Numerous buildings are scattered across the facility for administration, maintenance, medical, petroleum oil and fuel storage, equipment and vehicles storage, and a fire station building. The ANG operates an Air Control Squadron (primarily consisting of a building) within a fenced area, along the central/eastern property boundary, north of the cantonment area. Camp Rilea operates an onsite wastewater treatment system with two sewage lagoons in the southeastern corner of the property. Access to the facility is controlled. Land use to the north, east, and south is a mixture of residential and agriculture with interspersed sand dunes and wetlands. The Astoria Golf and Country Club is located to the east of the southeast corner of the facility. The Pacific Ocean is located adjacent to the west.

The facility is zoned by Clatsop County primarily as Military Reserve 9MR). Some smaller areas of the facility are zoned as Residential Agriculture (RA-5), Lake and Wetland (LW), Natural Shorelands (NS), and Open Space Parks and Rec (OPR) (Clatsop, 2018). These additional zoning codes are associated with the surface waterbodies on the facility, in addition to the residential/agricultural land that OMD also uses for training (refer to Section 1.4).

The nearest urban area is Warrenton, 1.4 miles to the northeast. According to the 2017 US Census, the estimated population of Warrenton is 5,600. Based on the population estimates, Warrenton's population has only increased by 500 since 2010 (Census, 2018). Land to the north of the facility is zoned by the City of Warrenton as Open Space Institutional (OSI), Lake and Freshwater Wetland (A5), Low Density Residential (R40). Land to the south of the facility is zoned by Clatsop County as Lake and Wetland (LW), Open Space Parks and Rec (OPR), and Residential Agriculture (RA-1 and RA-5). Land to the east of the facility is zoned Single Family Residential (SFR-1), Residential Agriculture (RA-5), Agriculture Forest (AF), and Lake and Wetland (LW) (Clatsop, 2018).



CLIENT	ARNG			
NOTES	Preliminary Assessment for PFAS at Camp Rilea, OR			
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SCALE	1:316,800	CHK BY	MB	9/19/2018
Base Map: Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI,		PM	RG	9/19/2018

Facility Location

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Germantown, MD 20876

Figure 1-1

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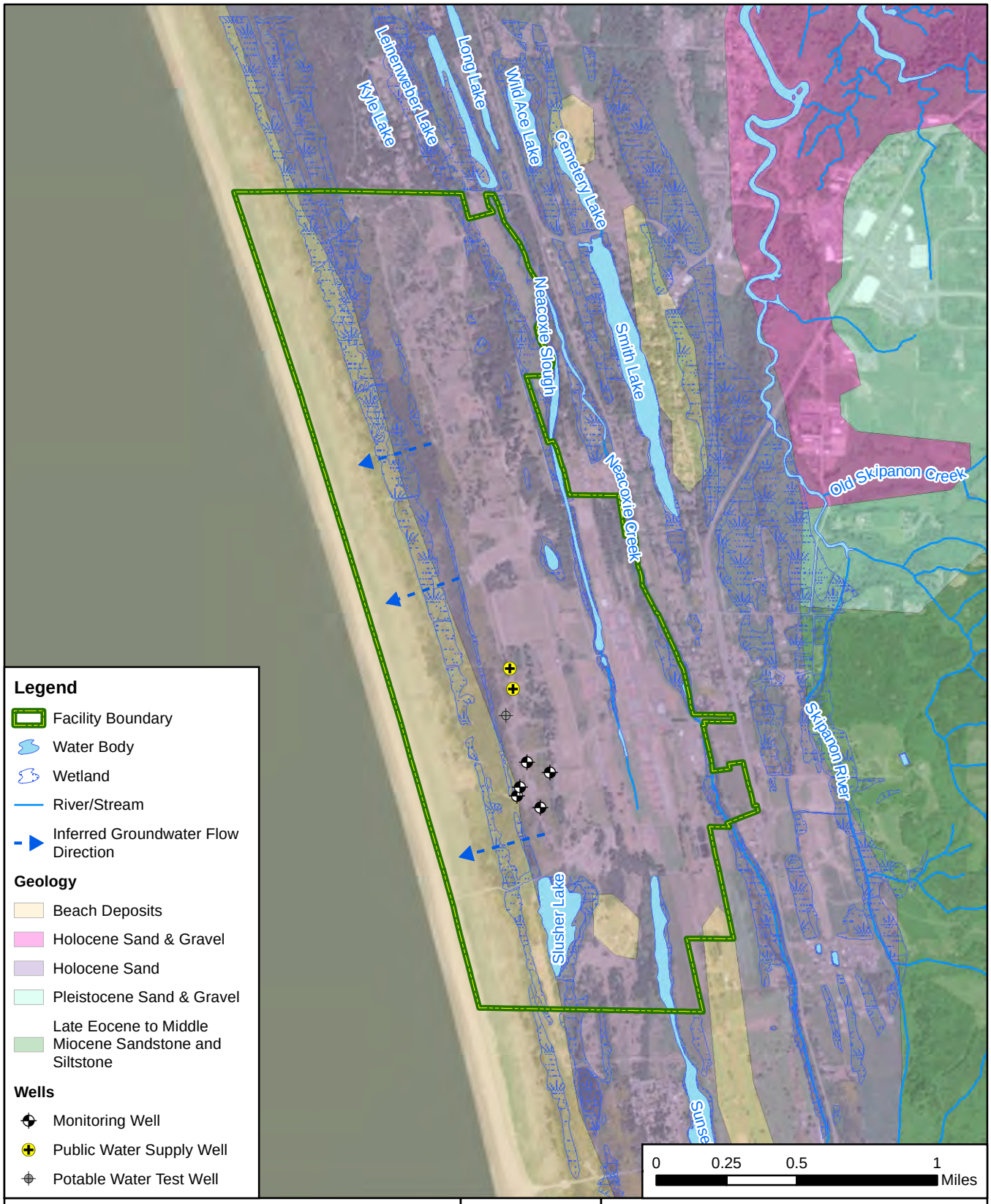

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Base Map: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS,		PM	RG	8/1/2019

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Groundwater Features

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Figure 1-2

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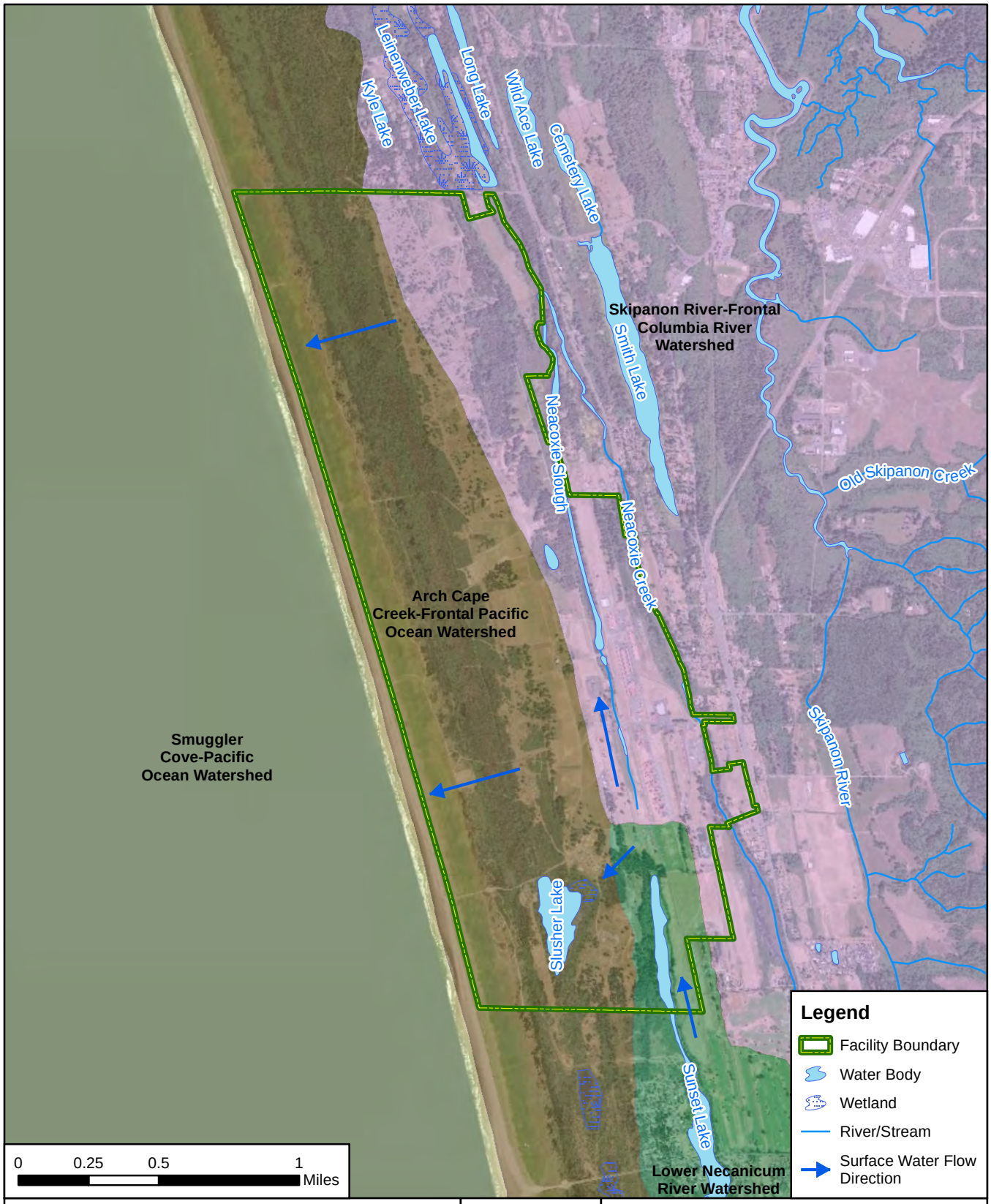

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Base Map: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS,		PM	RG	9/20/2018

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Surface Water Features

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Figure 1-3

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2. Fire Training Areas

No FTAs where PFAS was potentially released were identified at Camp Rilea during the PA. According to an interview with Site Training Manager (**Appendix B**), rotary-winged aircraft operations training take place on-Post facilitating water drops over the western area of the facility. No PFAS was used. These trainings have occurred annually from 1998 to 2014. No other types of firefighting training occurs on-Post. Firefighting support for structural fires is coordinated with the City of Warrenton Fire Department using water-containing fire trucks.

2.1 Off-Post Fire Training Areas

The OMD Fire Ranger and Range Control indicated off-Post fire training occurs at the Salem Army Aviation Support Facility (AASF) #1, located adjacent to McNary Air Field (located approximately 130 miles to the southeast of Camp Rilea). Additionally, the ORARNG Cultural Resources Manager stated off-Post fire training also occurs at Camp Adair (located approximately 140 miles southeast of Camp Rilea). These off-Post FTAs are addressed in more detail in the PAs for the AASF #1 and Camp Adair facilities, respectively.

2.2 Prescribed Burns

The Camp Rilea Integrated Natural Resources Management Plan (Mitchell, 2001) establishes a goal to prevent and suppress wildfires to maintain ecosystem biodiversity and functionality. ORARNG pursues that goal through the use of prescribed burns as a habitat management tool in accordance with the Fire Management Plan. Prescribed burns are conducted in the western portion of the facility, west of all the facility buildings. During prescribed burn events at Camp Rilea, water is used for suppression by the OMD Fire Rangers. According to interviewed OMD Fire Rangers, AFFF is not used during wildfire operations.

3. Non-Fire Training Areas

Three non-FTAs were identified at Camp Rilea during the PA that included the following: 1) a current fire station, 2) a potential former fire station, and 3) the UTES. The City of Warrenton Fire Department is currently contracted to perform structural fire-fighting services for Camp Rilea. According to the Fire Ranger, Cultural Resources Manager, and the Public Works Facilities Manager, AFFF has never been used by the City of Warrenton Fire Department at Camp Rilea. Interview records appear in **Appendix B**. Photographs appear in **Appendix C**.

Public Works Facility Manager Bob Schulke stated that the VA Medical Center building is equipped with a fire suppression system that is water only and contains no foam. Photographs of the system in the kitchen are included in the Photographic Log (**Appendix C**).

3.1 Utility Training Equipment Site (UTES)

According to Range Control, two fire trucks were historically present on-Post and parked at the UTES for fire response. Both fire trucks reportedly contained AFFF with tank capacities of approximately 50-gallons each. This is consistent with the history of the use of AFFF dating back to the 1970s. No information was available on the concentration of the AFFF solution stored in the trucks. One truck (model 530C) was present on-Post between 1989 and 1995. Another truck (model 2500L) was present on-Post from 1995 until an unknown time period. One of these former fire trucks was transferred to the U.S. Coast Guard located in Astoria. The trucks were parked primarily at the UTES area, but may have been parked at other areas of the facility at various times. The geographic coordinates of the former fire truck parking locations at the UTES are: 46° 7'29.98"N and 123°56'4.41"W.

According to interviewed facility personnel, AFFF was stored in unknown sized containers (and unknown volumes) at the UTES likely during the time that the fire trucks were parked at the area. AFFF from the former fire trucks was never deployed on-Post. The UTES Maintenance Mechanic indicated that minor repairs and maintenance of the former fire trucks (and all on-Post vehicles) occurred at the UTES; however, major repairs of the former fire trucks (and all vehicles) occurred off-Post at ORARNG Camp Withycombe located in Clackamas (approximately 105 miles southeast of Camp Rilea). Additionally, facility personnel indicated that flushing the lines and water/foam tanks on the former fire trucks would have occurred off-Post at ORARNG Salem AASF #1. Interviews with facility personnel indicated no releases or leaks were known to have occurred on-Post from the former fire trucks when parked or undergoing minor maintenance at the UTES.

3.2 Former Fire Station

According to ORARNG Cultural Resources Manager and Public Works Manager, a fire station was historically located at the present-day Public Works office (Building 7241). The geographic coordinates are: 46° 7'2.47"N and 123°55'58.58"W. The former fire station dates back to the early 1970s and was in place at least until 1980. Facility personnel interviewed could not confirm if a fire truck was used or parked at the former fire station. Given the history of the use of AFFF dating back to the 1970s, AFFF could potentially have been present in the fire truck. Fire trucks parked at the UTES between 1989 and 1995 contained AFFF. Given the history of AFFF stored in these trucks, it is presumed that this former fire truck potentially contained AFFF.

3.3 Present-Day Fire Station

One fire truck is currently used at Camp Rilea. The current fire station operates as an office building only. The geographic coordinates are: 46° 7'19.49"N and 123°56'13.95"W. According to

the OMD Fire Ranger, only Class A foam is used in the fire truck (a non-PFAS-containing foam). AFFF has historically not been used or is currently not being used in the five years the OMD Fire Ranger has been on the facility for firefighting and firefighting training.

3.4 Former Landfill

A landfill was historically located on-Post, in the northwestern portion of the facility, at the end of NBC Road east of the northwestern range and training area. The geographic coordinates are: 46° 7'40.50"N, and 123°56'22.82"W. (**Figure 3-1**). The landfill was historically used beginning in the 1930s until it was closed in the late 1980s and capped in 2006 with asphalt. The cap currently serves as a parking lot. Materials were disposed of and burned in the landfill by both civilian (off-Post residences) and on-Post military personnel. The landfill historically covered an area of approximately 4,000 square feet to a depth of six feet bgs. Materials discovered during landfill explorations included general garbage, wood, metal, glass, tires, clothing, and fishing nets to depths of approximately six feet bgs (Navy, 2001; DEQ, 2009; AMEC, 2008).

Six temporary monitoring wells were installed in 2007 beneath the former landfill and groundwater samples were collected and analyzed for VOCs, PCBs, pesticides, dissolved metals, nitrates, and chlorides. Following two years of quarterly groundwater monitoring, Camp Rilea received an No Further Action (NFA) from the (Oregon) Department of Environmental Quality (DEQ) in May 2010 indicating that cleanup of the former landfill is protective of public health and the environment (DEQ, 2010). The drinking water pathway was not considered complete as groundwater in the vicinity of the landfill is not used for drinking water (DEQ, 2009).

Landfills are not usually a primary release area of PFAS, but materials disposed of in landfills may create a secondary source of contamination. Such materials, to name a few, may include used AFFF storage containers or products associated with waterproofing uniforms or boots. At Camp Rilea, no information obtained indicates PFAS-related materials were disposed of in the former landfill area.

3.5 Former Burn Pit

A burn pit was historically located on-post, approximately 700 feet south of the former landfill (**Section 3.3**) in the northwestern portion of the facility, north of First Causeway Road east of the northwestern range and training area. The geographic coordinates are: 46° 7'33.44"N, and 123°56'21.60"W. (**Figure 3-1**). The burn pit was historically used to reduce the volume of material disposed of in the former landfill after the landfill was closed in the 1980s. According to facility personnel, the burn pit was used through the 1990s. Material burned potentially included wood, paper, landscaping waste, used oils, solvents, and metals. The burn pit covered an area of approximately 1,500 square feet and extended to approximately three feet bgs (AMEC, 2006; DEQ, 2008). According to facility personnel, fires in the burn pit were never extinguished. Further, facility personnel and reviewed documentation do not indicate that fire extinguishers of any type were disposed of at the former burn pit.

Soil and groundwater sampling at the former burn pit was conducted between 2001 and 2005, analyzing environmental media for petroleum hydrocarbons, metals, volatile organic compounds VOCs, PCBs, and explosives. Leaching of contaminants in the burn pit to groundwater was concluded not to be a concern. In 2007, approximately 260 tons of contaminated soil and burn pit materials were excavated and disposed offsite. Observations indicated ash, charred wood, metal debris, and refuse in the former burn pit. In 2008, the DEQ proposed a Conditional NFA determination for the former burn pit and in 2009 issued a partial NFA (AMEC, 2008; DEQ, 2008; Shaw, 2010).

CLIENT	ARNG			
NOTES	Preliminary Assessment for PFAS at Camp Rilea, OR			
REVISED	12/18/2018	GIS BY	MS	12/18/2018
SCALE	1:7,200	CHK BY	MB	12/18/2018
Base Map: Sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS,		PM	RG	12/18/2018

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Non-Fire Training Areas

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Figure 3-1

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4. Emergency Response Areas

Based on interviews conducted with facility personnel, no emergency response actions using AFFF has occurred at Camp Rilea. Annual rotary-winged aircraft operations training are conducted at Camp Rilea during the month of June for three weeks. Aircraft are parked at two different landing areas. According to Site Training Manager, no rotary-winged aircraft crashes have been reported. Coordination of firefighting support via water trucks is made with the City of Warrenton Fire Department but there has been no need for responses (**Appendix B**).

5. Adjacent Sources

No potential off-Post sources of PFAS contamination were identified during the PA. Interview records appear in **Appendix B**. Based on interviews conducted with facility personnel and review of the DEQ *Wastewater Permit* database, Oregon's *ECSI* and *Facility Profiler Lite* databases, and Environmental Protection Agency's *National Priority List and Superfund Alternative Approach Sites* database, there were no historic or currently active private or municipal wastewater treatment plants, historic or currently active landfills, historic or currently active electrical maintenance or chrome plating shops, or Superfund Sites located in the vicinity of Camp Rilea (DEQ, 2018a, 2018b; EPA, 2018).

According to interviews conducted with facility personnel, one of the former fire trucks historically used at the facility was transferred to the U.S. Coast Guard at the Astoria Air Station, located less than 3 miles to the northeast of the facility. There is the potential for AFFF use historically (and currently) at this facility, based on the nature of the facility and the known transfer of the former fire truck. However, releases of PFAS to the surface and contamination of the groundwater is not known. Groundwater beneath the Astoria Air Station flows north (DEQ, 2004) and therefore is not an off-Post source of PFAS.

6. Conceptual Site Model

Based on the PA findings from interviews with facility personnel, on-Post observations, and online research, two AOIs were identified at Camp Rilea (**Figure 6-1**). A CSM identifies three components necessary for potentially complete exposure pathways related to a site: (1) source, (2) pathway, and (3) receptor. If any of these elements are missing, the pathway is considered incomplete.

In general, the potential PFAS exposure pathways are ingestion and inhalation of dust. Dermal contact is not considered to be a potential exposure pathway as studies have shown very limited absorption of PFAS through the skin (National Ground Water Association, 2018). Receptors for Camp Rilea include site workers, construction workers, and trespassers. The CSM for the AOI indicate which specific receptors could potentially be exposed to PFAS (**Figure 6-2**).

6.1 AOI 1 Former Fire Station

AOI 1 has been identified as the Former Fire Station (previously described in **Section 3.2**) at the present-day Public Works office (Building 7241). The former fire station dates back to the early 1970s and was in place at least until 1980. Facility personnel interviewed could not confirm if a fire truck was operated or parked at the former station. Given the history of AFFF reportedly contained in the fire trucks parked at the UTES between 1989 and 1995, it is assumed that if any fire truck was parked at the former fire station it would have also contained AFFF.

PFAS are water soluble and can migrate readily from soil to groundwater or surface water via leaching and run-off. Based on visual observations conducted during the site visit and online research, no surface water features flow through AOI 1 or the immediate surrounding area downgradient of AOI 1 (USEPA, 2017; Google, 2018). Precipitation infiltrating AOI 1 may cause the migration of PFAS from surface and subsurface soil to groundwater, which is estimated to be in the range of 10 to 32 feet bgs (Navy, 2001; USGS, 2018c) (**Figure 1-2**).

Groundwater flow follows the natural topographical gradient. Around AOI 1, subsurface flow is to the west. (Navy, 2001). However, groundwater flow may vary in localized areas of groundwater recharging to surface water, such as Neacoxie Creek located to the northeast of AOI 1, Neacoxie Slough located to the north of AOI 1, and Sunset Lake located to the south of AOI 1 (**Figures 1-2** and **1-3**) (Navy, 2001; URS/Arcadis, 2013). Topography at AOI 1 is primarily flat, located at an elevation of approximately 33 feet AMSL, with a slight downgradient slope to the north and south (Navy, 2001; Google Earth, 2018). Wetlands are near AOI 1 (Clatsop, 2018; USFWS, 2018).

Although Camp Rilea Camp obtains drinking water from two onsite water supply wells, the wells are located in the central/western portion of the facility (and northwest of AOI 1). The supply wells are not within the groundwater flow pattern of the Former Fire Station. Therefore, the groundwater exposure pathway via ingestion is incomplete for site workers, construction workers, trespassers, and on-Post recreational users. Public groundwater systems are used for drinking water sources on properties surrounding the facility, including the Sunset Lake RV Park located approximately 0.5 miles to the south and the City of Warrenton less than one mile to the north. However, these off-Post drinking water sources are not within the groundwater flow pattern of AOI 1. Based on the hydrologic gradient at the facility, the groundwater exposure pathway via ingestion is not complete for off-Post recreational users and residents.

Ground-disturbing activities to surface soil at AOI 1 could result in site worker, construction worker, and trespasser exposure to potential PFAS contamination via inhalation of dust particles or ingestion of surface soil. Ground-disturbing activities to subsurface soil could result in site

and construction worker exposure via ingestion of subsurface soil. Therefore, the exposure pathway for ingestion of soil is potentially complete for these receptors. The CSM for AOI 1 is shown on **Figure 6-2**.

6.2 AOI 2 UTES: Former Fire Truck Parking

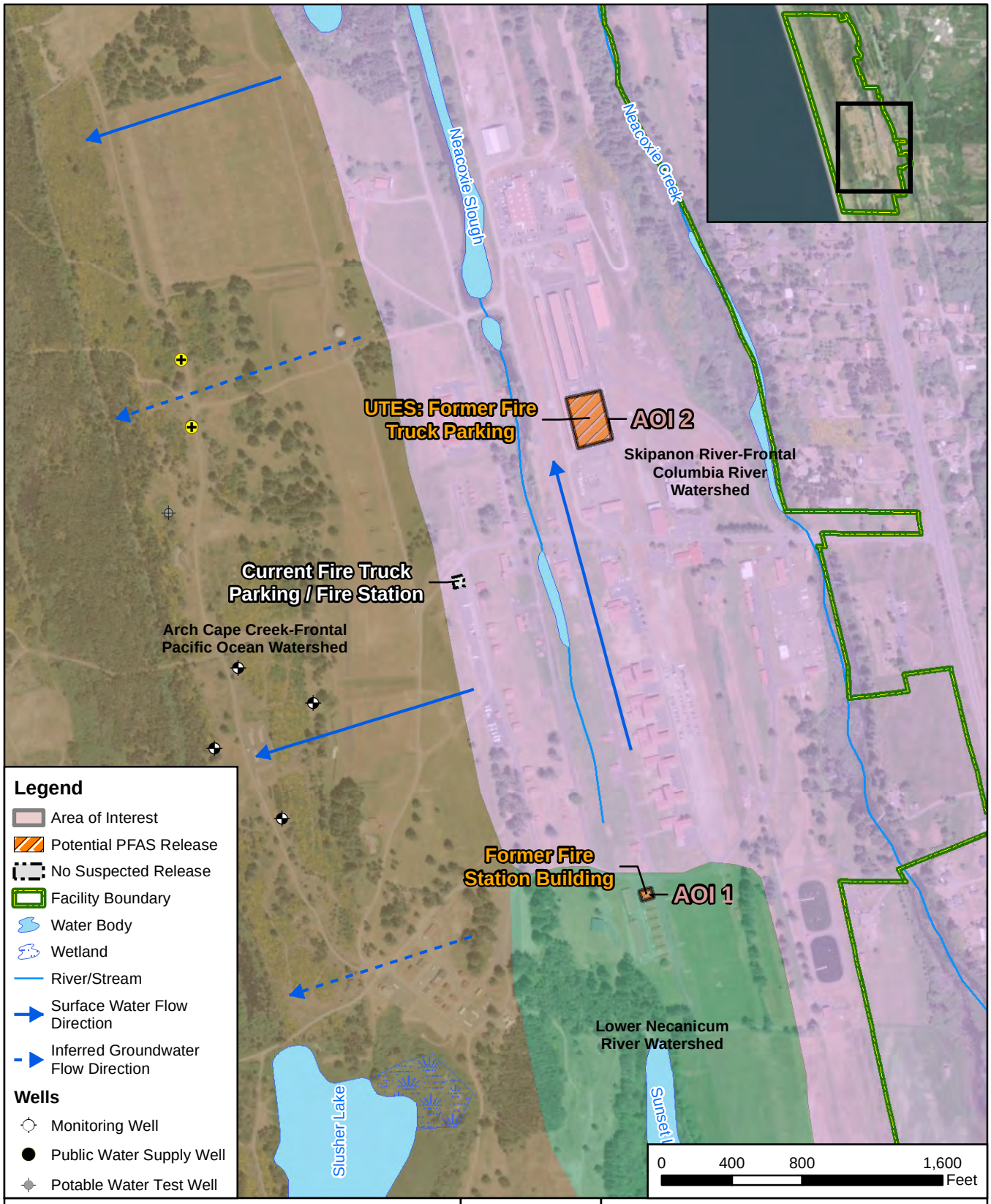
AOI 2 has been identified as the UTES Former Fire Truck Parking (previously described in **Section 3.1**) in the central/eastern portion of the facility. One truck (model 530C) was present on-Post between 1989 and 1995. Another truck (model 2500L) was present on-Post from 1995 until an unknown time period. Both fire trucks reportedly contained AFFF with tank capacities of approximately 50-gallons each. AFFF from the former fire trucks was reportedly never deployed on-Post. OMD maintenance personnel performed minor repairs and maintenance of the former fire trucks at the UTES.

PFAS are water soluble and can migrate readily from soil to groundwater or surface water via leaching and run-off. Based on visual observations conducted during the site visit and online research, no surface water features flow through AOI 2. The Neacoxie Slough is located approximately 200 feet to the west and downgradient of AOI 2 (USEPA, 2017; Google, 2018). The area within AOI 2 is paved; however, vegetation immediately surrounds some areas of AOI 2. Precipitation is not expected to infiltrate the paved area of AOI 2 but can result in sheet flow to the adjacent unpaved areas, resulting in the migration of PFAS from surface and subsurface soil to groundwater, which is estimated to be in the range of 10 to 32 feet bgs (Navy, 2001; USGS, 2018c).

Groundwater flow follows the natural topographical gradient. Around AOI 2, subsurface flow is to the west (Navy, 2001). However, groundwater flow may vary in localized areas of groundwater recharging to surface water, such as Neacoxie Creek located to the west and Sunset Lake located to the south of AOI 2 (Navy, 2001; URS/Arcadis, 2013). Topography at AOI 2 is primarily flat, located at an elevation of approximately 50 feet AMSL (Navy, 2001; Google Earth, 2018). Wetlands are located throughout the facility, including within the Neacoxie Slough approximately 200 feet west of AOI 2 (Clatsop, 2018; USFWS, 2018).

Camp Rilea Camp obtains drinking water from two onsite water supply wells located in the central/western portion of the facility, west and downgradient of AOI 2. These supply wells are within the groundwater flow pattern of the UTES area. Therefore, the groundwater exposure pathway via ingestion is potentially complete for site workers, construction workers, trespassers, and on-Post recreational users. Public groundwater systems are used for drinking water sources on properties surrounding the facility, including the Sunset Lake RV Park located approximately 0.5 miles to the south and the City of Warrenton less than one mile to the north. However, these off-Post drinking water sources are not within the groundwater flow pattern of AOI 2. Based on the hydrologic gradient at the facility, the groundwater exposure pathway via ingestion is incomplete for off-Post recreational users and residents.

Ground-disturbing activities to surface soil at AOI 2 could result in site worker, construction worker, and trespasser exposure to potential PFAS contamination via inhalation of dust particles or ingestion of surface soil. Ground-disturbing activities to subsurface soil could result in site and construction worker exposure via ingestion of subsurface soil. Therefore, the exposure pathway for ingestion of soil is potentially complete for these receptors. The CSM for AOI 2 is shown on **Figure 6-3**.



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NOTES	Preliminary Assessment for PFAS at Camp Rilea, OR			
REVISED	8/1/2019	GIS BY	MS	8/1/2019
SCALE	1:9,600	CHK BY	MB	8/1/2019
Base Map: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS,		PM	RG	8/1/2019

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Area of Interest

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Figure 6-1

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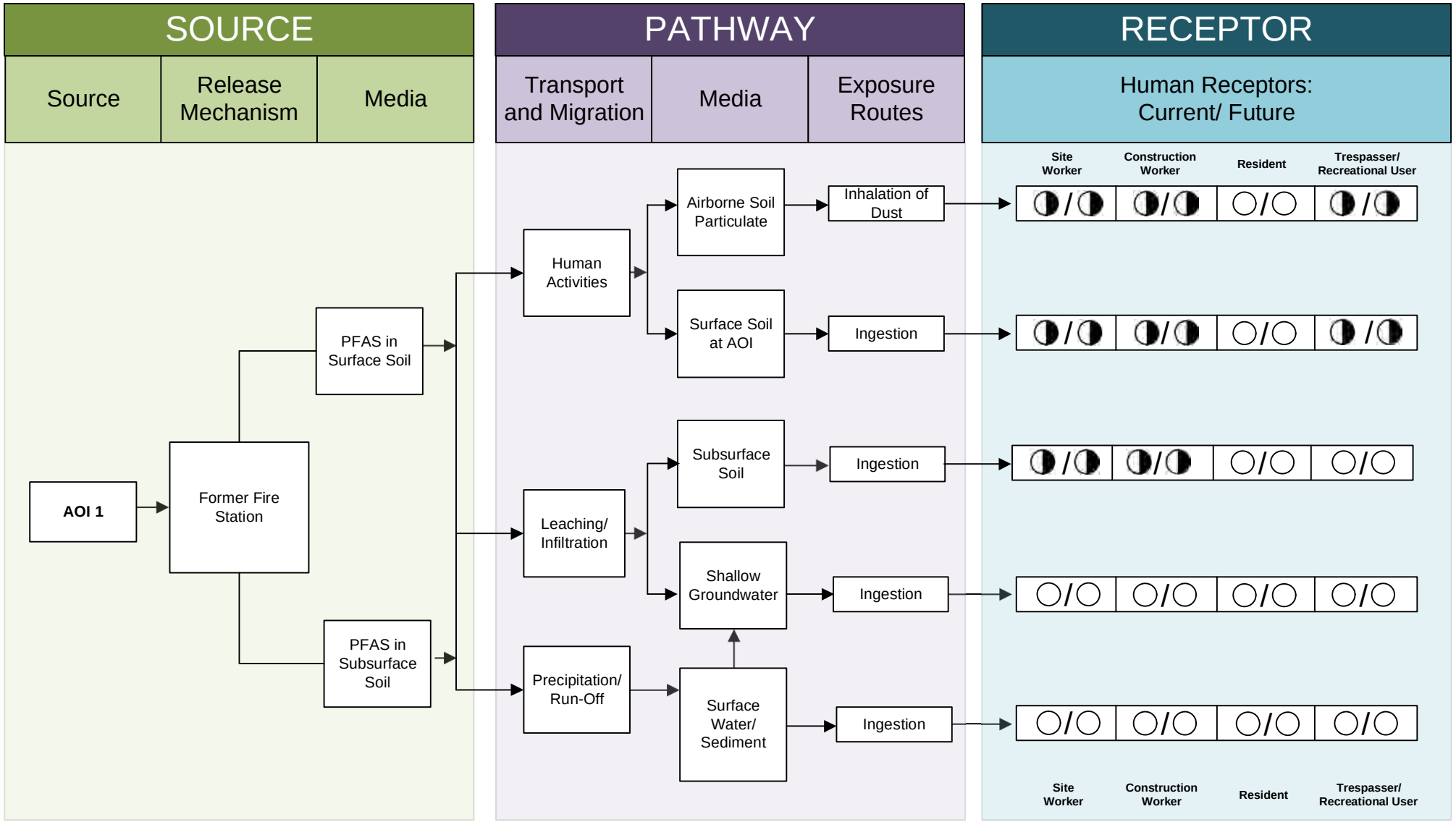
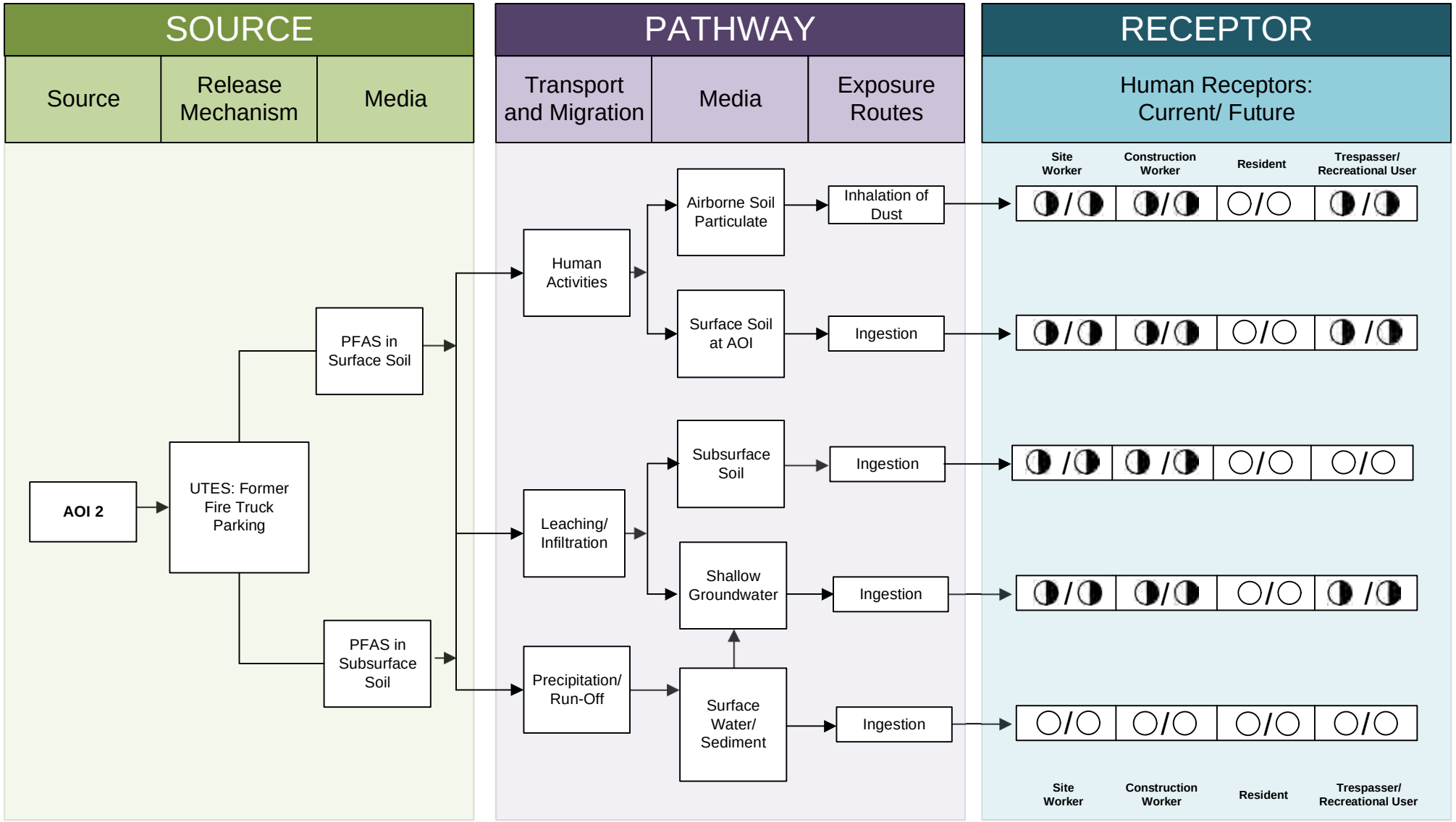


LEGEND

- Flow-Chart Stops
- Flow-Chart Continues
- Partial / Possible Flow
- Incomplete Pathway
- Potentially Complete Pathway
- Complete Pathway

Figure 6-2
Conceptual Site Model
AOI 1 Former Fire Station



LEGEND

- Flow-Chart Stops
- Flow-Chart Continues
- Partial / Possible Flow
- Incomplete Pathway
- Potentially Complete Pathway
- Complete Pathway

Figure 6-3
Conceptual Site Model
AOI 2 UTES: Former Fire Truck Parking

7. Conclusions

This report presents a summary of available information gathered during the PA on the use and storage of AFFF and other PFAS-related activities at Camp Rilea. The PA findings are based on the information presented in **Appendix A** and **Appendix B**.

7.1 Findings

The AOIs related to potential PFAS releases were identified (**Table 7-1**) at Camp Rilea during the PA through interviews with facility personnel (**Figure 7-1**).

Table 7-1: AOIs at Camp Rilea

Area of Interest	Name	Used by	Potential Release Dates
AOI 1	Former Fire Station	ORARNG	1970s to 1980
AOI 2	UTES: Former Fire Truck Parking	ORARNG	1989 to 1995

Based on potential PFAS release at the AOIs, there is potential for exposure to PFAS contamination in surface soil to site workers, construction workers, and trespassers via ingestion of soil and inhalation of dust at both AOIs; in subsurface soil to site and construction workers via ingestion and inhalation at both AOIs; and in groundwater to site and construction workers, trespassers, and on-Post recreational users at AOI 2. Public groundwater systems are used for drinking water sources off-Post, including the Sunset Lake RV Park (located approximately 0.5 miles to the south) and the City of Warrenton (located less than one mile to the north). However, based on the hydrologic gradient at the facility, the potential for exposure to PFAS contamination in groundwater to off-Post recreational users and residents via ingestion is incomplete.

7.2 Uncertainty

A number of information sources were investigated during this PA to determine the potential for PFAS-containing materials to have been present, used, or released at the facility. Historically, documentation of PFAS use was not required because PFAS were considered benign. Therefore, records were not typically kept by the facility or available during the PA on the use of PFAS in training, firefighting, or other non-traditional activities, or on its disposition.

The conclusions of this PA are predominantly based on the information provided during interviews with personnel who had direct knowledge of PFAS use at the facility. Sometimes the provided information was vague or conflicted with other sources. Gathered information has a degree of uncertainty due to the absence of written documentation, the limited number of personnel with direct knowledge due to staffing changes, the time passed since PFAS was first used (1969 to present), and a reliance on personal recollection. Inaccuracies may arise in potential PFAS release locations, dates of release, volume of releases, and the concentration of AFFF used. There is also a possibility the PA has missed a source of PFAS, as the science of how PFAS may enter the environment continually evolves.

In order to minimize the level of uncertainty, readily available data regarding the use and storage of PFAS were reviewed, retired and current personnel were interviewed, multiple persons were interviewed for the same potential source area, and potential source areas were visually inspected. **Table 7-2** summarizes the uncertainties associated with the PA.

Table 7-2: Uncertainties

Area of Interest	Source of Uncertainty
AOI 1	Interviewees indicated that a former fire station (approximately from the 1970s to 1980) was located at the present-day Public Works Office (Building 7241). Documented evidence of former fire station, firefighting activities, use of a fire truck, or use of AFFF at the former location could not be confirmed.
AOI 2	Interviewees indicated AFFF was contained in the tanks of the two former fire trucks. The concentration of PFAS and volume stored is not known. The fire trucks were parked primarily at the UTES area (1989-1995) but may have also been parked in other on-Post locations. Interviewees indicated AFFF was never deployed on-Post.
AOI 2	It is unknown when the model 2500L fire truck was removed from the facility.

7.3 Potential Future Actions

Interviews and records (covering 1984 to present) indicate that current or former ARNG activities may have resulted in potential PFAS releases at the two AOIs identified during the PA. Based on the CSM developed for the AOIs, there is potential for receptors to be exposed to PFAS contamination in soil and groundwater at these AOIs. **Table 7-3** summarizes the rationale used to determine if the AOI should be considered for further investigation under the CERCLA process and undergo a Site Inspection (SI).

ARNG evaluates the need for an SI at Camp Rilea based on the presence of a PFAS release, possible receptors, and the migration potential of PFAS contamination to receptors.

Table 7-3: PA Findings Summary

Area of Interest	AOI Location	Rationale	Potential Future Action
AOI 1 Former Fire Station	46°7'2.47"N 123°55'58.58"W	The former fire station was present during the period that AFFF was used; however, no information is available on equipment, storage of AFFF, or training with AFFF.	Proceed to an SI, focus on soil and groundwater
AOI 2 UTES: Former Fire Truck Parking	46° 7'29.98"N 123°56'4.41"W	No information was available on the concentration or volume of AFFF stored in the fire trucks parked at the UTES area (1989-1995).	Proceed to an SI, focus on soil and groundwater

CLIENT	ARNG			
NOTES	Preliminary Assessment for PFAS at Camp Rilea, OR			
REVISED	12/18/2018	GIS BY	MS	12/18/2018
SCALE	1:7,200	CHK BY	MB	12/18/2018
Base Map: Sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS,		PM	RG	12/18/2018

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Summary of Findings

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Figure 7-1

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Appendix A

Data Resources

Data Resources will be provided separately on CD. Data Resources for Camp Rilea facility include:

Previous Investigations Completed at Camp Rilea

- 2013 URS Group, Inc and ARCADIS, Operational Range Assessment Phase II report, Camp Rilea Oregon Army National Guard
- 2011 Shaw Environmental, Inc., Preconstruction Assessment, Oregon Military Department Camp Rilea
- 2010 Oregon Department of Environmental Quality, No Further Action Determination Former Landfill Area, Camp Rilea
- 2010 Shaw Environmental, Inc., Preconstruction Assessment, Oregon Military Department Camp Rilea
- 2009 AMEC, Final Groundwater Monitoring Report Former Landfill Area, Camp Rilea
- 2009 Oregon Department of Environmental Quality, DEQ Staff Report Former Landfill Area Camp Rilea
- 2008 AMEC, Remedial Action and Groundwater Monitoring Report, Camp Rilea
- 2006 AMEC, Phase II Environmental Baseline Study, Camp Rilea
- 2001 Department of the Army, Site Assessment Survey No. 38-EH-1332b-01, Camp Rilea 10 and 25 September
- 2001 Mitchell, Camp Rilea Armed Forces Training Center Final Integrated Natural Resources Management Plan for Calendar Years 2001-2005

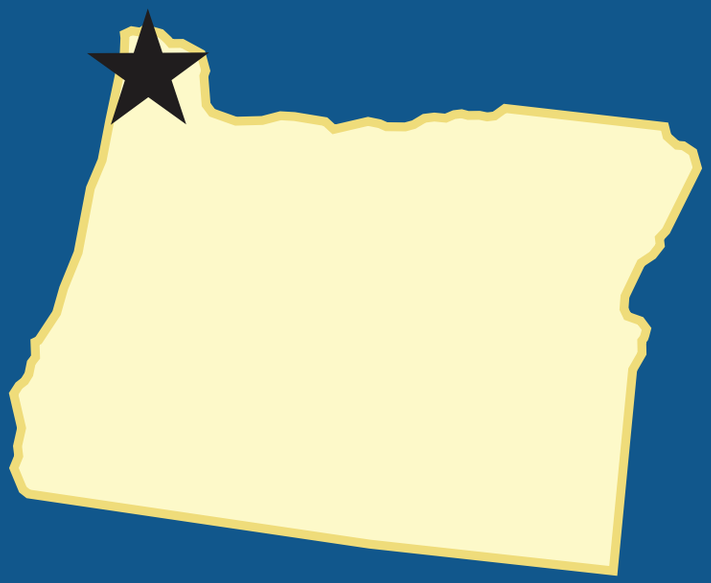
Camp Rilea Installation Maps

- 2018 Facility Map – Site # 41C30 MTA Camp Rilea

Camp Rilea EDR Report

- 2018 Camp Rilea Environmental Data Resource Report

Operational Range Assessment Phase II Report Camp Rilea, Oregon Oregon Army National Guard



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Operational Range Assessment
Phase II Report
Camp Rilea, Oregon
Oregon Army National Guard

Contract / Delivery Order:	W912DR-09-D-0003 / 0008
Lead Organizations:	U.S. Army Corps of Engineers (USACE) Baltimore District Army National Guard (ARNG) Directorate
Preparation Date:	February 2013

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Acronyms and Abbreviations

°F	degrees Fahrenheit
µg/L	micrograms per liter
APP	Accident Prevention Plan
APPL	Agriculture and Priority Pollutants Laboratories
ARID-GEO	Army Range Inventory Database – Geodatabase
ARNG	Army National Guard
COC	chain of custody
CSM	conceptual site model
DoD	Department of Defense
DoDD	Department of Defense Directive
DoDI	Department of Defense Instruction
DQO	data quality objective
ISQAPP	Installation-Specific Quality Assurance Project Plan
LOD	Limit of Detection
MCOC	munitions constituents of concern
mg/L	milligram(s) per liter
MS/MSD	matrix spike/matrix spike duplicate
ORA	Operational Range Assessment
ORARNG	Oregon Army National Guard
PAL	project action limit
PQAPP	Programmatic Quality Assurance Project Plan
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QA/QC	Quality Assurance/Quality Control
QC	Quality Control
SOP	Standard Operating Procedure
URS	URS Group, Inc.
USACE	U.S. Army Corps of Engineers
USACHPPM	U.S. Army Center for Health Promotion and Preventive Medicine
USAEHA	U.S. Army Environmental Hygiene Agency

USAIPH	U.S. Army Institute of Public Health
USEPA	U.S. Environmental Protection Agency

Executive Summary

To meet Department of Defense (DoD) requirements and support the U.S. Army's Sustainable Range Program, the Army National Guard (ARNG) Directorate is conducting assessments to determine whether a release or substantial threat of release of munitions constituents of concern (MCOC) from an operational range to an off-range area creates a potentially unacceptable risk to human health or the environment.

An Operational Range Assessment (ORA) Phase I (Phase I) was performed in 2008 (USACE, 2008) to assess whether a potential MCOC source exists on the operational range, a potential MCOC migration mechanism exists, and human and/or sensitive ecological receptors are present at the installation. The Phase I determined that potentially complete source-receptor pathways are present at Camp Rilea.

For operational ranges determined in the Phase I to have a potentially complete source-receptor pathway, the ARNG Directorate conducts an ORA Phase II (Phase II) of potentially complete pathways of MCOC to non-operational areas. This Phase II report presents the evaluation of source-receptor pathways at Camp Rilea in Warrenton, Oregon. URS Group, Inc. (URS) and ARCADIS/Malcolm Pirnie conducted the assessment under contract W912DR-09-D-0003/0008 with the United States Army Corps of Engineers (USACE) Baltimore District in support of the ARNG Directorate.

The Phase II established whether the source-receptor pathway identified during the Phase I is complete or whether new information was available that would affect the previous conclusions. To determine whether MCOC were leaving the operational range by an identified pathway (e.g., groundwater, surface water) and posed a potential risk to off-site receptors, the ORA team considered existing and new data, including sampling data. The ORA team may accomplish the Phase II by re-evaluating existing information (e.g., prior sampling, reports), through the use of modeling, and/or collecting additional samples. All available information is used to update the conceptual site model (CSM) and to establish a weight-of-evidence case that determines whether there has likely been a MCOC release from the operational range that may pose an unacceptable risk to an off-range receptor.

Camp Rilea lies on the Pacific Coast and encompasses 4,561 acres in Clatsop County, Oregon. The installation is two miles southwest of the city of Warrenton, five miles southwest of Astoria, and approximately 100 miles west of Portland.

Camp Rilea is currently a maneuver and training center operated by the Oregon Army National Guard (ORARNG). The total operational area at the installation is 4,295 acres. This includes the four water drop zones encompassing 2,583 acres. The remaining 266 acres are other than operational areas and are mostly associated with the cantonment area.

Of the 50 ranges on Camp Rilea, two were determined to be potential sources of MCOC. The majority of training includes small arms ammunition and pyrotechnics. Although small arms are used at Camp Rilea, prior sampling data indicated no complete pathway for metals or explosives. Surface water and sediment samples from Neacoxie Creek were collected and analyzed for metals and explosives. Based on the results, it was concluded that any historical disposal practices had not affected the creek. Given the location of the samples, these results also pertain

to operational range activity and can be used as a basis for whether metals and explosives from training leave the operational range at concentration of concern. Results of this work indicate there is no risk to off-range receptors from metals or explosives. Therefore, Phase I eliminated metals and explosives as potential MCOC in surface water. Instead, Phase II focused on perchlorate, which had a potential source, surface water pathway and receptors, but no prior sampling data.

Potential pathways for MCOC migration off the operational footprint include surface water pathways to ecological receptors. Primary source areas are the *Inconclusive* areas, a maneuver and training area and an urban warfare area.

The Phase I report and observations made during the Phase II kickoff meeting and site reconnaissance, which was held in January 2012, were used to refine the CSM and technical approach for Phase II.

To fill the data gap identified in the Phase II CSM (uncertainty regarding perchlorate surface water source receptor connection), Phase II sampling occurred during two mobilizations: Wet Season (High Flow) and Dry Season (Low Flow). The Wet Season (High Flow) mobilization occurred during sunny conditions in January 2012. The Dry Season (Low Flow) mobilization occurred during sunny conditions in July 2012. During each mobilization, two events of grab sample collection occurred. Three locations, two downstream of the *Inconclusive* areas and one reference, were sampled (**Figure ES-1**).

Grab samples were collected directly from the surface water bodies. Samples were analyzed for perchlorate. Water quality parameters were also collected during each sampling event.

Perchlorate was not detected in any of the surface water samples above the detection limit of 0.40 µg/L. This detection limit is not only significantly below the ORA Screening Value for surface water (9,300 µg/L), but also the ORA Screening Value for human drinking water of 15 µg/L.

Although qualitative observations suggest that MCOC transport is possible, the Phase II analytical data and supporting observations indicate MCOC are not migrating off Camp Rilea operational range areas via surface water pathways at concentrations that pose an unacceptable risk to ecological receptors. The following evidence and site conditions indicate that MCOC are not migrating:

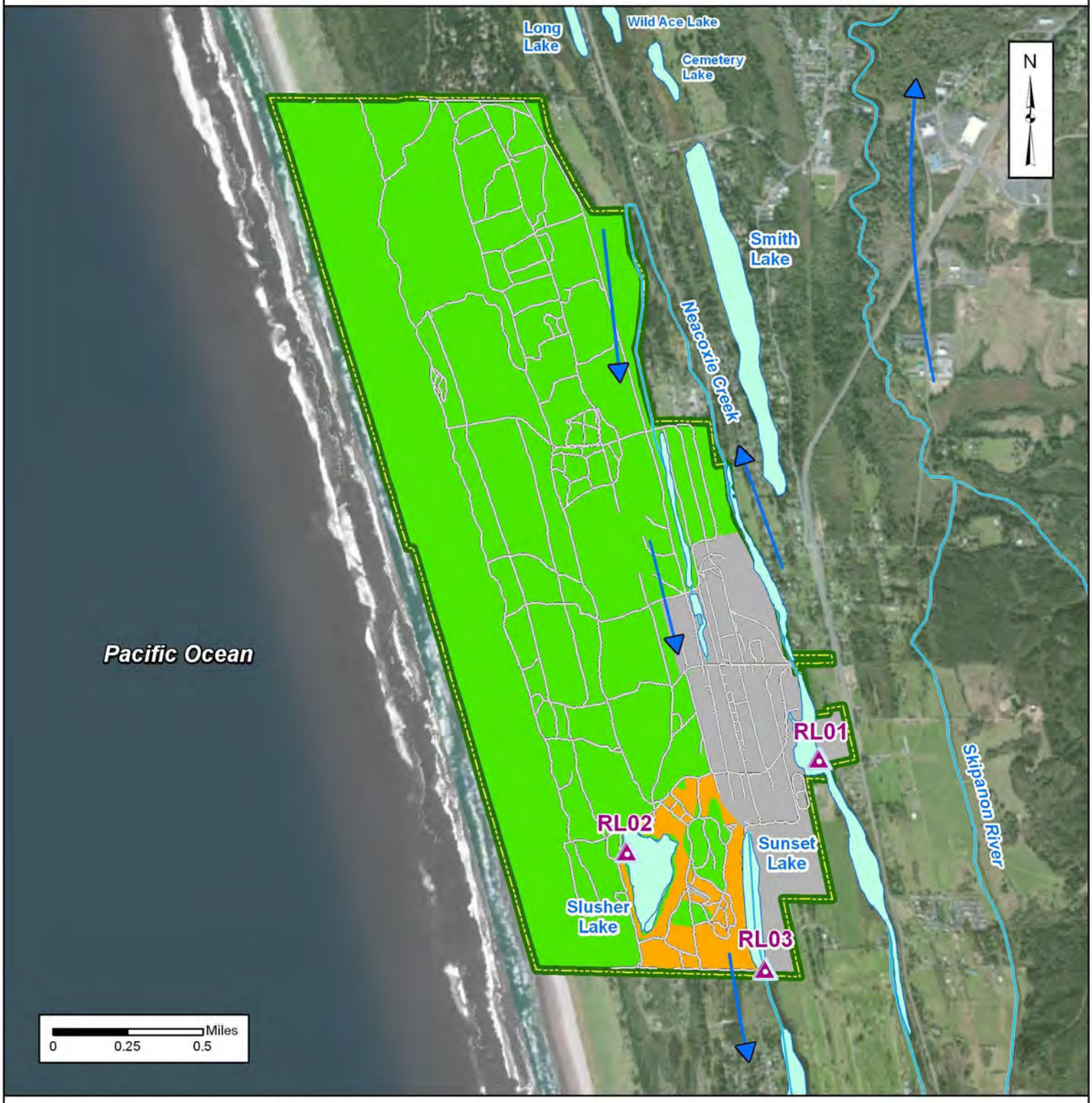
- Ranges are exceptionally clean and free of training debris. Range best management practices require removal of all pyrotechnics debris following every training event.
- High annual rainfall would dissolve and dilute any potential small source of perchlorate from pyrotechnics on its path toward and into surface water.
- Ranges are well vegetated and very well maintained, thus also limiting MCOC migration via overland transport of surface water and particulates.
- Extremely slow flow velocity in on-installation surface water bodies limit the potential for MCOC transportation off installation.
- Perchlorate was not detected in any of the Phase II surface water samples above the laboratory detection limit of 0.40 µg/L.

- Analytical data are quantitative measurements of MCOC to which receptors could be directly exposed and thus are of greater weight than qualitative observations.

For the conditions in 2012, data and weight of evidence regarding site CSM indicate no unacceptable risk to off-range human or ecological receptors from potential sources associated with the operational footprint at Camp Rilea. Operational areas are placed into a review cycle to periodically re-evaluate whether future changes in conditions pose unacceptable risk to off-range human or ecological receptors. Implementation of appropriate best management practices will reasonably ensure no future MCOC migration from potential MCOC sources associated with the operational footprint at Camp Rilea.

Figure ES-1

Surface Water Sampling Locations
Operational Range Phase II Assessment
Camp Rilea, OR



Installation
- Installation Boundary
- Inconclusive
- Unlikely
- Non-Operational Area
- Road

Hydrology
- Surface Water Flow
- River/Stream
- Water Body

Sample Location
- Surface Water Sample

Data Sources:
Concurrent Technologies Corporation and
Kansas State University, 1999.
Imagery: USA Prime Imagery, ESRI ArcGIS Online and data partners

Date.....October 2012
Prepared by.....URS Group, Inc.
Prepared for.....ARNG Directorate
Contract.....W912DR-09-D-0003/0008

1 Introduction

1.1 Project Purpose and Overview

URS Group, Inc. (URS), with the support of ARCADIS/Malcolm Pirnie (ARCADIS/Pirnie), conducted an Operational Range Assessment (ORA) Phase II (Phase II) study at Camp Rilea for the U.S. Army Corps of Engineers (USACE) and the Army National Guard (ARNG) Directorate. Phase II was required because of the conclusions of the ORA Phase I (Phase I) study conducted for Camp Rilea (USACE, 2008). Camp Rilea is located in Warrenton, Oregon (**Figure 1-1**).

During Phase I, readily available information was used to determine whether operational areas had a source of munitions constituents of concern (MCOC), a migration pathway (via surface water or groundwater systems) for MCOC, and potential receptors (human or ecological) along that pathway. The conclusion of the Phase I was that the available information was not sufficient to confirm whether an off-range release of MCOC is occurring at concentrations that present an unacceptable risk to human health and/or sensitive ecological receptors. Therefore, Phase II was required. Phase II is designed to collect and evaluate appropriate data to determine whether an off-range release has occurred at concentrations above risk-based thresholds.

1.2 Project Scope and Drivers

The U.S. Army is conducting assessments at operational ranges to meet the requirements of Department of Defense (DoD) policy and to support the U.S. Army Sustainable Range Program. The ORA is being implemented to fulfill requirements identified implicitly or explicitly in:

- DoD Directive (DoDD) 4715.11 *Environmental and Explosives Safety Management on Operational Ranges Within the United States* (2004)
- DoD Instruction (DoDI) 4715.14 *Operational Range Assessments* (2005)

The DoDD and DoDI require that U.S. Army installations maintain an operational range inventory and evaluate the potential for off-range migration of munitions constituents. The DoDI identifies munitions constituents to be evaluated and lays out a scientifically sound process for assessing and presorting potential off-range environmental impacts of military munitions used on operational ranges. In particular, the DoDI requires the DoD components to respond to a release or substantial threat of release of MCOC from an operational range area to off-range areas when such a release poses an unacceptable risk to human health or the environment.

1.3 Work Authority

Phase II for Camp Rilea was performed under Contract No. W912DR-09-D-0003/0008 with the USACE Baltimore District. The ARNG Directorate is the program manager and provides programmatic coordination, as designated by the Assistant Chief of Staff for Installation Management's Installation Services Environmental Division. The U.S. Army Institute of Public Health (USAIPH) provides technical assistance to the ARNG Directorate.

1.4 ORA Phase I

In Phase I, 50 operational areas at Camp Rilea were evaluated and placed into one of two possible categories: *Unlikely* or *Inconclusive*. The two categories are defined as follows:

- ***Unlikely* – Periodic Review:**[1] Based on a review of readily available information, the conceptual site model (CSM) indicates that one or more of the three conditions for a source-receptor interaction is not present (i.e., no source, pathway, or receptor), or where pathways are complete, data are sufficient to indicate no unacceptable risk to human health or the environment. These operational areas are placed into a periodic review cycle to re-evaluate whether a change in conditions has occurred.
- ***Inconclusive* – Phase II Required**: Readily available information is insufficient to ascertain whether MCOC from an operational area is migrating to a potential off-range receptor or the information indicates the potential for such an interaction, but risk levels are uncertain. These sites undergo a Phase II.

Forty-eight operational areas, including multiple use ranges, small arms range, hand grenade and explosives ranges, landmine ranges, checkpoints, training and maneuver areas, non-live fire ranges, landing pads, vehicle course, water and land drop zones, obstacles courses, and bridge training sites, were categorized as *Unlikely*.

Two operational areas, a maneuver and training area and an urban warfare area, were categorized as *Inconclusive*. These ranges have current and/or historical sources of potential MCOC that were identified during Phase I.

The majority of training at Camp Rilea includes small arms ammunition and pyrotechnics. MCOC potentially migrate off range via surface water pathways to potential receptors (**Figure 1-2**). Section 2.3 describes the potential source areas, pathways, and receptors.

1.5 ORA Phase II

The strategy for Phase II was based on the U.S. Environmental Protection Agency's (USEPA's) systematic planning or data quality objective (DQO) process. The application of the DQO process is required by DoDI 4715.14. The DQO process is a sequence of logical steps to address the sampling rationale, decision criteria, and approaches to selecting a sampling design. The DQO process is iterative and helps determine the appropriate type, quantity, and quality of environmental data necessary for making decisions that are technically sound and defensible. Guidance on using the DQO process can be found in *Guidance on Systematic Planning Using the Data Quality Objectives Process* (USEPA, 2006).

The structure of the ORA process is based on the DQOs. Phase I was designed to provide the basis for Step 1 of the DQO process, which leads to the seven-step planning process for Phase II. Phase I is the initial gathering of data that enables construction of a CSM and the identification

[1] All operational ranges must be periodically re-evaluated to determine if there is a release or substantial threat of release of MCOC from an operational range to an off-range area. Range groups categorized as *Unlikely* are to be re-evaluated periodically. Range groups may be re-evaluated if significant changes (e.g., changes in range operations or site conditions, regulatory changes) occur that affect determinations made during Phase I.

of pathways that could allow MCOC from an on-range source to interact with off-range receptors at concentrations that would pose a potential risk to human health or the environment.

Phase II uses a weight-of-evidence approach to determine whether there is an unacceptable risk to off-range human and ecological receptors from on-range MCOC sources. When appropriate, Phase II includes sampling and analysis of media in the potential pathways for the MCOC identified in Phase I and refined through the preliminary stages of the Phase II evaluation. Phase II was guided in part by the *Army Operational Range Assessment Phase II Investigation Protocol* (USACHPPM,[2] 2009) and the *ARNG ORA Focus for Technical Sampling* (ARNG, 2011).

1.6 Organization of the Report

Phase II results, analyses, and conclusions are presented in this report. The report consists of seven sections and five appendices:

- **Section 1 – Introduction:** Project purpose, background, work authority, and introduction to ORA
- **Section 2 – Installation Overview:** Installation profile, physical features, and summary of previous investigations
- **Section 3 – Phase II**: CSM for the surface water pathway and technical approach for Phase II
- **Section 4 – Methodology**: Methodologies used in Phase II
- **Section 5 – Data Analyses**: Overview of laboratory methods and analyses
- **Section 6 – Data Results**: Results of Phase II
- **Section 7 – Weight-of-Evidence Evaluation and Conclusions**: Summary of the findings and the conclusions of the Phase II
- **Section 8 – References:** List of all documents used in the preparation of the Phase II report
- **Appendix A – Photograph Log**: Photographs taken at the sampling locations
- **Appendix B – Field Forms**: Documents completed in the field: chain of custody (COC), field safety forms, and sample collection logs
- **Appendix C – Analytical Tables**: Summary tables with all surface water and Quality Control (QC) sample results
- **Appendix D – Data Usability Summary Reports:** Tier III Data Validation Report prepared for each Sample Delivery Group as assigned by the laboratory

[2] The U.S. Army Institute of Public Health (USAIPH) was formerly the U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM).

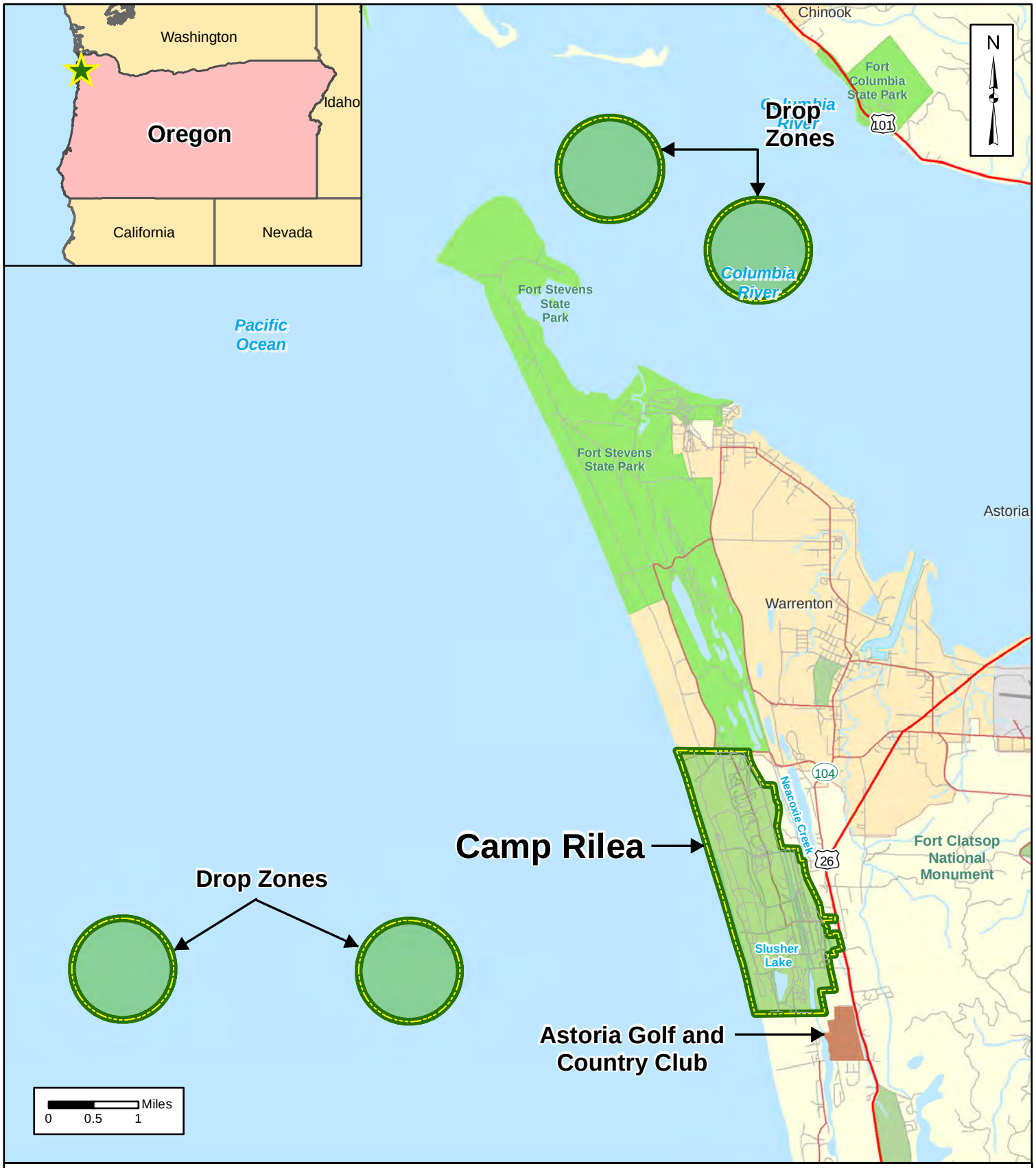
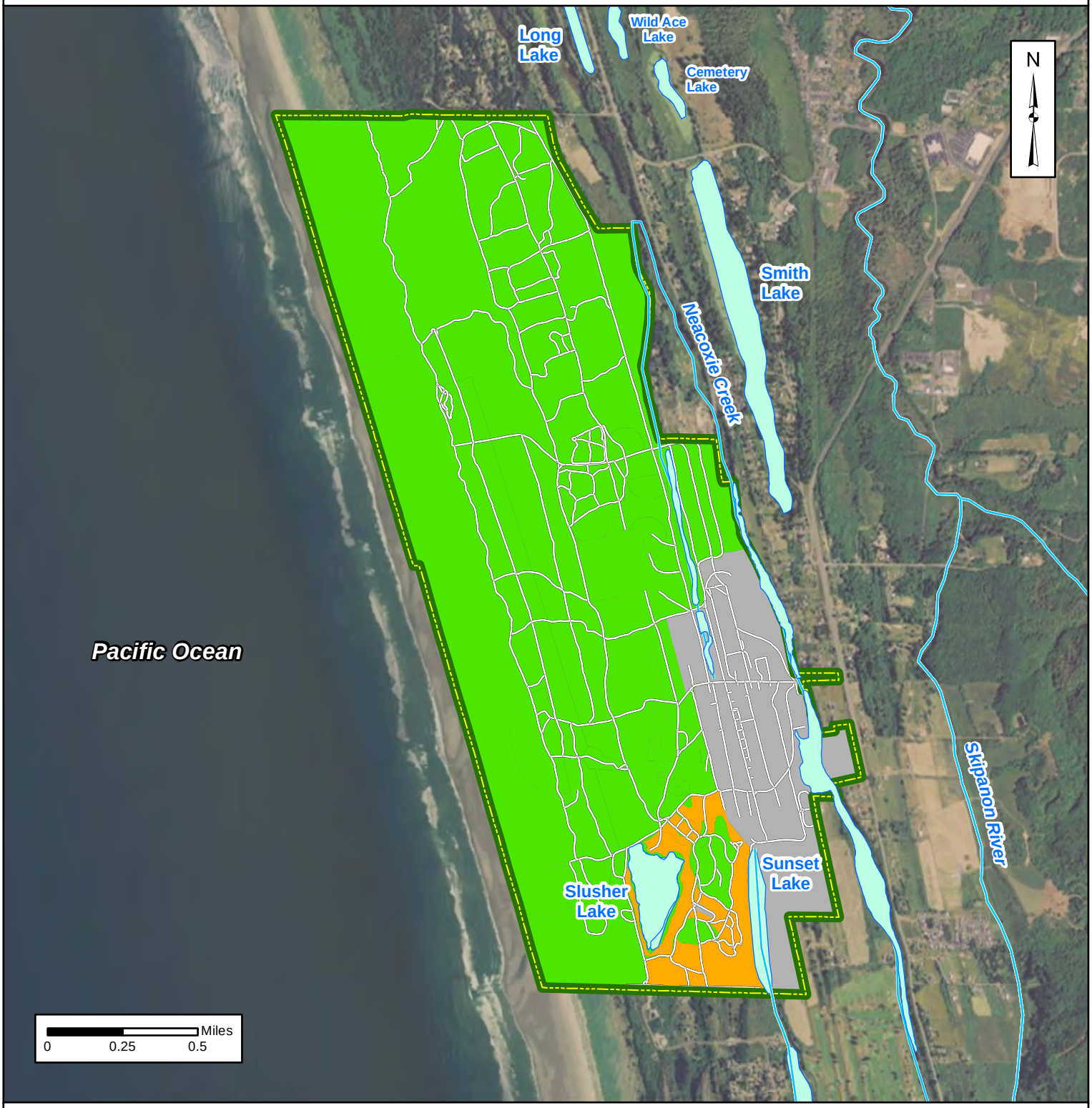


Figure 1-1
Installation Location Map
Operational Range Phase II Assessment
Camp Rilea, OR

Data Sources:
Concurrent Technologies Corporation and Kansas State University, 1999.
Street Map: ESRI Street Maps 9.3, North America

Date.....October 2012
Prepared by.....URS Group, Inc.
Prepared for.....ARNG Directorate
Contract..... W912DR-09-D-0003/0008

Figure 1-2
Phase I Findings
Operational Range Phase II Assessment
Camp Rilea, OR



Installation

- Installation Boundary
- Road

Phase I Category

- Inconclusive
- Unlikely
- Non-Operational Area

Hydrography

- River/Stream
- Water Body

Data Sources:
Concurrent Technologies Corporation and
Kansas State University, 1999.
Imagery: USA Prime Imagery, ESRI ArcGIS Online and data partners

Date.....October 2012
Prepared by.....URS Group, Inc.
Prepared for.....ARNG Directorate
Contract.....W912DR-09-D-0003/0008

2 Camp Rilea Overview

2.1 Installation Background

Camp Rilea lies on the Pacific Coast in Northwest Oregon in Clatsop County, two miles southwest of the city of Warrenton and five miles southwest of the city of Astoria (**Figure 1-1**). The installation occupies 4,561 acres. The city of Portland is located approximately 100 miles east of Camp Rilea. Close to the installation's eastern boundary is U.S. Highway 101, the major coastal transportation route. The installation's main gate is located on the eastern boundary.

Operated by the Oregon Army National Guard (ORARNG), Camp Rilea's mission is to provide an integrated training package for military units ranging from squad to battalion. According to Army Range Inventory Database - Geodatabase (ARID-GEO, 2005) and ORARNG geographic information system data, there are 50 operational areas at Camp Rilea that account for 4,295 acres (**Figure 1-2**). This includes the four water drop zones encompassing 2,583 acres. The other 46 operational ranges are on land and account for 1,712 acres. The remaining 266 acres are other than operational areas and are mostly associated with the cantonment area.

The majority of training at Camp Rilea includes small arms ammunition and pyrotechnics. Training at Camp Rilea primarily occurs on weekends from September to May and increases in frequency to include week days from June to August.

During the 2010 Phase II site visit, a water supply system and wastewater treatment plant was being installed on post. Installation personnel stated that groundwater would be treated for metals; therefore, it was determined that groundwater sampling for metals at the plant would not be necessary during Phase II.

2.1.1 Climate

Camp Rilea's climate is considered marine temperate. Winters tend to be wet and cool; summers are drier and warmer. The average annual precipitation is 73 inches. Rainfall events can be heavy and severe and are mostly between November and March. Snowfall occurrences are rare and short in duration. The mean temperature ranges between 43 degrees Fahrenheit (°F) in January and 58°F in August. The frost-free period is 200-240 days. There are usually one or two strong storms per year (ORARNG Environmental Branch, 2006). The evaporation rate for the Clatsop Plains area is estimated at 20 inches per year, and the transpiration rate is estimated at 15 inches per year (Kennedy/Jenks Consultants, 2005). The prevailing winds come from the west, with an annual average wind speed of 8.5 miles per hour (National Climatic Data Center, 1998).

2.1.2 Topography

Camp Rilea is located in the Clatsop Plains region, which occupies approximately 14,600 acres in the western area of Clatsop County, along the northern Oregon coast (R.W. Beck and Associates, 1982). Clatsop Plains is an area of undulating topography formed by north-trending sand dunes. The troughs of the dunes contain meadow and planted forest, as well as wetlands and lakes (Cummings et al., 2005). The installation has five dune ridges and five interdune areas, oriented north-south. Slopes are mostly gentle, rarely exceeding 10 percent. Lakes and slow moving creeks, locally known as sloughs, separate some of the dunes (USACHPPM, 1996). Active coastal dunes are unstable, and inactive dunes can become unstable if vegetative cover is removed (ORARNG Environmental Branch, 2006).

2.1.3 Soil

Camp Rilea has six soil types. These are, from west to east, beaches, dune land, Gearhart fine sandy loam, Heceta-Waldport fine sand, Waldport fine sand, and Warrenton loamy fine sand. The beaches are located on the far western edge of the installation. Both the beach and dune land areas have severe erosion potential from wind and water. All other soil types have slight water erosion potential. The Waldport soil series also has severe wind erosion potential. The Gearhart and Waldport soil series have rapid permeability (ORARNG Environmental Branch, 2006).

2.1.4 Geology

The Coastal Lowlands ecoregion is composed of Quaternary marine and nonmarine terrace deposits, beach, and dune sands. The Clatsop Plains geographical area (which includes Camp Rilea) is believed to consist of an ancient terrace of marine and estuarine sedimentary rocks overlain by a sand dune complex built from Columbia River derived sediments. This dune complex can be described as a series of ridge foredunes running parallel to the coastline separated by nearly flat interdune areas, which are often swales. Deposition and outbuilding on this accreting coastline and vegetative stabilization created this topography. The dunes range in height from 15 to 90 feet above sea level and in width from 250 to over 400 feet (ORARNG Environmental Branch, 2006).

2.1.5 Hydrogeology

The Clatsop Plains aquifer consists of sand dune deposits within the Clatsop Plains region and has been identified as a substantial developable water supply (USACHPPM, 1996). The Clatsop Plains aquifer is up to 150 feet thick and is a complete local flow system recharged almost entirely by infiltrating precipitation. Groundwater movement within the system is down gradient from recharge to discharge zones. In general, groundwater movement inside Camp Rilea and in the surrounding areas is from east to west toward the Pacific Ocean (Kennedy/Jenks Consultants, 2005). Near surface water and topographical features, the direction of groundwater flow is variable especially since shallow groundwater recharges surface water. The entire installation can be considered a recharge area. The water table ranges in elevation from sea level to about 20 feet (Geological Survey Water Resources Division, 1968). The volume of groundwater withdrawn by local water supply wells is negligible; most of the wells are completed at relatively shallow depths and are used for supplemental purposes such as irrigation. Preliminary field testing suggests that salt water intrusion is not a problem in the area (Kennedy/Jenks Consultants, 2005).

The alluvial aquifer is the primary water source for most persons living on the Clatsop Plains. Much of Camp Rilea sits above the downgradient end of the Clatsop Plains aquifer, close to where it begins its submarine discharge. Nevertheless, Clatsop County has designated the entire area north of Slusher Lake and north of the cantonment area all the way to the northern installation boundary as an Aquifer Reserve Overlay District. This means that the construction of sewage disposal systems, the overapplication of fertilizers, and inadequately protected oil and gas storage facilities are prohibited in this area (ORARNG Environmental Branch, 2006).

The regional bedrock aquifer is recharged in the Coast Range to the east. Groundwater flow through the bedrock aquifer under Camp Rilea is westward, toward the submarine discharge zone.

2.2 Summary of Previous Investigations

To assess the potential of MCOC transport to surface water bodies on installation (e.g., Neacoxie Creek), a 2001 USACHPPM document was reviewed during Phase I. The document cited a 1996 investigation of potential metals and explosives MCOC impacts to Neacoxie Creek associated with historical small caliber munitions disposal. Surface water and sediment samples from Neacoxie Creek were collected and analyzed for metals and explosives. Based on the results, it was concluded that any historical disposal practices had not impacted the creek. Given the location of the samples, these results also pertain to operational range activity and can be used as a basis for whether metals and explosives from training leave the operational range at concentration of concern. Results of this work indicated there is no risk to off-range receptors from metals or explosives. Therefore, Phase I eliminated metals and explosives as potential MCOC in surface water.

2.3 Conceptual Site Model

The Phase I CSM provided the basis for Phase II. The CSM identified pathways that could allow MCOC from an on-range source to interact with off-range receptors at concentrations that could pose a potential risk to human health or the environment.

Phase I determined that a source, pathway, receptor interaction is potentially complete for surface water; however, it is not complete for groundwater. Explanations of both pathways are included below.

2.3.1 Surface Water Pathway

The source areas for surface water pathways are the *Inconclusive* areas, a maneuver and training area and an urban warfare area. The areas are located in close proximity to surface water bodies (**Figure 1-2**).

Metals, explosives, and perchlorate were identified as potential MCOC based on range use. As stated in Section 2.2, metals and explosives were eliminated as a potential MCOC based on past sampling. Samples were not analyzed for perchlorate; therefore, Phase I identified perchlorate as the only remaining potential MCOC.

MCOC release mechanisms include erosion and runoff to off-range surface soil or to nearby streams. Once potential MCOC are deposited in surface water and sediment, it has the potential to migrate downstream, recharge the shallow groundwater that flows to local surface water bodies, or be taken up by aquatic plants or animals.

Ecological receptors include sensitive environments (e.g., wetland habitat). American Bald Eagles are known to frequent Sunset Lake and probably also the southern part of Neacoxie Creek. American Peregrine Falcons frequent Sunset Lake and Neacoxie Creek.

Because of the expected dilution of potential MCOC by seawater, MCOC potentially discharged to the Pacific Ocean via surface water pathways are not expected to affect sensitive environments or threatened and endangered species in the Pacific Ocean. Humans are not potential receptors.

2.3.2 Groundwater Pathway

Six ranges were determined to be potential source areas for groundwater pathways. Based on range use, perchlorate and explosives were identified as the potential MCOC. MCOC could

reach shallow groundwater due to the highly permeable soil (i.e., sands) and the rapid infiltration of precipitation. Groundwater would then flow via shallow groundwater to the Pacific Ocean.

Potential receptors in the Pacific Ocean include humans who consume razor clams from a popular commercial fishery and other fish. However, potential MCOC discharged to the Pacific Ocean are expected to be sufficiently diluted by seawater in strong shoreline currents, preventing significant bioaccumulation in clams and fish to pose an unacceptable risk to human consumers. For the same reason, recreational users, sensitive environments, and threatened and endangered species in the Pacific Ocean are not considered potential receptors.

In summary, although sources and a groundwater pathway exist, there are no human and ecological receptors. Therefore, groundwater pathways are incomplete and are not evaluated further.

3 ORA Phase II

As described in Section 1.5, the strategy for conducting Phase II was based on the USEPA systematic planning or DQO process. The DQO process is an iterative sequence of seven logical steps to create a detailed technical approach. The preliminary CSM was developed during Phase I (Step 1 of the DQO process) and updated during Phase II planning. The subsequent steps in the DQO process include the following:

- Identifying the goal of the Phase II ("if-then" statements to determine whether surface water and groundwater pathways are present)
- Identifying information inputs (media to be sampled and analytical methods)
- Defining the study boundaries (which waterways will be sampled depending on the pathways and receptors present)
- Developing the analytical approach (how the data will be analyzed)
- Specifying performance or acceptance criteria (i.e., project action limits [PALs])
- Developing the detailed plan for obtaining data (developing the detailed CSM and technical approach)

The following sections describe the major outputs of the site-specific application of the DQO process.

3.1 Phase II Site Reconnaissance

The Phase II kickoff meeting and site reconnaissance were held at Camp Rilea in January 2011. A summary of observations and discussion, as they apply to Phase II, are presented below.

- Pyrotechnics use in training at a range near surface water bodies.
- Because perchlorate can be created naturally in the environment or stem from other anthropogenic sources, including agricultural uses and fireworks use on the beach during the annual 4th of July festivities, the group decided that upstream or reference samples from Neacoxie Creek will be collected.
- The Phase I determination of excluding groundwater pathways at Camp Rilea was confirmed as ecological and human receptors do not exist.
- Potential ecological receptors inhabit Slusher Lake; therefore, it was suggested that a sample should be collected from the lake.
- Visual observations confirmed a hydrologic connection between surface water bodies on installation to water bodies south and off installation.
- High transmissivity of the local soil and a high annual rainfall were discussed. Range control staff reported that standing water was not observed on the ranges even following heavy rainfall; therefore, infiltration likely occurs rapidly as would be expected for sandy soils.
- Surface water bodies are located in close proximity to the *Inconclusive* areas.

- Extremely slow flow velocity in on-installation surface water bodies limit the potential for MCOC transportation off installation.
- Ranges are exceptionally clean and free of training debris. Range best management practices require removal of all pyrotechnics debris following every training event.
- Ranges are well vegetated and very well maintained, thus limiting MCOC migration via overland transport of surface water of particulates.
- There are no adjoining areas of concern identified at Camp Rilea.

3.2 Conceptual Site Model

The Phase II CSM for the *Inconclusive* areas is illustrated in **Figure 3-1** and summarized in the following sections.

3.2.1 Primary Sources and MCOC

The two *Inconclusive* areas, a maneuver and training area and an urban training area, are identified as the primary source areas (**Figure 1-2**). The *Inconclusive* areas are in close proximity to surface water bodies. Perchlorate is the potential MCOC.

3.2.2 Pathway Analysis

Surface water is the only potential migration pathway from the *Inconclusive* areas. Surface water pathways include perchlorate dissolution and transport via overland flow or infiltration to shallow groundwater discharging to local surface water bodies.

Surface water flow at Camp Rilea is largely controlled by the dune and interdune topography. Three local surface water bodies, Neacoxie Creek, Sunset Lake, and Slusher Lake, are identified on the installation (**Figure 1-2**). Neacoxie Creek enters the installation from the south along the eastern boundary. It flows north to the northeast corner of the installation, turns 180 degrees back to the south through the cantonment area, and flows into Sunset Lake. From Sunset Lake, flow continues off installation, ultimately draining into the Pacific Ocean. Slusher Lake is in the south-central portion of Camp Rilea. The *Inconclusive* areas are located around Slusher Lake, and there is a potential hydrologic connection from the lake to surface water bodies south and off installation. Camp Rilea is located within the Necanicum River watershed.

3.2.3 Potential Source: Human Interaction Pathway Analysis

Humans are not a potential receptor.

3.2.4 Potential Source: Ecological Interaction Pathway Analysis

Potential ecological receptors on installation and downstream of Camp Rilea that may be affected by MCOC transport include wetlands and sensitive environments (i.e., potential threatened and endangered species and/or habitats).

3.3 Phase II Technical Approach

As identified during the DQO process, the project goal for Phase II was to determine whether MCOC are migrating off Camp Rilea operational range areas via surface water pathways at

concentrations that pose an unacceptable risk to ecological receptors. To fill the data gap identified in the CSM (uncertainty regarding perchlorate surface water source receptor connection), Phase II was designed to gather data to quantitatively assess the drainage areas and answer the following questions:

- Is perchlorate dissolved and transported to local surface water bodies?
- What are reference perchlorate concentrations in surface water upstream of, or in an area unlikely to be unaffected by, the *Inconclusive* areas?
- Do MCOC concentrations in surface water pose an unacceptable risk to ecological receptors?

Phase II study questions were answered by sampling and analyzing surface water samples collected downstream of the *Inconclusive* areas and from a reference location in an area unlikely to be affected by the *Inconclusive* areas.

Details of the sampling and analysis methodology are presented in Sections 4 and 5, respectively. Details of the DQO planning process and the sampling and analysis methods can be found in the *Programmatic Quality Assurance Project Plan [PQAPP], Operational Range Phase II Assessments, Army National Guard* developed for Phase II (URS/ARCADIS/Pirnie, 2012a), and the Work Plan/Installation-Specific QAPP (ISQAPP) prepared for Phase II at Camp Rilea (URS/ARCADIS/Pirnie, 2011). The ISQAPP includes details specific to the Camp Rilea Phase II which are not included in the companion PQAPP document.

The QAPPs are based on procedures in the *Army Operational Range Assessment Phase II Investigation Protocol* (USACHPPM, 2009), the *ARNG ORA Focus for Technical Sampling* (ARNG, 2011), and the USEPA *Guidance on Systematic Planning Using the DQO Process* (USEPA, 2006). ISQAPP Worksheet #11 contains the planning process statements used to develop the technical approach, while ISQAPP Worksheet #17 documents the sampling design and rationale.

3.3.1 Surface Water

Surface water sampling occurred during two mobilizations: Wet Season (High Flow) and Dry Season (Low Flow). The Wet Season (High Flow) mobilization occurred during sunny conditions in January 2012. The Dry Season (Low Flow) mobilization occurred during sunny conditions in July 2012. Sunny conditions refer to non-storm conditions when there was little to no precipitation. During each mobilization, two events of grab sample collection occurred. Three locations, two downstream of the *Inconclusive* areas and one reference, were sampled. The sample locations described below are shown on **Figure 3-2**. **Appendix A** presents photographs of each sampling location.

3.3.2 Reference Sampling Location

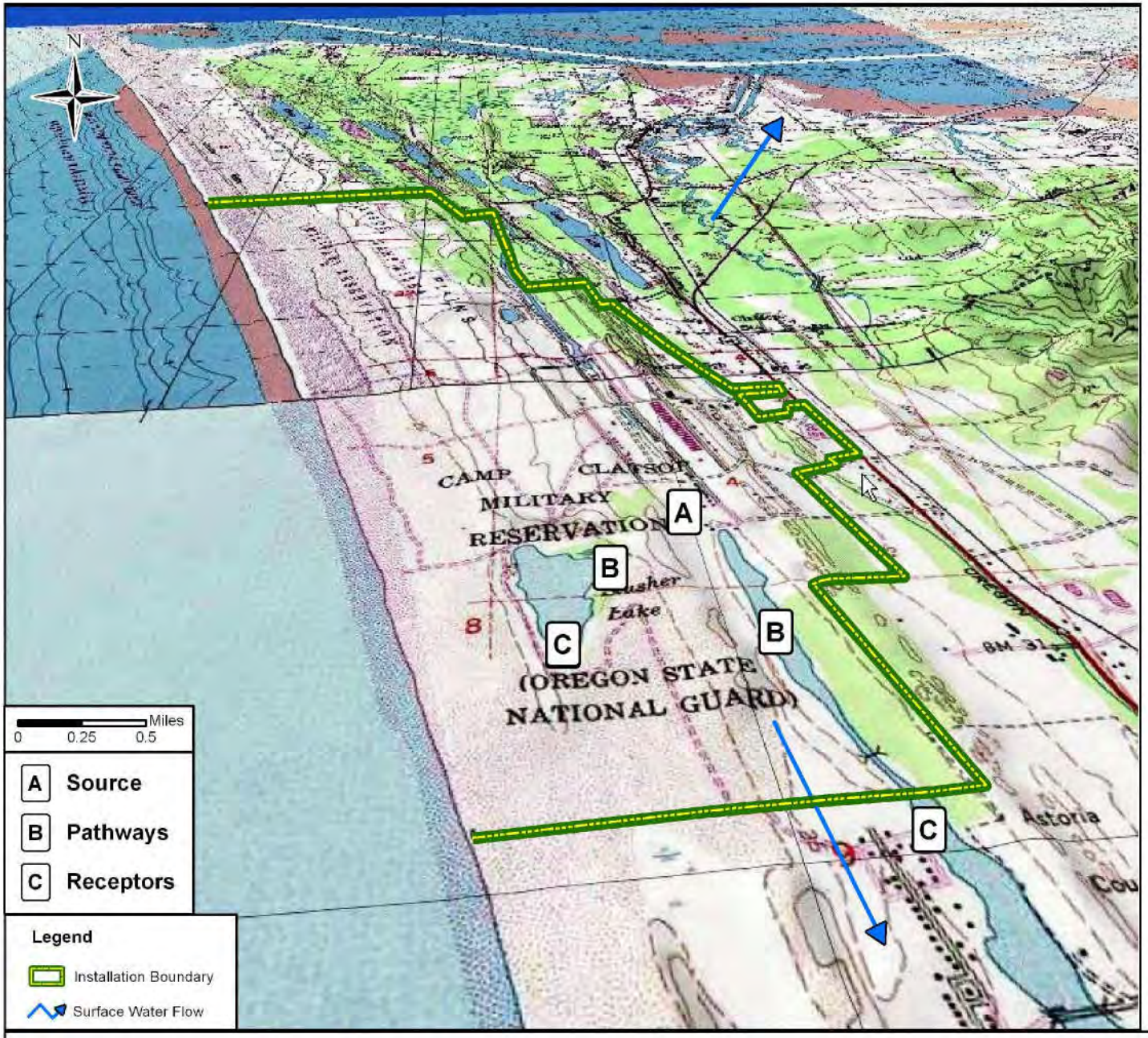
Because perchlorate can be created naturally in the environment or stem from other anthropogenic sources, including agricultural uses and fireworks use on the beach during the annual 4th of July festivities, a reference sample location, RL01, was selected on the upstream portion of Neacoxie Creek as it enters Camp Rilea.

3.3.3 Downstream Sampling Locations

Two locations were sampled downstream of the *Inconclusive* areas. Location RL02 represents the conditions in Slusher Lake, which is located to the west of the potential source areas. Location RL03 represents conditions of Sunset Lake as it flows into the off-installation portion of Neacoxie Creek at the installation's southern boundary.

3.3.4 Project Action Limits

PALs are established based on the lower of State and local promulgated values or ORA Screening Values. Per the ISQAPP, the PAL for perchlorate, 9,300 micrograms per liter (µg/L), is based on ORA Screening Values for freshwater ecological screening levels. For a conservative comparison, results could be compared to 15 µg/L, the ORA Screening Value for human drinking water (USAIPH, 2012).



B Potential MCOC migration via erosion and runoff from *Inconclusive* ranges in Slusher Lake and where Sunset Lake flows into the off-installation portion of Neacoxie Creek.

C

Receptors

Wetlands and sensitive environments in Slusher Lake, Sunset Lake, and Neacoxie Creek

URS ARCADIS

Figure 3-1
Conceptual Site Model
Operational Range Phase II Assessment
Camp Rilea, OR

Data Sources:
Concurrent Technologies Corporation and Kansas State University, 1999.
Imagery: ESRI ArcGIS Online and data partners including USGS and © 2007 National Geographic Society
Topography: National Geographic, TOPO! Map Series

Date.....October 2012
Prepared by.....URS Group, Inc.
Prepared for.....ARNG Directorate
Contract.....W912DR-09-D-0003/0008

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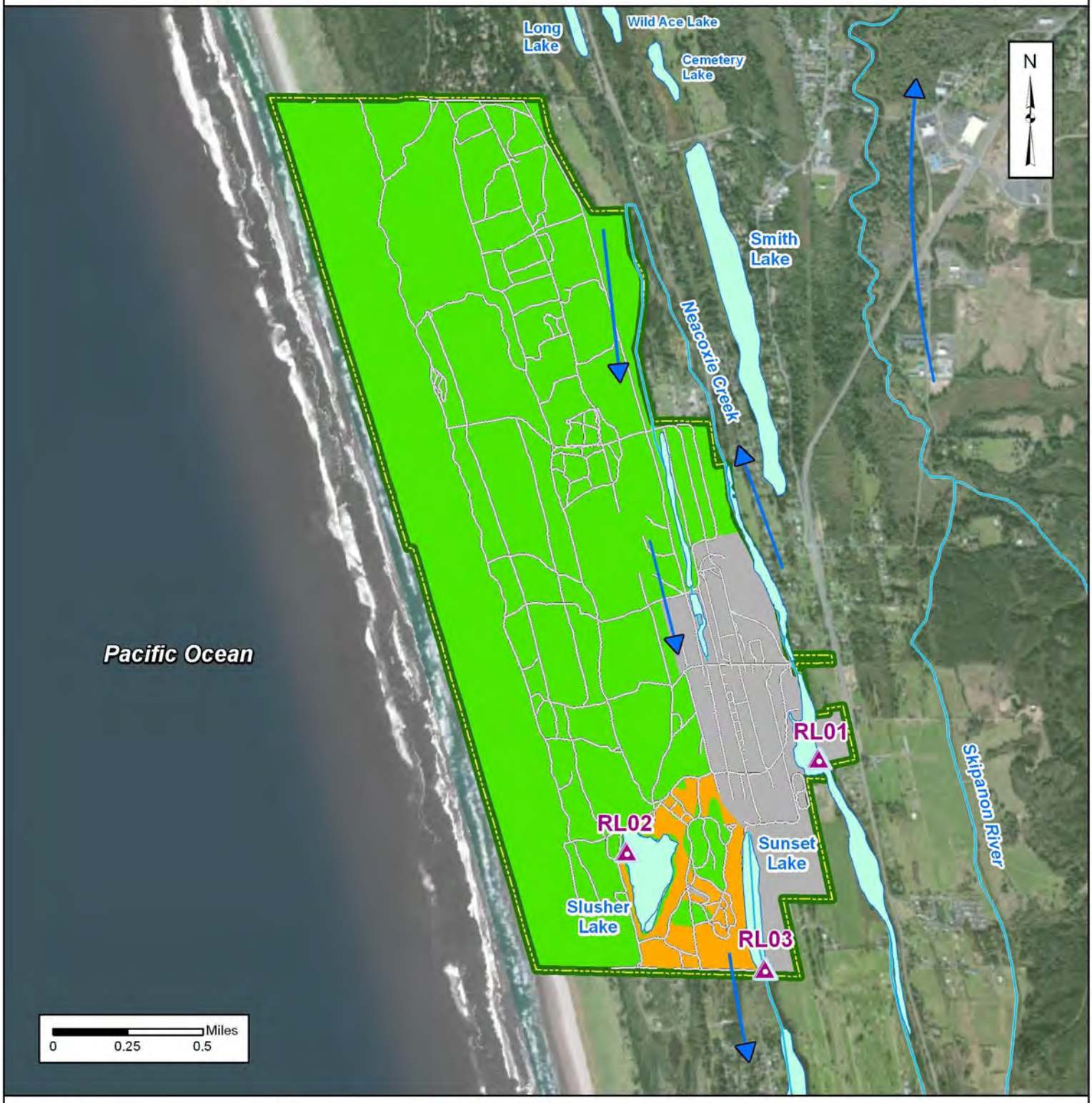
Figure 3-2
Surface Water Sampling Locations
Operational Range Phase II Assessment
Camp Rilea, OR



Installation
- Installation Boundary
- Inconclusive
- Unlikely
- Non-Operational Area
- Road

Hydrology
- Surface Water Flow
- River/Stream
- Water Body

Sample Location
- Surface Water Sample

Data Sources:
Concurrent Technologies Corporation and
Kansas State University, 1999.
Imagery: USA Prime Imagery, ESRI ArcGIS Online and data partners

Date.....October 2012
Prepared by.....URS Group, Inc.
Prepared for.....ARNG Directorate
Contract.....W912DR-09-D-0003/0008

4 Methodology

Details on the sampling and analytical procedures, along with safety protocols, are included in the PQAPP (URS/ARCADIS/Pirnie, 2012b); Camp Rilea Work Plan/ISQAPP (URS/ARCADIS/Pirnie, 2011); and Accident Prevention Plan (APP) (URS/ARCADIS/Pirnie, 2012b). Field activities were conducted in accordance with the ISQAPP, including the Standard Operating Procedure (SOP) contained in Appendix A of the ISQAPP. Safety procedures used during sampling activities were completed in accordance with the APP.

4.1 Field Methods

In accordance with the ISQAPP, SOP S-1, Surface Water Grab Sampling, was used for sample collection. Any modification to field procedures potentially affecting surface water data usability or quality required same-day approval from the Team Leader, the Project Manager, and the Project Quality Assurance (QA) Manager.

4.2 Sampling Methods

Per the ISQAPP, to characterize annual variations in water quality, surface water sampling occurred during two mobilizations: Wet Season (High Flow) in January 2012 and Dry Season (Low Flow) in July 2012. Both events were conducted during non-storm conditions when there was little to no precipitation. Two sampling events occurred during each mobilization; the Dry Season (Low Flow) Mobilization events are referred to as the Dry A (DA) and Dry B (DB), and the Wet Season (High Flow) Mobilization events are referred to as the Wet A (WA) and Wet B (WB). As perchlorate is very soluble, sediment samples were not necessary. **Table 4-1** summarizes the collection dates and times for each field sample. During each event, which occurred on separate days, one sample was collected at all of the sampling locations. **Appendix A** provides photographs of each sampling location.

Table 4-1: Dates and Times of Surface Water Sampling Events

Location	Wet Event A	Wet Event B	Dry Event A	Dry Event B
RL01	1/9/2012; 1020	1/7/2012; 1045	7/11/2012; 1000	7/10/2012; 1025
RL02	1/9/2012; 0835	1/7/2012; 0945	7/11/2012; 0910	7/10/2012; 0925
RL03	1/9/2012; 0900	1/7/2012; 1010	7/11/2012; 0940	7/10/2012; 0955

Because perchlorate, if present, is not expected to vary over a 24-hour time period due to changes in pH or temperature, grab samples were collected directly from the surface water bodies. To prevent contamination, the field team members did not stand in the water while holding the tubing in place for sample collection. Tubing was placed approximately 2/3 up from the bottom of the pooled water throughout sample collection, and field members were careful not to disturb bottom sediments. Prior to collecting samples, approximately 200 milliliters of water was pumped through the tubing and 0.20-micron filter and back into the waterway downstream of the collection site before collecting the sample. Laboratory bottles were filled directly from the tube and filter.

Field measurements of pH, temperature, dissolved oxygen, turbidity, and specific conductivity were taken at the time of sample collection. A tabulated summary of field parameters is included in **Table B-1** (**Appendix B**).

Each sample bottle was appropriately labeled using indelible ink and secured in a shipping cooler. Each sample was entered on the COC form with the required analyses. The COC forms are included in **Appendix B**. Each cooler was sealed with the COC inside; custody seals were signed, dated, and placed on opposite corners of the cooler; and the coolers were shipped overnight to the analytical laboratory.

4.3 Quality Assurance / Quality Control

Quality Assurance/Quality Control (QA/QC) samples were collected to evaluate the field collection methods and laboratory analytical techniques for surface water samples. The QA/QC samples consisted of duplicate samples, matrix spike/matrix spike duplicate (MS/MSD) samples, and equipment blanks.

4.3.1 Duplicates

Duplicate surface water samples were collected once per mobilization. Using dedicated tubing and 0.20-micron filter, duplicates were collected under identical conditions as the primary sample, labeled accordingly, and submitted to the laboratory as indistinguishable samples.

4.3.2 Matrix Spike/Matrix Spike Duplicates

MS/MSD samples were collected once per mobilization. Additional water volume was not needed for perchlorate MS/MSD analysis in surface water. Sub-samples were pulled from the parent sample by the analytical laboratory.

4.3.3 Equipment Blanks

Equipment blanks were collected once per mobilization. The equipment blank was collected through tubing and 0.20-micron filter using the peristaltic pump. Approximately 200 milliliters of clean deionized water was pumped through the system and back into the waterway downstream of the collection site before collecting the sample.

4.4 Investigation-Derived Waste

No hazardous or otherwise contaminated wastes resulted from the collection of the surface water samples.

4.5 Sample Identification

Samples collected were identified using the procedures detailed in the PQAPP. Each sample was labeled with an eight-character identification that consisted of a two-character installation identifier, two-character matrix code, two-character location code, one-character mobilization code, and a one-character sampling event code. Each component of the sample identification is described in the two examples below:

RLSW01WA and RLSW01DB

Where:

RL = Two-character installation identifier for Camp Rilea

SW = Two-character matrix code for surface water

= Two-character location number

W = Mobilization code for the wet season

D = Mobilization code for the dry season

A or B = Sampling event code

Unique sequential sample numbers began with 01. QC samples (e.g., duplicates and equipment blanks) received unique sequential sample numbers and were not identified as QC samples on the laboratory COC. The samples collected used the unique sequential sample numbers shown in **Table 4-2**.

Table 4-2: Naming Convention for QC Sample Identification

Sampling Code	Identification Number	QC Sample
RLSW01WA-	05	Parent Sample
	06	Duplicate Sample
	07	Equipment Blank

4.6 Unexploded Ordnance Avoidance

Sample locations were outside munitions use areas. Sunset Lake, Slusher Lake, and Neacoxie Creek have no access restrictions relating to munitions safety. During the site visit, qualified unexploded ordnance personnel confirmed that no avoidance support was necessary for the Phase II sampling.

5 Surface Water System Analyses

5.1 Laboratory Analytical Methods

Surface water samples were submitted to a DoD Environmental Laboratory Approval Program-certified laboratory (Agriculture and Priority Pollutants Laboratories [APPL] in Clovis, CA) for analysis. Perchlorate analysis by USEPA Method 6850 was the analytical method identified for the Camp Rilea Phase II.

This analytical method for MCOC achieved the project quantitation limits of at least one-tenth of the PALs. Therefore, in the evaluation of analytical data in Section 6, statements about "non-detect" results mean that a chemical was not detected above the laboratory detection limit. Tabulated results appear in **Appendix C**.

5.2 Data Validation

A Tier III Data Validation Report was prepared for each Sample Delivery Group as assigned by the laboratory and is included in **Appendix D** of this report. The procedure used information from the PQAPP, ISQAPP, and DoD Quality Systems Manual to define the method quality objectives. The outlier data were qualified according to protocols defined in the USEPA CLP Modifications to the National Functional Guidelines for Organic (June 2008) and Inorganic (January 2010) Superfund Data Review.

When issues were identified during the data validation, a letter qualifier was applied to the data to ensure reported concentrations were accurately represented. Analytical results bearing the U qualifier (indicating that the analyte was not detected at the given reporting limit) were retained in the data set and considered non-detects.

5.3 Data Analysis

Each sample result was compared directly to the PAL. The weight-of-evidence approach used in the assessment helped control decision errors. MCOC concentrations from all sample results, general water quality parameters, and site conditions were taken into account to ensure that additional information did not indicate that MCOC conclusions may be in error.

6 Surface Water System Results

6.1 Surface Water Results

Perchlorate was not detected in any of the surface water samples above the detection limit of 0.40 µg/L. This detection limit is not only significantly below the ORA Screening Value for surface water (9,300 µg/L), but also the ORA Screening Value for human drinking water of 15 µg/L. Analytical results are summarized in **Tables 6-1** through **6-3**. Complete surface water analytical summary tables are provided in **Appendix C**. Data usability reports are in **Appendix D.**

Water quality parameters measured in the field (e.g., pH, temperature) are summarized in **Table B-1** (**Appendix B**). These data were generally consistent between sampling events.

6.2 Uncertainty

The simplicity of the CSM, the reliability of the analytical methods to achieve detections limits well below the PAL, and the lack of any validation concerns indicate a high degree of confidence in the results.

A level of uncertainty is inherently associated with the Phase II sampling since a limited number of samples were collected and only small aliquots from a large decision unit were analyzed. Phase II data review and investigation focused on only two seasonal conditions (high and low flow); therefore, the analytical results are based on a limited amount of data and do not represent a complete annual cycle of conditions. However, by evaluating data from seasonal extremes, the data collected are considered to be representative of the range of surface water system conditions.

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Table 6-1: Surface Water Sampling Results – RL01

Sample ID		RLSW01WA05				RLSW01WB05				RLSW01DA05				RLSW01DB05			
Sample Date		1/9/2012				1/6/2012				7/11/2012				7/10/2012			
Perchlorate	Units	Result	Laboratory Qualifier	Data Validation Flag	Reason Code	Result	Laboratory Qualifier	Data Validation Flag	Reason Code	Result	Laboratory Qualifier	Data Validation Flag	Reason Code	Result	Laboratory Qualifier	Data Validation Flag	Reason Code
Perchlorate	µg/L	0.400	U			0.400	U			0.400	U			0.400	U		

Table 6-2: Surface Water Sampling Results – RL02

Sample ID		RLSW02WA05				RLSW02WB05				RLSW02DA05				RLSW02DB05			
Sample Date		1/9/2012				1/6/2012				7/11/2012				7/10/2012			
Perchlorate	Units	Result	Laboratory Qualifier	Data Validation Flag	Reason Code	Result	Laboratory Qualifier	Data Validation Flag	Reason Code	Result	Laboratory Qualifier	Data Validation Flag	Reason Code	Result	Laboratory Qualifier	Data Validation Flag	Reason Code
Perchlorate	µg/L	0.400	U			0.400	U			0.400	U			0.400	U		

Table 6-3: Surface Water Sampling Results – RL03

Sample ID		RLSW03WA05				RLSW03WB05				RLSW03DA05				RLSW03DB05			
Sample Date		1/9/2012				1/6/2012				7/11/2012				7/10/2012			
Perchlorate	Units	Result	Laboratory Qualifier	Data Validation Flag	Reason Code	Result	Laboratory Qualifier	Data Validation Flag	Reason Code	Result	Laboratory Qualifier	Data Validation Flag	Reason Code	Result	Laboratory Qualifier	Data Validation Flag	Reason Code
Perchlorate	µg/L	0.400	U			0.400	U			0.400	U			0.400	U		

Laboratory Qualifiers Used

U Analyte was not detected greater than the detection limit. Concentration provided is the Limit of Detection (LOD).

7 Weight-of-Evidence Evaluation and Conclusions

7.1 Weight-of-Evidence Evaluation

The Phase II analytical data and supporting observations indicate MCOC are not migrating off Camp Rilea operational range areas via surface water pathways at concentrations that pose an unacceptable risk to ecological receptors. The discussion below summarizes and relatively weighs the information used to make this determination. Presented first are the data that indicate a source-receptor connection may exist. This is followed by the stronger evidence that a complete pathway is not present.

Evidence or conditions suggesting that MCOC could potentially migrate via surface water off installation include:

- Pyrotechnics use in training at a range near surface water bodies.
- The potential for the surface water bodies to serve as habitat for sensitive ecological species.
- High transmissivity of the local soil and a high annual rainfall create a hydraulic system conducive to MCOC migration.

While these observations suggest that MCOC transport is possible, it is not direct evidence that it is occurring. Therefore, the surface water that is most likely affected by pyrotechnics use was tested for the presence of perchlorate.

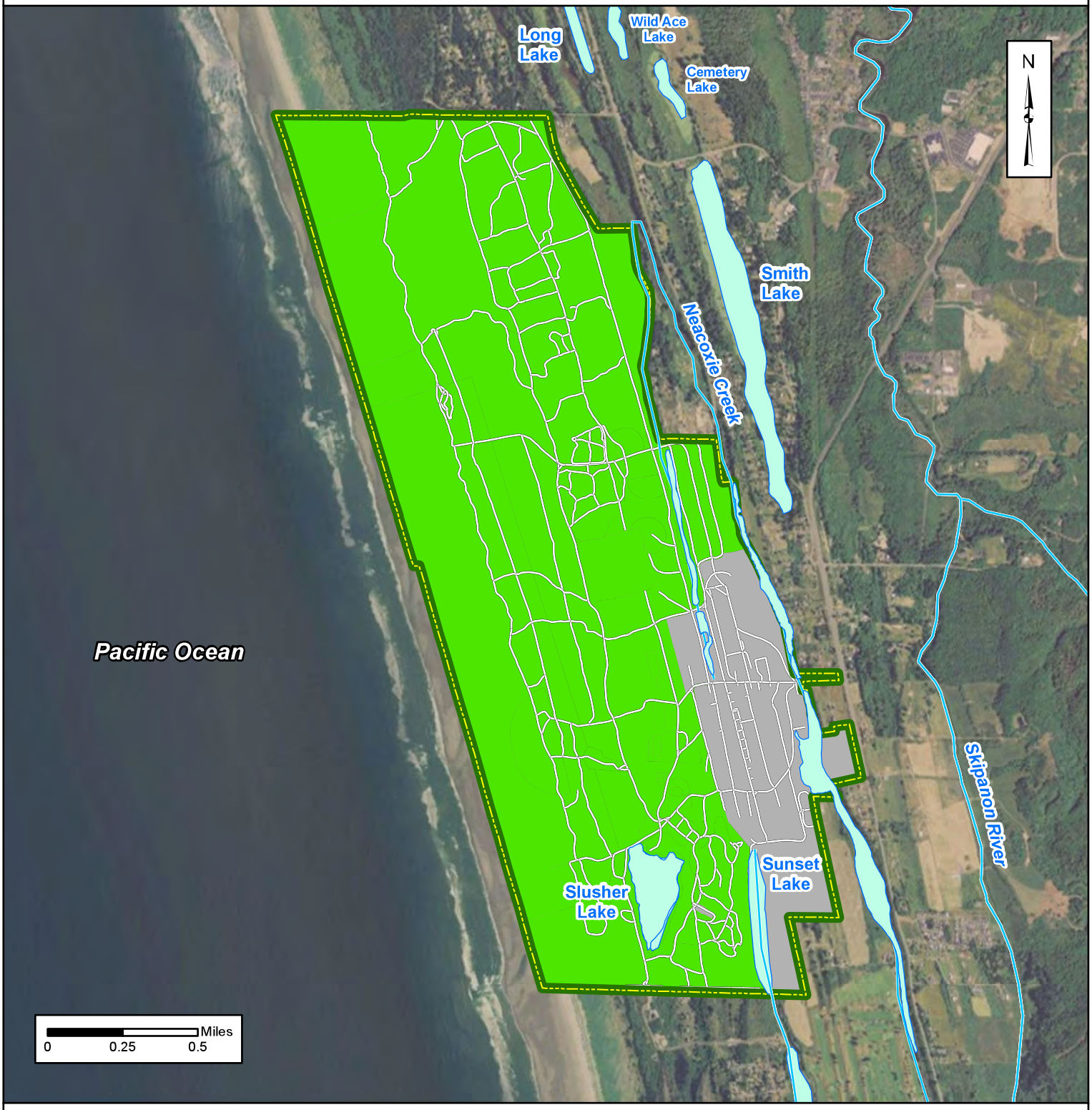
The following evidence and site conditions indicate that MCOC are not migrating:

- Ranges are exceptionally clean and free of training debris. Range best management practices require removal of all pyrotechnics debris following every training event.
- High annual rainfall would dissolve and dilute any potential small source of perchlorate from pyrotechnics on its path toward and into surface water.
- Ranges are well vegetated and very well maintained, thus also limiting MCOC migration via overland transport of surface water and particulates.
- Extremely slow flow velocity in on-installation surface water bodies limit the potential for MCOC transportation off installation.
- Perchlorate was not detected in any of the Phase II surface water samples above the laboratory detection limit of 0.40 µg/L. This detection limit is not only significantly below the ORA Screening Value for surface water (9,300 µg/L), but also the ORA Screening Value for human drinking water of 15 µg/L. These data are quantitative measurements of MCOC to which receptors could be directly exposed and thus are of greater weight than qualitative observations.

7.2 Conclusions

For the conditions in 2012, data and weight of evidence regarding site CSM indicate no unacceptable risk to off-range human or ecological receptors from potential sources associated with the operational footprint at Camp Rilea. Operational areas are placed into a review cycle to periodically re-evaluate whether future changes in conditions pose unacceptable risk to off-range human or ecological receptors (**Figure 7-1**). Implementation of appropriate best management practices will reasonably ensure no future MCOC migration from potential MCOC sources associated with the operational footprint at Camp Rilea.

Figure 7-1
Phase II Assessment Summary
Operational Range Phase II Assessment
Camp Rilea, OR



Installation

- Installation Boundary
- Road

Phase II Category

- Unlikely
- Non-Operational Area

Hydrography

- River/Stream
- Water Body

Data Sources:
Concurrent Technologies Corporation and
Kansas State University, 1999.
Imagery: USA Prime Imagery, ESRI ArcGIS Online and data partners

Date.....October 2012
Prepared by.....URS Group, Inc.
Prepared for.....ARNG Directorate
Contract.....W912DR-09-D-0003/0008

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APPENDIX A
PHOTOGRAPH LOG

URS

ARCADIS MALCOLM PIRNIE

PHOTOGRAPHIC LOG

Client Name: USACE and ARNG	**Location:** Camp Rilea, Sample Location RL01	**Project Number:** 15302621

View of sampling location RL01 taken on 10 July 2012. Photograph is taken facing south (upstream).

URS

ARCADIS MALCOLM PIRNIE

PHOTOGRAPHIC LOG

Client Name: USACE and ARNG	**Location:** Camp Rilea, Sample Location RL02	**Project Number:** 15302621

View of sampling location RL02 taken on 11 July 2012. Photograph is taken facing east.

URS

ARCADIS MALCOLM PIRNIE

PHOTOGRAPHIC LOG

Client Name: USACE and ARNG	**Location:** Camp Rilea, Sample Location RL03	**Project Number:** 15302621

View of sampling location RL03 taken on 11 July 2012. Photograph is taken facing west (upstream is to the right of the photograph).

APPENDIX B
FIELD FORMS

Table B-1							
Sample Id	Date	Temperature (° C)	Specific Conductance (mS/cm)	pH (SU)	Dissolved Oxygen (mg/L)	% Saturation	Turbidity (NTU)
RL01							
RLSW01WA05	1/9/2012	6.90	12.9	6.25	6.93	56.4	5.96
RLSW01WB05	1/6/2012	6.93	13.1	6.61	5.82	48.9	1.26
RLSW01DA05	7/11/2012	17.82	19.1	6.88	3.89	40.6	8.70
RLSW01DB05	7/10/2012	17.10	18.7	6.70	4.78	45.2	6.00
RL02							
RLSW02WA05	1/9/2012	6.90	15.4	6.69	13.12	107.8	1.91
RLSW02WB05	1/6/2012	7.25	16.1	7.25	14.25	117.6	2.18
RLSW02DA05	7/11/2012	20.03	20.0	9.15	9.22	110.0	2.91
RLSW02DB05	7/10/2012	19.54	22.0	8.68	9.33	101.2	2.02
RL03							
RLSW03WA05	1/9/2012	7.21	13.8	6.33	8.27	68.3	5.98
RLSW03WA06	1/9/2012	7.21	13.8	6.33	8.27	68.3	5.98
RLSW03WB05	1/6/2012	6.91	14.2	7.09	10.75	88.0	2.36
RLSW03DA05	7/11/2012	18.48	17.1	7.51	7.70	76.9	1.61
RLSW03DA06	7/11/2012	18.48	17.1	7.51	7.70	76.9	1.61
RLSW03DB05	7/10/2012	18.16	19.5	7.56	7.61	80.7	2.52

SITE SAFETY BRIEFING FORM

Project Name Camp Rilea Phase II ORA

Project Number 15302621 Date 1/6/12 Time 0715

Location Camp Rilea, Oregon (Astoria)

Type of Work collection of sw samples @ 3 locations

SAFETY TOPICS PRESENTED

Protective Clothing/Equipment gloves, long pants/shirt, warm clothing

Chemical Hazards None expected

Physical Hazards Unknown/unfamilur terrain conditions, cool temperature

Biological Hazards Insects/Spiders, snakes (rattle is poisnous) and plants (poison oak in this region)

Emergency Procedures Call hospital / 911

Hospital/Clinic Columbia memorial Phone (360) 325-4321

Hospital Address 2111 Exchange St. Astoria

Special Equipment None

Other None

ATTENDEES

Name (Printed)	Signature
Bethany Keller	Bethany Keller

Meeting Conducted by: Bethany Keller

Site Safety Officer: Bethany Keller

SITE SAFETY BRIEFING FORM

Project Name Camp Rilea Phase II ORA

Project Number 15302621 Date 1-9-12 Time 0700

Location Camp Rilea, OR (Astoria)

Type of Work Collect SW sample @ 3 sample locations (same as work performed 1-6-12)

SAFETY TOPICS PRESENTED

Protective Clothing/Equipment long pants/shirt, rain coat, steal toed rubber boots, nitrite gloves

Chemical Hazards N/A

Physical Hazards Fog, light rain, slippery conditions carrying/lifting equipment

Biological Hazards Tall grass with animal (ELK) poop Bugs/Insects

Emergency Procedures Call Hospital / 911

Hospital/Clinic Columbia memorial Phone (360) 325-4321

Hospital Address 2111 Exchange Street

Special Equipment None

Other

ATTENDEES

Name (Printed)	Signature
Bethany Keller	Bethany Keller

Meeting Conducted by: Bethany Keller

Site Safety Officer: Bethany Keller

SITE SAFETY BRIEFING FORM

Project Name ORA Camp Rilea - Dry Sampling

Project Number 15302021 Date 7-10-18 Time 845

Location Camp Rilea, OR

Type of Work SW sampling - grab samples

SAFETY TOPICS PRESENTED

Protective Clothing/Equipment life vests, steel toed boots, long pants, eye protection

Chemical Hazards None

Physical Hazards lifting equipment, water in creeks/lake slips, trips, falls, especially around water

Biological Hazards insects, ticks, Elk

Emergency Procedures call 911 / contact RC

Hospital/Clinic See APP → Phone → APP

Hospital Address ↓

Special Equipment NONE other than YSI and Lamotte

Other None

ATTENDEES

Name (Printed)	Signature
Scott Kraus	[signature]
Bethany Keller	[signature]
Jim Arnold - ORAENG	[signature]

Meeting Conducted by: Bethany Keller

Site Safety Officer: Bethany Keller

SITE SAFETY BRIEFING FORM

Project Name Camp Riley Dry Season Mobilization

Project Number 15302621 Date 7-11-12 Time 0815

Location Warrenton, OR

Type of Work Surface water sampling

SAFETY TOPICS PRESENTED

Protective Clothing/Equipment Steel toe boots, safety glasses, water wings or PFD

Chemical Hazards None

Physical Hazards Slips trips falls

Biological Hazards Sunburn, wear sun screen

Emergency Procedures 911, Meet at Range Control

Hospital/Clinic See APP Phone 911

Hospital Address

Special Equipment YSI, Peristaltic Pump

Other None

ATTENDEES

Name (Printed)	Signature
Scott Kraus	[signature]
Bethany Keller	[signature]

Meeting Conducted by: Scott Kraus

Site Safety Officer: Bethany Keller

URS

Site ID: RL01WB
Arrival Time: 1030
Departure Time: 1055

Surface Water Sample Collection Log

Installation Name: Camp Rilea Date: 1-6-12
On-Site Personnel: B. Keller Jim Arnold (ORARNG)
Log Preparer: Bethany Keller
Site Location: N: _____ E: _____

Observations

Stream Flow: Low/High/Normal Water Color: clear Odor: None

Field Measurements

Multi-Parameter Probe (Make/Model/#): YSI

Temp: 6.93°C SpC: 0.131 mS/cm pH: 6.61 DO: 5.82 mg/L
%Sat: 48.4 Turbidity: 1.26 NTU
(LaMotte 2020)

Water Quality Sample Collection Verification

Composite Sampler (Make/Model/#): NA - grab

Sample ID: RLSW01WB-05 1-6-12 1045

Analytical Group
☐ Explosives ☒ Perchlorate ☐ Dissolved Metals (EPA 6020A) plus Hardness
☐ Dissolved Organic Carbon ☐ Dissolved Metals (EPA 1638M) plus Hardness
☐ Alkalinity ☐ Sulfate, Chloride

Quality Control Samples
☐ Duplicate ☐ MS/MSDs ☐ Field Blank ☐ Equipment Blank

Notes:

BK

URS

Site ID: RL 02 WB
Arrival Time: 0930
Departure Time: 0950

Surface Water Sample Collection Log

Installation Name: Camp Rilea Date: 1-6-12
On-Site Personnel: B. Keller, Jim Arnold (OBARNG)
Log Preparer: B. Keller
Site Location: N: _____ E: _____

Observations

Stream Flow: ~~Low/High/Normal~~ Lake level Water Color: Clear Odor: None

Field Measurements

Multi-Parameter Probe (Make/Model/#): YSI LaMotte 2020

Temp: 7.25 °C SpC: 0.161 mS/cm pH: 7.25 DO: 14.25 mg/L
%Sat: 117.6 Turbidity: 2.18 NTU

Water Quality Sample Collection Verification

Composite Sampler (Make/Model/#): N/A → grab

Sample ID: RLSW 02 WB - 05 1-6-12 0945

Analytical Group
☐ Explosives ☒ Perchlorate ☐ Dissolved Metals (EPA 6020A) plus Hardness
☐ Dissolved Organic Carbon ☐ Dissolved Metals (EPA 1638M) plus Hardness
☐ Alkalinity ☐ Sulfate, Chloride

Quality Control Samples
☐ Duplicate ☐ MS/MSDs ☐ Field Blank ☐ Equipment Blank

Notes:

BK

URS

Site ID: RL03WB
Arrival Time: 1000
Departure Time: 1020

Surface Water Sample Collection Log

Installation Name: Camp Riley Date: 1-6-12
On-Site Personnel: Bethany Keller, Jim Arnold (ORARNG)
Log Preparer: Bethany
Site Location: N: _____ E: _____

Observations

Stream Flow: Low/High/Normal Water Color: clear Odor: None

Field Measurements

Multi-Parameter Probe (Make/Model/#): VSI / LaMotte 2020

Temp: 6.91 °C SpC: 0.142 mS/cm pH: 7.09 DO: 10.15 mg/L
%Sat: 82.0 Turbidity: 2.36 NTU

Water Quality Sample Collection Verification

Composite Sampler (Make/Model/#): NA - grab

Sample ID: RLSW03WB-05 1-6-12 1010

Analytical Group
☐ Explosives ☒ Perchlorate ☐ Dissolved Metals (EPA 6020A) plus Hardness
☐ Dissolved Organic Carbon ☐ Dissolved Metals (EPA 1638M) plus Hardness
☐ Alkalinity ☐ Sulfate, Chloride

Quality Control Samples
☐ Duplicate ☐ MS/MSDs ☐ Field Blank ☐ Equipment Blank

Notes:

None BK

URS

Site ID: RL01WA
Arrival Time: 1015
Departure Time: 1025

Surface Water Sample Collection Log

Installation Name: Camp Rilea, OR Date: 1-9-12
On-Site Personnel: B. Keller
Log Preparer: B. Keller
Site Location: N: _____ E: _____

Observations

Stream Flow: Low/High/(Normal) Water Color: Clear Odor: None

Field Measurements

Multi-Parameter Probe (Make/Model/#): YSI / LaMotte

Temp: 6.9 °C SpC: 0.129 mS/cm pH: 6.25 DO: 6.93 mg/L
%Sat: 56.4 Turbidity: 5.96 NTU

Water Quality Sample Collection Verification

Composite Sampler (Make/Model/#): None- grab

Sample ID: RLSW01WA-05 1-9-12
1020

Analytical Group
☐ Explosives ☒ Perchlorate ☐ Dissolved Metals (EPA 6020A) plus Hardness
☐ Dissolved Organic Carbon ☐ Dissolved Metals (EPA 1638M) plus Hardness
☐ Alkalinity ☐ Sulfate, Chloride

Quality Control Samples
☐ Duplicate ☐ MS/MSDs ☐ Field Blank ☐ Equipment Blank

Notes:

BK

URS

Site ID: RL02WA
Arrival Time: 0825
Departure Time: 0840

Surface Water Sample Collection Log

Installation Name: Camp Rilea, OR Date: 1-9-12
On-Site Personnel: B. Keller
Log Preparer: B. Keller
Site Location: N: _____ E: _____

Observations Lake

~~Stream Flow~~: ~~Low/High~~/Normal Water Color: Clear Odor: None

Field Measurements

Multi-Parameter Probe (Make/Model/#): YSI / LaMotte

Temp: 6.9 °C SpC: 0.154 mS/cm pH: 6.69 DO: ~~10.78~~ 13.12 mg/L
%Sat: 107.8 Turbidity: 1.91 NTU

Water Quality Sample Collection Verification

Composite Sampler (Make/Model/#): None- grab

Sample ID: RLSW02WA-05 1-9-12 0835

Analytical Group
☐ Explosives ☒ Perchlorate ☐ Dissolved Metals (EPA 6020A) plus Hardness
☐ Dissolved Organic Carbon ☐ Dissolved Metals (EPA 1638M) plus Hardness
☐ Alkalinity ☐ Sulfate, Chloride

Quality Control Samples
☐ Duplicate ☐ MS/MSDs ☐ Field Blank ☐ Equipment Blank

Notes:

BK

URS

Site ID: RL03WA
Arrival Time: 0850
Departure Time: 0930

Surface Water Sample Collection Log

Installation Name: Camp Rilea Date: 1-9-11
On-Site Personnel: B. Keller
Log Preparer: B. Keller
Site Location: N: _____ E: _____

Observations

Stream Flow: Low/High/(Normal) Water Color: Clear Odor: None

Field Measurements

Multi-Parameter Probe (Make/Model/#): YSI / LaMotte

Temp: 7.21 °C SpC: 0.138 µs/cm pH: 6.33 DO: 8.27 mg/L
%Sat: 68.3 Turbidity: 5.98 NTU

Water Quality Sample Collection Verification

Composite Sampler (Make/Model/#): None-grab

Sample ID: RLSW03WA-05 RLSW03WA-06 RLSW03WA-07
0900 0905 0855

Analytical Group
☐ Explosives ☐ Perchlorate ☐ Dissolved Metals (EPA 6020A) plus Hardness
☐ Dissolved Organic Carbon ☐ Dissolved Metals (EPA 1638M) plus Hardness
☐ Alkalinity ☐ Sulfate, Chloride

Quality Control Samples
☒ Duplicate -06 ☒ MS/MSDs (-05) ☐ Field Blank ☒ Equipment Blank (-07)

Notes: No additional vol. needed - take from -05

B

URS

Site ID: RL01
Arrival Time: 0955
Departure Time: 1010

Surface Water Sample Collection Log

Installation Name: Camp Riley Date: 7-11-12
On-Site Personnel: Keller, Kranz, Arnold
Log Preparer: Keller
Site Location: ~~N:~~ ~~E:~~ lat: 46.1183845996
long: -123.927605

Observations

Stream Flow: Low/High/Normal Water Color: lgt. brown Odor: None

Field Measurements

Multi-Parameter Probe (Make/Model/#): YSI/ La Motte

Temp: 17.82°C SpC: 19.1 µs/cm pH: 6.88 DO: 3.89 mg/L
%Sat: 40.6 Turbidity: 8.7 NTU
possible leaves in

Water Quality Sample Collection Verification

Composite Sampler (Make/Model/#): grab

Sample ID: RLSW01DA05 time: 1000

Analytical Group
☐ Explosives ☒ Perchlorate ☐ Dissolved Metals (EPA 6020A) plus Hardness
☐ Dissolved Organic Carbon ☐ Dissolved Metals (EPA 1638M) plus Hardness
☐ Alkalinity ☐ Sulfate, Chloride

Quality Control Samples
☐ Duplicate ☐ MS/MSDs ☐ Field Blank ☐ Equipment Blank

Notes: None

BK

URS

Site ID: RL02
Arrival Time: 0900
Departure Time: 0925

Surface Water Sample Collection Log

Installation Name: Camp Rilea, OR Date: 7-11-12
On-Site Personnel: Keller, Kranz, Arnold
Log Preparer: Keller
Site Location: ~~N:~~ ~~E:~~
lat: 46.113889217
long: -123.940694

Observations

Stream Flow: ~~Low/High/Normal~~ Lake Water Color: Clear Odor: None

Field Measurements

Multi-Parameter Probe (Make/Model/#): YSI / La Motte

Temp: 20.03°C SpC: 20 µs/cm pH: 9.15 DO: 9.22 mg/L
%Sat: 110.0 Turbidity: ~~9.21~~ BK NTU
2.91

Water Quality Sample Collection Verification

Composite Sampler (Make/Model/#): grab

Sample ID: RLSW02DA05 0910 7-11-12

Analytical Group
☐ Explosives ☒ Perchlorate ☐ Dissolved Metals (EPA 6020A) plus Hardness
☐ Dissolved Organic Carbon ☐ Dissolved Metals (EPA 1638M) plus Hardness
☐ Alkalinity ☐ Sulfate, Chloride

Quality Control Samples
☐ Duplicate ☐ MS/MSDs ☐ Field Blank ☐ Equipment Blank

Notes:

BK

URS

Site ID: RL03
Arrival Time: 0930
Departure Time: 0950

Surface Water Sample Collection Log

Installation Name: Camp Riley Date: 7-11-12
On-Site Personnel: Keller, Kranz, Arnold
Log Preparer: Keller
Site Location: N: ~~E:~~
lat: 46.0696373
long: -123.9208995

Observations

Stream Flow: Low/High/Normal Water Color: Clear Odor: None

Field Measurements

Multi-Parameter Probe (Make/Model/#): YSI/Lamotte

Temp: 18.48 °C SpC: 17.1 µs/cm pH: 7.51 DO: 7.20 mg/L
%Sat: 76.9 Turbidity: 1.61 NTU

Water Quality Sample Collection Verification

Composite Sampler (Make/Model/#): grab

Sample ID: RLSW03DA05 time: 0940
RLSW03DA06 time: 0945
RLSW03DA07 time: 0935

Analytical Group
☐ Explosives ☒ Perchlorate ☐ Dissolved Metals (EPA 6020A) plus Hardness
☐ Dissolved Organic Carbon ☐ Dissolved Metals (EPA 1638M) plus Hardness
☐ Alkalinity ☐ Sulfate, Chloride

Quality Control Samples
☒ Duplicate ☐ MS/MSDs ☐ Field Blank ☒ Equipment Blank

Notes: Use RLSW03DA05 for MS/MSD

URS

Site ID: RL01
Arrival Time: 1015
Departure Time: 1035

Surface Water Sample Collection Log

Installation Name: Camp Rilea Date: 7-10-12
On-Site Personnel: Bethany Keller, Scott Kranz
Log Preparer: Kranz
Site Location: N: E: see DA log

Observations

Stream Flow: Low/High/(Normal) Water Color: Clear to Brown Odor: None

Field Measurements

Multi-Parameter Probe (Make/Model/#): YSI / La Motte

Temp: 17.10 °C SpC: 18.7 µs/cm pH: 6.70 DO: 4.28 mg/L
%Sat: 45.2 Turbidity: 6.0 NTU

Water Quality Sample Collection Verification

Composite Sampler (Make/Model/#): grab

Sample ID: RLSW01DB05 7-10-12 Time: 1025

Analytical Group
☐ Explosives ☒ Perchlorate ☐ Dissolved Metals (EPA 6020A) plus Hardness
☐ Dissolved Organic Carbon ☐ Dissolved Metals (EPA 1638M) plus Hardness
☐ Alkalinity ☐ Sulfate, Chloride

Quality Control Samples
☐ Duplicate ☐ MS/MSDs ☐ Field Blank ☐ Equipment Blank

Notes:

BV

URS

Site ID: RL02
Arrival Time: 0900
Departure Time: 0930

Surface Water Sample Collection Log

Installation Name: Riley Date: 7-10-12
On-Site Personnel: Bethany Keller, Scott Kranz
Log Preparer: Kranz
Site Location: ~~N:~~ ~~E:~~ → see DA 109

Observations
Stream Flow: Low/High/Normal (No flow, Lake) Water Color: Clear, light Brown Odor: None

Field Measurements

Multi-Parameter Probe (Make/Model/#): YSI 556 MPS

Temp: 19.54 °C SpC: 22 µs/cm pH: 8.68 DO: 9.33 mg/L
%Sat: 101.2 Turbidity: 2.02 NTU

Water Quality Sample Collection Verification

Composite Sampler (Make/Model/#): grab

Sample ID: RLSW02DB05 Time: 0925

Analytical Group
☐ Explosives ☒ Perchlorate ☐ Dissolved Metals (EPA 6020A) plus Hardness
☐ Dissolved Organic Carbon ☐ Dissolved Metals (EPA 1638M) plus Hardness
☐ Alkalinity ☐ Sulfate, Chloride

Quality Control Samples
☐ Duplicate ☐ MS/MSDs ☐ Field Blank ☐ Equipment Blank

Notes:

BK

URS

Site ID: RL03
Arrival Time: 0940
Departure Time: 1000

Surface Water Sample Collection Log

Installation Name: Camp Rilea Date: 7-10-12
On-Site Personnel: Bethany Keller, Scott Kruse
Log Preparer: Kruse
Site Location: ~~N:~~ E: → see DA Log

Observations

Stream Flow: Low/High/Normal Water Color: Clear to lt brown Odor: None

Field Measurements

Multi-Parameter Probe (Make/Model/#): YSI/ Lamotte

Temp: 18.16 °C SpC: 19.5 µs/cm pH: 7.56 DO: 7.61 mg/L
%Sat: 80.7 Turbidity: 2.52 NTU

Water Quality Sample Collection Verification

Composite Sampler (Make/Model/#): grab

Sample ID: RLSW03DB05 7-10-12 955

Analytical Group
☐ Explosives ☒ Perchlorate ☐ Dissolved Metals (EPA 6020A) plus Hardness
☐ Dissolved Organic Carbon ☐ Dissolved Metals (EPA 1638M) plus Hardness
☐ Alkalinity ☐ Sulfate, Chloride

Quality Control Samples
☐ Duplicate ☐ MS/MSDs ☐ Field Blank ☐ Equipment Blank

Notes:

BK

APPL LABS

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

CHAIN OF CUSTODY RECORD

Phone: (559) 275-2175
Fax: (559) 275-4422

C.O.C. 37350

Report to: PLEASE PRINT

Company Name: URS
Phone: 410 487 8955
Address: 849 International Dr Ste 320
Lithicum, MD 21090
Fax: 410 859 5202
Attn: Andrea Sansom (Andrea.Sansom@urs.com)

Invoice to: PLEASE PRINT

Company Name: Same as
Phone:
Address: Report to
Fax:
Attn:

Project Name/Number: Camp Rilea ORA
Sampler (Print): Bethany L. Keller
Purchase Order Number: 15302627 30000
Sampler (Signature): Bethany Keller

Date Shipped: 1-10-12
Carrier: Fed Ex
Waybill No.: 8768 4763
Comments: 5008

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil	Analysis Requested/Method Number: Perchlorate (6850)											
RLSW01WB05	Camp Rilea, OR	1-6-12	1045	PDT	1	X			X											
RLSW02WB05	Camp Rilea, OR	1-6-12	0945	PDT	1	X			X											
RLSW03WB05	Camp Rilea, OR	1-6-12	1010	PDT	1	X			X											
RLSW01WA05	Camp Rilea, OR	1-9-12	1020	PDT	1	X			X											Use for MS/MSD
RLSW02WA05	Camp Rilea, OR	1-9-12	0835	PDT	1	X			X											
RLSW03WA05	Camp Rilea OR	1-9-12	0900	PDT	1	X			X											
RLSW03WA06	Camp Rilea, OR	1-9-12	0905	PDT	1	X			X											
RLSW03WA07	Camp Rilea OR	1-9-12	0855	PDT	1	X			X											
	BIK																			

Shuttle Temperature:

Turnaround Requested: Check one
☐ Standard 2-3wk ☐ One week ☐ 24/48 Hrs. ☐ Other

Sample Disposal:
☐ Return to client ☐ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Bethany Keller	1-10-12						
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:

White: Return to client with report
Yellow: Laboratory Copy
Pink: Sampler

See reverse side for Container Preservative and Sampling Information

FedEx Express **NEW Package US Airbill**

FedEx Tracking Number 8767 1612 5803

SPH2

Form ID No. 0215

Sender's Copy

1 From *Please print and press hard.*

Date 1-10-12 Sender's FedEx Account Number 1786-9246-1

Sender's Name Bethany Keller Phone (614) 432-0377

Company URS

Address 12420 Milestone Ctr Drive Ste 150

Dept./Floor/Suite/Room

City Germantown State MD ZIP 20876-7110

2 Your Internal Billing Reference First 24 characters will appear on invoice. 15302621.54210.30000

3 To Recipient's Name Bethany Keller Phone (301) 258-9780

Company URS CORPORATION

Address 12420 MILESTONE CENTER DR Ste 150

We cannot deliver to P.O. boxes or P.O. ZIP codes. Dept./Floor/Suite/Room

Address

Use this line for the HOLD location address or for continuation of your shipping address.

City GERMANTOWN State MD ZIP 20876-7110

☐ HOLD Weekday FedEx location address REQUIRED. NOT available for FedEx First Overnight.

☐ HOLD Saturday FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

0441056525

The FedEx US Airbill has changed. See Section 4.
For shipments over 150 lbs., order the new FedEx Express Freight US Airbill.

4 Express Package Service • To most locations.

NOTE: Service order has changed. Please select carefully.

Packages up to 150 lbs. *For packages over 150 lbs., use the new FedEx Express Freight US Airbill.*

Next Business Day

☐ FedEx First Overnight — Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

☐ FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

☐ FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.

2 or 3 Business Days

☐ NEW FedEx 2Day A.M. — Second business morning.* Saturday Delivery NOT available.

☐ FedEx 2Day — Second business afternoon.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

☒ FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

5 Packaging • Declared value limit $500.

☐ FedEx Envelope* ☐ FedEx Pak* ☐ FedEx Box ☐ FedEx Tube ☒ Other

6 Special Handling and Delivery Signature Options

☐ SATURDAY Delivery — NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver.

☒ No Signature Required — Package may be left without obtaining a signature for delivery.

☐ Direct Signature — Someone at recipient's address may sign for delivery. *Fee applies.*

☐ Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only. *Fee applies.*

Does this shipment contain dangerous goods?

One box must be checked.

☒ No

☐ Yes — As per attached Shipper's Declaration.

☐ Yes — Shipper's Declaration not required.

☐ Dry Ice — Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box.

☐ Cargo Aircraft Only

7 Payment *Bill to:*

Enter FedEx Acct. No. or Credit Card No. below.

☒ Sender — Acct. No. in Section 1 will be billed.

☐ Recipient ☐ Third Party ☐ Credit Card ☐ Cash/Check

FedEx Acct. No. / Credit Card No. Exp. Date

Total Packages 1 Total Weight ____ lbs. Total Declared Value† $ 50 .00

†Our liability is limited to $100 unless you declare a higher value. See back for details. By using this Airbill you agree to the service conditions on the back of this Airbill and in the current FedEx Service Guide, including terms that limit our liability.

611

Rev. Date 11/10 • Part #163134 • ©1994–2010 FedEx • PRINTED IN U.S.A. SRS

FedEx Express **NEW** Package US Airbill

FedEx Tracking Number 8768 4763 3564

0200 **Sender's Copy**

1 From *Please print and press hard.*

Date 1-10-12 Sender's FedEx Account Number 1786-9246-1

Sender's Name Bethany Keller Phone (614) 432-0377

Company URS

Address 12420 Milestone Ctr Dr. Ste 150

Dept./Floor/Suite/Room

City Germantown State MD ZIP 20876

2 Your Internal Billing Reference First 24 characters will appear on invoice. 15302621.54210.30000

3 To

Recipient's Name Pine Environmental Phone (609) 371 9663

Company

Address 92 N. Main St.

We cannot deliver to P.O. boxes or P.O. ZIP codes.

Dept./Floor/Suite/Room

Address

Use this line for the HOLD location address or for continuation of your shipping address.

City Windsor State NJ ZIP 08561

☐ HOLD Weekday — FedEx location address REQUIRED. NOT available for FedEx First Overnight.

☐ HOLD Saturday — FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

The FedEx US Airbill has changed. See Section 4.
For shipments over 150 lbs., order the new FedEx Express Freight US Airbill.

4 Express Package Service • To most locations.

NOTE: Service order has changed. Please select carefully.

Packages up to 150 lbs. *For packages over 150 lbs., use the new FedEx Express Freight US Airbill.*

Next Business Day

☐ FedEx First Overnight — Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

☐ FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

☐ FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.

2 or 3 Business Days

☐ **NEW** FedEx 2Day A.M. — Second business morning.* Saturday Delivery NOT available.

☒ FedEx 2Day — Second business afternoon.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

☐ FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

5 Packaging • Declared value limit $500.

☐ FedEx Envelope* ☐ FedEx Pak* ☐ FedEx Box ☐ FedEx Tube ☒ Other

6 Special Handling and Delivery Signature Options

☐ SATURDAY Delivery — NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver.

☒ No Signature Required — Package may be left without obtaining a signature for delivery.

☐ Direct Signature — Someone at recipient's address may sign for delivery. *Fee applies.*

☐ Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only. *Fee applies.*

Does this shipment contain dangerous goods?

One box must be checked.

☐ No ☐ Yes — As per attached Shipper's Declaration. ☐ Yes — Shipper's Declaration not required. ☐ Dry Ice — Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box.

☐ Cargo Aircraft Only

7 Payment *Bill to:*

Enter FedEx Acct. No. or Credit Card No. below.

☒ Sender — Acct. No. in Section 1 will be billed. ☐ Recipient ☐ Third Party ☐ Credit Card ☐ Cash/Check

FedEx Acct. No.

Credit Card No. Exp. Date

Total Packages	Total Weight	Total Declared Value†
3	____ lbs.	$ 1300 .00

†Our liability is limited to $100 unless you declare a higher value. See back for details. By using this Airbill you agree to the service conditions on the back of this Airbill and in the current FedEx Service Guide, including terms that limit our liability.

612

Rev. Date 11/10 • Part #163138 • ©1994–2010 FedEx • PRINTED IN U.S.A. SRY

RETAIN THIS COPY FOR YOUR RECORDS.

FedEx Express **NEW** Package US Airbill

FedEx Tracking Number 8768 4763 5008

Form No. 0200 — Sender's Copy

1 From *Please print and press hard.*

Date 1-10-12 Sender's FedEx Account Number 1786-9246-1

Sender's Name Bethany Keller Phone (614) 432-0377

Company URS

Address 12420 Milestone Ctr Dr. Ste 150 Dept/Floor/Suite/Room

City Germantown State MD ZIP 20876

2 Your Internal Billing Reference First 24 characters will appear on invoice. 15302621.54210.30000

3 To

Recipient's Name Sample Receiving Phone (559) 275-2175

Company APPL Inc.

Address 908. N. Temperance Ave. Dept/Floor/Suite/Room

We cannot deliver to P.O. boxes or P.O. ZIP codes.

Address

Use this line for the HOLD location address or for continuation of your shipping address.

City Clovis State CA ZIP 93611

☐ HOLD Weekday FedEx location address REQUIRED. NOT available for FedEx First Overnight.

☐ HOLD Saturday FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

The FedEx US Airbill has changed. See Section 4.
For shipments over 150 lbs., order the new FedEx Express Freight US Airbill.

4 Express Package Service • To most locations.

NOTE: Service order has changed. Please select carefully.

Packages up to 150 lbs. *For packages over 150 lbs., use the new FedEx Express Freight US Airbill.*

Next Business Day

- ☐ FedEx First Overnight — Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- ☒ FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- ☐ FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.

2 or 3 Business Days

- ☐ **NEW** FedEx 2Day A.M. — Second business morning.* Saturday Delivery NOT available.
- ☐ FedEx 2Day — Second business afternoon.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- ☐ FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

5 Packaging • Declared value limit $500.

☐ FedEx Envelope* ☐ FedEx Pak* ☐ FedEx Box ☐ FedEx Tube ☒ Other

6 Special Handling and Delivery Signature Options

☐ SATURDAY Delivery — NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver.

☐ No Signature Required — Package may be left without obtaining a signature for delivery.

☒ Direct Signature — Someone at recipient's address may sign for delivery. *Fee applies.*

☐ Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only. *Fee applies.*

Does this shipment contain dangerous goods?

One box must be checked.

☒ No ☐ Yes — As per attached Shipper's Declaration. ☐ Yes — Shipper's Declaration not required. ☐ Dry Ice — Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box.

☐ Cargo Aircraft Only

7 Payment *Bill to:*

Enter FedEx Acct. No. or Credit Card No. below.

☒ Sender — Acct. No. in Section 1 will be billed. ☐ Recipient ☐ Third Party ☐ Credit Card ☐ Cash/Check

FedEx Acct. No. / Credit Card No. Exp. Date

Total Packages 1 Total Weight ____ lbs. Total Declared Value† $ 100 .00

†Our liability is limited to $100 unless you declare a higher value. See back for details. By using this Airbill you agree to the service conditions on the back of this Airbill and in the current FedEx Service Guide, including terms that limit our liability.

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RETAIN THIS COPY FOR YOUR RECORDS.

FedEx Express **NEW** *Package* *US Airbill*

FedEx Tracking Number 8762 4838 4339

0200 **Sender's Copy**

1 From *Please print and press hard.*

Date 7-11-12 Sender's FedEx Account Number 1786-9246-1

Sender's Name Bethany Keller Phone (614) 432-0377

Company URS

Address 12420 Milestone Ctr Dr Ste 150 Dept./Floor/Suite/Room

City Germantown State MD ZIP 20876

2 Your Internal Billing Reference First 24 characters will appear on invoice. 15302.621.54210.30000

3 To

Recipient's Name Pine Environmental Phone (609) 371-9663

Company

Address 92 N. Main St. Dept./Floor/Suite/Room

We cannot deliver to P.O. boxes or P.O. ZIP codes.

Address

Use this line for the HOLD location address or for continuation of your shipping address.

City Windsor State NJ ZIP 08561

☐ HOLD Weekday FedEx location address REQUIRED. NOT available for FedEx First Overnight.

☐ HOLD Saturday FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

The FedEx US Airbill has changed. See Section 4.
For shipments over 150 lbs., order the new FedEx Express Freight US Airbill.

4 Express Package Service * To most locations.

NOTE: Service order has changed. Please select carefully.

Packages up to 150 lbs. *For packages over 150 lbs., use the new FedEx Express Freight US Airbill.*

Next Business Day

☐ FedEx First Overnight — Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

☐ FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

☐ FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.

2 or 3 Business Days

☐ **NEW** FedEx 2Day A.M. — Second business morning.* Saturday Delivery NOT available.

☐ FedEx 2Day — Second business afternoon.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

☒ FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

5 Packaging * Declared value limit $500.

☐ FedEx Envelope* ☐ FedEx Pak* ☐ FedEx Box ☐ FedEx Tube ☒ Other

6 Special Handling and Delivery Signature Options

☐ SATURDAY Delivery — NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver.

☐ No Signature Required — Package may be left without obtaining a signature for delivery.

☒ Direct Signature — Someone at recipient's address may sign for delivery. *Fee applies.*

☐ Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only. *Fee applies.*

Does this shipment contain dangerous goods?

One box must be checked.

☒ No ☐ Yes As per attached Shipper's Declaration. ☐ Yes Shipper's Declaration not required. ☐ Dry Ice Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box. ☐ Cargo Aircraft Only

7 Payment *Bill to:*

Enter FedEx Acct. No. or Credit Card No. below.

☒ Sender Acct. No. in Section 1 will be billed. ☐ Recipient ☐ Third Party ☐ Credit Card ☐ Cash/Check

FedEx Acct. No. Credit Card No. Exp. Date

Total Packages	Total Weight	Total Declared Value†
1	37 lbs.	$ 500 .00

†Our liability is limited to $100 unless you declare a higher value. See back for details. By using this Airbill you agree to the service conditions on the back of this Airbill and in the current FedEx Service Guide, including terms that limit our liability.

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RETAIN THIS COPY FOR YOUR RECORDS.

Ex. Express **NEW** *Package US Airbill*

FedEx Tracking Number 8768 4763 3531

lease print and press hard.

7-11-12 Sender's FedEx Account Number 1786-9246-1

Bethany Keller Phone (614) 432-0377

URS

12420 Milestone Ctr Dr Ste150 Dept./Floor/Suite/Room

Germantown State MD ZIP 20876

ernal Billing Reference 15302621.54210.30000
ctors will appear on invoice.

's Pine Environmental Phone (609) 371-9663

92 N. Main St.
eliver to P.O. boxes or P.O. ZIP codes. Dept./Floor/Suite/Room

HOLD Weekday
FedEx location address REQUIRED. NOT available for FedEx First Overnight.

HOLD Saturday
FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

for the HOLD location address or for continuation of your shipping address.

Windsor State NJ ZIP 08561

The FedEx US Airbill has changed. See Section 4.
For shipments over 150 lbs., order the new FedEx Express Freight US Airbill.

0200 **Sender's Copy**

4 Express Package Service • To most locations.
NOTE: Service order has changed. Please select carefully.

Packages up to 150 lbs.
For packages over 150 lbs., use the new FedEx Express Freight US Airbill.

Next Business Day

- [ ] FedEx First Overnight — Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [x] FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.

2 or 3 Business Days

- [ ] **NEW** FedEx 2Day A.M. — Second business morning.* Saturday Delivery NOT available.
- [ ] FedEx 2Day — Second business afternoon.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [x] FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

5 Packaging • Declared value limit $500.

- [ ] FedEx Envelope*
- [ ] FedEx Pak*
- [ ] FedEx Box
- [ ] FedEx Tube
- [x] Other

6 Special Handling and Delivery Signature Options

- [ ] SATURDAY Delivery — NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver.
- [ ] No Signature Required — Package may be left without obtaining a signature for delivery.
- [x] Direct Signature — Someone at recipient's address may sign for delivery. *Fee applies.*
- [ ] Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only. *Fee applies.*

Does this shipment contain dangerous goods?
One box must be checked.

- [x] No
- [ ] Yes — As per attached Shipper's Declaration.
- [ ] Yes — Shipper's Declaration not required.
- [ ] Dry Ice — Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box.

- [ ] Cargo Aircraft Only

7 Payment *Bill to:*

Enter FedEx Acct. No. or Credit Card No. below.

- [x] Sender — Acct. No. in Section 1 will be billed.
- [ ] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check

FedEx Acct. No.
Credit Card No. Exp. Date

Total Packages	Total Weight	Total Declared Value†
1	22 lbs.	$ 500 .00

†Our liability is limited to $100 unless you declare a higher value. See back for details. By using this Airbill you agree to the service conditions on the back of this Airbill and in the current FedEx Service Guide, including terms that limit our liability.

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RETAIN THIS COPY FOR YOUR RECORDS.

FedEx Express **NEW** Package US Airbill

FedEx Tracking Number 8768 4763 3542

0200 **Sender's Copy**

Please print and press hard.

Date 7-11-12 Sender's FedEx Account Number 1786-9246-1

Sender's Name Bethany Keller Phone (614) 432-0377

Company ~~IRS 12420 Milestone Ctr. Dr. Ste150~~

Address 12420 Milestone Ctr Dr. Ste150 Dept./Floor/Suite/Room

City Germantown State MD ZIP 20876

Your Internal Billing Reference 153Q2621.54210.30000
First 24 characters will appear on invoice.

Recipient's Name Sample Receiving Phone (559) 275-2175

Company APPL INC.

Address 908N. Temperance Ave Dept./Floor/Suite/Room
Cannot deliver to P.O. boxes or P.O. ZIP codes.

Address
Use this line for the HOLD location address or for continuation of your shipping address.

City Clovis State CA ZIP 93611

☐ HOLD Weekday — FedEx location address REQUIRED. NOT available for FedEx First Overnight.

☐ HOLD Saturday — FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

The FedEx US Airbill has changed. See Section 4.
For shipments over 150 lbs., order the new FedEx Express Freight US Airbill.

4 Express Package Service

* To most locations.

NOTE: Service order has changed. Please select carefully.

Packages up to 150 lbs. *For packages over 150 lbs., use the new FedEx Express Freight US Airbill.*

Next Business Day

☐ FedEx First Overnight — Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

☒ FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

☐ FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.

2 or 3 Business Days

☐ **NEW** FedEx 2Day A.M. — Second business morning.* Saturday Delivery NOT available.

☐ FedEx 2Day — Second business afternoon.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

☐ FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

5 Packaging

* Declared value limit $500.

☐ FedEx Envelope* ☐ FedEx Pak* ☐ FedEx Box ☐ FedEx Tube ☒ Other

6 Special Handling and Delivery Signature Options

☐ SATURDAY Delivery — NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver.

☐ No Signature Required — Package may be left without obtaining a signature for delivery.

☒ Direct Signature — Someone at recipient's address may sign for delivery. *Fee applies.*

☐ Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only. *Fee applies.*

Does this shipment contain dangerous goods?

One box must be checked.

☒ No ☐ Yes — As per attached Shipper's Declaration. ☐ Yes — Shipper's Declaration not required. ☐ Dry Ice — Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box.

☐ Cargo Aircraft Only

7 Payment *Bill to:*

Enter FedEx Acct. No. or Credit Card No. below.

☒ Sender — Acct. No. in Section 1 will be billed. ☐ Recipient ☐ Third Party ☐ Credit Card ☐ Cash/Check

FedEx Acct. No.
Credit Card No. Exp. Date

Total Packages	Total Weight	Total Declared Value†
1	19 lbs.	$ 500 .00

†Our liability is limited to $100 unless you declare a higher value. See back for details. By using this Airbill you agree to the service conditions on the back of this Airbill and in the current FedEx Service Guide, including terms that limit our liability.

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RETAIN THIS COPY FOR YOUR RECORDS.

CHAIN OF CUSTODY RECORD

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611
Phone: (559) 275-2175
Fax: (559) 275-4422

C.O.C. 36502

Report to: PLEASE PRINT
Company Name: URS Phone: (443) 737-1291
Address: 430 National Business Pkwy Ste. 400
Annapolis Junction, MD 20701 Fax: (703) 674-5896
Attn: Andrea.Sansom@urs.com

Invoice to: PLEASE PRINT
Company Name: Phone:
Address: Andrea Sansom
Same Fax:
Attn:

Project Name/Number: 15302621.30000
Purchase Order Number:
Sampler (Print): Bethany Keller
Sampler (Signature): Bethany Keller

Date Shipped:
Carrier: Fed Ex
Waybill No.: 8768 4763 3543
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Sed.	Soil		Analysis Requested/Method Number: Perchlorate										
RLSW01DA05	Camp Rilea OR	7-11-12	1000		1	X				X										
RLSW02DA05	Camp Rilea, OR	7-11-12	0910		1	X				X										
RLSW03DA05	Camp Rilea, OR	7-11-12	0940		1	X				X										Use Forms/MSD
~~RLSW03DA06~~	~~Camp Rilea, OR~~	~~7-11-12~~	~~0935~~		~~1~~	~~X~~				~~X~~										~~BK~~
RLSW03DA07	Camp Rilea OR	7-11-12	0935		1	X				X										
RLSW01DB05	Camp Rilea, OR	7-10-12	1025		1	X				X										
RLSW02DB05	Camp Rilea, OR	7-10-12	0925		1	X				X										
RLSW03DB05	Camp Rilea, OR	7-10-12	0955		1	X				X										
RLSW03DA06	Camp Rilea, OR	7-10-12	0945		1	X				X										

Shuttle Temperature:

Turnaround Requested: Check one
☐ Standard 2-3wk ☐ One week ☐ 24/48 Hrs. ☐ Other

Sample Disposal:
☐ Return to client ☐ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Bethany Keller	7-11-12	1300					
Relinquished by:	**Date**	**Time**	**Received by:**	**Relinquished by:**	**Date**	**Time**	**Received at lab by:**

White: Return to client with report Yellow: Laboratory Copy Pink: Sampler

See reverse side for Container Preservative and Sampling Information

APPENDIX C
ANALYTICAL TABLES

Table C-1 Camp Rilea Phase II Analytical Results

Sample ID		RLSW01WA05				RLSW01WB05				RLSW02WA05				RLSW02WB05			
Sample Date		1/9/2012				1/6/2012				1/9/2012				1/6/2012			
Perchlorate	Units	Result	Laboratory Qualifier	Data Validation Flag	Reason Code	Result	Laboratory Qualifier	Data Validation Flag	Reason Code	Result	Laboratory Qualifier	Data Validation Flag	Reason Code	Result	Laboratory Qualifier	Data Validation Flag	Reason Code
Perchlorate	µg/L	0.400	U			0.400	U			0.400	U			0.400	U		

Sample ID		RLSW03WA05				RLSW03WA06				RLSW03WB05			
Sample Date		1/9/2012				1/9/2012				1/6/2012			
Perchlorate	Units	Result	Laboratory Qualifier	Data Validation Flag	Reason Code	Result	Laboratory Qualifier	Data Validation Flag	Reason Code	Result	Laboratory Qualifier	Data Validation Flag	Reason Code
Perchlorate	µg/L	0.400	U			0.400	U			0.400	U		

Sample ID		RLSW01DA05				RLSW01DB05				RLSW02DA05				RLSW02DB05			
Sample Date		7/11/2012								7/11/2012				7/10/2012			
Perchlorate	Units	Result	Laboratory Qualifier	Data Validation Flag	Reason Code	Result	Laboratory Qualifier	Data Validation Flag	Reason Code	Result	Laboratory Qualifier	Data Validation Flag	Reason Code	Result	Laboratory Qualifier	Data Validation Flag	Reason Code
Perchlorate	µg/L	0.400	U			0.400	U			0.400	U			0.400	U		

Sample ID		RLSW03DA05				RLSW03DA06				RLSW03DB05			
Sample Date		7/11/2012				7/11/2012				7/10/2012			
Perchlorate	Units	Result	Laboratory Qualifier	Data Validation Flag	Reason Code	Result	Laboratory Qualifier	Data Validation Flag	Reason Code	Result	Laboratory Qualifier	Data Validation Flag	Reason Code
Perchlorate	µg/L	0.400	U			0.400	U			0.400	U		

Sample ID		RLSW03DA07				RLSW03WA07			
Sample Date		7/11/2012				1/9/2012			
Perchlorate	Units	Result	Laboratory Qualifier	Data Validation Flag	Reason Code	Result	Laboratory Qualifier	Data Validation Flag	Reason Code
Perchlorate	µg/L	0.400	U			0.400	U		

APPENDIX D
DATA USABILITY SUMMARY REPORTS

DATA VALIDATION REPORT - Level III Review

SDG No.:	**ARF 68210**	**Fraction:**	**Perchlorate**
Laboratory:	**APPL**	**Project:**	**Camp Rilea/15302621.40000**
Reviewer:	**Naoum Tavantzis**	**Date:**	**08/27/12**

This report presents the findings of a review of the referenced data. The report consists of this summary, a listing of the samples included in the review, copies of data reports with data qualifying flags applied, the data review checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the project-specific QAPP, and qualified according to the USEPA CLP National Functional Guidelines for Organic (June 2008) and Inorganic (January 2010) Superfund Data Review. Modifications reflect the level of review requested, the specifications of the project-specific QAPP, and the specifics of the analytical methods employed.

Major Anomalies: None.

Minor Anomalies: During the perchlorate analysis, the following samples displayed an internal standard retention time that eluted out of the retention time window:

Date Analyzed	Time	Sample ID	Lab Retention Time Window	Retention Time
07/13/12	2139	120713WA_ICS	15.48-16.48	12.50
07/14/12	0053	PER_CCV_2 0.40 ppb		13.60
	0115	PER_CCV_2 2.0 ppb		13.83
	0450	RLSW01DA05		13.84
	0512	RLSW02DA05		13.86
	0555	PER_CCV_2 0.40 ppb		13.96
	0617	PER_CCV_2 2.0 ppb		14.06
	0700	RLSW03DA05		14.09
	0721	RLSW03DA05_MS		14.11
	0743	RLSW03DA05_MSD		14.17
	0805	RLSW03DA07		14.76
	0826	RLSW01DB05		14.22
	0848	RLSW02DB05		15.20
	0909	RLSW03DB05		13.98
	0931	RLSW03DA06		13.93
	1057	PER_CCV_2 0.40 ppb		13.86
	1119	PER_CCV_2 2.0 ppb		13.91

The DoD QSM does not include a retention time requirement for the internal standard, only a relative retention time of 0.2 minutes for the perchlorate ion. The area count was met for the internal standard; no data qualifying action was required.

Correctable Anomalies: None.

Comments: On the basis of this evaluation, the laboratory appears to have followed the specified analytical methods with the exception of anomalies discussed above. All data are usable for their intended purpose based on the data reviewed.

Signed: _____
Naoum Tavantzis

Camp Rilea

Job #: 15302621.40000

Laboratory: APPL
SDG #: ARF 68210

Sample	Client ID	Sample Type	Collected	Matrix	Perchlorate
AY64813	RLSW01DA05	Sample	11-Jul-12	Water	1
AY64814	RLSW02DA05	Sample	11-Jul-12	Water	1
AY64815	RLSW03DA05	Sample	11-Jul-12	Water	1
AY64816	RLSW03DA07	Equipment Blank	11-Jul-12	Water	1
AY64817	RLSW01DB05	Sample	10-Jul-12	Water	1
AY64818	RLSW02DB05	Sample	10-Jul-12	Water	1
AY64819	RLSW03DB05	Sample	10-Jul-12	Water	1
AY64820	RLSW03DA06	Duplicate	11-Jul-12	Water	1

Camp Rilea
Duplicate Results
ARF 68210

Client Sample ID:				RLSW03DA05		RLSW03DA06					
Date Sampled:				7/11/12		7/11/12					
	Units	RL	5xRL	Sample Conc		Duplicate Conc		%RPD	Delta	2xRL	Pass/ Fail
Perchlorate	ug/L	0.6	3	0.6	U	0.6	U	0.0%	**0**	1.2	Pass

Control limit [sample]>5xRL use 35%
[sample]<5xRL use Delta<2xRL

Perchlorate

URS Group
430 National Business Pkwy #400
Annapolis Junction, MD 20701

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Andrea Sansom
Project: 15302621.30000 ORAP Camp Rilea
Sample ID: RLSW01DA05
Sample Collection Date: 07/11/12

ARF: 68210
APPL ID: AY64813
QCG: #6850-120713A-169041

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 6850	PERCHLORATE	0.400 U	0.60	0.400	0.200	ug/L	07/13/12	07/14/12

Quant Method: PER713.M
Run #: L713_040.D
Instrument: AGIL_1100
Sequence: LQ071312
Dilution Factor: 1
Initials: MP

Printed: 07/23/12 1:16:14 PM
APPL-F1-SC-NoMC-REG MDLs

Perchlorate

URS Group
430 National Business Pkwy #400
Annapolis Junction, MD 20701

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Andrea Sansom
Project: 15302621.30000 ORAP Camp Rilea
Sample ID: RLSW02DA05
Sample Collection Date: 07/11/12

ARF: 68210
APPL ID: AY64814
QCG: #6850-120713A-169041

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 6850	PERCHLORATE	0.400 U	0.60	0.400	0.200	ug/L	07/13/12	07/14/12

Quant Method: PER713.M
Run #: L713_041.D
Instrument: AGIL_1100
Sequence: LQ071312
Dilution Factor: 1
Initials: MP

Printed: 07/23/12 1:16:14 PM
APPL-F1-SC-NoMC-REG MDLs

Perchlorate

URS Group
430 National Business Pkwy #400
Annapolis Junction, MD 20701

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Andrea Sansom
Project: 15302621.30000 ORAP Camp Rilea
Sample ID: RLSW03DA05
Sample Collection Date: 07/11/12

ARF: 68210
APPL ID: AY64815
QCG: #6850-120713A-169041

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 6850	PERCHLORATE	0.400 U	0.60	0.400	0.200	ug/L	07/13/12	07/14/12

Quant Method: PER713.M
Run #: L713_046.D
Instrument: AGIL_1100
Sequence: LQ071312
Dilution Factor: 1
Initials: MP

Printed: 07/23/12 1:16:14 PM
APPL-F1-SC-NoMC-REG MDLs

Perchlorate

URS Group
430 National Business Pkwy #400
Annapolis Junction, MD 20701

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Andrea Sansom
Project: 15302621.30000 ORAP Camp Rilea
Sample ID: RLSW03DA07
Sample Collection Date: 07/11/12

ARF: 68210
APPL ID: AY64816
QCG: #6850-120713A-169041

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 6850	PERCHLORATE	0.400 U	0.60	0.400	0.200	ug/L	07/13/12	07/14/12

Quant Method: PER713.M
Run #: L713_049.D
Instrument: AGIL_1100
Sequence: LQ071312
Dilution Factor: 1
Initials: MP

Printed: 07/23/12 1:16:14 PM
APPL-F1-SC-NoMC-REG MDLs

Perchlorate

URS Group
430 National Business Pkwy #400
Annapolis Junction, MD 20701

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Andrea Sansom

Project: 15302621.30000 ORAP Camp Rilea

ARF: 68210

Sample ID: RLSW01DB05

APPL ID: AY64817

Sample Collection Date: 07/10/12

QCG: #6850-120713A-169041

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 6850	PERCHLORATE	0.400 U	0.60	0.400	0.200	ug/L	07/13/12	07/14/12

Quant Method: PER713.M
Run #: L713_050.D
Instrument: AGIL_1100
Sequence: LQ071312
Dilution Factor: 1
Initials: MP

Printed: 07/23/12 1:16:14 PM
APPL-F1-SC-NoMC-REG MDLs

Perchlorate

URS Group
430 National Business Pkwy #400
Annapolis Junction, MD 20701

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Andrea Sansom
Project: 15302621.30000 ORAP Camp Rilea
Sample ID: RLSW02DB05
Sample Collection Date: 07/10/12

ARF: 68210
APPL ID: AY64818
QCG: #6850-120713A-169041

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 6850	PERCHLORATE	0.400 U	0.60	0.400	0.200	ug/L	07/13/12	07/14/12

Quant Method: PER713.M
Run #: L713_051.D
Instrument: AGIL_1100
Sequence: LQ071312
Dilution Factor: 1
Initials: MP

Printed: 07/23/12 1:16:14 PM
APPL-F1-SC-NoMC-REG MDLs

Perchlorate

URS Group
430 National Business Pkwy #400
Annapolis Junction, MD 20701

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Andrea Sansom
Project: 15302621.30000 ORAP Camp Rilea
Sample ID: RLSW03DB05
Sample Collection Date: 07/10/12

ARF: 68210
APPL ID: AY64819
QCG: #6850-120713A-169041

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 6850	PERCHLORATE	0.400 U	0.60	0.400	0.200	ug/L	07/13/12	07/14/12

Quant Method: PER713.M
Run #: L713_052.D
Instrument: AGIL_1100
Sequence: LQ071312
Dilution Factor: 1
Initials: MP

Printed: 07/23/12 1:16:14 PM
APPL-F1-SC-NoMC-REG MDLs

Perchlorate

URS Group
430 National Business Pkwy #400
Annapolis Junction, MD 20701

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Andrea Sansom
Project: 15302621.30000 ORAP Camp Rilea
Sample ID: RLSW03DA06
Sample Collection Date: 07/11/12

ARF: 68210
APPL ID: AY64820
QCG: #6850-120713A-169041

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 6850	PERCHLORATE	0.400 U	0.60	0.400	0.200	ug/L	07/13/12	07/14/12

Quant Method: PER713.M
Run #: L713_053.D
Instrument: AGIL_1100
Sequence: LQ071312
Dilution Factor: 1
Initials: MP

Printed: 07/23/12 1:16:15 PM
APPL-F1-SC-NoMC-REG MDLs

DATA VALIDATION WORKSHEET - Level III Review
PERCHLORATE ANALYSIS - EPA 6850 (8321A)

Reviewer: Naoum Tavantzis
Date: 08/27/12
Lab: APPL

Site: Camp Rilea
Project #: 15302621.40000
SDG: ARF 68210

X USEPA CLP National Functional Guidelines for Superfund Inorganic Methods Data Review
X SW-846/DoD QSM v4.2
X Project QAPP/SAP

1.0 Chain of Custody/Sample Condition

		Yes	No	NA
1.1	Do Chain-of-Custody forms list all samples that were analyzed?	X		
1.2	Are all Chain-of-Custody forms signed, indicating sample chain-of-custody was maintained?	X		
1.3	Do sample preservation, collection and storage condition meet method requirement?	X		
1.4	Were the sediment samples dryed and sieved appropiately?	X		
	If samples were not ice or the ice was melted upon arrival at the laboratory and the temperature of the cooler was elevated (> 10 ^{0}C), then flag all positive results with a "J" and all non-detects "UJ".			

Note:

2.0 Holding Time

		Yes	No	NA
2.1	Have any technical holding times of 28 days from sampling to date of analysis, been exceeded? If yes, J(+)/UJ(-).		X	
2.2	Have any technical holding times been grossly (twice the holding time) exceeded? If yes, J(+)/R(-).		X	

Note:

3.0 Blanks (Method Blanks and Field Blanks)

		Yes	No	NA
4.1	Were method blank (MB) prepared at the appropriate frequency (one / 20 samples, batch, or matrix)?	X		
4.2	Were calibration blanks (ICB and CCBs) analyzed immediately after each ICV and CCVs?	X		
4.3	Are there reported MB values > DL?		X	
	Blank Result ≥MDL, ≤LOD ≥DL, ≤LOD			
	Sample Result: ≥DL, ≤LOD ≥DL, ≤LOQ >LOQ, <10x Blank ≥DL, ≤LOD >LOD			
	Action: [LOD]"U" [LOQ] "U" J+(+)/R(Judge) [LOD]"U" Judgement(<5x)			
4.4	Are there reported ICB/CCBs values > DL?		X	
	Blank Result >DL,<LOD >LOD			
	Sample Result >DL,<LOD, >LOQ >LOD,<LOQ >LOD, <Blank >Blank			
	Action: [LOD]"U" Judgement [LOD]"U" [Blank Result]"U" or "R" Judgement(<5x)			
4.7	Are there reported field blank or equipment blank > ± DL? Use Method Blank rules.		X	

Note:

URS
Measurement Systems

4.0 Initial Calibration

		Yes	No	NA
4.1	Was an LOD Verification analyzed at least quarterly?	X		
4.2	Was the signal to noise greater than 3:1 & all other method requirements met? (2nd column confirmation, ion abundance, pattern recognition, etc.)	X		
4.3	Did the LOQ meet precision and accuracy goals set by the laboratory?	X		
4.4	Are sufficient standards included in the calibration curve? (a minimum of five points with low point at the reporting limit)	X		
4.5	Are response factors stable (%RSD values < 20% or r > 0.995) over the concentration range of the calibration? If not, J(+)/UJ(-)	X		
4.6	Are all calibration standard percent recoveries within the control limits of 90%-110%? ICV:	X		
	< 70% 70%-84% 116%-130% 130%<%R<165% >165%			
	Action: J-(+)/R(-) J-(+)/UJ(-) J+(+) J+(+)(maybe R(+)) R(+)			
4.7	Prior to ICAL, was a tune run within quality control limits outlined by the laboratory for the analyte of interest?	X		
4.8	Prior to analysis, was a mass calibration standard analyzed with observed m/z for 83, 85, and 89 within ±0.3 of the target?	X		

Note: _____

5.0 Continuing Calibration

		Yes	No	NA
5.1	Are Continuing Calibration verifications (CCVs) summary forms present and complete for each instrument used?	X		
5.2	Has CCVs been analyzed at the beginning of each day, bracketing every 10 samples, and at the end of the run?	X		
5.3	Was the LODV analyzed at the beginning and end of each analytical sequence?	X		
5.4	Are all calibration standard percent recoveries within the control limits of 90%-110%? CCV:		X	
	CCV Recovery: < 70% 70%-84% 116%-130% 131%<%R<160% >161%			
	LODV Recovery: <40% 40%-69% 131%-160% 161%<%R<180% >200%			
	Action: J-(+)/R(-) J-(+)/UJ(-) J+(+) J+(+)(maybe R(+)) R(+)			

Note: _____

6.0 Matrix Spike/Matrix Spike Duplicate (MS/MSD)

		Yes	No	NA
6.1	Is a Matrix Spike/Matrix Spike Duplicate recovery form present?	X		
6.2	Are MS/MSDs analyzed at the required frequency for each matrix?	X		
6.3	Are any MS/MSD recovery outside the control limits?		X	
	For all analytes with sample concentration >4x spike concentration:			
	Matrix Spike %R <30% 30%-74% >125%			
	Action: J-(+)/R(-) J-(+)/UJ(-) J+(+)			

7.0 Laboratory Control Sample (LCS)

		Yes	No	NA
5.1	Was an LCS prepared and analyzed at the correct frequency (one / 20 samples, batch, or matrix)? Action: If no, J(+)/R(-) any sample not associated with LCS results.	X		
5.2	Is any LCS recovery outside the control limits? Note: Sediment samples are not qualified due to LCS Recovery % Recoveries: <50% J-(+)/R(-) 40%-LCL% J-(+)/UJ(-) >UCL,<120% J+(+) >150% R(+/-)		X	

Note: _____

8.0 Interference Check Standard

		Yes	No	NA
8.1	Is there an interference check standard present for each daily sequence?	X		
8.2	Is the recovery of perchlorate within 30% of the true value? J-(+)/R(-)	X		

Note: _____

9.0 TCL Identification, Quantitation, Internal Standard, and Reported Detection limits

		Yes	No	NA
9.1	For positive detections, is the mass ratio of 83:85 within the acceptable range to confirm (2.3-3.8)?			X
9.2	Are all relative retention times of the target within ±0.2 min of the internal standard?			X
9.3	Are Contract Required Quantitation Limits (CRQL) adjusted to reflect sample dilution(s)?			X
9.4	Were internal standard recoveries within control limits?	X		

Note: _____

10.0 Field Duplicate Samples

		Yes	No	NA
10.1	Were any field duplicates submitted for analysis?	X		
10.2	Are all analyte duplicate results within control limits?	X		
	For sample results > 5 x RL, a control limit of 35% RPD for water and 60% RPD for soil triplicates will be used. For sample results < 5 x RL, a control limit of RL for water and 2 x RL for soil will be used.			

Note: _____

11.0 Data Completeness

		Yes	No	NA
11.1	Is % completeness within the control limits? (Control limit 95%)	X		
11.1.1	Number of samples: 8			
11.1.2	Number of target compounds in each analysis: 1			
11.1.3	Number of results rejected and not reported: 0			
	% Completeness = (10.1.1 x 10.1.2 - 10.1.3) x 100/(10.1.1 x 10.1.2)			
	% Completeness = 100%			

Injection Log

Directory: H:\AGIL1100\HPCHEM\DATA\120713\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	4	L713_004.D	1	PERCHLORATE 0.40 ppb 05/22/12		13 Jul 12 15:54
2	5	L713_005.D	1	PERCHLORATE 1.0 ppb 05/22/12		13 Jul 12 16:16
3	6	L713_006.D	1	PERCHLORATE 2.0 ppb 05/22/12		13 Jul 12 16:37
4	7	L713_007.D	1	PERCHLORATE 5.0 ppb 05/22/12		13 Jul 12 16:59
5	8	L713_008.D	1	PERCHLORATE 10.0 ppb 03/17/12		13 Jul 12 17:20
6	12	L713_012.D	1	PER_SS_1 2.0 ppb 05/22/12		13 Jul 12 18:47
7	15	L713_015.D	1	PER_CCV_2 0.40 ppb 06/22/12		13 Jul 12 19:51
8	16	L713_016.D	1	PER_CCV_2 2.0 ppb 06/22/12		13 Jul 12 20:13
9	23	L713_020.D	1.05263	120713WA_ICS 1.0526 DF 07/22/12		13 Jul 12 21:39
10	25	L713_022.D	1.05263	120713WBLKA 1.0526 DF 07/13/12		13 Jul 12 22:22
11	92	L713_029.D	1	PER_CCV_2 0.40 ppb 06/22/12		14 Jul 12 00:53
12	93	L713_030.D	1	PER_CCV_2 2.0 ppb 06/22/12		14 Jul 12 1:15
13	39	L713_040.D	1.05263	AY64813_W01 1.0526 DF 07/13/12		14 Jul 12 4:50
14	40	L713_041.D	1.05263	AY64814_W01 1.0526 DF 07/13/12		14 Jul 12 5:12
15	92	L713_043.D	1	PER_CCV_2 0.40 ppb 06/22/12		14 Jul 12 5:55
16	93	L713_044.D	1	PER_CCV_2 2.0 ppb 06/22/12		14 Jul 12 6:17
17	41	L713_046.D	1.05263	AY64815_W01 1.0526 DF 07/13/12		14 Jul 12 7:00
18	42	L713_047.D	1.05263	AY64815_W01_MS-1 1.0526 DF 07/13/12		14 Jul 12 7:21
19	43	L713_048.D	1.05263	AY64815_W01_MSD-1 1.0526 DF 07/13/12		14 Jul 12 7:43
20	44	L713_049.D	1.05263	AY64816_W01 1.0256 DF 07/13/12		14 Jul 12 8:05
21	45	L713_050.D	1.05263	AY64817_W01 1.0526 DF 07/13/12		14 Jul 12 8:26
22	46	L713_051.D	1.05263	AY64818_W01 1.0526 DF 07/13/12		14 Jul 12 8:48
23	47	L713_052.D	1.05263	AY64819_W01 1.0526 DF 07/13/12		14 Jul 12 9:09
24	48	L713_053.D	1.05263	AY64820_W01 1.0526 DF 07/13/12		14 Jul 12 9:31
25	92	L713_057.D	1	PER_CCV_2 0.40 ppb 06/22/12		14 Jul 12 10:57
26	93	L713_058.D	1	PER_CCV_2 2.0 ppb 06/22/12		14 Jul 12 11:19

8A

INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: _____

Lab Code: _____ SDG No.: 68210

Lab File ID (Standard): L713_004-008.D Date Analyzed: 07/13/12

Instrument ID: AGIL_1100 Time Analyzed: 15:54 - 17:20

		Perchlorate_IS							
		AREA	#	RT	#	AREA	#	RT	#	AREA	#	RT
	12 HOUR STD	10205320		15.98								
	UPPER LIMIT	15307980		16.48								
	LOWER LIMIT	5102660		15.48								
	SAMPLE NO.											
04	PERCHLORATE 0.40 ppb 05/22/12	11102300		15.98								
05	PERCHLORATE 1.0 ppb 05/22/12	10008200		16.03								
06	PERCHLORATE 2.0 ppb 05/22/12	9819860		16.18								
07	PERCHLORATE 5.0 ppb 05/22/12	10343900		16.17								
08	PERCHLORATE 10.0 ppb 03/17/12	9752340		16.38								
12	PER_SS_1 2.0 ppb 05/22/12	9763660		15.99								
15	PER_CCV_2 0.40 ppb 06/22/12	10269600		15.39								
16	PER_CCV_2 2.0 ppb 06/22/12	10570300		15.16								
20	120713WA_ICS 1.0526 DF 07/22/12	11242500		12.50								
22	120713WBLKA 1.0526 DF 07/13/12	12166900		15.68								
29	PER_CCV_2 0.40 ppb 06/22/12	9336380		13.60								
30	PER_CCV_2 2.0 ppb 06/22/12	9975800		13.83								
40	AY64813_W01 1.0526 DF 07/13/12	9514490		13.84								
41	AY64814_W01 1.0526 DF 07/13/12	9299660		13.86								
43	PER_CCV_2 0.40 ppb 06/22/12	10167800		13.96								
44	PER_CCV_2 2.0 ppb 06/22/12	10516200		14.06								
46	AY64815_W01 1.0526 DF 07/13/12	11054900		14.09								
47	AY64815_W01_MS-1 1.0526 DF 07/13/12	10182800		14.11								
48	AY64815_W01_MSD-1 1.0526 DF 07/13/12	9902260		14.17								
49	AY64816_W01 1.0256 DF 07/13/12	10568500		14.76								
50	AY64817_W01 1.0526 DF 07/13/12	10186900		14.22								
51	AY64818_W01 1.0526 DF 07/13/12	15011		15.20								
52	AY64819_W01 1.0526 DF 07/13/12	8205090		13.98								
53	AY64820_W01 1.0526 DF 07/13/12	8864530		13.93								
57	PER_CCV_2 0.40 ppb 06/22/12	11810500		13.86								
58	PER_CCV_2 2.0 ppb 06/22/12	11511400		13.91								

AREA UPPER LIMIT = +50% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

Method Blank
Perchlorate

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **120713W-64617 - 169041**
Batch ID: #6850-120713A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	PERCHLORATE	0.400 U	0.60	0.400	0.200	ug/L	07/13/12	07/13/12

Quant Method: PER713.M
Run #: L713_022.D
Instrument: AGIL_1100
Sequence: LQ071312
Initials: MP

GC SC-Blank-REG MDLs
Printed: 07/17/12 10:35:16 AM

Matrix Spike Recoveries

Perchlorate

APPL ID: **120713W-64815 MS - 169041**
Batch ID: #6850-120713A
Sample ID: AY64815
Client ID: RLSW03DA05

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
PERCHLORATE	0.600	ND	0.484	0.508	80.7	84.7	80-120	4.8	15

Comments: _____

Primary	SPK	DUP
Quant Method :	PER713.M	PER713.M
Extraction Date :	07/13/12	07/13/12
Analysis Date :	07/14/12	07/14/12
Instrument :	AGIL_1100	AGIL_1100
Run :	L713_047.D	L713_048.D
Initials :	MP	

Printed: 07/17/12 10:35:11 AM
APPL MSD SCII

908 North Temperance Ave. ∇ Clovis, CA 93611 ∇ Phone 559-275-2175 ∇ Fax 559-275-4422

Certification Number: CA1312
NELAP Certification number: 05233CA
DoD-ELAP Certificate number: ADE-1410

Summary Report

July 30, 2012

received
8/2/12

URS Group, Inc.
849 International Drive, Suite 320
Linthicum, Maryland 21090

Attn: Andrea Sansom

Title: Report of Data: Case 68210

Project: 15302621.30000 ORAP Camp Rilea, OR

Contract #: Prime contract # for DoD: W912DR-09-D-0003 TO 06
Subcontract: 260784

Dear Ms. Sansom:

Samples were received July 12, 2012, in good condition. Written results for the requested analyses are provided on this July 30, 2012.

Results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

If you have any questions or require further information, please contact your APPL Project Manager Diane Anderson at your convenience. Thank you for choosing APPL, Inc.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. These test results meet all requirements of NELAC and DoD QSM. Release of the hard copy has been authorized by the Laboratory Manager or her designee, as verified by the following signature.

Sharon Dehmlow, Laboratory Director
APPL, Inc.

SD/sdm
Enclosure
cc: File

Number of pages in this report: 20

68210 new Sansom Linthicum

Sample Receipt Information

ARF: 68210

Project: 15302621.30000 ORAP Camp Rilea, OR

Sample Receipt Information:

The samples were received on July 12, 2012, at 3.0°C. The samples were assigned Analytical Request Form (ARF) number 68210. The sample numbers and requested analysis were compared to the chains of custody and email communication. The collection date for sample RLSW03DA06 was changed as per client's request. No other exception was encountered.

Sample Table

CLIENT ID	APPL ID	Matrix	Date Sampled	Date Received
RLSW01DA05	AY64813	WATER	07/11/12	07/12/12
RLSW02DA05	AY64814	WATER	07/11/12	07/12/12
RLSW03DA05	AY64815	WATER	07/11/12	07/12/12
RLSW03DA07	AY64816	WATER	07/11/12	07/12/12
RLSW01DB05	AY64817	WATER	07/10/12	07/12/12
RLSW02DB05	AY64818	WATER	07/10/12	07/12/12
RLSW03DB05	AY64819	WATER	07/10/12	07/12/12
RLSW03DA06	AY64820	WATER	07/11/12	07/12/12

Samples and blanks were screened for J-value responses between the detection limit (DL) and limit of quantitation (LOQ).

APPL's Laboratory control limits generated in house statistically do not meet the control limits listed in DoD QSM 4.2 for all analytes. Laboratory control spike recoveries for this project meet all control limits listed in the DoD QSM 4.2 except where noted. A copy of our in house generated control limits is available upon request. In addition, a copy of our LOQ control limits, established using 7 data points, are also available upon request.

Only the portion of the injection log relative to these samples is included. A full sequence log is available upon request.

Measurement uncertainty can be reported upon request.

Case Narrative

EPA Method 6850

Perchlorate by LC-Mass Spec

Sample Preparation and Analysis Information:

The samples were prepared and analyzed according to the EPA method 6850, using an Agilent 1100 LC-Mass Spec (ESI). The samples were prepared within acceptable hold time. Manual integrations were performed in accordance with APPL's SOP. Manual integrations were performed on the following. For Perchlorate and Perchlorate IS in data files L713_004, L713_005, L713_012, L713_015, L713_029, L713_030, L713_043, L713_044, L713_057, L717_004, L717_005, L717_015, L717_028, L717_029, L717_041, L713_020 and L713_047. Chromatograms of before and after manual integration are enclosed.

Quality Control/Assurance

Calibrations:

Calibrations were performed according to the method. All calibration acceptance criteria were met. The second source met acceptance criteria.

Blanks:

The method blank contained no Perchlorate at or above the DL.

Spikes:

Laboratory Control Spikes (LCS/LCSD) were prepared using DI water. The LCS/LCSD recoveries met all acceptance criteria.

An Interference Check Sample (I.C.S.) was prepared using a mixed anions solution. The ICS recovery met acceptance criteria.

Sample RLSW03DA05 was designated by the client for MS/MSD analysis. All recoveries met acceptance criteria.

Internal Standards:

The area counts of the sample Internal Standards were compared to the average IS area counts of the initial calibration. All I.S. were within the 50%D acceptance criteria.

Summary:

All data generated are acceptable. No other analytical exception is noted.

Tavantzis, Naoum

From: Keller, Bethany
Sent: Thursday, August 30, 2012 9:53 AM
To: Tavantzis, Naoum
Subject: FW: ORA Login Review

Hey!

So here is an email that I had sent to Andrea. This was definitely my mistake. RLSW03DA06 was indeed collected on 7/11/12 at 0945.

Hope that helps!
Bethany

Bethany Keller

Geologist

URS Corporation

12420 Milestone Drive, Suite 150

Germantown, MD 20876

Direct Phone: 301-820-3476

Mobile Phone: 614-432-0377

bethany.keller@urs.com

From: Keller, Bethany
Sent: Monday, July 23, 2012 9:02 AM
To: Sansom, Andrea
Subject: RE: ORA Login Review

Hi Andrea,

So I just took a look at the excel sheet, the COC, and sampling forms. I made a mistake on the COC that is reflected in the excel sheet. Currently, the date for the SW DUP (RLSW03DA06) is 7/10/12, but it was actually collected on 7/11/12 with the other DA samples. Is there something that can be done to fix that? I am so sorry that I made the error in the COC. All other Rilea information look good other than that!

Thank you,
Bethany

Bethany Keller

Geologist

URS Corporation

12420 Milestone Drive, Suite 150

Germantown, MD 20876

Abbreviations and Flags

FLAG	DESCRIPTION
#	Recovery or RPD outside control limits
*	Recovery or RPD outside control limits
B	Analyte detected in associated method blank
C1	Reason for correction: wrote incorrect response
C2	Reason for correction: calculated incorrectly
C3	Reason for correction: needs to be rechecked
C4	Reason for correction: data not usable
DO	Diluted out
E	Exceeds linear range
F	Estimated value
G1	Includes a wide range of hydrocarbons which does not match our gasoline standard
G10	Includes a match to hydrocarbon profiles within the range of mineral spirits
G11	Includes a match to hydrocarbon profiles within the range of JP-4
G12	Pattern does not match the gasoline standard; the carbon range for this sample is consistent with JP8
G13	Closely resembles the hydrocarbon profile of aviation gasoline
G14	Analyte concentration may be biased due to carry over
G2	Closely resembles the boiling point hydrocarbon profile consistent with weathered gasoline
G3	Includes higher boiling hydrocarbons
G4	Includes dominant peak(s) not indicative of petroleum hydrocarbons
G5	Is mainly dominant peak(s) not indicative of petroleum hydrocarbons
G6	Contains recognizable contaminant peak(s) which has been removed from quantitation
G7	Is mainly a match to hydrocarbons within the range of gasoline
G8	Closely resembles the boiling point hydrocarbon profile consistent with weathered gasoline
G9	Includes hydrocarbons within the range of kerosene
J	Estimated value
M	Matrix effect
MI1	Manual integration: integration does not follow baseline
MI2	Manual integration: non-target peak interference
MI3	Manual integration: to split a peak that was integrated as one peak by the computer
MI4	Manual integration: to integrate a split peak
MI5	Manual integration: the whole peak or part of the peak was not integrated
MI6	Manual integration: computer integrated wrong peak
MI7	Manual integration: other - explain
MDL	Method detection limit
ND	Not detected
NT	Non-target
Q	Acceptance criteria not met
T1 I	Includes wide range of hydrocarbons not indicative of diesel
T1 M	Is mainly wide range of hydrocarbons not necessarily indicative of diesel
T2 I	Includes lower boiling hydrocarbons, i.e. mineral spirits, kerosene, stoddard solvent, white gas
T2 M	Is mainly lower boiling hydrocarbons, i.e. mineral spirits, kerosene, stoddard solvent, white gas
T3 I	Includes higher boiling hydrocarbons, i.e. asphaltene, waster oil, motor oil, or weathered diesel fuel
T3 M	Is mainly higher boiling hydrocarbons, i.e. asphaltene, waster oil, motor oil, or weathered diesel fuel
T4 I	Includes dominant peak(s) not indicative of hydrocarbons
T4 M	Is mainly dominant peak(s) not indicative of hydrocarbons
T5	Contains recognizable contaminant peak(s) which has been removed from quantitation
T6	Is mainly a match to hydrocarbons within range of diesel fuel
T7	Closely resembles the boiling point hydrocarbon profile consistent with diesel fuel
T8	Includes a match to hydrocarbon profiles within range of diesel and kerosene fuel
T9 I	Includes non-diesel hydrocarbons within boiling point range of diesel fuel
T9 M	Is mainly non-diesel hydrocarbons within boiling point range of diesel fuel.
Y	Percent difference between primary and confirmation column > 40%

APPL Sample Receipt Form

ARF# **68210**

Sample	Container Type	Count	pH		Sample	Container Type	Count	pH
AY64813	4 PL 125mL	1	NA	shoulder				
AY64814	4 PL 125mL	1	NA	Shoulder				
AY64815	4 PL 125mL	1	NA	neck				
AY64816	4 PL 125mL	1	NA	shoulder				
AY64817	4 PL 125mL	1	NA	shoulder				
AY64818	4 PL 125mL	1	NA	neck				
AY64819	4 PL 125mL	1	NA	shoulder				
AY64820	4 PL 125mL	1	NA	Shoulder				

head space

COOLER RECEIPT FORM

1) Project: 153026.21.3000 Date Received: 7/12/12
2) **Coolers:** Number of Coolers: 1
3) YES NO Were coolers and samples screened for radioactivity?
4) YES NO Were custody seals on outside of cooler? How many? 1 Date on seal? 7/11/12
5) Name on seal? See Label
6) YES NO NA Were custody seals unbroken and intact at the time of arrival?
7) YES NO Did the cooler come with a shipping slip (air bill, etc.)? Carrier name: Fed Ex
8) Shipping slip numbers: 1) 8768 4763 3542 2) 3)
9) YES NO NA Was the shipping slip scanned into the database?
10) YES NO NA If cooler belongs to APPL, has it been logged into the ice chest database?
11) Describe type of packing in cooler (bubble wrap, popcorn, type of ice, etc.): Ziploc in wet ice
12) YES NO NA For hand delivered samples was sufficient ice present to start the cooling process?
13) YES NO Was a temperature blank included in the cooler?
14) Serial number of certified NIST thermometer used: 439267 Correction factor: 0
15) Cooler temp(s): 1) 3.0°C 2) ✓ 3) 4) 5) 6) 7) 8)

Chain of custody:
16) YES NO Was a chain of custody received?
17) YES NO Were the custody papers signed in the appropriate places?
18) YES NO Was the project identifiable from custody papers?
19) YES NO Did the chain of custody include date and time of sampling?
20) YES NO Is location where sample was taken listed on the chain of custody?

Sample Labels:
21) YES NO Were container labels in good condition?
22) YES NO Was the client ID on the label?
23) YES NO Was the date of sampling on the label?
24) YES NO Was the time of sampling on the label?
25) YES NO Did all container labels agree with custody papers?

Sample Containers:
26) YES NO Were all containers sealed in separate bags?
27) YES NO Did all containers arrive unbroken?
28) YES NO Was there any leakage from samples?
29) YES NO Were any of the lids cracked or broken?
30) YES NO Were correct containers used for the tests indicated?
31) YES NO Was a sufficient amount of sample sent for tests indicated?
32) YES NO NA Were bubbles present in volatile samples? If yes, the following were received with air bubbles:
Larger than a pea:
Smaller than a pea:

Preservation & Hold time:
33) YES NO NA Was a sufficient amount of holding time remaining to analyze the samples?
34) YES NO NA Do the sample containers contain the same preservative as what is stated on the COC?
35) YES NO NA Was the pH taken of all non-VOA preserved samples and written on the sample container?
36) YES NO NA Was the pH of acid preserved non-VOA samples < 2 & sodium hydroxide preserved samples > 12?
37) YES NO NA Unpreserved VOA Vials received?
38) YES NO NA Are unpreserved VOA vials noted in the ADD TEST FIELD on the ARF?

Lab notified if pH was not adequate:
Deficiencies:

Signature of personnel receiving samples: Second reviewer:
Signature of project manager notified: Date and Time of notification:
Name of client notified: Date and Time of notification:
Information given to client:
by whom (Initials):

CUSTODY SEAL
APPL, Inc.
(559) 275-2175
Initials: BK
Date: 7-11-12

68210 3.0

CHAIN OF CUSTODY RECORD

APPL LABS

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

Phone: (559) 275-2175
Fax: (559) 275-4422

C.O.C. 36502

Report to: PLEASE PRINT
Company Name: URS Phone: (443) 737-1291
Address: 430 National Business Pkwy Ste. 400
Annapolis Junction, MD 20701 Fax: (703) 674-5896
Attn: Andrea.Sansom@urs.com

Invoice to: PLEASE PRINT
Company Name: Phone:
Address: Andrea Sansom
Same
Fax:
Attn:

Project Name/Number: 15302621.30000
Sampler (Print): Bethany Keller
Purchase Order Number
Sampler (Signature): Bethany Keller

Date Shipped:
Carrier: Fed Ex
Waybill No.: 8768 4763 3543
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Sed.	Soil		Analysis Requested/Method Number: Perchlorate										Comments
RLSW01DA05	Camp Rilea OR	7-11-12	1000		1	X				X										
RLSW02DA05	Camp Rilea, OR	7-11-12	0910		1	X				X										
RLSW03DA05	Camp Rilea, OR	7-11-12	0940		1	X				X										Use forms/MSD
~~RLSW03DA06~~	~~Camp Rilea, OR~~	~~7-11-12~~	~~0935~~		~~1~~	~~X~~				~~X~~										~~BK~~
RLSW03DA07	Camp Rilea, OR	7-11-12	0935		1	X				X										
RLSW01DB05	Camp Rilea, OR	7-10-12	1025		1	X				X										
RLSW02DB05	Camp Rilea, OR	7-10-12	0925		1	X				X										
RLSW03DB05	Camp Rilea, OR	7-10-12	0955		1	X				X										
RLSW03DA06	Camp Rilea, OR	7-10-12	0945		1	X				X										

Shuttle Temperature:

Turnaround Requested: Check one
☑ Standard 2-3wk ☐ One week ☐ 24/48 Hrs. ☐ Other

Sample Disposal:
☐ Return to client ☑ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Bethany Keller	7-11-12	1300					
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					7/12/12	0950	

White: Return to client with report Yellow: Laboratory Copy Pink: Sampler

See reverse side for Container Preservative and Sampling Information

-5-

Data Qualifying Codes

Two types of data qualifying codes or flags are applied in the course of the data review. The data validation flags indicate data that are not usable for decision-making, more than normally biased and/or variable, or not representative of field conditions. These codes and their definitions are presented below in the hierarchy stipulated in the USEPA Contract Laboratory Program National Functional Guidelines for Organic (June, 2008) and Inorganic (January, 2010) Data Review

Data Validation Flags

Flag	Interpretation
R	The sample results are unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.
U	The analyte was analyzed for, but not detected at a level greater than or equal to the level of the adjusted Detection Limit (DL) for sample and method.
J+	Inorganic analyte present. Reported value may not be accurate or precise, but the result may be biased high.
J-	Inorganic analyte present. Reported value may not be accurate or precise, but the result may be biased low.
J	The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample (due either to the quality of the data generated because certain quality control criteria were not met, or the concentration of the analyte was below the Limit of Detection (LOD).
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
UJ	The analyte was not detected at a level greater than or equal to the adjusted DL. However, the reported adjusted DL is approximate and may be inaccurate or imprecise.
C	This qualifier applies to pesticide and Aroclor results when the identification has been confirmed by gas Chromatograph/Mass Spectrometer (GC/MS)
X	This qualifier applies to pesticide and Aroclor results when GC/MS analysis was attempted but was unsuccessful.

The other type of code used by URS is a "Reason Code". The reason code indicates the type of quality control failure that led to the application of the data validation flag.

Reason Codes

GC/MS Organics		GC and HPLC Organics		Inorganics and Conventionals	
Code	Interpretation	Code	Interpretation	Code	Interpretation
a	Incorrect or incomplete analytical sequence	a	Incorrect or incomplete analytical sequence	a	Incorrect or incomplete analytical sequence
b	Bubble found in vial >6mm	b	Instrument performance failure	b	Laboratory duplicate imprecision
c	Calibration failure; poor or unstable response	c	Calibration failure; poor or unstable response	c	Calibration failure
d	MS/MSD imprecision	d	MS/MSD imprecision	d	MS/MSD imprecision
e	LCSD imprecision	e	LCSD imprecision	e	LCSD imprecision
f	Field duplicate imprecision	f	Field duplicate imprecision	f	Field duplicate imprecision
g	Tuning failure or poor mass spec performance	g	Dual column confirmation imprecision	g	Duel isotope imprecision
h	Holding time violation	h	Holding time violation	h	Holding time violation
i	Internal standard failure	i	Internal standard failure	k	Cooler receipt temperature exceeds limits
k	Cooler receipt temperature exceeds limits	k	Cooler receipt temperature exceeds limits	l	LCS recovery failure
l	LCS recovery failure	l	LCS recovery failure	m	MS/MSD recovery failure
m	MS/MSD recovery failure	m	MS/MSD recovery failure	n	ICS failure
p	Poor chromatography	p	Poor chromatography	o	Calibration blank contamination
q	Concentration exceeded the linear range	q	Concentration exceeded the linear range	q	Concentration exceeded the linear range
r	Linearity failure in initial calibration	r	Linearity failure in initial calibration	r	Linearity failure in calibration or MSA
s	Surrogate failure	s	Surrogate failure	s	Serial dilution failure
t	TIC	t	Blender blank contamination	t	Carboy Lot detection
w	Identification criteria failure	u	No confirmation column	u	BOD minimum depletion did not exceed 2mg/L
x	Field blank contamination	w	Retention time failure	v	Post-digestion spike failure
y	Trip blank contamination	x	Field blank contamination	w	CRDL Standard Failure
z	Method blank contamination	z	Method blank contamination	x	Field blank contamination
				z	Preparation/Method blank contamination

DATA VALIDATION REPORT - Level III Review

SDG No.:	**ARF 66686**	**Fraction:**	**Perchlorate**
Laboratory:	**APPL**	**Project:**	**Camp Rilea/15302621.40000**
Reviewer:	**Naoum Tavantzis**	**Date:**	**04/09/12**

This report presents the findings of a review of the referenced data. The report consists of this summary, a listing of the samples included in the review, copies of data reports with data qualifying flags applied, the data review checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the project-specific QAPP, and qualified according to the USEPA CLP National Functional Guidelines for Organic (June 2008) and Inorganic (January 2010) Superfund Data Review. Modifications reflect the level of review requested, the specifications of the project-specific QAPP, and the specifics of the analytical methods employed.

Major Anomalies: None.

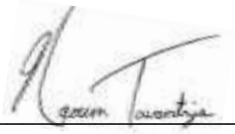
Minor Anomalies: During the perchlorate analysis, the following samples displayed an internal standard retention time that eluted out of the retention time window:

Date Analyzed	Time	Sample ID	Lab Retention Time Window	Retention Time
01/13/12	1521	120112WB_ICS	12.12-13.12	9.41
	1604	RLSW01WB05		11.57
	1626	RLSW02WB05		11.44
	1651	RLSW03WB05		11.68
	1838	RLSW01WA05		11.71
	1900	RLSW01WA05 MS		11.84
	1921	RLSW01WA05 MSD		11.86
	1943	RLSW02WA05		11.71
	2004	RLSW03WA05		11.97
	2026	RLSW03WA06		12.06

The DoD QSM does not include a retention time requirement for the internal standard, only a relative retention time of 0.2 minutes for the perchlorate ion. The area count was met for the internal standard; no data qualifying action was required.

Correctable Anomalies: None.

Comments: On the basis of this evaluation, the laboratory appears to have followed the specified analytical methods with the exception of anomalies discussed above. All data are usable for their intended purpose based on the data reviewed.

Signed: 

Naoum Tavantzis

Camp Rilea

Job #: 15302621.40000

Laboratory: APPL
SDG #: ARF 66686

Sample	Client ID	Sample Type	Collected	Matrix	Perchlorate
AY52768	RLSW01WB05	Sample	6-Jan-12	Water	1
AY52769	RLSW02WB05	Sample	6-Jan-12	Water	1
AY52770	RLSW03WB05	Sample	6-Jan-12	Water	1
AY52771	RLSW01WA05	Sample	9-Jan-12	Water	1
AY52772	RLSW02WA05	Sample	9-Jan-12	Water	1
AY52773	RLSW03WA05	Sample	9-Jan-12	Water	1
AY52774	RLSW03WA06	Duplicate	9-Jan-12	Water	1
AY52775	RLSW03WA07	Equipment Blank	9-Jan-12	Water	1

Camp Rilea
Duplicate Results
ARF 66686

Client Sample ID:				RLSW03WA05		RLSW03WA06					
Date Sampled:				1/9/12		1/9/12					
	Units	RL	5xRL	Sample Conc		Duplicate Conc		%RPD	Delta	2xRL	Pass/ Fail
Perchlorate	ug/L	0.6	3	0.6	U	0.6	U	0.0%	**0**	1.2	Pass

Control limit [sample]>5xRL use 35%
[sample]<5xRL use Delta<2xRL

Perchlorate

URS Group
849 International Dr, Ste 320
Linthicum, MD 21090

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Andrea Sansom
Project: 15302621.30000 ORAP Camp Rilea
Sample ID: RLSW01WB05
Sample Collection Date: 01/06/12

ARF: 66686
APPL ID: AY52768
QCG: #6850-B120112-163071

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 6850	PERCHLORATE	0.400 U	0.60	0.400	0.200	ug/L	01/12/12	01/13/12

Quant Method: PERZ23.M
Run #: L111_149.D
Instrument: AGIL_1100
Sequence: LQ011112
Dilution Factor: 1
Initials: MP

Printed: 01/17/12 4:32:06 PM
APPL-F1-SC-NoMC-REG MDLs

Perchlorate

URS Group
849 International Dr, Ste 320
Linthicum, MD 21090

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Andrea Sansom
Project: 15302621.30000 ORAP Camp Rilea
Sample ID: RLSW02WB05
Sample Collection Date: 01/06/12

ARF: 66686
APPL ID: AY52769
QCG: #6850-B120112-163071

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 6850	PERCHLORATE	0.400 U	0.60	0.400	0.200	ug/L	01/12/12	01/13/12

Quant Method: PERZ23.M
Run #: L111_150.D
Instrument: AGIL_1100
Sequence: LQ011112
Dilution Factor: 1
Initials: MP

Printed: 01/17/12 4:32:06 PM
APPL-F1-SC-NoMC-REG MDLs

Perchlorate

URS Group
849 International Dr, Ste 320
Linthicum, MD 21090

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Andrea Sansom
Project: 15302621.30000 ORAP Camp Rilea
Sample ID: RLSW03WB05
Sample Collection Date: 01/06/12

ARF: 66686
APPL ID: AY52770
QCG: #6850-B120112-163071

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 6850	PERCHLORATE	0.400 U	0.60	0.400	0.200	ug/L	01/12/12	01/13/12

Quant Method: PERZ23.M
Run #: L111_151.D
Instrument: AGIL_1100
Sequence: LQ011112
Dilution Factor: 1
Initials: MP

Printed: 01/17/12 4:32:06 PM
APPL-F1-SC-NoMC-REG MDLs

Perchlorate

URS Group
849 International Dr, Ste 320
Linthicum, MD 21090

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Andrea Sansom
Project: 15302621.30000 ORAP Camp Rilea
Sample ID: RLSW01WA05
Sample Collection Date: 01/09/12

ARF: 66686
APPL ID: AY52771
QCG: #6850-B120112-163071

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 6850	PERCHLORATE	0.400 U	0.60	0.400	0.200	ug/L	01/12/12	01/13/12

Quant Method: PERZ23.M
Run #: L111_156.D
Instrument: AGIL_1100
Sequence: LQ011112
Dilution Factor: 1
Initials: MP

Printed: 01/17/12 4:32:06 PM
APPL-F1-SC-NoMC-REG MDLs

Perchlorate

URS Group
849 International Dr, Ste 320
Linthicum, MD 21090

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Andrea Sansom
Project: 15302621.30000 ORAP Camp Rilea
Sample ID: RLSW02WA05
Sample Collection Date: 01/09/12

ARF: 66686
APPL ID: AY52772
QCG: #6850-B120112-163071

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 6850	PERCHLORATE	0.400 U	0.60	0.400	0.200	ug/L	01/12/12	01/13/12

Quant Method: PERZ23.M
Run #: L111_159.D
Instrument: AGIL_1100
Sequence: LQ011112
Dilution Factor: 1
Initials: MP

Printed: 01/17/12 4:32:06 PM
APPL-F1-SC-NoMC-REG MDLs

Perchlorate

URS Group
849 International Dr, Ste 320
Linthicum, MD 21090

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Andrea Sansom
Project: 15302621.30000 ORAP Camp Rilea
Sample ID: RLSW03WA05
Sample Collection Date: 01/09/12

ARF: 66686
APPL ID: AY52773
QCG: #6850-B120112-163071

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 6850	PERCHLORATE	0.400 U	0.60	0.400	0.200	ug/L	01/12/12	01/13/12

Quant Method: PERZ23.M
Run #: L111_160.D
Instrument: AGIL_1100
Sequence: LQ011112
Dilution Factor: 1
Initials: MP

Printed: 01/17/12 4:32:06 PM
APPL-F1-SC-NoMC-REG MDLs

Perchlorate

URS Group
849 International Dr, Ste 320
Linthicum, MD 21090

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Andrea Sansom
Project: 15302621.30000 ORAP Camp Rilea
Sample ID: RLSW03WA06
Sample Collection Date: 01/09/12

ARF: 66686
APPL ID: AY52774
QCG: #6850-B120112-163071

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 6850	PERCHLORATE	0.400 U	0.60	0.400	0.200	ug/L	01/12/12	01/13/12

Quant Method: PERZ23.M
Run #: L111_161.D
Instrument: AGIL_1100
Sequence: LQ011112
Dilution Factor: 1
Initials: MP

Printed: 01/17/12 4:32:06 PM
APPL-F1-SC-NoMC-REG MDLs

Perchlorate

URS Group
849 International Dr, Ste 320
Linthicum, MD 21090

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Andrea Sansom
Project: 15302621.30000 ORAP Camp Rilea
Sample ID: RLSW03WA07
Sample Collection Date: 01/09/12

ARF: 66686
APPL ID: AY52775
QCG: #6850-B120112-163071

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 6850	PERCHLORATE	0.400 U	0.60	0.400	0.200	ug/L	01/12/12	01/13/12

Quant Method: PERZ23.M
Run #: L111_162.D
Instrument: AGIL_1100
Sequence: LQ011112
Dilution Factor: 1
Initials: MP

Printed: 01/17/12 4:32:06 PM
APPL-F1-SC-NoMC-REG MDLs

DATA VALIDATION WORKSHEET - Level III Review
PERCHLORATE ANALYSIS - EPA 6850 (8321A)

Reviewer: Naoum Tavantzis
Date: 04/09/12
Lab: APPL

Site: Camp Rilea
Project #: 15302621.40000
SDG: ARF 66686

X USEPA CLP National Functional Guidelines for Superfund Inorganic Methods Data Review
X SW-846/DoD QSM v4.2
X Project QAPP/SAP

1.0 Chain of Custody/Sample Condition

		Yes	No	NA
1.1	Do Chain-of-Custody forms list all samples that were analyzed?	X		
1.2	Are all Chain-of-Custody forms signed, indicating sample chain-of-custody was maintained?	X		
1.3	Do sample preservation, collection and storage condition meet method requirement?	X		
1.4	Were the sediment samples dryed and sieved appropiately?	X		
	If samples were not ice or the ice was melted upon arrival at the laboratory and the temperature of the cooler was elevated (> 10 ^{0}C), then flag all positive results with a "J" and all non-detects "UJ".			

Note:

2.0 Holding Time

		Yes	No	NA
2.1	Have any technical holding times of 28 days from sampling to date of analysis, been exceeded? If yes, J(+)/UJ(-).		X	
2.2	Have any technical holding times been grossly (twice the holding time) exceeded? If yes, J(+)/R(-).		X	

Note:

3.0 Blanks (Method Blanks and Field Blanks)

		Yes	No	NA
4.1	Were method blank (MB) prepared at the appropriate frequency (one / 20 samples, batch, or matrix)?	X		
4.2	Were calibration blanks (ICB and CCBs) analyzed immediately after each ICV and CCVs?	X		
4.3	Are there reported MB values > DL?		X	
	Blank Result ≥MDL, ≤LOD ≥DL, ≤LOD			
	Sample Result: ≥DL, ≤LOD ≥DL, ≤LOQ >LOQ, <10x Blank ≥DL, ≤LOD >LOD			
	Action: [LOD]"U" [LOQ] "U" J+(+)/R(Judge) [LOD]"U" Judgement(<5x)			
4.4	Are there reported ICB/CCBs values > DL?		X	
	Blank Result >DL,<LOD >LOD			
	Sample Result >DL,<LOD, >LOQ >LOD,<LOQ >LOD, <Blank >Blank			
	Action: [LOD]"U" Judgement [LOD]"U" [Blank Result]"U" or "R" Judgement(<5x)			
4.7	Are there reported field blank or equipment blank > ± DL? Use Method Blank rules.		X	

Note:

URS
Measurement Systems

4.0 Initial Calibration

		Yes	No	NA
4.1	Was an LOD Verification analyzed at least quarterly?	X		
4.2	Was the signal to noise greater than 3:1 & all other method requirements met? (2nd column confirmation, ion abundance, pattern recognition, etc.)	X		
4.3	Did the LOQ meet precision and accuracy goals set by the laboratory?	X		
4.4	Are sufficient standards included in the calibration curve? (a minimum of five points with low point at the reporting limit)	X		
4.5	Are response factors stable (%RSD values < 20% or r > 0.995) over the concentration range of the calibration? If not, J(+)/UJ(-)	X		
4.6	Are all calibration standard percent recoveries within the control limits of 90%-110%? ICV: < 70% 70%-84% 116%-130% 130%<%R<165% >165% Action: J-(+)/R(-) J-(+)/UJ(-) J+(+) J+(+)(maybe R(+)) R(+)	X		
4.7	Prior to ICAL, was a tune run within quality control limits outlined by the laboratory for the analyte of interest?	X		
4.8	Prior to analysis, was a mass calibration standard analyzed with observed m/z for 83, 85, and 89 within ±0.3 of the target?	X		

Note: _____

5.0 Continuing Calibration

		Yes	No	NA
5.1	Are Continuing Calibration verifications (CCVs) summary forms present and complete for each instrument used?	X		
5.2	Has CCVs been analyzed at the beginning of each day, bracketing every 10 samples, and at the end of the run?	X		
5.3	Was the LODV analyzed at the beginning and end of each analytical sequence?	X		
5.4	Are all calibration standard percent recoveries within the control limits of 90%-110%? CCV: CCV Recovery: < 70% 70%-84% 116%-130% 131%<%R<160% >161% LODV Recovery: <40% 40%-69% 131%-160% 161%<%R<180% >200% Action: J-(+)/R(-) J-(+)/UJ(-) J+(+) J+(+)(maybe R(+)) R(+)		X	

Note: _____

6.0 Matrix Spike/Matrix Spike Duplicate (MS/MSD)

		Yes	No	NA
6.1	Is a Matrix Spike/Matrix Spike Duplicate recovery form present?	X		
6.2	Are MS/MSDs analyzed at the required frequency for each matrix?	X		
6.3	Are any MS/MSD recovery outside the control limits? For all analytes with sample concentration >4x spike concentration: Matrix Spike %R <30% 30%-74% >125% Action: J-(+)/R(-) J-(+)/UJ(-) J+(+)		X	

7.0 Laboratory Control Sample (LCS)

		Yes	No	NA
5.1	Was an LCS prepared and analyzed at the correct frequency (one / 20 samples, batch, or matrix)? Action: If no, J(+)/R(-) any sample not associated with LCS results.	X		
5.2	Is any LCS recovery outside the control limits? Note: Sediment samples are not qualified due to LCS Recovery % Recoveries: <50% J-(+)/R(-) 40%-LCL% J-(+)/UJ(-) >UCL,<120% J+(+) >150% R(+/-)		X	

Note: _____

8.0 Interference Check Standard

		Yes	No	NA
8.1	Is there an interference check standard present for each daily sequence?	X		
8.2	Is the recovery of perchlorate within 30% of the true value? J-(+)/R(-)	X		

Note: _____

9.0 TCL Identification, Quantitation, Internal Standard, and Reported Detection limits

		Yes	No	NA
9.1	For positive detections, is the mass ratio of 83:85 within the acceptable range to confirm (2.3-3.8)?	X		
9.2	Are all relative retention times of the target within ±0.2 min of the internal standard?	X		
9.3	Are Contract Required Quantitation Limits (CRQL) adjusted to reflect sample dilution(s)?	X		
9.4	Were internal standard recoveries within control limits?	X		

Note: _____

10.0 Field Duplicate Samples

		Yes	No	NA
10.1	Were any field duplicates submitted for analysis?	X		
10.2	Are all analyte duplicate results within control limits?	X		
	For sample results > 5 x RL, a control limit of 35% RPD for water and 60% RPD for soil triplicates will be used. For sample results < 5 x RL, a control limit of RL for water and 2 x RL for soil will be used.			

Note: _____

11.0 Data Completeness

		Yes	No	NA
11.1	Is % completeness within the control limits? (Control limit 95%)	X		
11.1.1	Number of samples: 8			
11.1.2	Number of target compounds in each analysis: 1			
11.1.3	Number of results rejected and not reported: 0			
	% Completeness = (10.1.1 x 10.1.2 - 10.1.3) x 100/(10.1.1 x 10.1.2)			
	% Completeness = 100%			

Injection Log

Directory: H:\AGIL1100\HPCHEM\DATA\120111\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
3	3	LZ23_003.D	1	PERCHLORATE 0.20 ppb 11/26/11		23 Dec 11 16:58
4	4	LZ23_004.D	1	PERCHLORATE 0.40 ppb 11/26/11		23 Dec 11 17:20
5	5	LZ23_005.D	1	PERCHLORATE 1.0 ppb 11/26/11		23 Dec 11 17:41
6	6	LZ23_006.D	1	PERCHLORATE 2.0 ppb 11/26/11		23 Dec 11 18:03
7	7	LZ23_007.D	1	PERCHLORATE 5.0 ppb 11/26/11		23 Dec 11 18:24
8	8	LZ23_008.D	1	PERCHLORATE 10.0 ppb 11/26/11		23 Dec 11 18:46
12	11	LZ23_012.D	1	PER_SS_1 2.0 ppb 11/26/11		23 Dec 11 20:13
139	92	L111_139.D	1	PER_CCV_1 0.40 ppb 01/09/12		13 Jan 12 12:29
140	93	L111_140.D	1	PER_CCV_1 2.0 ppb 01/09/12		13 Jan 12 12:50
147	16	L111_147.D	1.05263	120112WB_ICS 1.0526 DF 01/12/12		13 Jan 12 15:21
148	17	L111_148.D	1.05263	120112WBLKB 1.0526 DF 01/12/12		13 Jan 12 15:43
149	18	L111_149.D	1.05263	AY52768_W01 1.0526 DF 01/12/12		13 Jan 12 16:04
150	19	L111_150.D	1.05263	AY52769_W01 1.0526 DF 01/12/12		13 Jan 12 16:26
151	20	L111_151.D	1.05263	AY52770_W01 1.0526 DF 01/12/12		13 Jan 12 16:51
153	92	L111_153.D	1	PER_CCV_1 0.40 ppb 01/09/12		13 Jan 12 17:34
154	93	L111_154.D	1	PER_CCV_1 2.0 ppb 01/09/12		13 Jan 12 17:55
156	21	L111_156.D	1.05263	AY52771_W01 1.0526 DF 01/12/12		13 Jan 12 18:38
157	22	L111_157.D	1.05263	AY52771_W01_MS-1 1.0526 DF 01/12/12		13 Jan 12 19:00
158	23	L111_158.D	1.05263	AY52771_W01_MSD-1 1.0526 DF 01/12/12		13 Jan 12 19:21
159	24	L111_159.D	1.05263	AY52772_W01 1.0526 DF 01/12/12		13 Jan 12 19:43
160	25	L111_160.D	1.05263	AY52773_W01 1.0526 DF 01/12/12		13 Jan 12 20:04
161	26	L111_161.D	1.05263	AY52774_W01 1.0526 DF 01/12/12		13 Jan 12 20:26
162	27	L111_162.D	1.05263	AY52775_W01 1.0526 DF 01/12/12		13 Jan 12 20:47
167	92	L111_167.D	1	PER_CCV_1 0.40 ppb 01/09/12		13 Jan 12 22:35
168	93	L111_168.D	1	PER_CCV_1 2.0 ppb 01/09/12		13 Jan 12 22:57
195	92	L111_195.D	1	PER_CCV_1 0.40 ppb 01/09/12		14 Jan 12 8:39
196	93	L111_196.D	1	PER_CCV_1 2.0 ppb 01/09/12		14 Jan 12 9:00
201	14	L111_201.D	1.05263	120112WB_LCS-1 1.0526 DF 01/12/12		14 Jan 12 10:48
202	15	L111_202.D	1.05263	120112WB_LCSD-1 1.0526 DF 01/12/12		14 Jan 12 11:10
205	92	L111_205.D	1	PER_CCV_1 0.40 ppb 01/09/12		14 Jan 12 12:14
206	93	L111_206.D	1	PER_CCV_1 2.0 ppb 01/09/12		14 Jan 12 12:36

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: _____

Lab Code: _____ SDG No.: 66686

Lab File ID (Standard): LZ23_003-008.D Date Analyzed: 12/23/11

Instrument ID: AGIL_1100 Time Analyzed: 16:58 - 18:46

		Perchlorate_IS						
		AREA #	RT #	AREA #	RT #	AREA #	RT
	12 HOUR STD	2862610	12.62				
	UPPER LIMIT	4293915	13.12				
	LOWER LIMIT	1431305	12.12				
	SAMPLE NO.						
01	PERCHLORATE 0.20 ppb 11/26/11	2973840	12.62				
02	PERCHLORATE 0.40 ppb 11/26/11	2952630	12.50				
03	PERCHLORATE 1.0 ppb 11/26/11	2873830	12.72				
04	PERCHLORATE 2.0 ppb 11/26/11	2735280	12.50				
05	PERCHLORATE 5.0 ppb 11/26/11	2972030	12.63				
06	PERCHLORATE 10.0 ppb 11/26/11	2668050	12.29				
07	PER_SS_1 2.0 ppb 11/26/11	3690230	12.50				
08	PER_CCV_1 0.40 ppb 01/09/12	3007000	12.22				
09	PER_CCV_1 2.0 ppb 01/09/12	3417920	12.16				
10	120112WB_ICS 1.0526 DF 01/12/12	3046390	9.41				
11	120112WBLKB 1.0526 DF 01/12/12	3008960	12.24				
12	AY52768_W01 1.0526 DF 01/12/12	2966920	11.57				
13	AY52769_W01 1.0526 DF 01/12/12	3058890	11.44				
14	AY52770_W01 1.0526 DF 01/12/12	3272900	11.68				
15	PER_CCV_1 0.40 ppb 01/09/12	2817390	12.63				
16	PER_CCV_1 2.0 ppb 01/09/12	3181800	12.69				
17	AY52771_W01 1.0526 DF 01/12/12	3076770	11.71				
18	AY52751_W01_MS-1 1.0526 DF 01/12/12	2986630	11.84				
19	AY52751_W01_MSD-1 1.0526 DF 01/12/12	2820370	11.86				
20	AY52772_W01 1.0526 DF 01/12/12	2886320	11.71				
21	AY52773_W01 1.0526 DF 01/12/12	2897760	11.97				
22	AY52774_W01 1.0526 DF 01/12/12	2981230	12.06				

AREA UPPER LIMIT = +50% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

Matrix Spike Recoveries

Perchlorate

APPL ID: **120112W-52771 MS - 163071**
Batch ID: #6850-B120112
Sample ID: AY52771
Client ID: RLSW01WA05

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
PERCHLORATE	0.600	ND	0.617	0.626	103	104	80-120	1.4	15

Comments:

Primary	SPK	DUP
Quant Method :	PERZ23.M	PERZ23.M
Extraction Date :	01/12/12	01/12/12
Analysis Date :	01/13/12	01/13/12
Instrument :	AGIL_1100	AGIL_1100
Run :	L111_157.D	L111_158.D
Initials :	MP	

Printed: 01/16/12 11:40:31 AM
APPL MSD SCII

908 North Temperance Ave. ∇ Clovis, CA 93611 ∇ Phone 559-275-2175 ∇ Fax 559-275-4422

Certification Number: CA1312
NELAP Certification number: 05233CA
DoD-ELAP Certificate number: ADE-1410

Summary Report

January 17, 2012

URS Group, Inc.
849 International Drive, Suite 320
Linthicum, Maryland 21090

received
1/23/12

Attn: Andrea Sansom

Title: Report of Data: Case 66686

Project: 15302621.30000 ORAP Camp Rilea, OR

Contract #: Prime contract # for DoD: W912DR-09-D-0003 TO 06
Subcontract: 260784

Dear Ms. Sansom:

Samples were received January 12, 2012, in good condition. Written results for the requested analyses are provided on this January 17, 2012.

Results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

If you have any questions or require further information, please contact your APPL Project Manager Diane Anderson at your convenience. Thank you for choosing APPL, Inc.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. These test results meet all requirements of NELAC and DoD QSM. Release of the hard copy has been authorized by the Laboratory Manager or her designee, as verified by the following signature.

Sharon Dehmlow, Laboratory Director
APPL, Inc.

SD/sdm
Enclosure
cc: File

Number of pages in this report: 20

Sample Receipt Information

ARF: 66686

Project: 15302621.30000 ORAP Camp Rilea, OR

Sample Receipt Information:

The samples were received on January 12, 2012, at 3.5°C. The samples were assigned Analytical Request Form (ARF) number 66686. The sample numbers and requested analyses were compared to the chains of custody and email communication. Sample ID discrepancies were noted and reported to the client. No other exception was encountered.

Sample Table

CLIENT ID	APPL ID	Matrix	Date Sampled	Date Received
RLSW01WB05	AY52768	WATER	01/06/12	01/12/12
RLSW02WB05	AY52769	WATER	01/06/12	01/12/12
RLSW03WB05	AY52770	WATER	01/06/12	01/12/12
RLSW01WA05	AY52771	WATER	01/09/12	01/12/12
RLSW02WA05	AY52772	WATER	01/09/12	01/12/12
RLSW03WA05	AY52773	WATER	01/09/12	01/12/12
RLSW03WA06	AY52774	WATER	01/09/12	01/12/12
RLSW03WA07	AY52775	WATER	01/09/12	01/12/12

Samples and blanks were screened for J-value responses between the detection limit (DL) and limit of quantitation (LOQ).

APPL's Laboratory control limits generated in house statistically do not meet the control limits listed in DoD QSM 4.2 for all analytes. Laboratory control spike recoveries for this project meet all control limits listed in the DoD QSM 4.2 except where noted. A copy of our in house generated control limits is available upon request. In addition, a copy of our LOQ control limits, established using 7 data points, are also available upon request.

The data package includes a shortened injection log. An expanded one can be provided upon request.

Measurement uncertainty can be reported upon request.

Case Narrative

EPA Method 6850

Perchlorate by LC-Mass Spec

Sample Preparation and Analysis Information:

The samples were prepared and analyzed according to the EPA method 6850, using an Agilent 1100 LC-Mass Spec (ESI). The samples were prepared within acceptable hold time. Manual integrations were performed in accordance with APPL's SOP. Manual integrations were performed on the following: Perchlorate IS and Perchlorate on data files L111_149, L111_150, L111_151, L111_156, L111_159, L111_147, L111_157 and L111_158. Chromatograms of before and after manual integration are enclosed.

Quality Control/Assurance

Calibrations:

Calibrations were performed according to the method. All calibration acceptance criteria were met. The second source met acceptance criteria.

Blanks:

The method blank contained no Perchlorate at or above the DL.

Spikes:

Laboratory Control Spikes (LCS/LCSD) were prepared using DI water. The LCS recoveries met acceptance criteria.

An Interference Check Sample (I.C.S.) was prepared using a mixed anions solution. The ICS recovery met acceptance criteria.

Sample RLSW01WA05 was designated by the client for MS/MSD analysis. All recoveries met acceptance criteria.

Internal Standards:

The area counts of the sample Internal Standards were compared to the average IS area counts of the initial calibration. All I.S. were within the 50%D acceptance criteria.

Summary:

All data were acceptable. No other analytical exception is noted.

APPL Sample Receipt Form

ARF# 66686

Sample	Container Type	Count	pH
AY52768	4 PL 125mL	1	NA
AY52769	4 PL 125mL	1	NA
AY52770	4 PL 125mL	1	NA
AY52771	4 PL 125mL	1	NA
AY52772	4 PL 125mL	1	NA
AY52773	4 PL 125mL	1	NA
AY52774	4 PL 125mL	1	NA
AY52775	4 PL 125mL	1	NA

Sample	Container Type	Count	pH

COOLER RECEIPT FORM

1) Project: 1530262.3000 Camp Rilea ORA Date Received: 1/12/12

2) Coolers: Number of Coolers: 1

3) YES NO Were coolers and samples screened for radioactivity?

4) YES NO Were custody seals on outside of cooler? How many?____ Date on seal? ____

5) Name on seal? ____

6) YES NO NA Were custody seals unbroken and intact at the time of arrival?

7) YES NO Did the cooler come with a shipping slip (air bill, etc.)? Carrier name: Fed Ex

8) Shipping slip numbers: 1) 8768 4763 5008 2) ____ 3) ____

9) YES NO NA Was the shipping slip scanned into the database?

10) YES NO NA If cooler belongs to APPL, has it been logged into the ice chest database?

11) Describe type of packing in cooler (bubble wrap, popcorn, type of ice, etc.): Ziploc in wet ice

12) YES NO NA For hand delivered samples was sufficient ice present to start the cooling process?

13) YES NO Was a temperature blank included in the cooler?

14) Serial number of certified NIST thermometer used: A32267 Correction factor: 0

15) Cooler temp(s): 1) 3.5°C 2) ____ 3) ____ 4) ____ 5) ____ 6) ____ 7) ____ 8) ____

Chain of custody:

16) YES NO Was a chain of custody received?

17) YES NO Were the custody papers signed in the appropriate places?

18) YES NO Was the project identifiable from custody papers?

19) YES NO Did the chain of custody include date and time of sampling?

20) YES NO Is location where sample was taken listed on the chain of custody?

Sample Labels:

21) YES NO Were container labels in good condition?

22) YES NO Was the client ID on the label?

23) YES NO Was the date of sampling on the label?

24) YES NO Was the time of sampling on the label?

25) YES NO Did all container labels agree with custody papers?

Sample Containers:

26) YES NO Were all containers sealed in separate bags?

27) YES NO Did all containers arrive unbroken?

28) YES NO Was there any leakage from samples?

29) YES NO Were any of the lids cracked or broken?

30) YES NO Were correct containers used for the tests indicated?

31) YES NO Was a sufficient amount of sample sent for tests indicated?

32) YES NO NA Were bubbles present in volatile samples? If yes, the following were received with air bubbles:

Larger than a pea: ____

Smaller than a pea: ____

Preservation & Hold time:

33) YES NO NA Was a sufficient amount of holding time remaining to analyze the samples?

34) YES NO NA Do the sample containers contain the same preservative as what is stated on the COC?

35) YES NO NA Was the pH taken of all non-VOA preserved samples and written on the sample container?

36) YES NO NA Was the pH of acid preserved non-VOA samples < 2 & sodium hydroxide preserved samples > 12?

37) YES NO NA Unpreserved VOA Vials received? ____

38) YES NO NA Are unpreserved VOA vials noted in the ADD TEST FIELD on the ARF? ____

Lab notified if pH was not adequate: ____

Deficiencies: COC listed Sample ID as RLSW03WA06 but Label has ID as RLSW03W06 (missing "A").

Signature of personnel receiving samples: Jang [illegible] Second reviewer: [illegible]

Signature of project manager notified: Renee Date and Time of notification: 1-12-12

Name of client notified: Andrea via email Date and Time of notification: 1-12-12

Information given to client: ____

by whom (Initials): ____

66686

CHAIN OF CUSTODY RECORD

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611
Phone: (559) 275-2175
Fax: (559) 275-4422

C.O.C. 37350

Report to: PLEASE PRINT

Company Name: URS Phone: 410 487 8955

Address: 849 International Dr Ste 320
Lithicum, MD 21090 Fax: 410 859 5202

Attn: Andrea Sansom (Andrea.Sansom@urs.com)

Invoice to: PLEASE PRINT

Company Name: Same as Phone:

Address: Report to Fax:

Attn:

Project Name/Number: Camp Rilea ORA

Purchase Order Number: 15302622.30000

Sampler (Print): Bethany L. Keller

Sampler (Signature): Bethany Keller

Date Shipped: 1-10-12

Carrier: Fed Ex

Waybill No.: 8768 4763

Comments: 5008

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil		Analysis Requested/Method Number: Perchlorate (68.30)												Comments
RLSW01WB05	Camp Rilea, OR	1-6-12	1045	PDT	1	X				X												
RLSW02WB05	Camp Rilea, OR	1-6-12	0945	PDT	1	X				X												
RLSW03WB05	Camp Rilea, OR	1-6-12	1010	PDT	1	X				X												
RLSW01WA05	Camp Rilea, OR	1-9-12	1020	PDT	1	X				X												Use for MS/MSD
RLSW02WA05	Camp Rilea, OR	1-9-12	0835	PDT	1	X				X												
RLSW03WA05	Camp Rilea, OR	1-9-12	0900	PDT	1	X				X												
RLSW03WA06	Camp Rilea, OR	1-9-12	0905	PDT	1	X				X												
RLSW03WA07	Camp Rilea, OR	1-9-12	0855	PDT	1	X				X												
	BIK																					

Shuttle Temperature:

Turnaround Requested: Check one
☒ Standard 2-3wk ☐ One week ☐ 24/48 Hrs. ☐ Other

Sample Disposal:
☐ Return to client ☐ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Bethany Keller	1-10-12						
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					1/12/12	1052	[signature]

White: Return to client with report Yellow: Laboratory Copy Pink: Sampler

See reverse side for Container Preservative and Sampling Information

PRECONSTRUCTION ASSESSMENT

Camp Rilea
33168 Patriot Way
Warrenton, Oregon 97146

Shaw Project No.: 140847

March 2011

Prepared for:

Oregon Military Department
1776 Militia Way SE
Salem, OR 97301

Submitted by:

Shaw Environmental, Inc.
10300 SW Nimbus Ave, Suite B
Portland, OR 97223

PRECONSTRUCTION ASSESSMENT

Camp Rilea
33168 Patriot Way
Warrenton, Oregon 97146

Shaw Project No.: 140847

March 2011

I declare that, to the best of my professional knowledge and belief, I meet the definition of *environmental professional*, or have worked under the supervision or responsible charge of a person meeting the definition of *environmental professional*, as defined in Section 312.10 of 40 CFR.

Prepared by: _____ Date: _____
Audrey Turpening
Staff Engineer

I declare that to the best of my professional knowledge and belief, I meet the definition of *environmental professional* as defined in Section 312.10 of 40 CFR, and I have the specific qualifications based on education, training, and experience to assess a *property* of the nature, history, and setting of the subject *property*. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Section 312.

Reviewed by: _____ Date: _____
Dave Seluga
Client Program Manager

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Executive Summary

Shaw Environmental, Inc. (Shaw) is pleased to present this Preconstruction Assessment (PCA) report. Below is an overview of the project, including a summary of our significant findings:

Property name:	Camp Rilea
Property address (or other legal or physical Property location description):	Mailing address is 33168 Patriot Way, Warrenton, Clatsop County, Oregon. Camp Rilea is located on the Oregon Coastline along the Pacific Ocean, west of Highway 101/26. Camp Rilea consists of approximately 1,850 acres, lying within Township 8 North, Range 10 West, Sections 29, 32 and 33 and Township 7 North, Range 10 West, Sections 4, 5, and 9. The Property also includes recently acquired adjacent properties, henceforth referred to as "The Little Property" (tax lot IDs (TL) 71004003100), "The Jarvas Property" (TL 81029DB01000 through -01500, 810290002100 through -02800, and 810290004601), and "The Hitchman Property" (TL 710040003200 through -03400). Locations of these lots and layout of the entire Property are depicted on Figure 2. The entirety of the Property, including the recently acquired properties, contains twenty eight (28) parcels. A map of all of the parcels with ID numbers is shown in Appendix E.

User of this report:	Oregon Military Department
Reason for requesting the Phase I ESA:	Preconstruction Assessment
Date of site reconnaissance:	October 14 and October 15, 2010

Property description:	Camp Rilea consists of approximately 1,850 acres of Military Reservation, and lies between Highway 101/26 and the Pacific Ocean coastline in Warrenton, Oregon. The northern Property boundary is designated by a chain-link fence, with residential properties bordering to the north. The southern Property boundary is bordered by a mixture of state lands, agricultural, and residential properties. The Property is bordered to the west by the Pacific Ocean coastline, and to the east by residential and agricultural properties and Highway 101/26. The Property is mainly vegetated dunes, with unimproved roads traversing most of the Property. The cantonment area just west of the main entrance is approximately 70% paved, and contains approximately 90% of the buildings on the Property. The remainder of the Property is utilized for training and weapons ranges.
Property operations:	Currently Oregon Military Department installation. The western portion of the Property is covered with vegetated dunes that border the sandy coastline. Within these dunes are multiple weapons ranges, including a grenade range, small arms ranges, an M203 grenade launcher range, a light anti-tank weapon (LAW) range, claymore and demolition range, rifle ranges, and non-live-fire and live fire training areas. There is also an obstacle course and rappelling training tower near the center of the Property.

	Slusher Lake lies near the southern Property boundary. Neacoxie Creek runs through the Property from north to south. There are multiple small seasonal ponds and wetland areas. Military buildings are located mostly in the cantonment area in the southeastern portion of the Property, between First Causeway Road and Sunset Road. These buildings include offices, sleeping quarters (huts, duplexes, and barracks), a restaurant, maintenance shops for both site maintenance and vehicle and equipment maintenance, and storage areas. There are also live fire and non-live-fire training buildings located just north of Slusher Lake. The Property is covered with roads, both paved and unimproved, that lead to all areas of the Property, including all Property boundaries and all utilized areas. The recently acquired adjacent properties (Little, Hitchman, and Jarvis) are residential and pasture land. Two portions of the Property area leased to operations other than Oregon Army National Guard; one area is leased to the Oregon Air National Guard, and one area is leased to the Northwest Line Joint Apprenticeship Training Committee (JATC) Electrical Lineman School. The Oregon Air Guard leased area is approximately 7 acres and lies to the north of the UTES area. The JATC leased area is approximately 12 acres and lies to the north of the Air Guard leased area.

Summary of Property History	
1927 – Present	Oregon Military Department (OMD) installation. The name of the camp was changed from Camp Clatsop to Camp Rilea in 1959.

Conclusions and Recommendations

Conclusions

Shaw has performed a Preconstruction Assessment in conformance with the scope and limitations of US Army Environmental Center (USAEC) Procedures Manual for the Environmental Survey and Clearance of a Construction Site, dated October 1999 of Camp Rilea, 33168 Patriot Way, Warrenton, Clatsop County, Oregon 97146 (the Property). Any exceptions to, or deletions from, this practice are described in Section 1.3 of this report.

This assessment has revealed the following recognized environmental conditions (RECs) in connection with the Property.

Range Impact Areas

Impact areas of historical and current operational ranges may contain munitions constituents (MC) including, but not limited to, cadmium and lead. The demolition and grenade range areas may also be impacted by MC related to pyrotechnics, including perchlorate. These ranges are located in multiple areas along the approximate center line of the Property, typically west of the cantonment area and east of the coastline. The grenade and demolition ranges are located near the southwest of the Property, south of and along Demo Road. Figure 2 depicts the approximate boundaries of these range areas and the approximate boundaries of their associated impact areas.

An Operational Range Assessment Program (ORAP) Phase I Qualitative Assessment conducted on the Property in January 2008 identified current and historical potential munitions constituents of concern (MCOC) and placed these areas into four categories: MSW (E) GW, MGW, MPU, and LS. 48 of the 50 operational ranges (4,203 of the total 4,295 acres) included in the ORAP were identified as MGW, "sources with the potential for MCOC to migrate off-range via groundwater migration pathways, but groundwater source-receptor interactions are incomplete for human and ecological receptors"; MPU, "sources with a lack of mobility pathway, via either surface water or groundwater"; or LS, "no current or historical sources of MCOC were identified". These 48 operational ranges were categorized as being "unlikely" to have potential MCOC migrate off-range and affect human or ecological receptors. The ORAP Assessment also identified a 92 acre "inconclusive area" that lies approximately east of Slusher Lake, west of Sunset Lake, and south of Slusher Lake Road and Pacific Road. This area has a reported historical heavy use of pyrotechnics and blank ammunition. This area is categorized as MSW (E) GW, with "current and historical sources of potential MCOC that have potential to migrate off-range via surface water and groundwater migration pathways, and ecological receptors are potentially impacted via the surface water pathway". A Phase II Quantitative Assessment is now underway. The Phase II Assessment includes analysis of the potential MCOC, potential human and ecological receptors, and the potential for MCOC to migrate off-range and affect these receptors.

Figure 3 identifies the active ranges as Environmental Condition of Property (ECOP) Category 6, and the inconclusive area is identified as Category 7.

Underground Piping at JP8 Tanks

The 6,000-gallon and 7,000-gallon aboveground storage tanks located to the east of the Unit Training Equipment Site (UTES) area are single walled steel-constructed tanks containing JP8 fuel for general vehicle and equipment fueling on the Property. The tanks are connected to fueling stations located to the west via underground piping that runs approximately 40 feet in length. The tanks, underground piping, and fueling stations were installed in 1988. At the time of the site reconnaissance, the tanks and their secondary containment appeared in good condition.

Based on interviews with OMD personnel and onsite maintenance personnel, the underground piping is not dual walled and does not have cathodic protection. System integrity has also not been recently verified by pressure testing or other means. Based on the age of the piping, local weather patterns at the Property, and the lack of cathodic protection on the piping, there is a high potential that the integrity of the underground piping has been compromised. The JP8 tanks are identified as "Note 1" on Figure 4.

This assessment has revealed the following historical RECs in connection with the Property.

Former Landfill

The former landfill was located on the east side of the current modified record fire (MRF) range maintenance shop, west of Neacoxie Road and at the northern tip of NBC Road. According to previous site assessments, the landfill was active from about the 1930's until the 1980's. The landfill covered approximately 4,000 square feet.

From 1996 to 2009, soils and groundwater at the former landfill were sampled and analyzed. Analytical results revealed

trichloroethene (TCE) contamination in the shallow groundwater consistently at or above the Environmental Protection Agency (EPA) maximum contaminant level (MCL) for drinking water. Analytical results also revealed sporadic detections of tetrachloroethene (PCE) and 1,1,2,2-tetrachloroethane (1,1,2,2-TCA). The affected shallow groundwater in this area flows east towards Neacoxie Creek. Groundwater models were created to represent groundwater flow in this area. The groundwater models indicate the TCE plume will not affect Neacoxie Creek. The former landfill was capped with asphalt in August 2007.

Oregon Department of Environmental Quality (ODEQ) determined that, based on groundwater modeling data, any existing contamination would not reach Neacoxie Creek in concentrations above 1 part per billion (ppb). In May 2010, ODEQ issued a No Further Action (NFA) for the former landfill. Based on the status with ODEQ and the historical analytical data, the former landfill no longer appears to be a REC. The Former Landfill is identified as Category 4 on Figure 3.

Burn Pit

The burn pit is located north of First Causeway Road, south/southeast of the former landfill. Dimensions were approximately 25 feet by 30 feet in an oval shape and approximately 3 feet deep. The burn pit was used to reduce solid waste volume prior to disposal in the 1980's.

Between 2001 and 2005, soil and groundwater in the burn pit area was sampled and analyzed. Analytical results revealed arsenic (As) and lead (Pb) contamination in the soils above ODEQ Risk Based Concentrations (RBC) for As and EPA Preliminary Remediation Goals (PRG) for Pb. In 2007, approximately 261 tons of excavated soils and burn pit materials were removed. Confirmation samples indicated all soils that had been impacted by the burn pit had been removed.

A Partial NFA was issued for the burn pit in January 2009. At the time of this NFA designation, cleanup actions were still underway for additional areas on the Property, including the former landfill. The "Partial NFA" designation identifies that the Burn Pit received a No Further Action designation, but this designation did not apply to the entirety of the Property, as determined by ODEQ. Based on the Partial NFA issued by ODEQ, as well as on site visual observations of the former burn pit area, the burn pit no longer appears to be a REC. The Burn Pit is identified as Category 4 on Figure 3.

Diesel spills

Between the 1940s and the 1980s, numerous small hutments and concrete "tent pads" were located in the area east of S Oregon Street in the cantonment area. Heat was provided with WW-II era diesel burning stoves, each having its own individual fuel (diesel) storage tank. Over the approximately 40 year period, a number of small diesel spills occurred from storage tank piping leaks, contaminating the soils beneath this area up to 7 feet below ground surface (bgs). In 1994, a separate diesel release occurred in the former Oregon Air Guard area east of the barracks area near Neacoxie Creek.

In 1994, a total of approximately 1,000 cubic yards of petroleum contaminated soil (PCS) were removed from the former hutment area and disposed of off site. An additional 500 yards of soils were excavated from the more recent diesel spill area. The soils excavated from the Air Guard release were staged nearby, within the former UTES compound, and a permit was acquired to treat the soils on site. Confirmation samples indicated less than 100 parts per million (ppm) diesel contamination remained in the 1994 Air Guard diesel spill area. Monitoring wells were installed to determine if groundwater was affected. Analytical results indicated no groundwater contamination occurred.

Further documentation related to the cleanup of these areas cannot be located at this time. Due to the lack of documentation, ODEQ has not issued a NFA for these cleanup actions. However, ODEQ has issued a low priority for these cleanup areas. Based on interviews with OMD staff, the cleanup actions have been completed and all PCS were removed. Based on these facts, this area is no longer considered a REC to the Property. These diesel spill areas are identified as Category 4 on Figure 3.

Recommendations / Known or Suspected Areas with Restrictions

Based on the findings of this PCA, the following areas on the Property have recommended restrictions for construction.

Range Impact Areas

48 of the 50 operational ranges were categorized as being "unlikely" to have potential MCOC migrate off-range and affect human or ecological receptors. While these operational ranges are active, there is no required action to investigate or remediate potential MCOC. If future use of these operational ranges is to change and/or the ranges are to become inactive,

Conclusions and Recommendations

Shaw recommends an investigation to determine the extent of potential presence of MCOC and potential impacts to human health and the environment. These areas are identified as Category 6 on Figure 3.

The 92 acre "inconclusive area" that lies approximately east of Slusher Lake, west of Sunset Lake, and south of Slusher Lake Road and Pacific Road is categorized as MSW (E) GW, with "current and historical sources of potential MCOC that have potential to migrate off-range via surface water and groundwater migration pathways, and ecological receptors are potentially impacted via the surface water pathway". A Phase II Quantitative Assessment is now underway in this "inconclusive area". The Phase II Assessment includes analysis of the potential MCOC, potential human and ecological receptors, and the potential for MCOC to migrate off-range and affect these receptors.

Underground Piping at JP8 Tanks

Shaw recommends a subsurface investigation be conducted of the underground piping that connects the JP8 tanks to the fueling stations. This investigation will be designed to confirm the presence of potential soil and groundwater contamination associated with the likely leakage of the underground piping. Shaw also recommends that the entire tank system, including the tanks, underground piping, and fueling pumps, be updated in accordance with current applicable State and Federal rules and regulations, including but not limited to, OAR 837-020, OAR 837-040, and the 2010 Oregon Fire Code Chapters 22 and 34.

1.0 Introduction

1.1 Location and Property Identification

Property name:	Camp Rilea
Property address (or other legal or physical Property location description):	Mailing address 33168 Patriot Way, Warrenton, Clatsop County, Oregon. Camp Rilea is located on the Oregon Coastline along the Pacific Ocean, west of Highway 101/26. Camp Rilea consists of approximately 1,850 acres, lying within Township 8 North, Range 10 West, Sections 29, 32 and 33 and Township 7 North, Range 10 West, Sections 4, 5, and 9. The Property also includes recently acquired adjacent properties, henceforth referred to as "The Little Property" (tax lot IDs (TL) 71004003100), "The Jarvas Property (TL 81029DB01000 through -01500, 810290002100 through -02800, and 810290004601), and "The Hitchman Property" (TL 710040003200 through -03400). Locations of these lots and layout of the entire Property are depicted on Figure 2. The entirety of the Property, including the recently acquired properties, contains twenty eight (28) parcels. A map of all of the parcels with ID numbers is shown in Appendix E.

1.2 References

Résumés or other biographical sketch of the Environmental Professional(s) involved in the preparation of this report are included in Appendix A.

1.3 Methodology

Scope of Services
Shaw conducted the work in accordance with the following specifications (hereinafter collectively referred to as the "Scope":
US Army Environmental Center (USAEC) Procedures Manual for the Environmental Survey and Clearance of a Construction Site, Section 2.1, dated October 1999 (USAEC Procedures Manual). ARNG Environmental Condition of Property Standard Operating Procedure, Appendix G, dated 3-14-2007 (SOP).
The layout of this report follows Appendix G of the SOP. Information contained within the report was obtained through the guidance of the USAEC Procedures Manual.
Limitations to this assessment are presented in Appendix B of this report.

Objective of this Phase I ESA:
The objective of this Preconstruction Assessment (PCA) was to identify, to the extent feasible, recognized environmental conditions (REC) as defined by ASTM D6008, and to evaluate selected non-scope considerations beyond ASTM D6008. The term ***recognized environmental conditions*** means "the presence or likely presence of any hazardous substances or petroleum products on any federal real property under conditions that indicate an existing release, a

Objective of this Phase I ESA:
past release, or a material threat of a release of any hazardous substances or petroleum products into the environment." **ASTM D6008**

Exceptions to, or deletions from, the above referenced Scope of Work, including significant data gaps:	Previous Property owners were not available for interview during the course of this PCA. Based on known current and historical uses of the Property, this does not appear to be a significant data gap.
Weather-related property restrictions:	None
Facility access restrictions:	During site reconnaissance, Shaw's representative could not gain access to the following areas: - Air Guard Maintenance building - The fenced area containing the waste water treatment lagoons and chlorine treatment system Shaw's representative also did not enter all barracks buildings, huts, or duplexes on the Property. The current and historical use of these structures is known and was discussed with Property staff, therefore only representative units were observed. Based on interviews with site personnel, review of available documents, and known historical and current use of the Property, these access restrictions are not considered a significant data gap.

2.0 Property Description and Environmental Settings

2.1 Property Description

Property description (acreage, structures, roads, and other improvements):	Camp Rilea consists of approximately 1,850 acres of Military Reservation, and lies between Highway 101/26 and the Pacific Ocean coastline in Warrenton, Oregon. The northern Property boundary is designated by a chain-link fence, with residential properties bordering to the north. The southern Property boundary is bordered by a mixture of state lands, agricultural, and residential properties. The Property is bordered to the west by the Pacific Ocean coastline, and to the east by residential and agricultural properties and Highway 101/26. The Property is mainly vegetated dunes, with unimproved roads traversing most of the Property. The cantonment area just west of the main entrance is approximately 70% paved, and contains approximately 90% of the buildings on the Property. The remainder of the Property is utilized for training and weapons ranges.
Estimated percentage of property covered by buildings and/or pavement:	Approximately 5-10%. The majority of the Property is vegetated sandy dunes with unimproved roadways.
Property operations:	Currently Oregon Military Department installation. The western portion of the Property is covered with vegetated dunes that border the sandy coastline. Within these dunes are multiple weapons ranges, including a grenade range, small arms ranges, an M203 grenade launcher range, a light anti-tank weapon (LAW) range, claymore and demolition range, rifle ranges, and non-live-fire and live-fire training areas. There is also an obstacle course and rappelling training tower near the center of the Property. Slusher Lake lies near the southern Property boundary. Neacoxie Creek runs through the Property from north to south. There are multiple small seasonal ponds and wetland areas. Military buildings are located mostly in the cantonment area in the southeastern portion of the Property, between First Causeway Road and Sunset Road. These buildings include offices, sleeping quarters (huts, duplexes, and barracks), a restaurant, maintenance shops for both site maintenance and vehicle and equipment maintenance, and storage areas. There are also live fire and non-live-fire training buildings located just north of Slusher Lake. The Property is covered with roads, both paved and unimproved, that lead to all areas of the Property, including all Property boundaries and all utilized areas. The recently acquired adjacent properties (Little, Hitchman, and Jarvis) are residential and pasture land. Two portions of the Property area leased to operations other than Oregon Army National Guard; one area is leased to the Oregon Air National Guard, and one area is leased to the Northwest Line Joint Apprenticeship Training Committee (JATC) Electrical Lineman School. The Oregon Air Guard leased area is approximately 7 acres and lies to the north of the UTES area. The JATC leased area is approximately 12

	acres and lies to the north of the Air Guard leased area.
Type of sewage disposal system (and age):	Sanitary water treatment system; water treatment lagoons, chlorine treatment and leachate spray field. The system was originally constructed in 1978. The Little Property is serviced by a septic system.
Potable water source:	City of Warrenton and a private on site well
Electric utility:	Pacific Power
Natural gas:	NW Natural
Energy source(s) for heating:	Mainly electricity. Natural gas is utilized for water boilers and some kitchen appliances
Current uses of adjoining properties, North:	Agricultural, State Parks land, and residential properties
South:	Astoria Country Club, light residential and State Parks land
East:	Hwy 101/26, light commercial properties (church, school) and residential/agricultural land
West:	Coastline, Pacific Ocean

Figures 2, 3, and 4 in Appendix C presents a scaled site plan of the Property depicting important Property features and relevant observations. Site photographs are provided in Appendix D.

2.2 Physical Setting of Property

Topography:	Topography of the Property varies due to the sandy dunes along the western side of the Property. The average elevation is approximately 54 feet above mean sea level (amsl). Elevation decreases to sea level to the west, and decreases to the south and to the east. Elevation stays relatively flat to the north.
Geology	The Property lies atop two soil components: Warrenton and Gearhart. Warrenton soils are loamy fine sands with very slow infiltration rates, are poorly drained, and are very clayey with high water tables. Gearhart soils are fine sandy loams with high infiltration rates, are somewhat excessively drained, and run deep within their respective layers. Boundary layers of the soils are as follows (inches indicates inches below ground surface [bgs]): Warrenton: *0 – 11 inches*: loamy fine sand, coarse grained, saturated hydraulic conductivity is 42 – 141 micrometer/second (um/sec), pH is 3.6 – 5. *11 – 59 inches*: fine sand, coarse grained, saturated hydraulic conductivity is 42 – 141 um/sec, pH is 3.5 – 5. Gearhart: *0 – 11 inches*: fine sandy loam, coarse grained, saturated hydraulic conductivity is 141 – 705 um/sec, pH is 4.5 – 5.5. *11-16 inches:* loamy fine sand, coarse grained, saturated hydraulic conductivity is 141 – 705 um/sec, pH is 4.5 – 5.5. *16 – 59 inches:* fine sand, coarse grained, saturated hydraulic conductivity is 141 – 705 um/sec, pH is 4.5 – 5.5. The soils lie atop the Rock Stratigraphic Unit Cenozoic Era, Tertiary System, Oligocene Series.

Hydrogeology:	The Property lies atop the Pacific Northwest basin-fill aquifers, which are a type of Unconsolidated sand and gravel aquifers. These aquifers "have intergranular porosity, and all contain water primarily under unconfined or water-table conditions. The hydraulic conductivity of the aquifers is variable, depending on the sorting of aquifer materials and the amount of silt and clay present, but generally it is high. The unconsolidated sand and gravel aquifers are susceptible to contamination because of their generally high hydraulic conductivity. Ground water in these aquifers flows along relatively short flow paths typical of local flow systems; however, all of the basin-fill aquifers have intermediate flow systems."
Flood plain:	The Property lies approximately 3/8 mile west of the nearest 100-year flood zone.
Depth to groundwater/ gradient:	Based on well information obtained from Oregon Well Resources Department, static water levels vary across the Property from 5 to 55 feet below ground surface, depending on the location and elevation. Average depth to groundwater is approximately 40 feet below ground surface. Based on groundwater studies and investigations completed on the Property, it has been determined that groundwater flow tends to follow the topography of the site.

Sources of the above information include:

- Nationalatlas.gov Map Maker - U.S. Department of the Interior, U.S. Geological Survey, Aquifer Basics, last updated April 2009.
- EDR Geocheck® – Physical Setting Source Addendum, Inquiry Number 2906200.1s
- Oregon Water Resources Department, http://www.wrd.state.or.us/
- *Final Groundwater Investigation Report, Camp Rilea, Warrenton, Oregon,* Kennedy/Jenks Consultants, January 29, 2008.

2.3 Sensitive Environments and Natural/Cultural Resources

Shaw was asked to investigate the possible existence of sensitive environments and or natural and cultural resources that are on the Property.

Camp Rilea has had 68 acres of the Property registered as butterfly habitat. The habitat has been set in place for protection of the Oregon Silverspot Butterfly. On January 27, 2010, the United States Fish and Wildlife Service (USFWS) issued a Biological Opinion (BO) allowing OMD to transition the butterfly habitat to an area known as Westlake Prairie. This area will encompass approximately 109 acres of land located approximately 1.5 miles south of Camp Rilea. Beginning with the release of the BO, and spanning a four year period, all of the 68 acres of butterfly habitat at Camp Rilea will be transferred to Westlake Prairie.

According to the 2007 Integrated Cultural Resources Management Plan (ICRMP), all of Camp Rilea has been surveyed for archeological resources and there are no known archeological sites present. In addition, most of the buildings that are over 50 years old have been evaluated for eligibility to the National Register of Historic Places under the National Historic Preservation Act. The following list of buildings and structure have been determined eligible for inclusion on the National Register and are protected accordingly.

- The Chateau, building 7251, as well as the landscaping features and gateposts surrounding the building.
- The Iron Observation Post (OP)
- Two warehouses, buildings 7401 and 7405
- 1931 Memorial Stone
- The concrete and pebble stairways on the east side of Oregon Road.

3.0 Past and Current Operations

3.1 Interviews

During the course of this assessment, Shaw interviewed or attempted to interview the following individuals.

3.1.1 Current Owner Interview

The Property is currently owned by the Oregon Military Department. Jim Arnold of Oregon Military Department's Environmental Branch, the Property owner's representative, was interviewed on multiple occasions during this PCA. Mr. Arnold provided Shaw with the following environmental documents for reference.

- *A Phase I Environmental Site Assessment, 2.38-Acre Residential Property, 91270 U.S. Highway 101, Warrenton, Oregon*, Hahn and Associates, Inc., June 4, 2008.
- Letter: *No Further Action Determination, Former Landfill Area, Camp Rilea, ECSI #1524, Warrenton, Oregon*, to Mr. Jim Arnold, Oregon Military Department, from Bruce Gilles, Northwest Region Cleanup Program Oregon Department of Environmental Quality, May 4, 2010.
- *Permit to Appropriate the Public Waters* for Oregon Military Department, issued by Clatsop County, Oregon, August 23, 2005.
- Memorandum: *Access Utility Easement (less than fee title) for 17-Acre Agricultural Property, Oregon Army National Guard, Camp Rilea, Warrenton, Oregon,* to Mr. Dee Lloyd, NGB-ARE-I from Mr. Jim Arnold, Oregon Military Department
- *Water Pollution Control Facilities (WPCF) Permit, No. 101887,* for Stabilization Lagoons with aeration, issued by Oregon Department of Environmental Quality.
- Letter: *Status Report of Spill #DEQ 94-129*, October 1994, Oregon National Guard Headquarters, Installations Office
- *Integrated Contingency Plan, Camp Rilea, Warrenton, Oregon*, prepared by Advanced Remediation Technologies, Inc., February 2006.
- Excerpt from Camp Rilea Barracks Cleanup Report, January 1994, Cascade Earth Sciences, Ltd.
- *Final Groundwater Investigation Report, Camp Rilea, Warrenton, Oregon,* Kennedy/Jenks Consultants, January 29, 2008
- Analytical Report K0802151, Columbia Analytical Services, April 17, 2008.
- Memorandum: *Camp Rilea Training Facility – Water Supply Project, Groundwater Characterization Work Plan,* Kennedy/Jenks Consultants, February 5, 2008

- *A Phase I Environmental Site Assessment, Approximately 17-Acre Property, Vicinity of 32778 Delaura Beach Road, Warrenton, Oregon,* Hahn and Associates, Inc, January 2, 2007.
- *2009 Wastewater Treatment Plant Annual Report, Camp Rilea Armed Forces Training Center,* Oregon Military Department Environmental Branch, February 25, 2010.
- *Site Assessment Survey No., 38-EH-1332b-01, Camp Rilea, Warrenton, Clatsop County, Oregon,* US Army Center for Health Promotion and Preventative Medicine, September 2001.
- *Spill Prevention, Control and Countermeasure Plan, Camp Rilea,* Advanced Remediation Technologies, Inc., February 5, 2010.

3.1.2 Current Operator Interview(s)

Name	Title and Relationship to Property (former owner or operator)	Company Name	Telephone	Knowledge of litigation, administrative proceedings, or environmental regulatory violations/liabilities (Y/N)	Comments, including year(s) involved with the Property
Ken Klee	Facilities Manager	Oregon Military Department	503-861-4178	N	Worked as maintenance employee/ supervisor for 37 years on site.
Bob Schulke	Maintenance Operations Supervisor	Oregon Military Department	503-861-4178	N	Worked as maintenance employee for 6 years
Skip Matthews	Facilities Maintenance Specialist	Oregon Military Department	na	N	Worked as maintenance employee for 3 years
Jeremiah Rangel	Range Officer	Army National Guard	na	N	Worked on ranges as instructor and maintenance operations for 1 year

3.1.3 Past Property Owner and Operators Interviews

Camp Rilea operations began in 1927; therefore no past Property owners were available for interview regarding the main portion of Camp Rilea.

The Little, Jarvas, and Hitchman Properties were acquired in 2008, 2007, and 2004, respectively. The Little Property owner, Ms. Little, was interviewed in 2008 during a Phase I Environmental Site Assessment (ESA). The Jarvis Property owner, Mr. Jarvis, was interviewed in 2006 during a separate Phase I ESA. The documentation of these interviews was reviewed by Shaw during the course of this PCA.

None of these previous Property owners were available for interview during the course of this Phase I ESA. Previous known uses of the Property are residential, pasturage, and keeping small livestock. Based on previous known uses and the review of the Little and Jarvis interviews, Shaw does not consider this data gap significant.

3.1.4 Local Government Officials

Shaw did not interview any Local Government Officials during this PCA.

3.1.5 State & Federal Government Officials

Shaw interviewed the following state and/or federal government officials, and learned the following:

Name	Title	Agency	Telephone	Comments
Shelly Kendrick	Information Assistant	State Fire Marshall's Office	503-373-1540 ext. 353	State Fire Marshall information was requested from Ms. Kendrick. Information obtained is discussed in Section 3.2.1
Jim Arnold	Environmental Restoration Manager	Oregon Military Department	503-584-3551	Acted as Property owner's representative (See Section 3.1.1)
Arthur Arroyo	Real Property Manager	Oregon Military Department	503-584-3494	Provided title information for recently acquired parcels in the Property. (See Section 3.3.5)

3.1.6 Others

Shaw did not interview any other individuals in connection with the Property.

3.2 Standard Environmental Records Sources

The regulatory agency database was obtained from Environmental Data Resources, Inc. (EDR), Report ID No. 2906200.1s. A complete copy of the database report as provided by EDR, including the date the report was prepared, the date the information was last updated, and the definition of databases searched, is provided in Appendix F.

The Property was identified in the following environmental databases:

Database(s) Listed	Comments	REC (y/n)
RCRA-SQG PADS FINDS MANIFEST	The National Guard Training Center has been a Resource Conservation and Recovery Act (RCRA) registered small quantity generator since 1992. Notices of Non-Compliance were received in 1997 and 2006, with compliance achieved shortly after dates of notice. Camp Rilea holds an annual waste permit with Hillsboro Landfill for disposal of the sludge from the wash racks. These wash racks are located northeast of the Property. Camp Rilea also holds a National Pollutant Discharge Elimination System (NPDES) permit for discharge of the wash waters from the wash racks to Neacoxie Creek, and also holds an Industrial WPCF permit for operation of the water treatment ponds at the southeast corner of the Property. PADS is the PCB activity database, which identifies generators, transporters, commercial storers, brokers and/or disposers of PCBs that notify the EPA. Camp Rilea was listed as a generator in 2006. Based on conversations with Ken Klee, Camp Rilea maintenance supervisor, all light ballasts and pole-mounted transformers that may contain PCBs have been removed and properly disposed of. The UTES building stores and manages all hazardous wastes that are generated on post. Wastes are related to mechanical work, used oils, light ballasts (past), oily rags, antifreeze, solvent cleaners. The MANIFEST database tracks all manifested hazardous waste generated and disposed of using EPA RCRA ID numbers (related to RCRA-SQG).	N

Database(s) Listed	Comments	REC (y/n)
AST HSIS	The Property has the following stationary aboveground storage tanks on the Property: - One 6,000-gallon and one 7,000-gallon single walled JP-8 (jet fuel) tanks with associated fueling stations attached via underground piping. These tanks are located east of the UTES compound. The underground piping connecting these tanks to the fueling stations is not dual walled or cathodically protected, according to site maintenance staff. Based on the age (installed in 1988), the type of piping, and the high precipitation in the area creating a wet environment, there is a high potential that these underground pipes have leaked. This is considered a REC to the Property. - 400-gallon dual walled used oil tank west of the UTES maintenance building 7156 in a small used oil shed. - One 1,000-gallon gasoline and one 1,000-gallon diesel dual walled tanks with attached fueling stations west of maintenance building 7243. - 300-gallon dual walled used oil tank east side of Air Guard maintanence building 7116. - 200-gallon oil collection tank connected to the OWS in building 7151. - 250-gallon heating oil tank located on Little Property. Tank is used to heat residence. Additional information on ASTs on the Property is discussed in Section 3.6. HSIS is the hazardous substances database, tracking all hazardous substances stored on a site. The Property stores and utilizes multiple hazardous substances; details are discussed in Section 3.4.	Y
ECSI VCP	Three cleanups have occurred on the site, and the extent of those cleanups is documented in some of the reports provided by OMD, listed in Section 3.1.1. The three cleanups are the former landfill, the burn pit, and the barracks area. <u>Former Landfill</u> The former landfill was located on the east side of the current MARF range maintenance shop, west of Neacoxie Road and at the northern tip of NBC Road. According to previous site assessments, the landfill was active from about the 1930's until the 1980's. The landfill covered approximately 4,000 square feet. From 1996 to 2009, soils and groundwater at the former landfill were sampled and analyzed. Analytical results revealed trichloroethene (TCE) contamination in the shallow groundwater consistently at or above the Environmental Protection Agency (EPA) maximum contaminant level (MCL) for drinking water. Analytical results also revealed sporadic detections of tetrachloroethene (PCE) and 1,1,2,2-tetrachloroethane (1,1,2,2-TCA). The affected shallow groundwater in this area flows east towards Neacoxie Creek. Groundwater models were created to represent groundwater flow in this area. The groundwater models indicate the TCE plume will not affect Neacoxie Creek. The former landfill was capped with asphalt in August 2007. Oregon Department of Environmental Quality (ODEQ) determined that, based on groundwater modeling data, any existing contamination would not reach Neacoxie Creek in concentrations above 1ppb. In May 2010, ODEQ issued a No Further Action (NFA) for the former landfill. Based on the status with ODEQ, the former landfill no longer appears to be a REC.	N

Database(s) Listed	Comments	REC (y/n)
	<u>Burn Pit</u> The burn pit is located north of First Causeway Road, and south/southeast of the former landfill. Dimensions were approximately 25 feet by 30 feet in an oval shape and approximately 3 feet deep. The burn pit was used to reduce solid waste volume prior to disposal in the 1980's. Between 2001 and 2005, soil and groundwater in the burn pit area was sampled and analyzed. Analytical results revealed arsenic (As) and lead (Pb) contamination in the soils above ODEQ Risk Based Concentrations (RBC) for As and EPA Preliminary Remediation Goals (PRG) for Pb. In 2007, approximately 261 tons of excavated soils and burn pit materials were removed. Confirmation samples indicated all soils that had been impacted by the burn pit had been removed. A Partial NFA was issued for the burn pit in January 2009. At the time of this NFA designation, cleanup actions were still underway for additional areas on the Property, including the former landfill. The "Partial NFA" designation identifies that the Burn Pit received a No Further Action designation, but this designation did not apply to the entirety of the Property, as determined by ODEQ. Based on the Partial NFA issued by ODEQ, as well as on site visual observations of the former burn pit area, the burn pit no longer appears to be a REC. <u>Barracks Area and 1994 Diesel Spill</u> Between the 1940s and the 1980s, the barracks, located east of S Oregon Street in the cantonment area, were heated with WW-II era diesel burning stoves. Over the approximately 40 year period, a number of small diesel spills occurred from these stoves, contaminated the soils beneath this area up to 7 feet below ground surface (bgs). In 1994, a separate diesel release occurred in the former Air Guard area east of the barracks area near Neacoxie Creek. In 1994, a total of approximately 1,000 cubic yards of petroleum contaminated soil (PCS) were removed from the former barracks area and disposed of off site. An additional 500 yards of soils were excavated from the more recent diesel spill area. The soils excavated from the Air Guard release were staged nearby, within the former UTES compound, and a permit was acquired to treat the soils on site. Confirmation samples indicated less than 100ppm diesel contamination remained in the 1994 Air Guard diesel spill area. Monitoring wells were installed to determine if groundwater was affected. Analytical results indicated no groundwater contamination occurred. Further documentation related to the cleanup of these areas cannot be located at this time. Due to the lack of documentation, ODEQ has not issued a NFA for these cleanup actions. However, ODEQ has issued a low priority for these cleanup areas. Based on interviews with OMD staff, the cleanup actions have been completed and all PCS were removed. Based on these facts, this area is no longer considered a REC to the Property.	
UST	A total of six USTs were formerly located on the Property, three of which were registered with the ODEQ. The three registered tanks were a 1,000-gallon gasoline tank, a 2,500-gallon gasoline tank, and a 1,000-gallon heating oil tank. These three USTs were formally decommissioned in 1988. Not on record with ODEQ are two heating oil tanks, one 8,000-gallon and one 1,000-gallon, and one 500-gallon used oil tank. These tanks were removed in 1997. There are no leaking underground storage tank (LUST) files associated with the Property. There is no record of any leaks, releases, or contaminated soils or groundwater associated with these tanks.	N

Database(s) Listed	Comments	REC (y/n)
UIC	Eight underground injection control (UIC) drywells were located in the UTES compound to manage stormwater surface runoff in the paved areas. USACHPPM investigated these wells by collecting soil samples near the bottom of the drywells. Metals and total petroleum hydrocarbons (TPH) were discovered in the soils surrounding the drywells above background levels. USACHPPM determined that the concentrations found did not pose a threat to human health and the environment, and no further action was required for these drywells. The drywells have been formally closed with ODEQ under the UIC rules and guidance.	N
DOD	Federally owned or administered land, administered by the Department of Defense, greater than 640 acres within the United States. Camp Rilea falls into this DOD category, and is listed in the database as "Camp Rilea Military Reservation".	N

3.2.1 Local Fire Department Records

Agency Contacted (Name, Address, Phone Number)	Description of records
State of Oregon Fire Marshal Community Right to Know 4760 Portland Road NE Salem, OR 97305-1760	The State Fire Marshal has a list of all hazardous substances used, generated, or stored on properties in Oregon. The State Fire Marshal provided a public report of all hazardous materials stored on the Property. This list is provided in Appendix E. No incident responses to the Property were on record at the time of request.

3.2.2 Local Health Department/ State Environmental Agency Records

Agency Contacted (Name, Address, Phone Number)	Description of records
Oregon Department of Environmental Quality (ODEQ)	ODEQ manages environmental records of properties within the state of Oregon; records include, but are not limited to, underground storage tanks, above ground storage tanks, water discharge permits, hazardous materials handling, disposal and storage permits, contaminant releases, and cleanups. Details of pertinent ODEQ files are discussed in Section 3.2

Photocopies of relevant supporting materials documenting the status of RECs, where readily ascertainable, are included in Appendix E.

3.3 Historical Records Search

The table below presents a summary of the operational history of the Property. The summary is an integration of the findings of the individual historical record sources presented in subsequent sections.

Summary of Property History	
Dates	Property Use
1927 – Present	Oregon Military Department (OMD) installation. Training center for multiple OMD and civilian operations, including air force and local police forces. Name of the installation was changed from Camp Clatsop to Camp Rilea in 1959.

3.3.1 Aerial Photographs

Year	Scale	Observations
1938	Undefined	Slusher Lake is observed in the southern portion of the Property, and Neacoxie Creek is observed flowing north-south through the Property. Neacoxie Creek also runs through the main cantonment area. The cantonment area has multiple small huts in rows on the east side of what is now S Oregon Street, and barracks along the west side of S Oregon Street. The main entrance road (now Patriot Way) has larger buildings on both sides of it, including Buildings 7014 and 7015. There are no buildings observed outside the main cantonment area. The dunes area on the west side of the Property appears to expand into the Property; the sandy area continuing into the Property. *Source: Oregon Military Department*
1956	1" = 1000'	Slusher Lake is observed, as well as Neacoxie Creek that runs north-south located to the east of the Property, west of the current Highway 101. A small number of buildings are observed on the Property. The photo resolution is low, therefore no other details can be discerned.
1958	1:13,000	The dunes appear more vegetated than in previous years' aerial photographs. Additional buildings are observed along Highway 101/26 near the entrance to the Property. Apparent ranges and training areas are now observed to the west and north of the cantonment area. Additional larger buildings are observed in the cantonment area, including Buildings 7401 through 7408. *Source: Oregon Military Department*
1971	1:14,500	An increased number of roads are observed throughout the Property. Most of the roads appear unimproved. The dune areas are densely vegetated, and only the coastline now appears to be bare sand. Training areas and ranges appear in higher use than the previous years' photographs; targets, bare firing areas, and roads are easily observed. The huts to the north of Patriot Way have been removed, and a foundation for a new area (Buildings 7148 and 7150) is observed. *Source: Oregon Military Department*
1977	1"= 1000'	No large changes are observed from the 1971 aerial photograph. the Property appears developed (landscaping observed), however due to poor photo resolution, no buildings are discernable.
1981	1" = 1000'	The waste water treatment ponds are observed in the current location. Roadways and fields are observed on the Property. Photo resolution is low, therefore no more details are discernable.

Year	Scale	Observations
1982	1: 8,000	The huts to the north of Patriot Way have been removed, and Building 7148 is observed. A large bare area is observed at the coastline directly west of the cantonment area. This area lines up with the claymore and demolitions range, as described on current maps. Additional buildings are observed to the west of the cantonment area, likely related to ranges, training, and ammunitions storage areas. The west, north and south sides of the Property are not included in this photograph. *Source: Oregon Military Department*
1990	1" = 750'	Buildings are observed on the Property to the northwest of the waste water treatment ponds. Quality of the aerial photo is poor, no other large changes are observed from the 1981 aerial photograph.
2000	1" = 750'	The layout of the Property reflects current conditions. Only the approximate center of the Property is shown in the aerial photograph. The Air Guard area, JATC lineman school, UTES area to the barracks area, hotel, and MARF range are observed.
2005	1" = 604'	The layout of the Property reflects current conditions. Only the approximate center of the Property is shown in the aerial photograph. The Air Guard area, JATC lineman school, UTES area, hotel, and MARF range are observed.

Historical aerial photographs were obtained from, or viewed at, the following sources:

- The EDR Aerial Photo Decade Package, Inquiry Number: 2893935.5
- Oregon Military Department

3.3.2 Topographic Maps

Year	Scale	Observations
1949	1:24,000	Gearhart, OR Quad Approximately half of the southern portion of Camp Clatsop Military Reservation (Camp Rilea) observed in the north of the map along the coastline. Long rows of buildings are observed along the main center road. Slusher Lake is observed, with marshlands to the northeast of the Lake. Multiple unimproved roads are observed, with three main roads leading from Hwy 101/26 into the Camp. The Property boundaries (Camp Clatsop boundary) are depicted as a dashed black line.
1979	1:24,000	Gearhart, OR Quad Additional buildings are depicted to the east of the existing buildings. Additional unimproved roads are observed throughout the Property. No additional significant changes are observed from the 1949 topographic map.
1953	1:24,000	Warrenton, OR Quad Approximately half of the northern portion of Camp Clatsop Military Reservation (Camp Rilea) observed in the south of the map along the coastline. One long road is observed running north to south, and very few buildings are depicted. Two unnamed bodies of water are depicted, a small lake or pond and a small stream along the eastern boundary.

Year	Scale	Observations
1973	1:24,000	Warrenton, OR Quad Additional unimproved roads are observed traversing all across the Property. The northern boundary of the Property is not depicted. The two bodies of water are still observed.
1984	1:24,000	Warrenton, OR Quad The northern Property boundary is defined as "RESERVATION BDY". The Clatsop Plains are now depicted running north-south through the Property. The two bodies of water are still observed. Additional unimproved roads are observed. The eastern Property boundary is also defined.
1996	1:24,000	Warrenton, OR Quad No significant changes are observed from the 1984 topographic map.

Historical topographic maps were obtained from, or viewed at, the following sources:

- The EDR Historical Topographic Map Report, Inquiry Number: 2893935.4

3.3.3 Historical Fire Insurance Maps

Shaw was unable to access reasonably ascertainable historical fire insurance maps from the following sources:

- EDR Certified Sanborn® Map Report, Inquiry Number: 2893935.3

3.3.4 City Directories

Year	Uses	Historical City Directory
1966 – 2000	Target Property Address Not Found	Polk's City Directory Abstract

Name of city directories and source:

- The EDR-City Directory Abstract, Inquiry No. 2893935.6

3.3.5 Property Tax Files

Year	Owner
1927 to Present	Oregon Military Department (occupied by Oregon Army National Guard (ORARNG)

Source of ownership information:

- *Site Assessment Survey No., 38-EH-1332b-01, Camp Rilea, Warrenton, Clatsop County, Oregon,* September 2001, US Army Center for Health Promotion and Preventative Medicine.

3.3.6 Building Department Records

Year	Description of Permit (permitee and subject of permit)
Oct 2009 – Oct 2010	During this time, permits have been issued to construct a new barracks (bldg 7332), set up a job trailer, remodel the VA medical unit, and construct a freestanding loading dock.

Source of building permit records:

- Clatsop County Building Permits Department

3.3.7 Zoning/Land Use Records

Year	Description of Zoning / Land Use Records
Present	The majority of the Property is zoned Military Reserve, with portions zoned as Lake and Wetland. The land along the eastern side of the Property is zoned Open Space Parks and Recreation; this includes the area surrounding the waste water treatment ponds. The recently acquired Little and Hitchman Properties are zoned RA-1, Residential Agricultural. The Jarvis Property is zoned RA-5, Residential Agricultural, except for along the eastern boundary it is zoned Lake and Wetland. The Lake and Wetland zoned areas are specifically the creeks, sloughs, and lakes that are located on the Property. A copy of the zoning map is provided in Appendix E. OMD has a management plan in place to maintain the wetlands, lakes, ponds, and streams on the Property.

Source of zoning / land use records:

- Clatsop County GIS, http://maps.co.clatsop.or.us

3.4 Hazardous Materials

Chlorine

Chlorine is stored in the waste water treatment building, south of the water treatment ponds. The chlorine is stored in accordance with applicable rules and regulations, and only authorized personnel can access this area. The chlorine is used to treat the waste water prior to the leachate spray system. This building is located in the southeastern portion of the Property, near the eastern Camp Rilea boundary and west of the Little Property.

Compressed Gases

At the time of the site reconnaissance, multiple types of compressed gases, including acetylene, oxygen, argon, propane, and nitrogen were observed on the Property. Specifically, these gases are stored and utilized in vehicle and equipment maintenance areas, including:

- Plumbers shop, building 7244
- Motor pool, building 7002
- UTES maintenance building 7156

Ammunition

Ammunition is temporarily stored in storage sheds and bunkers (RMAGs) throughout the ranges and training areas on the Property. Permanent munitions storage is in the Armory, building 7001.

Live fire ranges and training areas are designed to have munitions fired into hillsides or targets within duned areas. The hillsides and dunes contain spent munitions, including bullets, non-live-fire rounds, and possible grenade debris. Heavy metals, including lead, are likely to be found in these live fire areas.

Live fire exercises are also conducted in the modular armored tactical combat house (MATCH). The exterior walls of the building are armored and filled with gravel. The interior walls are plywood. The building is designed to have live rounds fired into the plywood walls, and the spent munitions collected in the gravel fill. The gravel fill, along with the collected spent munitions, is removed and disposed of as hazardous waste (due to lead content) approximately twice per year.

The Site Assessment Survey No., 38-EH-1332b-01, conducted by US Army Center for Health Promotion and Preventative Medicine (USACHPPM) in September 2001 indicates the likely presence of munition constituents of concern (MCOC) in the active operational range areas, with a potential for MCOC to impact groundwater and surface water. Common munitions constituents (MC) associated with active ranges include lead and cadmium.

An Operational Range Assessment Program (ORAP) Phase I Qualitative Assessment conducted on the Property in January 2008 identified current and historical potential munitions constituents of concern (MCOC) and placed these areas into four categories: MSW (E) GW, MGW, MPU, and LS. 48 of the 50 operational ranges (4,203 of the total 4,295 acres) included in the ORAP were identified as MGW, “sources with the potential for MCOC to migrate off-range via groundwater migration pathways, but groundwater source-receptor interactions are incomplete for human and ecological receptors”; MPU, “sources with a lack of mobility pathway, via either surface water or groundwater”; or LS, “no current or historical sources of MCOC were identified”. These 48 operational ranges were categorized as being “unlikely” to have potential MCOC migrate off-range and affect human or ecological receptors. The ORAP Assessment also identified a 92 acre “inconclusive area” that lies approximately east of Slusher Lake, west of Sunset Lake, and south of Slusher Lake Road and Pacific Road. This area has a reported historical heavy use of pyrotechnics and blank ammunition. This area is categorized as MSW (E) GW, with “current and historical sources of potential MCOC that have potential to migrate off-range via surface water and groundwater migration pathways, and ecological receptors are potentially impacted via the surface water pathway”. A Phase II Quantitative Assessment is now underway. The Phase II

Assessment includes analysis of the potential MCOC, potential human and ecological receptors, and the potential for MCOC to migrate off-range and affect these receptors.

Groundwater samples were taken from the newly developed potable water supply well on the Property. Analytical Report K0802151, completed by Columbia Analytical Services (CAS) in 2008, provides the results of this groundwater study. Analytical results indicate no detected cadmium or lead concentrations in groundwater sampled from this well above EPA Drinking Water MCLs.

Solvents

Solvent cleaners are stored and utilized in Unit Training Equipment Site (UTES), Oregon Air Guard maintenance area, and the vehicle maintenance shop below the gym (7015). These cleaners are used for mechanical and some weaponry cleaning. Spent solvents are stored in the UTES area prior to proper disposal, as discussed in Section 3.5.

Paints

Paints, lacquers, and thinners are stored in multiple areas on the Property in small amounts. Large amounts of these items were observed in building 7246, the head maintenance painter's workshop, and in the main maintenance warehouse, building 7254.

3.5 Hazardous Wastes

The UTES facility manages all hazardous wastes that are generated on the Property. Hazardous wastes are stored in building 7159, which is a ventilated storage building with a built-in fire suppression system. Hazardous wastes include, but are not limited to, spent solvents, spent ammunition, used rags, spent antifreeze, and used batteries. All hazardous wastes outside of the building are stored in sealed drums or buckets and are placed on spill containment pallets. Multiple spill kits are located within the immediate vicinity of this area.

The maintenance painter's workshop, building 7246, contains an aerosol can puncture machine and a satellite hazardous waste station for waste paints and related products. The main warehouse, building 7254, contains a satellite universal hazardous waste storage area for storage of batteries, fluorescent light bulbs, smoke detectors, and other universal wastes. Wastes are accumulated at these satellite stations in drums, buckets, or on spill containment pallets. Once capacity is reached at the satellite station, the wastes are transported to the UTES waste storage area for off-site disposal.

Used oils are typically stored in a 400-gallon used oil aboveground storage tank (AST) located on the west side of the UTES maintenance building (7156). Smaller containers of used oils or

grease (5- to 55-gallon containers) are stored in the same oil storage building, or are stored on spill pallets surrounding hazardous wastes storage building 7159.

Both hazardous waste and used oil storage areas are secured with locking gates and doors. Only authorized personnel may gain access to these areas.

All hazardous wastes that are generated on Camp Rilea are regularly and properly disposed of off site in accordance with Oregon Military Department, State of Oregon, and Environmental Protection Agency (EPA) guidelines and regulations.

Historically, the former landfill and former burn pit areas potentially contained hazardous wastes. Historical analytical results from soils and groundwater collected in these areas indicated metals and VOCs above regulatory cleanup levels; these levels have since decreased to either non-detectable or below regulatory limits. As described in Section 3.2, NFA's have been issued by ODEQ for both the former burn pit and the former landfill. Based on the current status of these sites, they do not appear to be a current recognized environmental condition to the Property.

3.6 Petroleum Products

Used oils were possibly burned in the burn pit, located along First Causeway Road. The burn pit was remediated in 2007, and ODEQ issued a Partial NFA in 2009 for the burn pit area. Based on the cleanup of this area and the ODEQ Partial NFA, the possible disposal of these petroleum products in the burn pit does not appear to be a REC to the Property.

Aboveground Storage Tanks

- 400-gallon used oil tank on the west side of the UTES maintenance building (7156). This tank is dual walled and contained within a small shed.

- 200-gallon oil collection tank connected to the oil water separator (OWS) in building 7151. The tank is contained within the building. This OWS intercepts all stormwater that is collected in any potential petroleum release areas, including wash racks, parking lots, and generator storage areas, prior to discharge to Neacoxie Creek.

- A mobile used oil tank is located in the containment building (7148). This building is used to store all fuel tank trucks. The building is equipped with a large floor drain that leads to a 5,000-gallon sump. The mobile tank is currently not in use, but will be utilized if necessary during a release event.

- 6,000-gallon and 7,000-gallon JP8 jet fuel tanks with fueling stations to the west. These tanks are single walled, but contained within a concrete containment area. Underground piping leads from the tanks to the fueling stations. The containment area contains a drain to

release stormwater when necessary. The drain leads directly to a drainage ditch to the south, and is not equipped with an OWS or other oil separation system.

The underground piping connecting these tanks to the fueling stations is not dual walled or cathodically protected, according to site maintenance staff. Based on the age (installed in 1988), the type of piping, and the high precipitation in the area creating a wet environment, there is a high potential that these underground pipes have leaked. This condition is considered a possible REC to the Property.

- 1,000-gallon gasoline and 1,000-gallon diesel tanks are located west of maintenance building 7243. The tanks are located on a concrete slab and have fueling stations directly connected. The tanks are dual-walled.

- 300-gallon used oil tank on the east side of Oregon Air Guard maintenance building 7116. The tank is dual walled, sits under cover, and contains a leak detection system.

- 250-gallon heating oil tank located on the Little Property. A Phase I Environmental Site Assessment (ESA) was conducted on the Property in 2008; during the site reconnaissance for the Phase I ESA, no signs of leakage from the tank were observed.

- Mobile ASTs include

    - One 5,000-gallon JP8 tanker
    - One 1,200-gallon JP8 tanker
    - Five 2,500-gallon HEMETT tankers
    - Sixteen 600-gallon skid mounted fuel pods

  Mobile ASTs are stored either in containment building 7148 or on concrete parking areas equipped with catch basins that lead to individual OWSs and then to the main OWS in building 7151.

- 10,000-gallon diesel AST connected to the main emergency generator via buried dual-containment piping. The tank is dual walled. The generator is located near the main entrance, on the south side of Patriot Way.

Small Quantities (55-gallons or less)

Maintenance Storage Area: small amounts of lubricating oils, greases, and other petroleum products are stored adjacent to Building 7248 and are utilized by State Maintenance employees that maintain the Property.

Oregon Air Guard: petroleum products, including lubricating oils and greases, are stored in two metals buildings adjacent to the tanker and fuel pod parking area, as well as within building 7116. The metal buildings are marked with hazardous material/flammable placards and are secured at all times. The storage area within building 7116 is a contained room within the building.

UTES: New petroleum products less than 55-gallons are stored in a storage area on the west side of the UTES maintenance building (7156). All materials are placed on spill pallets.

Hydraulic lifts are located in UTES maintenance building 7156. All hydraulic reservoirs are above ground, and are approximately 5-10 gallons in size.

Underground Storage Tanks

Based on interviews with Ken Klee and Jim Arnold of the Oregon Military Department, all USTs have been removed from the Property. The USACHPPM 2001 Report indicates a total of six USTs were formerly located on the Property; three removed in 1988 and three removed in 1997. There were no releases or other environmental concerns associated with these USTs.

3.7 Other Environmental Contamination

Shaw investigated the following Special Contamination Concerns as part of the scope of this PCA.

Currently, on all Oregon Military Department sites, all hazardous and toxic materials are managed in conformance with applicable Oregon Army National Guard, state, and federal requirements.

3.7.1 Lead-Based Paint

There are multiple buildings on the Property that were constructed on or prior to 1978, indicating that there is a possible presence of lead based paint (LBP) within these buildings. According to an interview with Ken Klee, all buildings that are demolished are treated as if they may contain LBP. Core samples of the construction debris are taken prior to disposal. Of all the buildings that have been demolished on site in recent history, none of the core samples indicate a presence of lead in any detectable concentrations.

Shaw recommends that any future building demolitions, remodeling activities, or other construction activities conducted on buildings constructed prior to 1978 be conducted in a manner to properly identify abate, and/or dispose of any potential LBP.

3.7.2 Asbestos

An asbestos survey was conducted in 1991 by Professional Services Industries, Inc., investigating all possible asbestos containing materials (ACM) in all buildings on the Property. The investigation included fifty-five (55) buildings throughout the Property. Of those 55 buildings, eight buildings contained ACM. Following the assessment, all ACM was properly abated and removed, with the exception of ACM found in the chapel, building 7209.

A second survey was completed on the NBC chamber, building 7358, and the residential building on the Little Property. ACM was discovered in multiple areas in both buildings. No abatement or removal actions have taken place.

Shaw recommends that any future building demolitions, remodeling activities, or other construction activities conducted on the Chapel (building 7209), NBC Chamber (building 7358) the Little Property house, or any building that has not received an ACM assessment, be conducted in a manner to properly abate or remove and dispose of known or suspected ACM.

3.7.3 Radon

Shaw's assessment of radon was limited to research of published information specific to the general area of the Property location. Radon is a colorless, tasteless, radioactive gas with an EPA-specified action level of 4.0 picoCuries per liter (pCi/L) of air. Radon gas has a very short half-life of 3.8 days. The health risk potential of radon is associated with its rate of accumulation within confined areas, particularly confined areas near or in the ground, such as basements, where vapors can readily transfer to indoor air from the ground through foundation cracks or other pathways. Large, adequately ventilated rooms generally present limited risk for radon exposure.

According to regional radon information obtained from the EPA, the Property is located within EPA-designated Zone 2 for radon gas. Average radon concentrations within Zone 2 are reported to be between 2 and 4 pCi/L. Based on Shaw's review of available information, elevated radon levels do not appear to represent a potential environmental risk.

A copy of the EPA radon map of Oregon is provided in Appendix E.

3.7.4 Pesticides

Shaw's assessment of the use of pesticides on the Property was limited to research of published information and interviews.

No historical information about pesticide use was available to Shaw during this PCA.

In accordance with Oregon Military Department and Oregon Army National Guard rules and regulations, all pesticides are applied by a certified applicator and the application plan is

monitored. All pesticide use is reported to the National Guard Bureau. Pesticides applied in accordance with manufacturer instructions as part of the landscape maintenance program are not considered a potential environmental risk.

Previous uses of the Little, Jarvis, and Hitchman Properties were grazing lands and residential. There are no indications of current or historical pesticide use on these properties.

3.7.5 Polychlorinated Biphenyls (PCBs)

Camp Rilea is listed on the US Environmental Protection Agency (EPA) PCB Activity Database System (PADS) as a generator of PCBs. The PADS listing was generated during a large fluorescent light ballast removal in 2006. Based on interviews with Ken Klee, all light ballasts and transformers containing PCBs have been removed from the Property.

The Phase I ESA conducted on the Little Property by HAI in 2008 indicated a pole mounted transformer and light ballasts of unknown age being present on the Property. There were no indicative stickers or other markings to note the content of PCBs. No leaks from the light ballasts or pole-mounted transformer were noted during the 2008 Phase I ESA. The pole-mounted transformer is the property and responsibility of Pacific Power.

Analytical samples of the soils at the former burn pit and former landfill were analyzed for PCBs, all resulting in no PCBs detected at or above laboratory method reporting limits.

During the site reconnaissance, Shaw's representative did not observe any evidence of stains, leaks or other hazardous conditions associated with the transformers on the Property. Therefore, PCBs do not appear to be an environmental concern to the Property.

Shaw recommends, prior to any construction activities on the Little Property, removing and properly disposing of any light ballasts that may contain PCBs.

3.7.6 Unexploded Ordnance (UXO)

Shaw's assessment of the Property included the possible existence of UXO on the site.

Shaw's representative observed all live fire and non-live-fire ranges on the Property. Jeremiah Rangel, range maintenance officer and instructor, escorted Shaw's representative through the ranges.

According to Mr. Rangel, the largest round fired on the Property is .50 caliber, and rounds of this size are non-live-fire rounds only. Only small arms ranges, including pistols and rifles, grenade ranges and demolitions ranges may use live ammunition. All grenades must be detonated, and all debris associated must be removed by the individual using the range. The demolitions range

has a maximum explosive rule of 2-lbs of C-4 explosive, and all debris associated with demolitions must be removed by the individual using the range.

Based on interviews conducted during this PCA, there are no known UXO located on the Property. However, based on historical uses of the Property, there is a potential for UXO to be located in the large explosives training ranges. These areas include the claymore range, the explosives training area, and the grenade range.

4.0 Site Reconnaissance

Shaw's representative, Audrey Turpening, conducted a site reconnaissance of the Property and surrounding area on October 14 and 15, 2010. The objective of the site reconnaissance was to obtain information indicating the presence of RECs in connection with the Property.

4.1 Methodology

Shaw used the following methodology to observe the Property:

- Confirmed the definition of the Property boundaries with Ken Klee of the Oregon Military Department
- Traversed transects across the Property
- Drove roadways within the Property.
- Observed representative interior spaces within buildings on the Property.

Photographs of the Property are included as Appendix D to this report.

4.2 Site Reconnaissance Observations

4.2.1 Property Representative Escorting Site Assessor

Name of Property Representative and relationship to the Property	Company	Title	Years of Experience with Property and Other Site Qualifications
Ken Klee	Oregon Military Department	Facilities Manager	37 years as maintenance supervisor
Bob Schulke	Oregon Military Department	Maintenance Operations Supervisor	Worked as maintenance employee for 6 years
Skip Matthews	Oregon Military Department	Facilities Maintenance Specialist	Worked as maintenance employee for 3 years
Jeremiah Rangel	Army National Guard	Range Officer	Worked on ranges as instructor and maintenance operations for 1 year

4.2.2 Interior Observations

Issue	Comments
Hazardous materials or petroleum products	Water Treatment: chlorine stored in building 7009 south of water treatment ponds, utilized to treat water prior to the leachate spray system. Ammunition: temporary storage in bunkers and storage sheds throughout the ranges and training areas. Permanent ammunition storage is in the Armory, building 7001. Compressed gases: Multiple types of compressed gases, including acetylene, oxygen, argon, propane, and nitrogen are stored in the plumbers maintenance building 7244, Motor pool building 7002, and UTES maintenance building 7156. Solvents: solvent cleaners are stored in UTES maintenance building 7156, Air Guard maintenance area (bldg 7116), and the vehicle maintenance area below the gym in building 7015. Paints, Lacquers and Thinners: small quantities (less than 5-gallons) are stored in multiple areas on the Property. Large amounts are stored in the Paint shop, building 7246, and main maintenance warehouse, building 7254. Petroleum products: A 400-gallon used oil tank is located within a shed on the west side of building 7156. A 200-gallon used oil tank is connected to the OWS within building 7151. Mobile tankers and fuel pods, when filled, are stored in containment building 7148. During site reconnaissance, this building was empty. Small amounts of lubricating oils, greases, and other petroleum products are stored adjacent to building 7248 and are utilized by maintenance. Air Guard stores petroleum products in metal storage containers outside building 7116, and in a containment room within 7116. A 300-gallon used oil tank is located on the east side of building 7116. New petroleum products less than 55-gallons are stored on the west side of the UTES building 7156.
Hazardous waste	All hazardous wastes are stored in building 7159, or surrounding the building on spill pallets and under cover. Building 7159 is ventilated and contains a built-in fire suppression system. The MATCH building walls are filled with gravel to capture and contain any spent rounds fired within the building. The gravel fill and captured rounds are disposed of as hazardous lead-containing waste approximately twice per year. Two satellite hazardous waste storage areas are located on the Property, one in painters shop 7246 and one in main warehouse 7254. The paint shop station collects used aerosol paint cans and other waste paints, solvents, and thinners. The warehouse station collects universal hazardous wastes, including batteries, fluorescent light bulbs, and smoke detectors. All wastes are stored on spill containment pallets. Once capacity is reached at the satellite station, wastes are moved to the UTES for storage and disposal.
Solid waste	Non-hazardous solid wastes are collected and disposed of in dumpsters located in multiple exterior areas on the Property.
Wells	None observed

Issue	Comments
Process wastewater	All stormwater that may be exposed to petroleum products or other contaminants is directed through an OWS located in building 7151 prior to discharging to Neacoxie Creek. The water discharging from the OWS is sampled regularly for pH and metals content. All sanitary wastewater within Camp Rilea is directed to the water treatment lagoons in the southeast corner of the Property. The water settles in the lagoons, is aerated in the lagoons, and is then chlorine treated prior to being sprayed on pastures to the south. The pastures contain cattle to keep the grasses maintained. This water is treated and discharged under the WPCF Permit 100977. The Little Property utilizes a septic tank for sanitary wastewater, which is located within the boundaries of The Little Property.
Drains, sumps, and drywells	All sink, shower, toilet and related sanitary drains lead to the sanitary treatment system, described in "Process Wastewater" above. Interior drains are located in multiple buildings on the Property that are related to petroleum storage, vehicle and equipment maintenance, and fuel tanker storage. These drains all lead to either an individual OWS that then leads to the main OWS in building 7151, or to a sump that captures and contains any potential liquid releases in that building.
Odors	None observed
Stains and/or corrosion	De minimus staining was observed in vehicle and equipment maintenance areas on the concrete floors, including UTES maintenance building 7156, the used oil storage area on the west side of building 7156, and maintenance area below gym in building 7015.
Pools of liquid	None observed
PCB-Containing Equipment	None observed. The fluorescent light ballasts in the Little Property have an unknown age and PCB content. These light ballasts, when removed, must be disposed of in accordance with applicable rules and regulations relating to PCB handling and disposal.
Transformers	None observed
Hydraulic Equipment	Hydraulic lifts were observed in the UTES maintenance building 7156. All hydraulic oil reservoirs were above ground and approximately 5-10 gallons in size.
General interior housekeeping	Excellent. All hazardous materials, petroleum products, and hazardous wastes are well managed and properly and securely stored. Maintenance areas are clean and well organized. Interior areas are free of debris and all areas were easily accessed and viewed.

4.2.3 Exterior Observations

Shaw made the following exterior observations during out site reconnaissance:

Issue	Comments
Hazardous materials or petroleum products	Petroleum products are stored in aboveground storage tanks in multiple areas on the Property. Tanks are discussed in Section 4.2.4. Other than ASTs, petroleum products and hazardous materials are not stored outside of buildings or attached covered areas.
Hazardous waste	The former landfill and former burn pit are located along NBC Road; the burn pit on the southwest side and the landfill on the northeast side of the road. Historically, suspected hazardous waste disposal occurred in both the landfill and the burn pit. The burn pit was remediated in 2007 and received an NFA in 2009. The landfill received an NFA in March 2010.
Solid waste	Solid wastes are stored in dumpsters in multiple locations on the Property. Dumpsters are emptied once per week and transported to an off-site transfer station for disposal. A stormwater settling basin is located adjacent to the wash rack on the north side of the UTES maintenance building, adjacent to the main OWS building 7151. Solids that are collected in this settling basin are removed and disposed of at Hillsboro Landfill under a dedicated non-hazardous special waste disposal permit, #7268. The former landfill is located adjacent to the Property off of First Causeway Road and NBC Road. An NFA was issued in March 2010 by ODEQ. This former landfill does not appear to be a REC to the Property.
Wells	A water supply well is located on the Property. This water supply well will supply potable water, irrigation water, and fire suppression system water for the entire Property. In March 2008, an analytical aquifer study was conducted on the potable water supply well located approximately at the southeast corner of Gunline Road and Tank Hill road. The groundwater analytical report shows arsenic (As) levels above the Environmental Protection Agency (EPA) National Primary Drinking Water Maximum Contaminant Level (MCL) of 10 micrograms per liter (ug/L). The maximum exceedance was minimal, at 15.9 ug/L. This As concentration was attributed to background conditions of groundwater. The proposed water supply system will be equipped with an As treatment system to remove any As contamination in the groundwater prior to contributing to the potable water supply. Multiple monitoring wells have been installed on the Property since 1993. None of these monitoring wells have been recorded as abandoned with the Oregon Water Resources Department.
Process wastewater	Sanitary wastewater on Camp Rilea is directed to the water treatment lagoons in the southeast corner of the Property. The water settles in the lagoons, is aerated in the lagoons, and is then chlorine treated prior to being sprayed on pastures to the south. The pastures contain cattle to keep the grasses maintained. This water is treated and discharged under the WPCF Permit 100977. The Little Property utilizes a septic tank for sanitary wastewater, which is located within the boundaries of The Little Property.

Issue	Comments
Storm water	Stormwater that falls onto unpaved areas on the Property infiltrates the soils or sheet flows to a nearby water body. Topography greatly varies across the Property, and stormwater drainage patterns follow the topographic gradients. Stormwater that falls onto paved areas sheet flows towards catch basins that discharge to Neacoxie Creek. Camp Rilea holds an NPDES General 17A Permit for industrial stormwater and washwater discharge into Neacoxie Creek. All stormwater that may be exposed to petroleum products or other contaminants, or water that comes off the vehicle was racks, is directed through a settling basin and then through an OWS located in building 7151 prior to discharging to Neacoxie Creek. The water discharging from the OWS is sampled regularly for pH and metals content. Neacoxie Creek is visually observed once per week to determine if a sheen, discharge, or any floating solids are present.
Drains, sumps, and drywells	All drywells previously located on the Property have been removed and decommissioned with ODEQ.
Odors	None observed
PCB-containing equipment	All pole mounted transformers and transformers suspected to contain PCBs have been removed and disposed of off-site. A pole mounted transformer was observed on the Little Property, and PCB content could not be determined. This transformer is the Property and responsibility of Pacific Power.
Pits, ponds, or lagoons; Property	Neacoxie Creek runs through the Property, north to south. Slusher Lake is located near the southern Property boundary. A small unnamed seasonal pond is located in the approximate center of the Property, just west of N. Neacoxie Street. Two waste water treatment lagoons are located in the southeast corner of the Property. The first pond is for aeration, the second pond for settling, then the waste water leads through a chlorine treatment system and is sprayed into a leachate field to the south. Camp Rilea holds a WPCF Wastewater Discharge permit, number 100977, for this domestic waste water treatment system.
Stained soil or pavement	De minimus staining was observed in parking areas on the Property. No significant staining was observed.
Stressed vegetation	None observed
General exterior yardkeeping	The Property is kept in excellent condition. Landscapes are kept well maintained, and all exterior areas are free of debris.

4.2.4 Underground Storage Tanks/Structures

Existing underground storage tanks (UST):	There were no existing on-site USTs reported or observed.
Former USTs:	Six historical USTs were located on the Property. All USTs have been decommissioned.

NOTE: Shaw's assessment of USTs included interviews with the Property Owner/Operator and visually apparent observations including repairs to pavement, vent pipes, ancillary equipment, and fill ports; as well as a review of readily ascertainable records relating to current and historical heating fuel sources and local and state records.

4.2.5 Aboveground Storage Tanks

Existing aboveground storage tanks (AST):	A total of seven stationary ASTs are located on Camp Rilea, five of which are exterior and two are interior. Twenty-four mobile ASTs are stored on Camp Rilea, both inside buildings and in exterior parking areas. All mobile ASTs are parked on containment areas. A 250-gallon heating oil AST is located on The Little Property, and it utilized to heat the residential building. This tank is on the east side of the residential building. Details of each AST are discussed in Section 3.6.
Former ASTs:	Wooden huts placed on concrete "tent pads" were placed on the Property between the 1940's and the 1980's in the barracks area. These huts used individual oil burning stoves for heat. Releases from these stoves have been recorded with ODEQ. According to interviews with OMD personnel, the petroleum contaminated soils have been removed. No petroleum contaminated groundwater was encountered during previous investigations. Documentation for these remediation actions cannot be located, and therefore the file is not currently closed with ODEQ. However, based on interviews with OMD personnel and available historical information, this area does not appear to be a REC to the Property.

NOTE: Shaw's assessment of ASTs included interviews with the Property Owner/Operator and visually apparent observations including repairs to pavement, tank pads and ancillary equipment, and spill containment berms; as well as a review of readily ascertainable records relating to current and historical heating fuel sources and local and state records.

4.2.6 De minimis Conditions

ASTM defines de minimis conditions as those that "generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies," i.e., minor soil staining.

Minor pavement staining was observed in vehicle and equipment maintenance buildings, oil storage areas, and in parking areas on the Property. These stains appeared to be typical to parking areas and mechanical shops.

5.0 Response Actions

Shaw investigated the possible existence of current and/or closed response actions, consent orders, or other regulatory orders that pertain to the Property. Based on State investigation, Federal investigation, and interviews with site personnel, Shaw discovered the following information regarding response actions.

5.1 Ongoing Response Actions

5.1.1 Diesel Spill Areas

Between the 1940s and the 1980s, numerous small hutments and concrete "tent pads" were located in the barracks area was heated with WW-II era diesel burning stoves. Over the approximately 40 year period, a number of small diesel spills occurred from these stoves, contaminated the soils beneath this area up to 7 feet below ground surface (bgs). Also, in 1994, a diesel release occurred in the former Air Guard area near Neacoxie Creek.

In 1994, a total of approximately 1,000 cubic yards of petroleum contaminated soil (PCS) were removed from the former barracks area and disposed of off site. An additional 500 yards of soils were excavated from the more recent diesel spill area. The excavated soils were staged within the former UTES compound, and a permit was acquired to treat the soils on site. Confirmation samples indicated less than 100ppm diesel contamination remained in the 1994 former Oregon Air Guard diesel spill area. Monitoring wells were installed to determine if groundwater was affected. Analytical results indicated no groundwater contamination occurred.

Further documentation related to the cleanup of these areas cannot be located at this time. Due to the lack of documentation, ODEQ has not issued a NFA for these cleanup actions. However, ODEQ has issued a low priority for these cleanup areas. Based on interviews with OMD staff, the cleanup actions have been completed and all PCS were removed. Based on these facts, this area is no longer considered a REC to the Property.

5.2 Closed Response Actions

5.2.1 Former Landfill

The former landfill was located on the east side of the current MARF range maintenance shop, west of Neacoxie Road and at the northern tip of NBC Road. According to previous site assessments, the landfill was active from about the 1930's until the 1980's. The landfill covered approximately 4,000 square feet.

In 1996 six temporary well points were installed by the US Army Center for Health Promotion and Preventative Medicine (USACHPPM). Groundwater was sampled, analyzed, and found to

contain trichloroethylene (TCE) above regulatory cleanup levels. In September 2005, 28 borings and four tests pits were completed in the former landfill area to determine landfill delineation and possible contamination. Arsenic, lead and mercury were discovered in the soils, as well as TCE and tetrachlorethylene (PCE). Groundwater samples were analyzed, they contained arsenic, lead, TCE, PCE, and 1,1,2,2-tetrachloroethane.

In 2007 a deep groundwater investigation was conducted by AMEC Earth & Environmental, Inc. (AMEC). A boring was advanced to a total depth of 86 feet bgs, water was sampled at 48, 73, and 84 feet bgs. No volatile organic compounds (VOCs) were detected, and it was determined the VOC contamination was limited to shallow groundwater.

Five permanent groundwater monitoring wells were installed in 2007. A total of nine groundwater monitoring events have been conducted at the former landfill site. Groundwater samples have been analyzed for metals and VOCs. TCE has been continuously detected in groundwater, at a concentration of 7 micrograms per liter (ug/L). The Environmental Protection Agency (EPA) maximum contaminant level (MCL) for drinking water for TCE is 5 ug/L. Since the initial maximum of 7 ug/L, TCE concentrations have been at or below the MCL. Lead concentrations in soil exceed the ODEQ Risk Based Concentration (RBC) for leaching into groundwater, however low lead concentrations in groundwater suggest lead is not actively leaching in this area.

Based on the groundwater monitoring events, shallow groundwater is expected to flow east towards Neacoxie Creek. Groundwater modeling data conducted for the Property indicates groundwater that will reach Neacoxie Creek will not have concentrations of TCE exceeding 1 ug/L.

In December 2009, DEQ concluded that, based on all available information, the environmental conditions at the former landfill do not pose an unacceptable risk to human health and the environment. They therefore proposed a Conditional No Further Action (NFA) determination for the former landfill. A Final NFA was issued in March 2010. Based on the status of this site with ODEQ, the former landfill does not appear to be a REC to the Property.

5.2.2 Burn Pit

The burn pit is located north of the First Causeway Road and south/southeast of the former landfill. Dimensions were approximately 25 feet by 30 feet in an oval shape and approximately 3 feet deep. The burn pit was used to reduce solid waste volume prior to disposal in the 1980's.

A 2001 survey of the burn pit soils was conducted by USACHPPM. Soil samples were collected and analyzed, and several metals and leachable lead was discovered in the soil samples exceeding hazardous waste levels.

In 2005, ten borings were completed in the burn pit area. Arsenic, barium, cadmium, chromium and lead were discovered in the soils and groundwater. Concentrations of arsenic and lead were above DEQ RBCs for arsenic and EPA Preliminary Remediation Goals (PRGs) for lead. Arsenic concentrations in groundwater exceeded both PRGs and MCLs, however these concentrations were contributed to high total suspended solids in the unfiltered groundwater samples. Leaching of Arsenic from the burn pit was not suspected.

In August 2007, approximately 261 tons of excavated soils and other materials were removed from the burn pit area, the excavation measured 60 feet by 35 feet and up to 9 feet deep. Confirmation samples indicated all soils that had been impacted by the burn pit had been removed.

A Partial NFA was issued for the burn pit in January 2009. At the time of this NFA designation, cleanup actions were still underway for additional areas on the Property, including the former landfill. The "Partial NFA" designation identifies that the Burn Pit received a No Further Action designation, but this designation did not apply to the entirety of the Property, as determined by ODEQ. Based on the Partial NFA issued by ODEQ, as well as on site visual observations of the former burn pit area, the burn pit does not appear to be a REC to the Property.

6.0 Adjacent Properties

6.1 Historical Records Search

The table below presents a summary of the operational history of the adjacent properties. The summary is an integration of the findings of the individual historical record sources presented in subsequent sections.

Summary of Adjacent Property History	
	Property Use
North	At least 1938 to Present: Property to the North was undeveloped; currently zoned as City of Warrenton, and is agricultural, undeveloped forestland, or residential
South	At least 1938 to Present: Astoria Country Club, light residential/agricultural, and wetland/forestland
East	At least 1938 to Present: Highway 101/26, residential and agricultural, and light commercial, including a church and a school.
West	Pacific Ocean and coastline.

6.1.1 Standard Environmental Records Search

Shaw reviewed the regulatory database information provided by Environmental Data Resources, Inc. (EDR), Inquiry No. 2906200.1s. Regulatory database information for all listed adjacent properties within one mile of the center of the Property is provided below:

Facility Name/Address	Listing	Distance from Property	Direction from Property	Gradient
Williams, Linda 33325 Patriot Way	LUST	2856 feet	SE	Down-gradient
Comments: A leaking underground storage tank (LUST) was discovered in February 2002. Cleanup was completed and reported to Oregon Department of Environmental Quality (ODEQ) in March 2002. This site does not appear to be a REC to the Property.				
Medix Ambulance Service, Inc. 2325 SE Dolphin Ave	AST HSIS	6399 feet	ENE	Down-gradient
Comments: The Property contains one 200-499 gallon AST that contains diesel fuel. HSIS is a hazardous materials inventory database; diesel is considered a hazardous material.				

6.1.2 Aerial Photographs

Year	Scale	Observations
1938	Undefined	North: Undeveloped, dunes, forestland, and apparent wetlands South: Agriculturally developed and undeveloped along coastline. Astoria Country Club is observed far to the south. East: Highway 101/26, light density residential and agricultural properties. West: Pacific Ocean and coastline
1958	1:13,000	North: Additional roads are observed, development still appears undeveloped with few residential properties. South: Astoria Country Club and agricultural properties observed. The land appears undeveloped towards the coastline. East: Highway 101/26, light density residential and agricultural properties. Possible small light commercial properties as well. West: Pacific Ocean and coastline
1971	1:14,500	North: Additional roads are observed, development still appears undeveloped with few residential properties. South: South: Astoria Country Club and agricultural properties observed. Increased residential density observed. The land appears undeveloped towards the coastline. East: Highway 101/26, light density residential and agricultural properties. Possible small light commercial properties as well. West: Pacific Ocean and coastline
1982	1: 8,000	The range of the aerial photograph does not cover outside Property boundaries.

Historical aerial photographs were obtained from, or viewed at, the following sources:

- Oregon Military Department

The range of the EDR Aerial Photo Decade Package, Inquiry Number: 2893935.5, did not cover adjacent properties.

6.1.3 Topographic Maps

Year	Scale	Observations
1949	1:24,000	Gearhart, OR Quad North: The Property north of Camp Rilea is not within the topo map South: Slusher Lake, Sunset Lake, a few main roads and unpaved roads, and buildings line those roads. Astoria Country Club is observed off the southeast corner of Camp Rilea. East: Highway 101/26 is observed, as well as the Spokane, Portland, and Seattle railroad. Unpaved roads and buildings are observed east of the highway. West: The coastline and Pacific Ocean is observed west of Camp Rilea.
1979	1:24,000	Gearhart, OR Quad Minor changes in roads and water bodies are observed to the south. Additional buildings are observed to the southeast at Astoria Country Club. No additional significant changes observed.
1953	1:24,000	Warrenton, OR Quad North: Kyle Lake, Long Lake, and Leinenweber Lake are observed north of Camp Rilea. These lakes appear to be wetlands. South: Properties south of Camp Rilea are not within the extent of the topo map East: Smith Lake and the highway are observed. Buildings are observed along the highway. The railroad is observed east of the highway. West: The coastline and Pacific Ocean is observed west of Camp Rilea.
1973	1:24,000	Warrenton, OR Quad The outlines of Kyle Lake and Long Lake are slightly varied. Additional buildings observed along Highway 101/26. No other significant changes observed from 1953 topographic map.
1984	1:24,000	Warrenton, OR Quad The northern boundary of the Military Reservation and Warrenton Incorporated City are defined. No additional significant changes are observed.
1996	1:24,000	Warrenton, OR Quad No significant changes observed from 1984 aerial photograph.

Historical topographic maps were obtained from, or viewed at, the following sources:

- The EDR Historical Topographic Map Report, Inquiry Number: 2893935.4

6.1.4 Historical Fire Insurance Maps

Shaw was unable to access reasonably ascertainable historical fire insurance maps from the following sources:

- EDR Certified Sanborn® Map Report, Inquiry Number: 2893935.3

6.1.5 City Directories

Year	Address	Uses	Historical City Directory
2000	33218 Patriot Way	Residential	Polk's City Directory Abstract
	33322 Patriot Way	Residential	
	33325 Patriot Way	Not Verified	

Note: Property uses anticipated to have potential environmental significance have been italicized.

Name of city directories and source:

- The EDR-City Directory Abstract, Inquiry No. 2893935.6

6.1.6 Zoning/Land Use Records

Vicinity	Description of Zoning / Land Use Records
North	City of Warrenton Boundary
South	Open space park and recreation; lake and wetland; RA-5: Residential agriculture 5
East	Lake and wetland; RA-1: Residential agriculture 1; RA-5: Residential agriculture 5
West	Not zoned: Pacific Ocean.

Source of zoning / land use records:

- Clatsop County GIS, http://maps.co.clatsop.or.us

7.0 Conclusions

7.1 Historical Recognized Environmental Conditions and de Minimis Conditions

This assessment has revealed the following historical RECs and de Minimis Conditions in connection with the Property.

Former Landfill

The former landfill was located on the east side of the current MARF range maintenance shop, west of Neacoxie Road and at the northern tip of NBC Road. According to previous site assessments, the landfill was active from about the 1930's until the 1980's. The landfill covered approximately 4,000 square feet.

From 1996 to 2009, soils and groundwater at the former landfill were sampled and analyzed. Analytical results revealed trichloroethene (TCE) contamination in the shallow groundwater consistently at or above the Environmental Protection Agency (EPA) maximum contaminant level (MCL) for drinking water. Analytical results also revealed sporadic detections of tetrachloroethene (PCE) and 1,1,2,2-tetrachloroethane (1,1,2,2-TCA) The affected shallow groundwater in this area flows east towards Neacoxie Creek. Groundwater models were created to represent the groundwater in this area. The groundwater models indicate the TCE plume will not affect Neacoxie Creek. The former landfill was capped with asphalt in August 2007.

Oregon Department of Environmental Quality (ODEQ) determined that, based on modeling data, any groundwater contamination would not reach Neacoxie Creek in concentrations above 1 part per billion (ppb). In May 2010, ODEQ issued a No Further Action (NFA) for the former landfill. Based on the NFA and the available analytical data, the former landfill no longer appears to be a REC to the Property. The former landfill is identified as Environmental Condition of Property (ECOP) Category 3 on Figure 3.

Burn Pit

The burn pit is located north of First Causeway Road, south/southeast of the former landfill. Dimensions were approximately 25 feet by 30 feet in an oval shape and approximately 3 feet deep. The burn pit was used to reduce solid waste volume prior to disposal in the 1980's.

Between 2001 and 2005, soil and groundwater in the burn pit area was sampled and analyzed. Analytical results revealed arsenic (As) and lead (Pb) contamination in the soils above ODEQ Risk Based Concentrations (RBC) for As and EPA Preliminary Remediation Goals (PRG) for Pb. In 2007, approximately 261 tons of excavated soils and burn pit materials were removed.

Confirmation samples indicated all soils that had been impacted by the burn pit had been removed.

A Partial NFA was issued for the burn pit in January 2009. At the time of this NFA designation, cleanup actions were still underway for additional areas on the Property, including the former landfill. The "Partial NFA" designation identifies that the Burn Pit received a No Further Action designation, but this designation did not apply to the entirety of the Property, as determined by ODEQ. Based on the Partial NFA issued by ODEQ, as well as on site visual observations of the former burn pit area, the burn pit no longer appears to be a REC. The burn pit is identified as ECOP Category 4 on Figure 3.

Diesel spills

Between the 1940s and the 1980s, numerous small hutments and concrete "tent pads" were located in the area east of S Oregon Street in the cantonment area. Heat was provided with WW-II era diesel burning stoves, each having its own individual fuel (diesel) storage tank. Over the approximately 40 year period, a number of small diesel spills occurred from storage tank piping leaks, contaminating the soils beneath this area up to 7 feet below ground surface (bgs). In 1994, a separate diesel release occurred in the former Oregon Air Guard area east of the barracks area near Neacoxie Creek.

In 1994, a total of approximately 1,000 cubic yards of petroleum contaminated soil (PCS) were removed from the former hutment area and disposed of off site. An additional 500 yards of soils were excavated from the more recent diesel spill area. The soils excavated from the Air Guard release were staged nearby, within the former UTES compound, and a permit was acquired to treat the soils on site. Confirmation samples indicated less than 100 parts per million (ppm) diesel contamination remained in the 1994 Air Guard diesel spill area. Monitoring wells were installed to determine if groundwater was affected. Analytical results indicated no groundwater contamination occurred.

Further documentation related to the cleanup of these areas cannot be located at this time. Due to the lack of documentation, ODEQ has not issued a NFA for these cleanup actions. However, ODEQ has issued a low priority for these cleanup areas.

De minimus Conditions

Minor pavement staining was observed in vehicle and equipment maintenance buildings, oil storage areas, and in parking areas on the Property. These stains appeared to be typical to parking areas and mechanical shops.

7.2 Current Recognized Environmental Conditions

Shaw has performed a Preconstruction Assessment in conformance with the scope and limitations of US Army Environmental Center (USAEC) Procedures Manual for the Environmental Survey and Clearance of a Construction Site, dated October 1999 of Camp Rilea, 33168 Patriot Way, Warrenton, Clatsop County, Oregon 97146 (the Property). Any exceptions to, or deletions from, this practice are described in Section 1.3 of this report.

This assessment has revealed the following recognized environmental conditions in connection with the Property.

Range Impact Areas

Impact areas of historical and current operational ranges may contain munitions constituents (MC) including, but not limited to, cadmium and lead. The demolition and grenade range areas may also be impacted by MC related to pyrotechnics, including perchlorate. These ranges are located in multiple areas along the approximate center line of the Property, typically west of the cantonment area and east of the coastline. The grenade and demolition ranges are located near the southwest of the Property, south of and along Demo Road. Figure 2 depicts the approximate boundaries of these range areas and the approximate boundaries of their associated impact areas.

An Operational Range Assessment Program (ORAP) Phase I Qualitative Assessment conducted on the Property in January 2008 identified current and historical potential munitions constituents of concern (MCOC) and placed these areas into four categories: MSW (E) GW, MGW, MPU, and LS. 48 of the 50 operational ranges (4,203 of the total 4,295 acres) included in the ORAP were identified as MGW, sources with the potential for MCOC to migrate off-range via groundwater migration pathways, but groundwater source-receptor interactions are incomplete for human and ecological receptors; MPU, sources with a lack of mobility pathway, via either surface water or groundwater; or LS, no current or historical sources of MCOC were identified. These 48 operational ranges were categorized as being "unlikely" to have potential MCOC migrate off-range and affect human or ecological receptors. The ORAP Assessment also identified a 92 acre "inconclusive area" that lies approximately east of Slusher Lake, west of Sunset Lake, and south of Slusher Lake Road and Pacific Road. This area has a reported historical heavy use of pyrotechnics and blank ammunition. This area is categorized as MSW (E) GW, with current and historical sources of potential MCOC that have potential to migrate off-range via surface water and groundwater migration pathways, and ecological receptors are potentially impacted via the surface water pathway. A Phase II Quantitative Assessment is now underway. This The Phase II Assessment includes analysis of the potential MCOC, potential human and

ecological receptors, and the potential for MCOC to migrate off-range and affect these receptors.

Underground Piping at JP8 Tanks

The 6,000-gallon and 7,000-gallon aboveground storage tanks located to the east of the Unit Training Equipment Site (UTES) area are single walled steel-constructed tanks containing JP8 fuel for general vehicle and equipment fueling on the Property. The tanks are connected to fueling stations located to the west via underground piping that runs approximately 40 feet in length. The tanks, underground piping, and fueling stations were installed in 1988. At the time of the site reconnaissance, the tanks and secondary containment appeared in good condition.

Based on interviews with OMD personnel and onsite maintenance personnel, the underground piping is not dual walled and does not have cathodic protection. Based on the age of the piping and the high amounts of precipitation at the Property, there is a high potential that the integrity of the underground piping has been compromised and has potentially leaked.

7.3 Known or Suspected Areas with Restrictions

Based on the findings of this PCA, the following areas on the Property have recommended restrictions for construction.

Range Impact Areas

48 of the 50 operational ranges were categorized as being "unlikely" to have potential MCOC migrate off-range and affect human or ecological receptors. While these operational ranges are active, there is no required action to investigate or remediate potential MCOC. If future use of these operational ranges is to change and/or the ranges are to become inactive, Shaw recommends an investigation to determine the extent of MCOC and potential impacts to human health and the environment.

The 92 acre "inconclusive area" that lies approximately east of Slusher Lake, west of Sunset Lake, and south of Slusher Lake Road and Pacific Road is categorized as MSW (E) GW, with "current and historical sources of potential MCOC that have potential to migrate off-range via surface water and groundwater migration pathways, and ecological receptors are potentially impacted via the surface water pathway". A Phase II Quantitative Assessment is now underway in this "inconclusive area". The Phase II Assessment includes analysis of the potential MCOC, potential human and ecological receptors, and the potential for MCOC to migrate off-range and affect these receptors.

Underground Piping at JP8 Tanks

Shaw recommends a subsurface investigation be conducted of the underground piping that connects the JP8 tanks to the fueling stations. This investigation will be designed to confirm the presence of potential soil and groundwater contamination associated with the likely leakage of the underground piping. Shaw also recommends that the entire tank system, including the tanks, underground piping, and fueling pumps, be updated in accordance with current applicable State and Federal rules and regulations, including but not limited to, OAR 837-020, OAR 837-040, and the 2010 Oregon Fire Code Chapters 22 and 34.

Appendix A

Qualifications of Environmental Professionals

Audrey Turpening, EIT

Experience Highlights:

Experience with Phase I Environmental Site Assessments (ESAs); data management and reporting; field work, including assistance with petroleum, polychlorinated biphenyls, and drilling; Spill Prevention, Control and Countermeasure (SPCC) Plans, Water Pollution Control Facilities (WPCF) and Stormwater Pollution Control Plans (SWPCP).

Office Location

Portland, OR

Education

BS, Chemical Engineering, Oregon State University, Corvallis, OR.

Registered Engineer in Training, Cert #80505EIT, 2008

Additional Training

40 hr HAZWOPER certification, 2006, Portland, OR

8hr HAZWOPER refresher, 2009, Portland, OR

Affiliations

American Institute of Chemical Engineers, Member, 2006

Background Summary

Ms. Turpening is currently an Engineer 1 in Shaw's Portland, OR office. She has about two years experience with environmental engineering and consulting, including over twenty-five Phase I ESAs, data management for large cleanups, and field work in petroleum, asbestos, and polychlorinated biphenyls cleanups. Ms. Turpening has also assisted in Phase II sampling events, including drilling, sampling, documentation, data management and reporting. She has experience writing Spill Response Reports, Quarterly and Annual Monitoring Reports, and Oregon Department of Environmental Quality correspondence. Ms. Turpening has extensive experience preparing Spill Prevention, Control and Countermeasure (SPCC) Plans, Phase I ESAs, and Stormwater Plans in Oregon and Washington.

Relevant Experience

- **Oregon Department of Transportation - Redmond Highway 97 Reroute; Engineer – Field Work; Redmond, OR.** Served as an assistant engineer in various aspects of the project, including site mapping, soil sampling, and data management. Sampling included soils with polychlorinated biphenyls, petroleum, and asbestos.
- **First Strike Environmental – Roberts Creek Spill; Engineer – Beneficial Use Survey; Roseburg, OR.** Completed a Beneficial Use Survey for the site after a large petroleum spill, managed all data from sampling events at the site for six months, and assisted with the Spill Response Report to receive No Further Action from ODEQ.
- **Shore-Bank Pacific – Phase I ESA; Oregon.** Completed residential Phase I ESA in Portland, OR. Assisted with a residential Phase I ESA in Warrenton, OR, including the discovery of an UST by means of historical research and personal interviews. Assisted with a Phase II on a commercial site in Portland, OR, including soil sampling and drafting a site plan.
- **Confidential Client – Phase I ESA; Oregon.** Conducted multiple Phase I ESAs for residential, commercial, and industrial sites in Oregon and Washington. Sites included commercial, industrial, residential, and vacant residential and commercial sites for future development.
- **Oregon Military Department – Phase I Environmental Baseline Survey (EBS) and Environmental Condition of Property (ECOP); Oregon.** Conducted two Phase I EBS based on Oregon Military Department standards, including an ECOP designation for the entire Property. Properties included a military base and an agricultural lot.
- **Confederated Tribes of the Grand Ronde – Phase I ESA; Oregon.** Conducted two Phase I ESAs on residential properties for the tribe to be brought into Tribal Trust. Reports were submitted to the Bureau of Indian Affairs (BIA), under strict requirements from the BIA.

- **The Holland, Inc – Burgerville, USA Phase I and Phase II ESA; Washington.** Conducted Phase I ESA on three blocks of downtown Vancouver, WA; resulting in the discovery of three underground storage tanks from previous Property operations by means of site reconnaissance and historical research. Conducted Phase II ESA including locating historical tanks, oversight of petroleum removal from tanks, and sampling of surrounding soils.

- **CEMEX, USA; Engineer – Spill Prevention, Control and Countermeasure (SPCC) Plans; Oregon and Washington**
  Prepared SPCC plans for multiple sites in Oregon and Washington for CEMEX, including aggregate mining sites and an asphalt manufacturing sites. Also prepared a Stormwater Pollution Control Plan (SWPCP) 1200-A permit for the mining site and a Water Pollution Control Facilities (WPCF) Permit for the liquid asphalt site.

- **Cessna Aircraft Company; Engineer – Stormwater Pollution Control Plan (SWPCP); Bend, OR.** Prepared SWPCP plan and 1200-Z permit for aircraft manufacturing company, as well as trained staff on stormwater pollution control.

- **Allied Waste – Spill Prevention, Control and Countermeasure (SPCC) Plans; Oregon.** Prepared multiple SPCC plans for Oregon sites, including vehicle and equipment maintenance sites.

- **Schnitzer Steel Industries – Spill Prevention, Control, and Countermeasure (SPCC) Plan; Oregon.** Prepared SPCC plan for main scrap metal collection, processing, and shipping terminal on the Columbia River. Also conducted training for all Schnitzer management staff
- **Multiple Landfills – Data Management and Monitoring Reports; Oregon and Washington.** Manage and coordinate sampling events for groundwater, stormwater, surface water and leachate; manage quarterly and semiannual data; prepare Discharge Monitoring Reports for Stormwater Permits and Quarterly and Annual Environmental Monitoring Reports for groundwater, stormwater, surface water, and leachate for submittal to Oregon Department of Environmental Quality and Washington Department of Ecology; assist with completing Annual Air Emissions Reports for submittal to Southwest Clean Air Agency (state of WA).

David Seluga

Experience Highlights:

- More than 25 years of experience managing and assisting client to meet their environmental obligations.
- Experience conducting audits and internal investigations and identifying regulatory impacts.
- Broadly knowledgeable in regulatory requirements, compliance assurance methods, and due diligence.

Office Location:

Portland, OR

Education

Post-Baccalaureate studies in Process Management, Oregon Institute of Technology, Klamath Falls, OR

BS, Wood Science and Engineering, Oregon State University, Corvallis, OR

Additional Training

Production Management, Labor Relations, Total Quality Statistical Process Control, Leadership Institute, Total Quality Environmental Audit Training, Team Leadership/Management Support Role, Team Interaction, Rapid Change, Business Process Improvement, Capital Projects Management Systems

Affiliations

Charter Member, Oregon Department of Environmental Quality (ODEQ) Western Region Industry Roundtable

Sustaining member, National Council for Air and Stream Improvement

Background Summary

Mr. Seluga is a senior project manager in Shaw's Portland, Oregon, office with more than 25 years of experience managing and assisting industrial facilities to meet their environmental obligations as well as to improve operational efficiencies. He has career-long experience in industry as a facility staff scientist and manager, corporate consultant, and independent consultant. Mr. Seluga has experience conducting compliance audits and internal investigations, identifying regulatory impacts, assessing contamination risks, and implementing needed facility changes. Mr. Seluga's industrial environmental experience includes obtaining and managing environmental permits for various manufacturing facilities as well as being responsible for all regulatory relationships. He is broadly knowledgeable in regulatory requirements, compliance assurance methods, and due diligence.

Relevant Experience

- **Port of Portland, EMS Assessment and Implementation, Project Manager.** Currently serving as Project Manager and primary point of contact with the client. Manages the day-to-day aspects of the project, provides peer/senior review of procedures and standard operating procedures, and assisted in the development of the EMS manual for the Port EMS.
- **Oregon Department of Transportation, Client Manager.** Served as client interface and overall project director for the following Oregon Department of Transportation projects:
  - ***Klamath Falls Hazardous Materials Corridor Assessment –*** Project manager for a two mile hazardous materials assessment along Highway 97 in southern Oregon. On time, on budget project.
  - ***Detroit Lake Oil Spill –*** Project manager and client lead for evaluating clean up solutions for an oil spill near Detroit lake. On time and on budget project.
  - ***Humbug Mountain Hazardous Materials Inventory –*** Project manager for a hazardous materials assessment of three buildings in the ODOT right-of-way on the Oregon coast. On time and on budget project.
  - ***Redmond Sidewalk Infilling –*** Project manager for a 12 city block hazardous materials assessment for sidewalk placement along Highway 97. On time and on budget.
  - ***Redmond US 97 Reroute –*** Project manager and client lead for two high profile cleanups of sites in the ODOT reroute of Hwy 97 in Redmond, OR. On time and on budget.
- **Confidential Retail Client; Project Director, Compliance Support; Western US.** Western US Lead for exception review, implementation, and compliance support program for a confidential retail client. Coordinated, communicated, and implemented a compliance based review of 500 stores in the western US. Coordinated the review efforts of two outside consultant firms, two legal firms, and the client project management team.
- **Weyerhaeuser Company, Client Manager/Project Manager.** Served as client interface and overall project director for the following Weyerhaeuser projects:

- ***Wood Products Roundtable –*** Served as a member of the roundtable to develop an ISO compliant Weyerhaeuser-wide EMS.
- ***Mt. Solo Landfill Post-Closure Operations and Maintenance –*** Project manager overseeing three field technicians monitoring landfill gas systems.
- ***Ostrander Rock Landfill Post-Closure Operations and Maintenance –*** Project manager overseeing three field technicians monitoring landfill gas systems and stormwater.
- ***Wimer Truck Shop Phase 2 Investigation –*** Project manager for a detailed Phase 2 subsurface investigation of a former truck shop in Lebanon, OR. On time and on budget project.
- ***Headquarters Landfill Water Monitoring –*** Project manager overseeing three technicians completing surface and subsurface water monitoring.

- **Louisiana-Pacific, Client Manager/Project Manager.** Served as client interface and overall project director for the following LP projects:
  - ***Comparative Study of Best-in Class EMS –*** Project manager and client lead for evaluating best in class EMS in the US. On time and below budget project.
  - ***EMS Development –*** Assisted five sawmills in Idaho and Montana in the development of a compliance-based EMS.
  - ***Elk Creek and Red Bluff Landfill Post-closure Monitoring –*** Project Manager for subsurface water monitoring of two closed landfills in CA.
  - ***Limited-Scope Phase II ESA for at the Hillsboro Airport –*** Project manager for a Phase 2 subsurface investigation at the Hillsboro airport as part of an LP divestiture.
- **7-Eleven Western Region Project Manager.** Project manager overseeing four auditors in eight western states involved in completing gas station hazardous materials audits and a review of the gas EMS.

Appendix B

Database Assessment Criteria and Statement of Limitations

Regulatory Database Assessment Criteria

The purpose of the regulatory agency environmental database review was to identify reported environmental issues for the Property and other properties in the vicinity. The database search criteria included the approximate minimum search distances specified in the Scope of Work described in Section 1.3. The descriptions of the databases searched and the associated search distances from the Property are identified in the regulatory agency database search report presented in Appendix F.

The database search report lists a number of sites identified as "unmappable." The database search firm was unable to confirm the physical locations of these sites relative to the Property or to assess whether they were located within the designated search radii. Shaw Environmental, Inc. (Shaw) independently reviewed the locations of these "unmappable" sites, to the extent possible, using various maps and our knowledge of the Property area. Any of the "unmappable" sites determined to be within the designated search radii were included in our evaluation of the various listed sites potential to result in a recognized environmental condition relative to the Property.

Shaw evaluated each reported site identified in the regulatory agency database search report with respect to the nature and extent of the release, the distance of the site from the Property, the stratigraphy of soils, the expected soil permeability, and the topographic position of a reported release site with respect to known or expected local and/or regional groundwater flow direction. Reported release sites located within ¼-mile upgradient or ⅛-mile cross-gradient or adjacent downgradient are considered to have a potential to have impacted the Property and were further assessed by reviewing agency records and/or interviewing agency personnel.

Statement of Limitations

The conclusions presented in this report are professional opinions based on data described in this report. These opinions have been arrived at in accordance with currently accepted environmental industry standards and practices applicable to the work described in this report. The opinions presented are subject to the following inherent limitations:

1. This report was prepared for the exclusive use of the entity referenced in the Executive Summary, the User. No other entity may rely on the information presented in the report without the expressed written consent of Shaw. Any use of the Preconstruction Assessment (PCA) report constitutes acceptance of the limits of Shaw's liability. Shaw's liability extends only to its client and not to any other parties who may obtain the PCA report.

2. Shaw derived the data in this report primarily from visual inspections, examination of records in the public domain, and interviews with individuals having information about the Property. The passage of time, manifestation of latent conditions, or occurrence of future events may require further study at the Property; analysis of the data; and reevaluation of the findings, observations, and conclusions in the report.

3. The data reported and the findings, observations, and conclusions expressed in the report are limited by the scope of work that was performed within the approved time and budgetary requirements. The scope of work is presented in Section 1.3 and was agreed to by the client.

4. Shaw's PCA report presents professional opinions and findings of a scientific and technical nature. The report shall not be construed to offer legal opinion or representations as to the requirements of, or compliance with, environmental laws, rules, regulations, or policies of federal, state, or local governmental agencies.

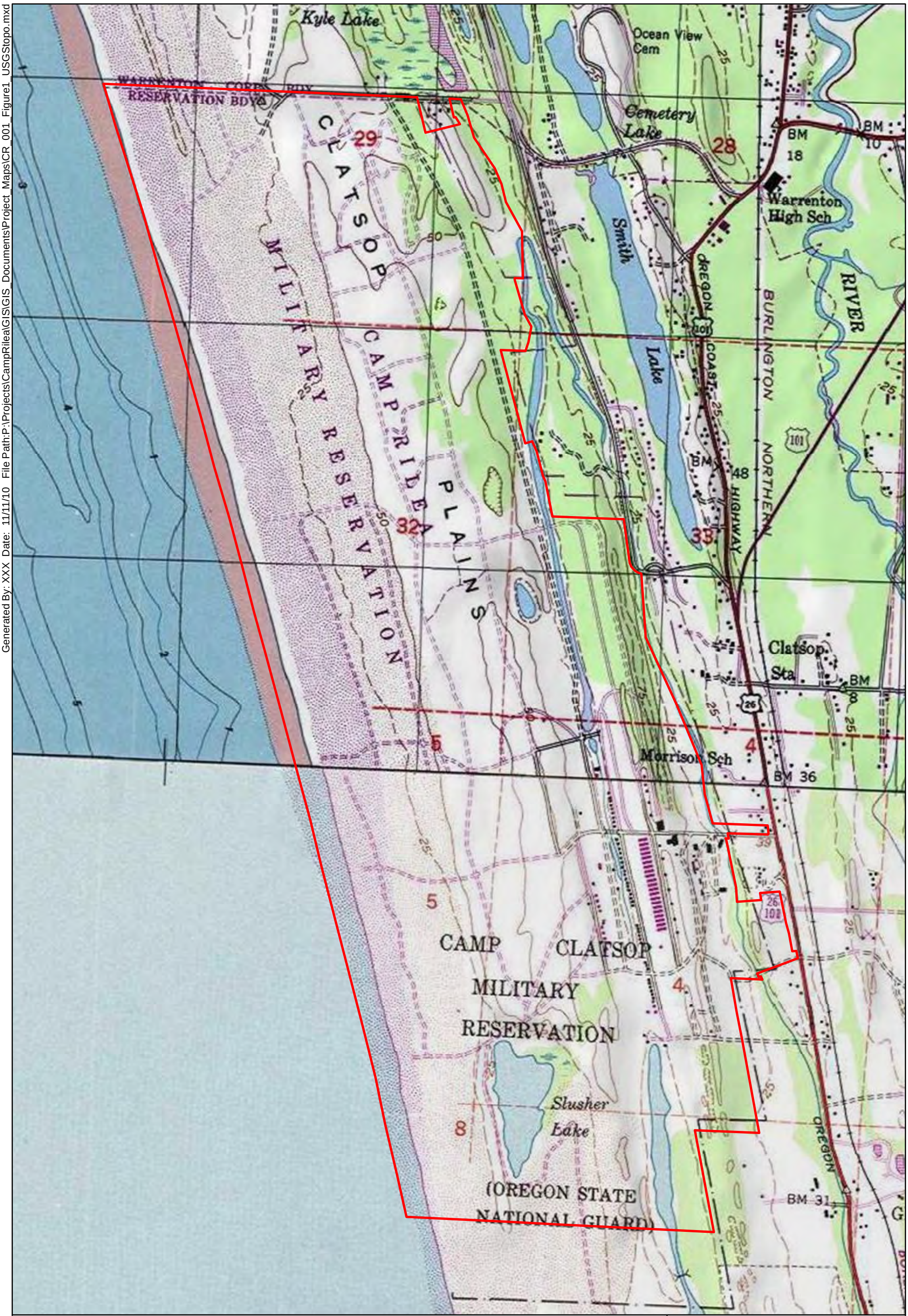
5. This report is not a definitive study of contamination at the Property and should not be interpreted as such. Unless indicated to the contrary in Section 1.3, an intrusive assessment of subsurface soil, groundwater, or other environmental media was not performed as part of this investigation,

6. This report is based, in part, on unverified information supplied to Shaw by third-party sources. While efforts have been made to substantiate this third-party information, Shaw cannot guarantee its completeness or accuracy.

Appendix C

Figures

Generated By: XXX Date: 11/11/10 File Path:P:\Projects\CampRilea\GIS\GIS_Documents\Project_Maps\CR_001_Figure1_USGStopo.mxd



Project Number: 140847.03

Legend

Camp Rilea Installation Boundary (2009)

USGS 24k Topographic Quads: (circa 1949)
Gearhart - 46123-A8
Warrenton - 46123-B8

N

0 600 1,200 Feet

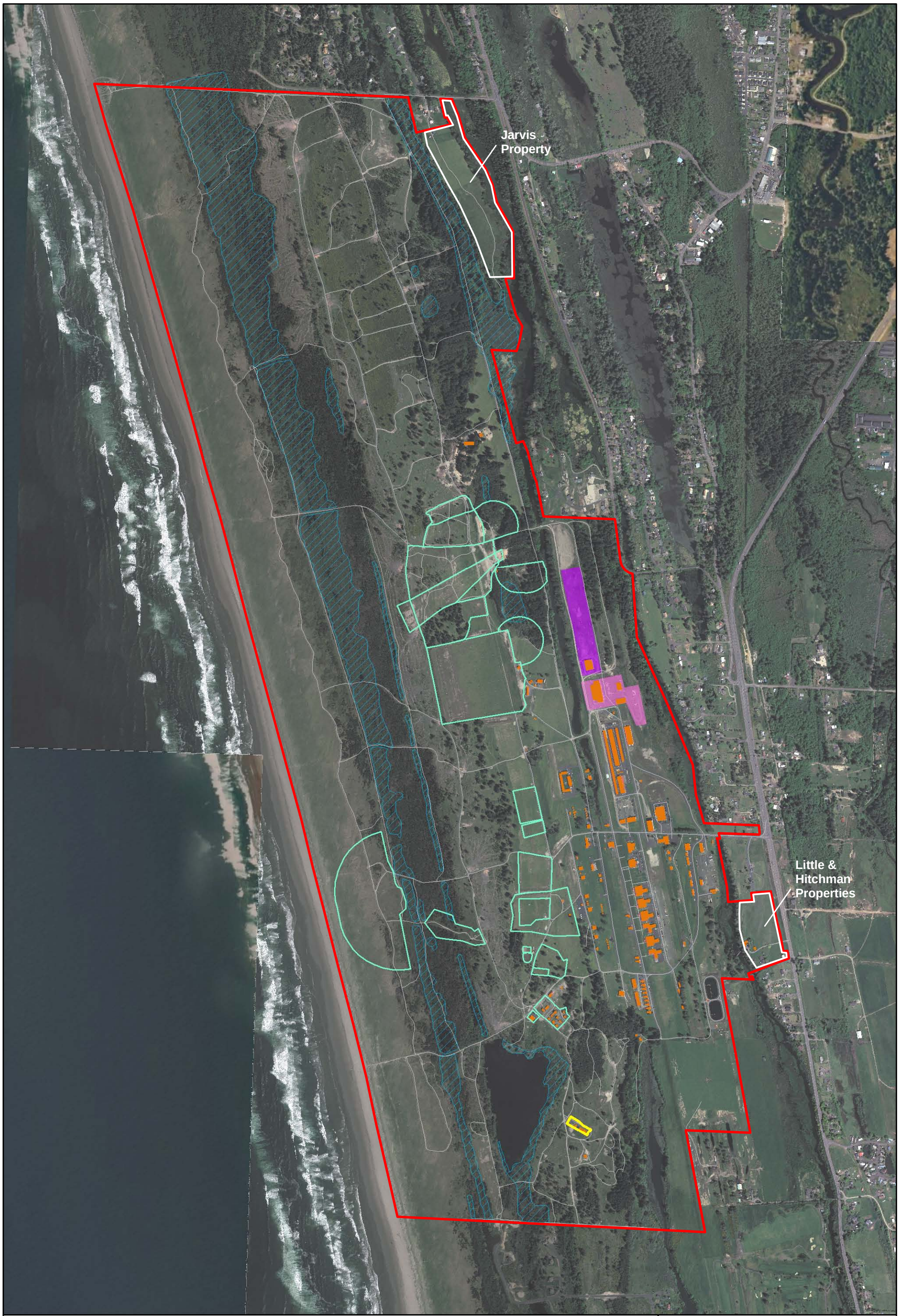
Projection : NAD_1983_HARN_StatePlane_Oregon_North_FIPS_3601_Feet_Intl

Oregon Military Department

Site Location Map

FIGURE NUMBER	CAMP RILEA 33168 PATRIOT WAY WARRENTON, OR 97146
1	

Shaw Shaw Environmental, Inc.



Legend

- Camp Rilea Installation Boundary
- Ammunition Storage Area
- ANG Enclaves
- Existing Structure
- JATC Lease Area
- Military Range Area
- Wetland
- Streets

N

0 600 1,200 Feet

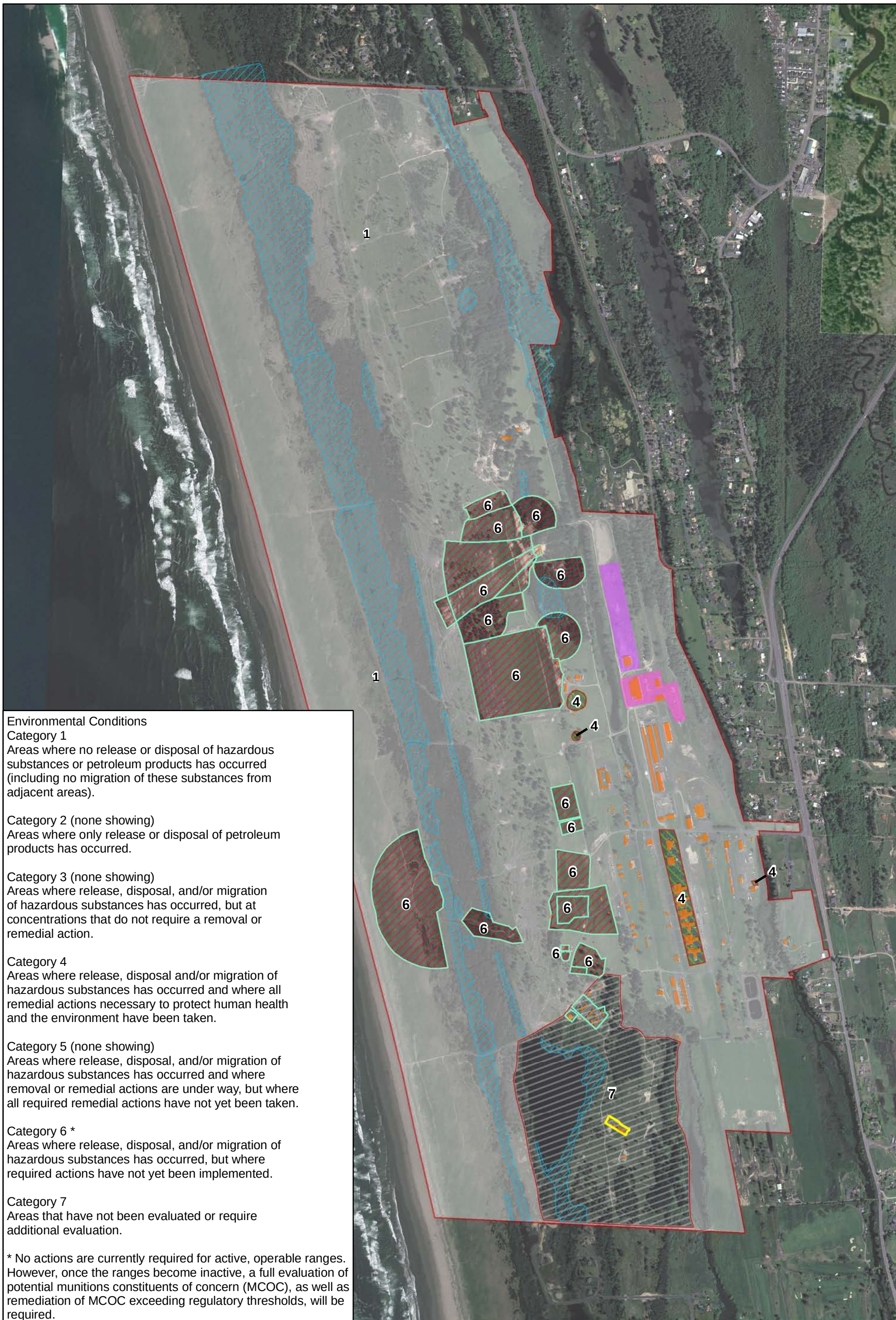
Oregon Military Department

Site Layout

FIGURE NUMBER	CAMP RILEA 33168 PATRIOT WAY WARRENTON, OR 97146
2	

Shaw Shaw Environmental, Inc.

Project Number: 140847.03



Environmental Conditions
Category 1
Areas where no release or disposal of hazardous substances or petroleum products has occurred (including no migration of these substances from adjacent areas).

Category 2 (none showing)
Areas where only release or disposal of petroleum products has occurred.

Category 3 (none showing)
Areas where release, disposal, and/or migration of hazardous substances has occurred, but at concentrations that do not require a removal or remedial action.

Category 4
Areas where release, disposal and/or migration of hazardous substances has occurred and where all remedial actions necessary to protect human health and the environment have been taken.

Category 5 (none showing)
Areas where release, disposal, and/or migration of hazardous substances has occurred and where removal or remedial actions are under way, but where all required remedial actions have not yet been taken.

Category 6 *
Areas where release, disposal, and/or migration of hazardous substances has occurred, but where required actions have not yet been implemented.

Category 7
Areas that have not been evaluated or require additional evaluation.

* No actions are currently required for active, operable ranges. However, once the ranges become inactive, a full evaluation of potential munitions constituents of concern (MCOC), as well as remediation of MCOC exceeding regulatory thresholds, will be required.

Legend

Environmental Conditions

- Category 1
- Category 4
- Category 6
- Category 7
- Camp Rilea Installation Boundary
- Ammunition Storage Area
- ANG Enclaves
- JATC Lease Area
- Existing Structure
- Military Range Area
- Wetland

N

0 600 1,200 Feet

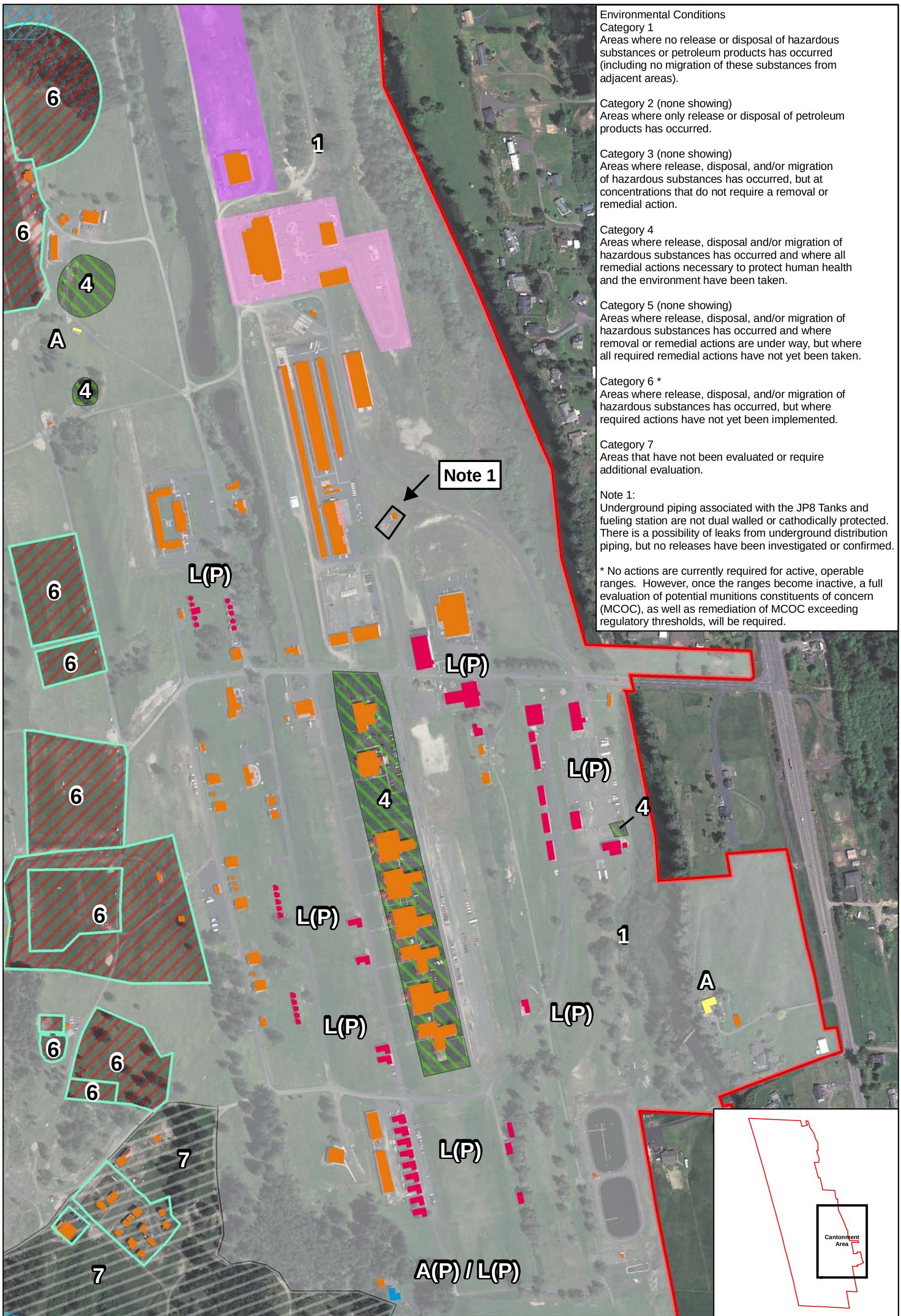
Oregon Military Department

Environmental Condition of Property

FIGURE NUMBER	CAMP RILEA 33168 PATRIOT WAY WARRENTON, OR 97146
3	

Shaw Shaw Environmental, Inc.

Project Number: 140847.03



Environmental Conditions
Category 1
Areas where no release or disposal of hazardous substances or petroleum products has occurred (including no migration of these substances from adjacent areas).

Category 2 (none showing)
Areas where only release or disposal of petroleum products has occurred.

Category 3 (none showing)
Areas where release, disposal, and/or migration of hazardous substances has occurred, but at concentrations that do not require a removal or remedial action.

Category 4
Areas where release, disposal and/or migration of hazardous substances has occurred and where all remedial actions necessary to protect human health and the environment have been taken.

Category 5 (none showing)
Areas where release, disposal, and/or migration of hazardous substances has occurred and where removal or remedial actions are under way, but where all required remedial actions have not yet been taken.

Category 6 *
Areas where release, disposal, and/or migration of hazardous substances has occurred, but where required actions have not yet been implemented.

Category 7
Areas that have not been evaluated or require additional evaluation.

Note 1:
Underground piping associated with the JP8 Tanks and fueling station are not dual walled or cathodically protected. There is a possibility of leaks from underground distribution piping, but no releases have been investigated or confirmed.

* No actions are currently required for active, operable ranges. However, once the ranges become inactive, a full evaluation of potential munitions constituents of concern (MCOC), as well as remediation of MCOC exceeding regulatory thresholds, will be required.

Legend

Environmental Conditions
- Category 1
- Category 4
- Category 6
- Category 7

Structure Type
- Existing Structure
- A = Asbestos
- L(P) = Lead Based Paint (possible)
- A(P) / L(P) = Asbestos (possible) Lead Based Paint (possible)

- Camp Rilea Installation Boundary
- Ammunition Storage Area
- ANG Enclaves
- JATC Lease Area
- Military Range Area
- Wetland

N

0 200 400 Feet

Project Number: 140847.03

Oregon Military Department

Environmental Condition of Property - Cantonment Area

FIGURE NUMBER	CAMP RILEA 33168 PATRIOT WAY WARRENTON, OR 97146
4	

Shaw Shaw Environmental, Inc.

Appendix D

Photographs

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Photographic Documentation

Client: Oregon Military Department
Location: Camp Rilea, 33168 Patriot Way, Warrenton
Photograph Date: October 14 & 15, 2010

Prepared by: Shaw Environmental, Inc.
Photographer: Audrey Turpening
Project No: 140847

Photo No: 1 **Direction:** S

Description: Grease bin and dumpster outside barracks (Starship) kitchen, typical of all barracks.

Photo No: 2 **Direction:** N

Description: Paint, lacquer, and stain storage. In building 7246.

Photo No: 3 **Direction:** N

Description: Satellite hazardous waste storage area in Paint Shop, building 7246.

Photo No: 4 **Direction:** NA

Description: fertilizer storage for onsite use, building 7247

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Photographic Documentation

Client: Oregon Military Department
Location: Camp Rilea, 33168 Patriot Way, Warrenton
Photograph Date: October 14 & 15, 2010

Prepared by: Shaw Environmental, Inc.
Photographer: Audrey Turpening
Project No: 140847

Photo No: 5 **Direction:** SW

Description: small amounts of oils, lubricants, and pesticides (slug and snail bait). Used for onsite maintenance. Stored in building 7248.

Photo No: 6 **Direction:** NA

Description: potential asbestos containing flooring/floor glue observed in storage closet of the historic chateau, building 7251.

Photo No: 7 **Direction:** S

Description: access to septic lift station at historic chateau, building 7251. Feeds to main water treatment lagoons.

Photo No: 8 **Direction:** E

Description: 1,000-gallon gasoline and 1,000-gallon diesel tanks located west of maintenance building 7243.

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Photographic Documentation

Client: Oregon Military Department
Location: Camp Rilea, 33168 Patriot Way, Warrenton
Photograph Date: October 14 & 15, 2010

Prepared by: Shaw Environmental, Inc.
Photographer: Audrey Turpening
Project No: 140847

Photo No: 9 **Direction:** NE

Description: Empty transformers, temporarily stored prior to removal off site.

Photo No: 10 **Direction:** NA

Description: paints, lacquers and thinners stored in main State warehouse, building 7254; used for general site maintenance.

Photo No: 11 **Direction:** NA

Description: Paints, small amounts of flammables stored in cabinets inside main state warehouse, building 7254.

Photo No: 12 **Direction:** NA

Description: Cleaning supplies, main state warehouse, building 7254.

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Photographic Documentation

Client: Oregon Military Department
Location: Camp Rilea, 33168 Patriot Way, Warrenton
Photograph Date: October 14 & 15, 2010

Prepared by: Shaw Environmental, Inc.
Photographer: Audrey Turpening
Project No: 140847

Photo No: 13 **Direction:** NA

Description: fluorescent bulb storage, new and used. Main state warehouse, building 7254.

Photo No: 14 **Direction:** NA

Description: HVAC and electricians shop, building 7243. Small propane tanks and air compressor.

Photo No: 15 **Direction:** NA

Description: building 7247, storage. Fertilizer stored for onsite use.

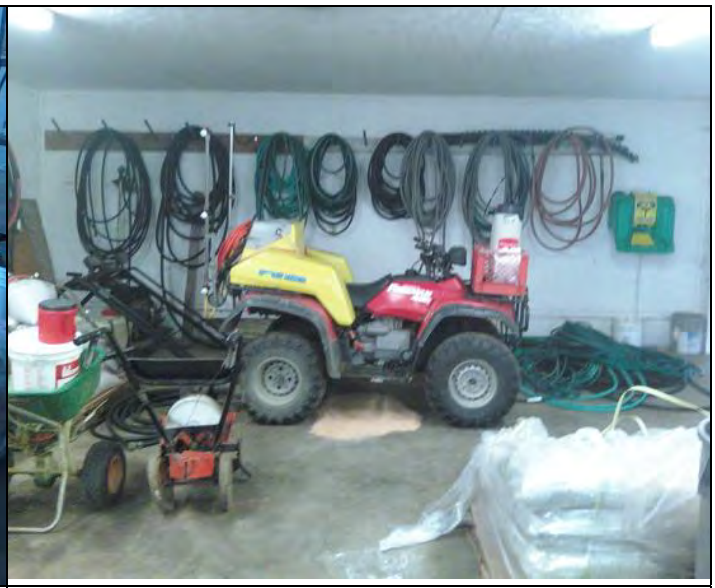

Photo No: 16 **Direction:** S

Description: yard maintenance equipment, stored in building 7248. Leak beneath ATV covered with adsorbent material.

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Photographic Documentation

Client: Oregon Military Department
Location: Camp Rilea, 33168 Patriot Way, Warrenton
Photograph Date: October 14 & 15, 2010

Prepared by: Shaw Environmental, Inc.
Photographer: Audrey Turpening
Project No: 140847

Photo No: 17 **Direction:** N

Description: inside of MATCH building

Photo No: 18 **Direction:** W

Description: grenade range area. No denuded vegetation or debris observed.

Photo No: 19 **Direction:** W

Description: LAW range; metal tank targets near treeline.

Photo No: 20 **Direction:** SW

Description: known distance rifle range. Distance markers (white) observed along treeline.

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Photographic Documentation

Client: Oregon Military Department
Location: Camp Rilea, 33168 Patriot Way, Warrenton
Photograph Date: October 14 & 15, 2010

Prepared by: Shaw Environmental, Inc.
Photographer: Audrey Turpening
Project No: 140847

Photo No: 21 **Direction:** W

Description: view towards northwest corner of Property from Iron OP. Iron OP is on northern Property boundary.

Photo No: 22 **Direction:** E

Description: sleeping quarters in barracks (aka starships), typical.

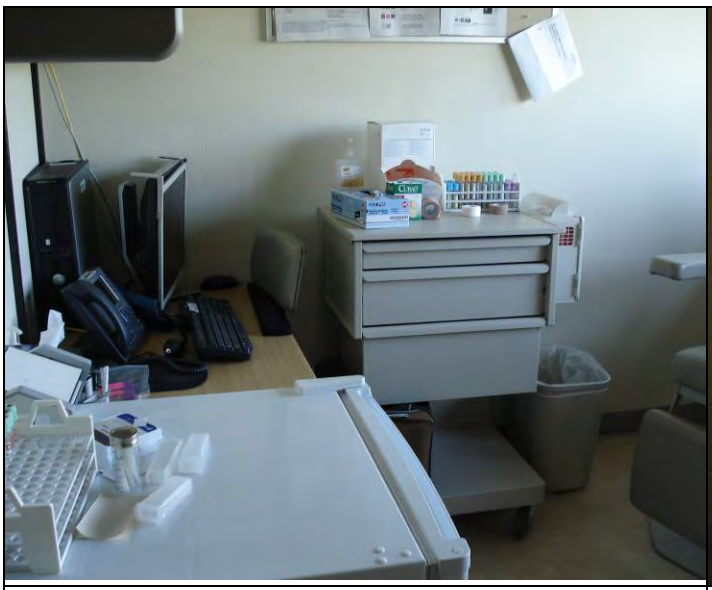

Photo No: 23 **Direction:** S

Description: blood testing station inside VA Health Clinic, building 7316.

Photo No: 24 **Direction:** W

Description: centrifuge for blood testing station inside VA Health Clinic, building 7316.

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Photographic Documentation

Client: Oregon Military Department
Location: Camp Rilea, 33168 Patriot Way, Warrenton
Photograph Date: October 14 & 15, 2010

Prepared by: Shaw Environmental, Inc.
Photographer: Audrey Turpening
Project No: 140847

Photo No: 25 **Direction:** SE

Description: leachate irrigation field with wind turbine, southeast corner of Property.

Photo No: 26 **Direction:** NNE

Description: chlorine treatment building, building 7009. Transformers located outside building. Fencing with barbed wire surrounds.

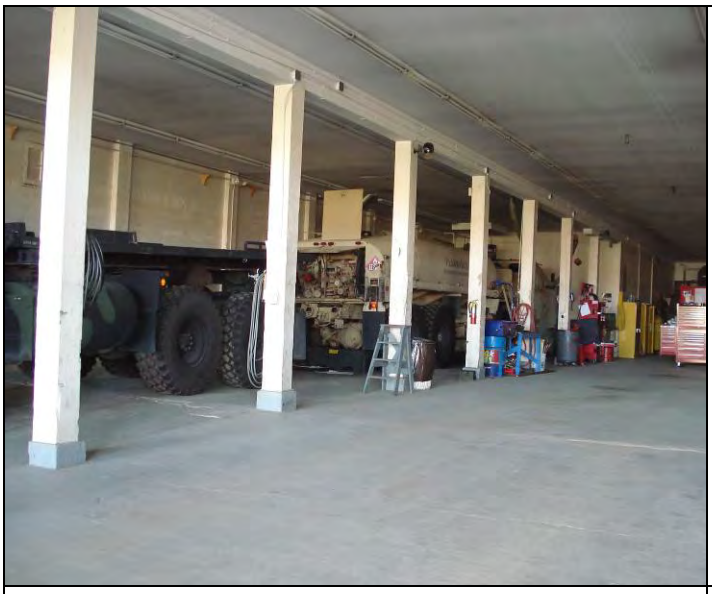

Photo No: 27 **Direction:** SSE

Description: mechanics shop beneath gym, building 7015. Small amounts (<55 gal) of oils and solvents observed.

Photo No: 28 **Direction:** E

Description: solvent cleaning sink and drum, building 7015.

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Photographic Documentation

Client: Oregon Military Department
Location: Camp Rilea, 33168 Patriot Way, Warrenton
Photograph Date: October 14 & 15, 2010

Prepared by: Shaw Environmental, Inc.
Photographer: Audrey Turpening
Project No: 140847

Photo No: 29 **Direction:** W

Description: oil drum on wheeled transport base, building 7015.

Photo No: 30 **Direction:** SW

Description: empty fuel truck staging yard, north of building 7148. Yard is fenced and trucks are grounded to fence.

Photo No: 31 **Direction:** W

Description: generators (empty) stored in Motor Pool building 7002. Empty cylinders also stored.

Photo No: 32 **Direction:** SE

Description: main facility backup generator, located just south of main entrance.

Client: Oregon Military Department
Location: Camp Rilea, 33168 Patriot Way, Warrenton
Photograph Date: October 14 & 15, 2010

Prepared by: Shaw Environmental, Inc.
Photographer: Audrey Turpening
Project No: 140847

Photo No: 33 **Direction:** SSE

Description: diesel tank connected to main facility backup generator.

Photo No: 34 **Direction:** E

Description: live fire rifle and pistol range; sandy wall is backstop for all ammunitions.

Photo No: 35 **Direction:** ENE

Description: live grenade practice range. Grenades are tossed into the concrete bays and detonated.

Photo No: 36 **Direction:** W

Description: MRF range; dummies located behind the dunes for practice firing.

Client: Oregon Military Department
Location: Camp Rilea, 33168 Patriot Way, Warrenton
Photograph Date: October 14 & 15, 2010

Prepared by: Shaw Environmental, Inc.
Photographer: Audrey Turpening
Project No: 140847

Photo No: 37 **Direction:** E

Description: transformer outside MRF range building, typical to transformers on the Property.

Photo No: 38 **Direction:** NE

Description: interior of NBC building, 7358. Known asbestos inside building.

Photo No: 39 **Direction:** S

Description: JATC Lineman School leased area. Transformers are empty, used for practice and training only.

Photo No: 40 **Direction:** W

Description: JP8 fuel pump, east of UTES area and west of JP8 fuel tanks.

Shaw® a world of Solutions™

Photographic Documentation

Client: Oregon Military Department
Location: Camp Rilea, 33168 Patriot Way, Warrenton
Photograph Date: October 14 & 15, 2010

Prepared by: Shaw Environmental, Inc.
Photographer: Audrey Turpening
Project No: 140847

Photo No: 41 **Direction:** ENE

Description: JP8 Fuel tanks, 6,000-gallon and 7,000-gallon. Single walled, within concrete secondary containment.

Photo No: 42 **Direction:** S

Description: Discharge point for JP8 tank secondary containment. Discharges into grassy swale to the south of the tanks.

Photo No: 43 **Direction:** N

Description: settling basin adjacent to wash rack, water discharge point in corner leads to OWS, building 7151.

Photo No: 44 **Direction:** NA

Description: OWS inside building 7151. All catch basins in potential petroleum storage areas lead to this OWS prior to discharge to Neacoxie Creek.

Shaw® a world of Solutions™

Photographic Documentation

Client: Oregon Military Department
Location: Camp Rilea, 33168 Patriot Way, Warrenton
Photograph Date: October 14 & 15, 2010

Prepared by: Shaw Environmental, Inc.
Photographer: Audrey Turpening
Project No: 140847

Photo No: 45 **Direction:** SE

Description: oil tank connected to OWS in building 7151. Collects all separated oil.

Photo No: 46 **Direction:** E

Description: mobile generator storage area, Air Guard leased area.

Photo No: 47 **Direction:** N

Description: mobile fuel tank storage area, leased Air Guard area.

Photo No: 48 **Direction:** S

Description: new oil storage, west side of UTES maintenance building, building 7156.

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Photographic Documentation

Client: Oregon Military Department
Location: Camp Rilea, 33168 Patriot Way, Warrenton
Photograph Date: October 14 & 15, 2010

Prepared by: Shaw Environmental, Inc.
Photographer: Audrey Turpening
Project No: 140847

Photo No: 49 **Direction:** SW

Description: New paints, cleaners, and solvents stored in new materials storage area, west side of building 7156.

Photo No: 50 **Direction:** S

Description: Hazardous waste storage area, inside UTES compound. White building, 7159, is ventilated and contains fire suppression system. Spill kits located throughout.

Photo No: 51 **Direction:** WNW

Description: Used oil tank on west side of UTES maintenance building. Dual walled tank inside small structure.

Photo No: 52 **Direction:** W

Description: Battery recharging and disposal area. Used batteries are stored until removal from site for disposal.

Shaw® a world of Solutions™

Photographic Documentation

Client: Oregon Military Department
Location: Camp Rilea, 33168 Patriot Way, Warrenton
Photograph Date: October 14 & 15, 2010

Prepared by: Shaw Environmental, Inc.
Photographer: Audrey Turpening
Project No: 140847

Photo No: 53 **Direction:** N

Description: satellite hazardous waste storage area, within UTES maintenance shop.

Photo No: 54 **Direction:** NW

Description: mobile generators stored inside controlled humidity building (CHP), 7160.

Photo No: 55 **Direction:** NE

Description: mobile generators stored inside CHP, building 7160.

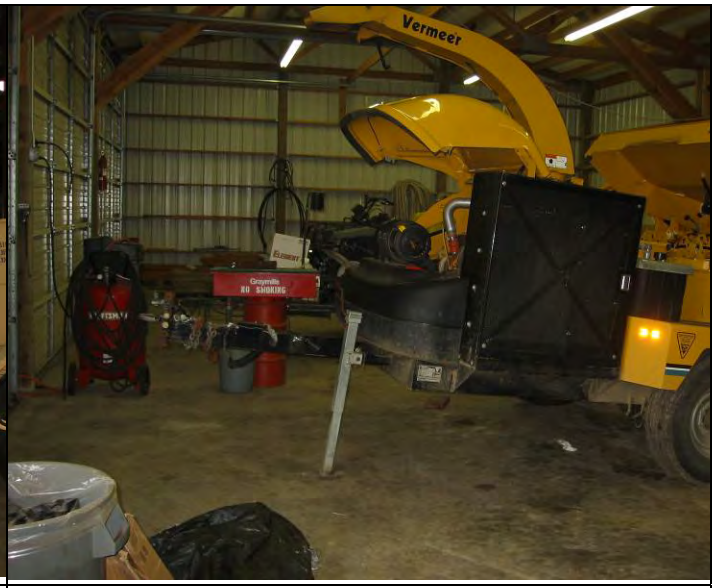


Photo No: 56 **Direction:** S

Description: Work area inside UTES maintenance building. Solvent drum and air compressor observed.

Shaw® a world of Solutions™

Photographic Documentation

Client: Oregon Military Department
Location: Camp Rilea, 33168 Patriot Way, Warrenton
Photograph Date: October 14 & 15, 2010

Prepared by: Shaw Environmental, Inc.
Photographer: Audrey Turpening
Project No: 140847

Photo No: 57 **Direction:** W	**Photo No:** 58 **Direction:** NA
Description: used oil storage area inside UTES maintenance building. All used oil containers are on spill containment pallet.	**Description:** Typical vehicle and equipment maintenance fluids, antifreeze, and oils. UTES maintenance building.

Appendix E

Photocopies of Additional Supporting Materials

* * * * PUBLIC REPORT * * * *

Office of State Fire Marshal
4760 Portland Road NE, Salem Oregon 97305-1760
(503) 378-3473 FAX (503) 373-1825

Facility ID: 016410
Facility Name: ORARNG
Fire Department: WARRENTON FIRE DEPT
Number of Employees: 90

Mailing Address:
PO BOX 14350
SALEM
OR 973095047

Site Address:
33168 PATRIOT WAY
WARRENTON
OR 971469711

Manager Name: RAYMOND F REES MG
AttnOf: ROBIN HOWARD AG1 ENV 6
Receive Date: 04/01/2010
CompletingName: KIMBERLY J WRIGHT
MailDate: 2/1/2010
SIC Code 9711 NATIONAL SECURITY
DueDate: 4/2/2010
NAICS Code 928110 NATIONAL SECURITY
Business Activity: NATIONAL GUARD TRAINING SITE
Business Phone: (503) 861-4000

Facility indicates they have EHS that meet TPQ: N
Facility indicates they are subject to PSM: N
Facility indicates they are subject to CAA112r: N
Reportable Qntys: Y

Chem Name: ACETYLENE
Haz Ingredient: ACETYLENE
Hazard Classification: 2.1 FLAMMABLE GAS

CAA112r	EHS	PSM	Toxic 313	Maximum on Site	Unit of Measure	Container
			N	1,000-4,999	CUBIC FEET	CYLINDER

Chem Name: ANTIFREEZE
Haz Ingredient: ETHYLENE GLYCOL
Hazard Classification: 6.3 ACUTE HEALTH HAZARD

CAA112r	EHS	PSM	Toxic 313	Maximum on Site	Unit of Measure	Container
			N	200-499	GALLONS	PLASTIC OR NON-METALLIC DRUM

Chem Name: ARGON
Haz Ingredient: ARGON
Hazard Classification: 6.3 ACUTE HEALTH HAZARD

CAA112r	EHS	PSM	Toxic 313	Maximum on Site	Unit of Measure	Container
			N	200-499	CUBIC FEET	CYLINDER

Chem Name: DIESEL
Haz Ingredient: PETROLEUM DISTILLATES
Hazard Classification: 3.0 FLAMMABLE AND COMBUSTIBLE LIQUID

CAA112r	EHS	PSM	Toxic 313	Maximum on Site	Unit of Measure	Container
			N	1,000-4,999	GALLONS	ABOVEGROUND TANK

Chem Name: FREON
Haz Ingredient: DICHLORODIFLUOROMETHANE
Hazard Classification: 2.2 NON-FLAMMABLE GAS

CAA112r	EHS	PSM	Toxic 313	Maximum on Site	Unit of Measure	Container
			Y	50-199	GALLONS	CYLINDER

Chem Name: GARLON 3A
Haz Ingredient: TRICLOPYR SALT OF TRIETHYLAMINE
Hazard Classification: 3.0 FLAMMABLE AND COMBUSTIBLE LIQUID

CAA112r	EHS	PSM	Toxic 313	Maximum on Site	Unit of Measure	Container
			N	20-49	GALLONS	OTHER

Chem Name: GASOLINE
Haz Ingredient: PETROLEUM DISTILLATES
Hazard Classification: 3.0 FLAMMABLE AND COMBUSTIBLE LIQUID

CAA112r	EHS	PSM	Toxic 313	Maximum on Site	Unit of Measure	Container
Y			N	500-999	GALLONS	ABOVEGROUND TANK

Chem Name: JP-8 JET FUEL Haz Ingredient: KEROSENE
Hazard Classification: 3.0 FLAMMABLE AND COMBUSTIBLE LIQUID

CAA112r	EHS	PSM	Toxic 313	Maximum on Site	Unit of Measure	Container
				10,000-49,999	GALLONS	ABOVEGROUND TANK

Chem Name: LEAD ACID BATTERIES-GEL Haz Ingredient: SULFURIC ACID
Hazard Classification: 8.0 CORROSIVE MATERIAL

CAA112r	EHS	PSM	Toxic 313	Maximum on Site	Unit of Measure	Container
			N	1,000-4,999	POUNDS	OTHER

Chem Name: LEAD ACID BATTERIES-WET Haz Ingredient: SULFURIC ACID
Hazard Classification: 6.3 ACUTE HEALTH HAZARD

CAA112r	EHS	PSM	Toxic 313	Maximum on Site	Unit of Measure	Container
			N	1,000-4,999	POUNDS	OTHER

Chem Name: MOTOR OIL Haz Ingredient: PETROLEUM HYDROCARBONS
Hazard Classification: 4.5 COMBUSTIBLE MATERIAL

CAA112r	EHS	PSM	Toxic 313	Maximum on Site	Unit of Measure	Container
				200-499	GALLONS	CAN

Chem Name: NITROGEN Haz Ingredient: NITROGEN
Hazard Classification: 2.2 NON-FLAMMABLE GAS

CAA112r	EHS	PSM	Toxic 313	Maximum on Site	Unit of Measure	Container
			N	200-499	CUBIC FEET	CYLINDER

Chem Name: OXYGEN Haz Ingredient: OXYGEN
Hazard Classification: 5.1 OXIDIZERS

CAA112r	EHS	PSM	Toxic 313	Maximum on Site	Unit of Measure	Container
			N	1,000-4,999	CUBIC FEET	CYLINDER

Chem Name: PAINT Haz Ingredient: PETROLEUM DISTILLATES
Hazard Classification: 3.0 FLAMMABLE AND COMBUSTIBLE LIQUID

CAA112r	EHS	PSM	Toxic 313	Maximum on Site	Unit of Measure	Container
Y				200-499	GALLONS	CAN

Chem Name: USED GASOLINE Haz Ingredient: PETROLEUM DISTILLATE
Hazard Classification: 3.0 FLAMMABLE AND COMBUSTIBLE LIQUID

CAA112r	EHS	PSM	Toxic 313	Maximum on Site	Unit of Measure	Container
				50-199	GALLONS	STEEL DRUM

Chem Name: USED JET FUEL JP-8 Haz Ingredient: KEROSENE
Hazard Classification: 3.0 FLAMMABLE AND COMBUSTIBLE LIQUID

CAA112r	EHS	PSM	Toxic 313	Maximum on Site	Unit of Measure	Container
				50-199	GALLONS	STEEL DRUM

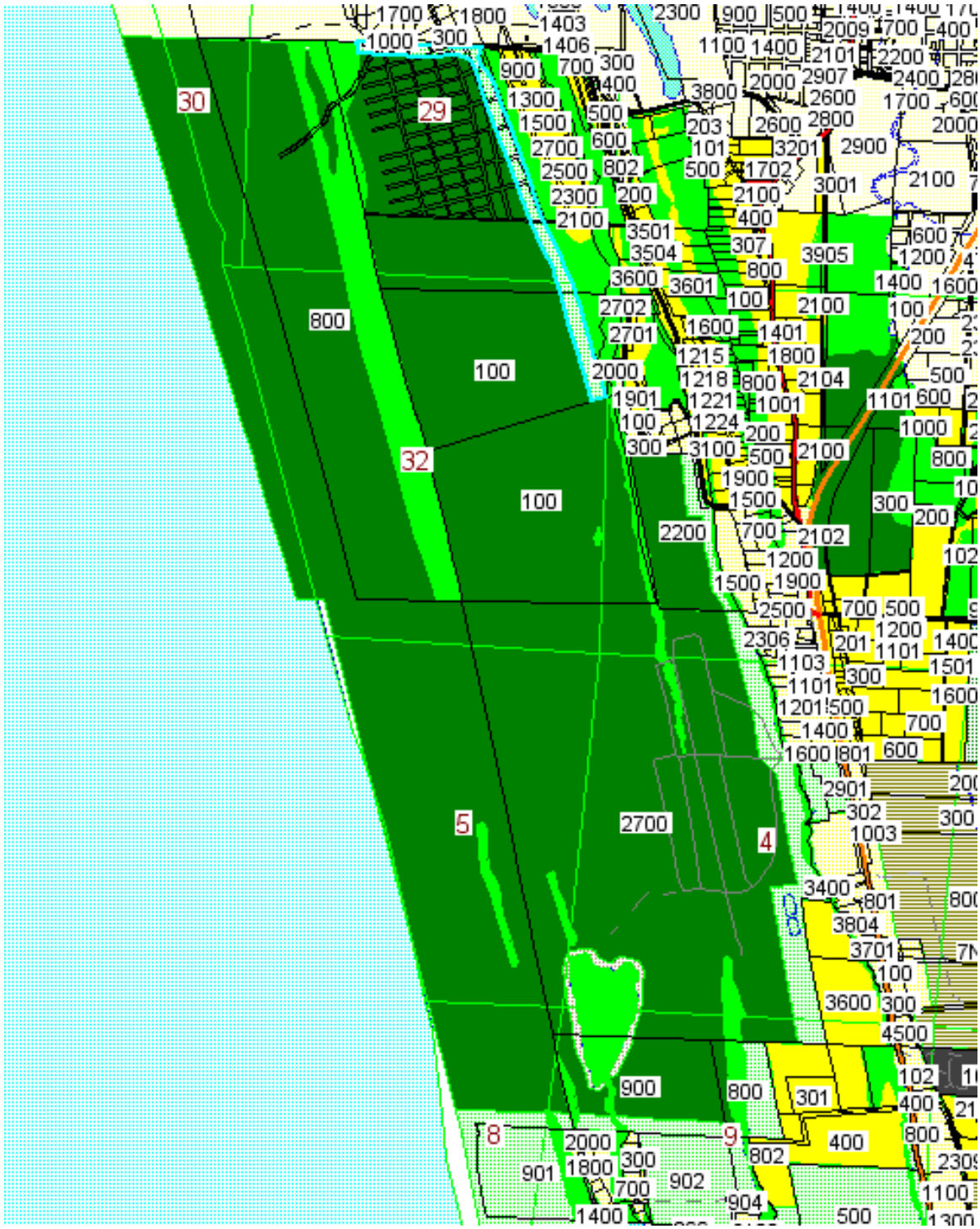
Chem Name: USED OIL Haz Ingredient: PETROLEUM HYDROCARBONS
Hazard Classification: 4.5 COMBUSTIBLE MATERIAL

CAA112r	EHS	PSM	Toxic 313	Maximum on Site	Unit of Measure	Container
			N	5,000-9,999	GALLONS	ABOVEGROUND TANK

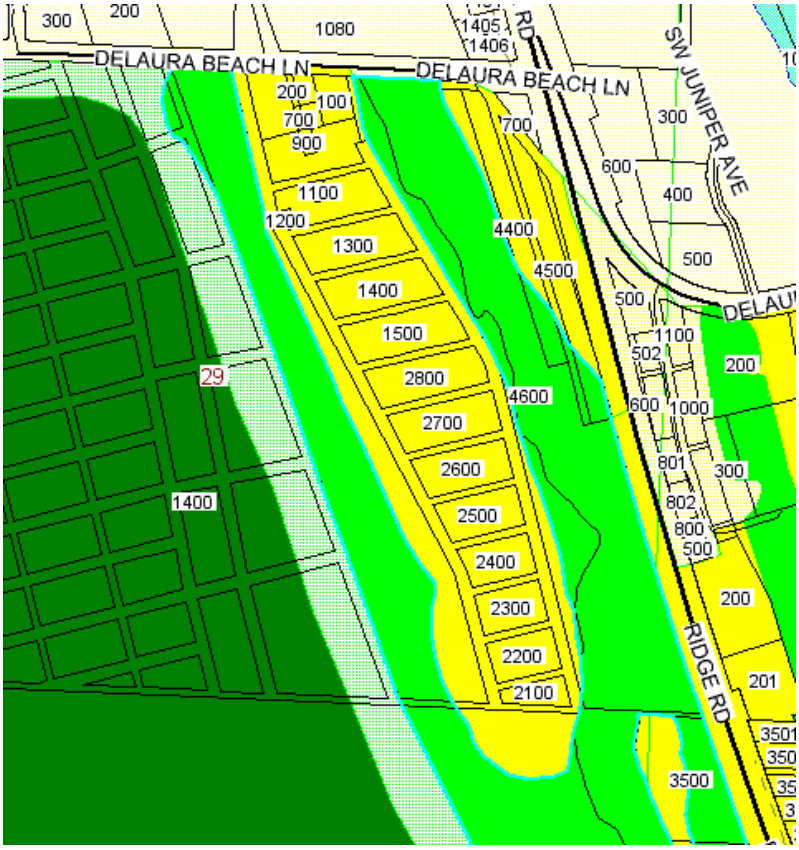
Chem Name: WASTE LEAD ACID BATTERIES Haz Ingredient: SULFURIC ACID
Hazard Classification: 8.0 CORROSIVE MATERIAL

CAA112r	EHS	PSM	Toxic 313	Maximum on Site	Unit of Measure	Container
			N	500-999	POUNDS	OTHER

Zoning Map – Legend on Page 3



Property



Jarvis Property

Little and Hitchman Properties

Zoning

- Open Space Parks & Rec (OPR)
- Rural Community Commercial (RCC)
- Rural Community Commercial Multi-Family (RC-MFR)
- Rural Community Commercial-Light Industrial (RCC-LI)
- Rural Community Residential (RCR)
- Heavy Industrial (HI)
- Rural Commercial Industrial (RCI)
- Military Reserve (MR)
- Rural Service Area Single-Family (RSA-SFR)
- Single Family Residential 1 (SFR-1)
- Westport Rural Community Residential (W-RCR)
- Tourist Commerical (TC)
- Quarry and Mining (QM)
- Rural Service Area Multi-Family (RSA-MFR)
- Natural Uplands (NU)
- Coastal Beach Residential (CBR)
- Ecola Aquatic Conservation (EAC)
- Coastal Residential (CR)
- Arch Cape Rural Community Residential (AC-RCR)
- Aquatic Natural (AN)
- Coastal Shorelands (CS)
- Aquatic Conservation Two (AC-2)
- Aquatic Development (AD)
- Recreation Management (RM)
- Lake and Wetland (LW)
- Exclusive Farm Use (EFU)
- Forest 80 (F-80)
- Agriculture Forest (AF)
- City
- Urban Growth Boundary (UGB)
- Neighborhood Commercial (NC)
- Natural Shorelands (NS)
- Residentail Agriculture 5 (RA-5)
- Residentail Agriculture 2 (RA-2)
- Highways (HWY)
- Light Industrial (LI)
- Marine Industrial (MI)
- Residentail Agriculture 1 (RA-1)
- Knappa-Svensen Rural Community Residential (KS-RCR)
- General Commercial (GC)
- Aquatic Conservation One (AC1)

EPA Map of Radon Zones

Oregon

The purpose of this map is to assist National, State, and local organizations to target their resources and to implement radon-resistant building codes. This map is not intended to be used to determine if a home in a given zone should be tested for radon. Homes with elevated levels of radon have been found in all three zones. All homes should be tested regardless of geographic location. Important points to note:

All homes should test for radon, regardless of geographic location or zone designation

There are many thousands of individual homes with elevated radon levels in Zone 2 and 3. Elevated levels can be found in Zone 2 and Zone 3 counties.

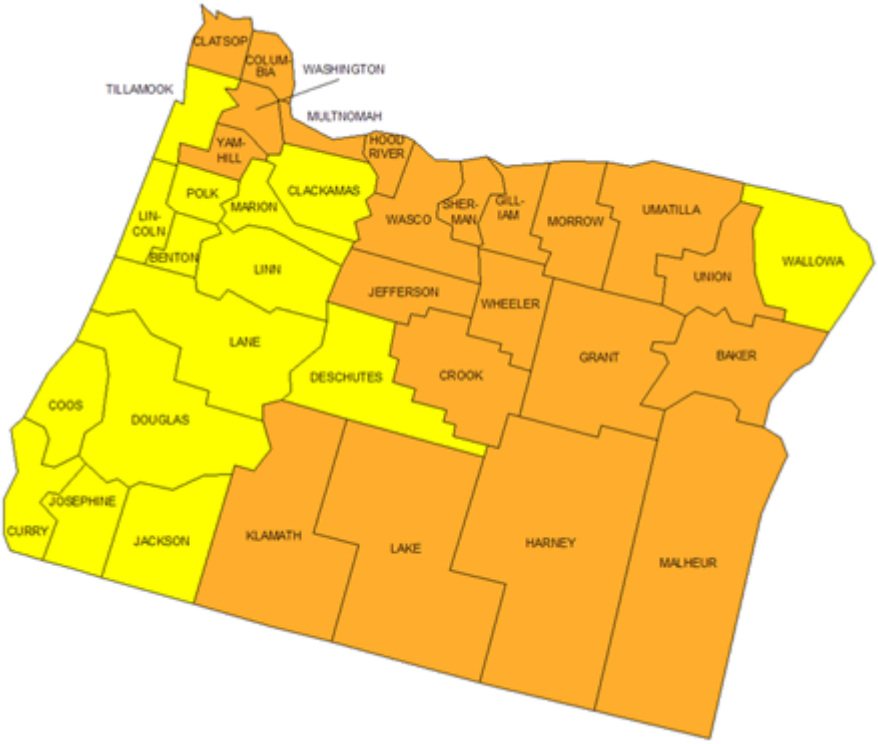
All users of the map should carefully review the map documentation for information on within-county variations in radon potential and supplement the map with locally available information before making any decisions.

The map is not to be used in lieu of testing during real estate transactions.

The Map was developed using five factors to determine radon potential: indoor radon measurements; geology; aerial radioactivity; soil permeability; and, foundation type. Radon potential assessment is based on geologic provinces. Radon Index Matrix is the quantitative assessment of radon potential. Confidence Index Matrix shows the quantity and quality of the data used to assess radon potential. Geologic Provinces were adapted to county boundaries for the Map of Radon Zones.

Sections 307 and 309 of the Indoor Radon Abatement Act of 1988 (IRAA) directed EPA to list and identify areas of the U.S. with the potential for elevated indoor radon levels. EPA's Map of Radon Zones assigns each of the 3,141 counties in the U.S. to one of three zones based on radon potential:

	Zone 1 counties have a predicted average indoor radon screening level greater than 4 pCi/L (pico curies per liter) (red zones)	Highest Potential
	Zone 2 counties have a predicted average indoor radon screening level between 2 and 4 pCi/L (orange zones)	Moderate Potential
	Zone 3 counties have a predicted average indoor radon screening level less than 2 pCi/L (yellow zones)	Low Potential



IMPORTANT: Consult the EPA Map of Radon Zones document (EPA-402-R-93-071) before using this map. This document contains information on radon potential variations within counties. EPA also recommends that this map be supplemented with any available local data in order to further understand and predict the radon potential of a specific area. If you have questions about radon in water, see www.epa.gov/radon/rnwater.html or contact your State Radon Coordinator.

Appendix F

Environmental Regulatory Agency Database Report

Camp Rilea
33168 Patriot Way
Warrenton, OR 97146

Inquiry Number: 2893935.5
October 18, 2010

The EDR Aerial Photo Decade Package

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

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Date EDR Searched Historical Sources:

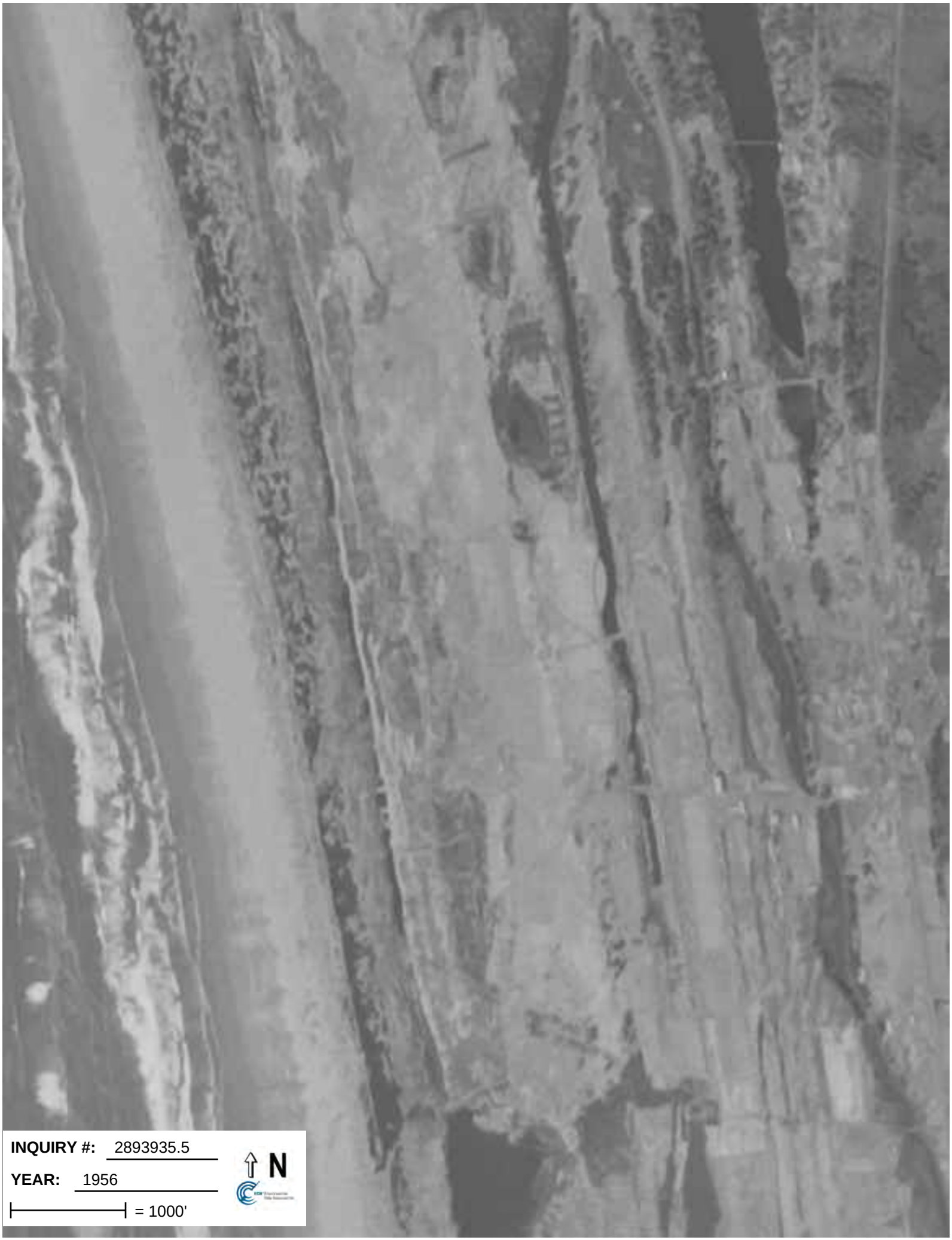
Aerial Photography October 18, 2010

Target Property:

33168 Patriot Way

Warrenton, OR 97146

Year	***Scale***	***Details***	***Source***
1956	Aerial Photograph. Scale: 1"=1000'	Panel #: 46123-B8, Warrenton, OR;/Flight Date: April 09, 1956	EDR
1977	Aerial Photograph. Scale: 1"=1000'	Panel #: 46123-B8, Warrenton, OR;/Flight Date: July 01, 1977	EDR
1981	Aerial Photograph. Scale: 1"=1000'	Panel #: 46123-B8, Warrenton, OR;/Flight Date: August 06, 1981	EDR
1985	Aerial Photograph. Scale: 1"=1000'	Panel #: 46123-B8, Warrenton, OR;/Flight Date: August 28, 1985	EDR
1990	Aerial Photograph. Scale: 1"=750'	Panel #: 46123-B8, Warrenton, OR;/Flight Date: September 04, 1990	EDR
1994	Aerial Photograph. Scale: 1"=750'	Panel #: 46123-B8, Warrenton, OR;/Flight Date: August 30, 1994	EDR
2000	Aerial Photograph. Scale: 1"=750'	Panel #: 46123-B8, Warrenton, OR;/Flight Date: July 30, 2000	EDR
2005	Aerial Photograph. Scale: 1"=604'	Panel #: 46123-B8, Warrenton, OR;/Flight Date: January 01, 2005	EDR


INQUIRY #: 2893935.5
YEAR: 1956
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YEAR: 1977
= 1000'
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YEAR: 1981
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YEAR: 1985
= 1000'
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YEAR: 1990
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N

INQUIRY #: 2893935.5
YEAR: 1994
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INQUIRY #: 2893935.5
YEAR: 2000
= 750'
N

INQUIRY #: 2893935.5
YEAR: 2005
= 604'
N

Camp Rilea
33168 Patriot Way
Warrenton, OR 97146

Inquiry Number: 2893935.4
October 20, 2010

The EDR Historical Topographic Map Report

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

EDR Historical Topographic Map Report

Environmental Data Resources, Inc.s (EDR) Historical Topographic Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topographic Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the early 1900s.

Thank you for your business.
Please contact EDR at 1-800-352-0050
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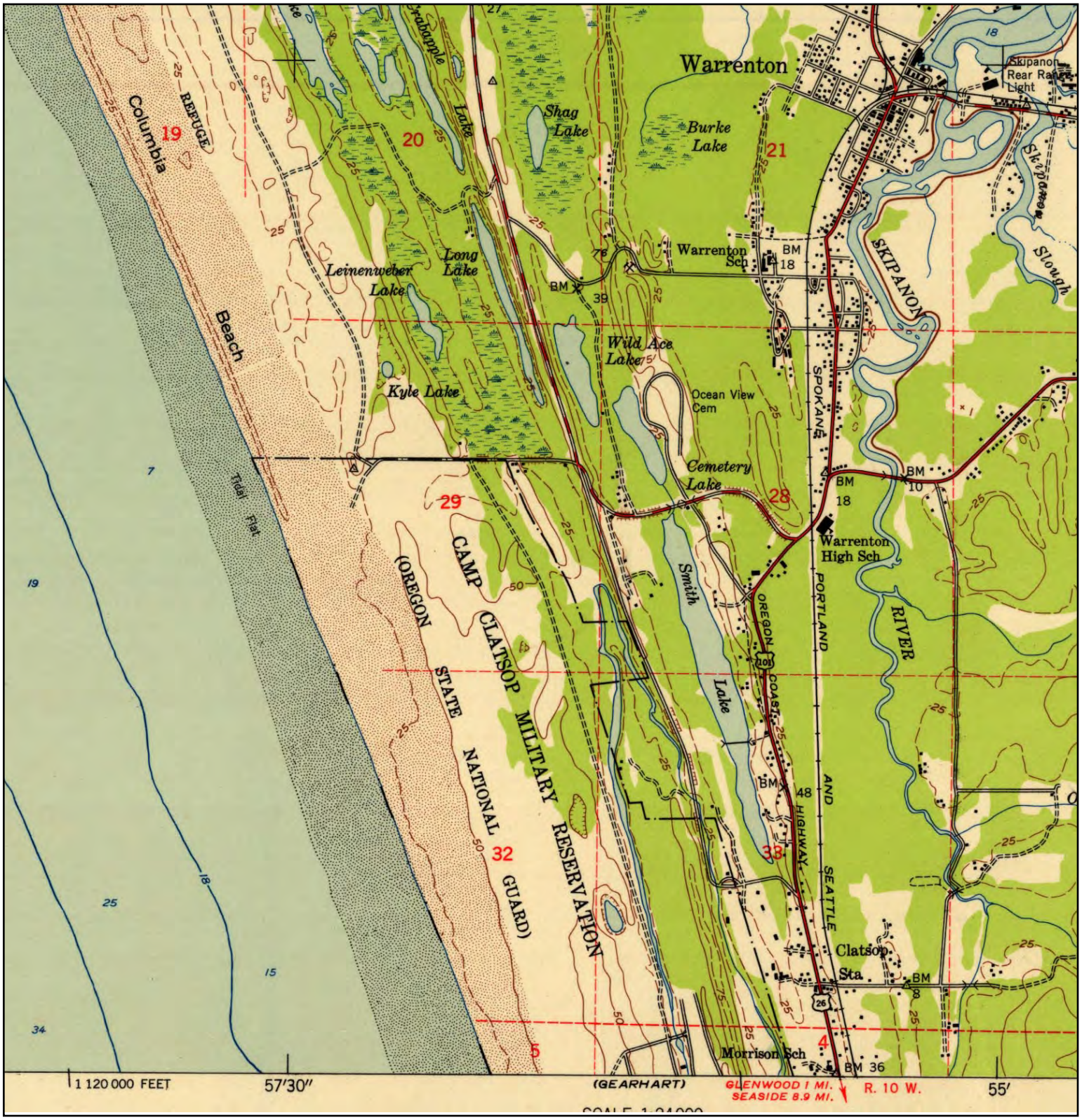
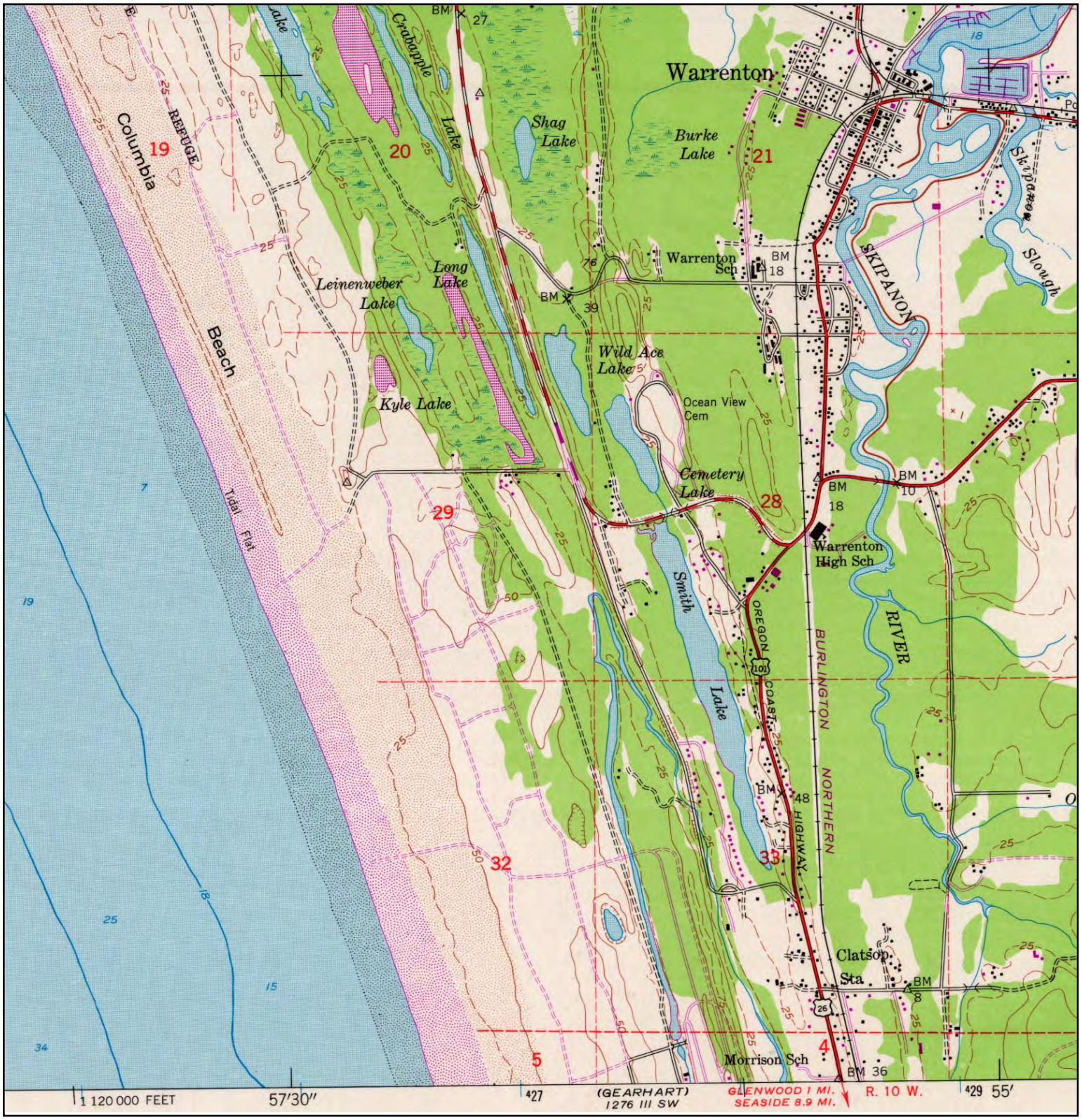
Historical Topographic Map



N	TARGET QUAD NAME: Warrenton, OR MAP YEAR: 1953 SERIES: 7.5 SCALE: 1:24,000	SITE NAME: Camp Rilea ADDRESS: 33168 Patriot Way Warrenton, OR 97146 LAT/LONG: 46.1284 / 123.9428	CLIENT: Shaw Environmental & Infrastructure CONTACT: Audrey Turpening INQUIRY#: 2893935.4 RESEARCH DATE: 10/20/2010

Historical Topographic Map



N	TARGET QUAD NAME: Warrenton, OR MAP YEAR: 1973 PHOTOREVISED FROM:1953 SERIES: 7.5 SCALE: 1:24,000	SITE NAME: Camp Rilea ADDRESS: 33168 Patriot Way Warrenton, OR 97146 LAT/LONG: 46.1284 / 123.9428	CLIENT: Shaw Environmental & Infrastructure CONTACT: Audrey Turpening INQUIRY#: 2893935.4 RESEARCH DATE: 10/20/2010

Historical Topographic Map

N	TARGET QUAD NAME: Warrenton, OR MAP YEAR: 1984 PHOTOREVISED FROM:1953 SERIES: 7.5 SCALE: 1:24,000	SITE NAME: Camp Rilea ADDRESS: 33168 Patriot Way Warrenton, OR 97146 LAT/LONG: 46.1284 / 123.9428	CLIENT: Shaw Environmental & Infrastructure CONTACT: Audrey Turpening INQUIRY#: 2893935.4 RESEARCH DATE: 10/20/2010

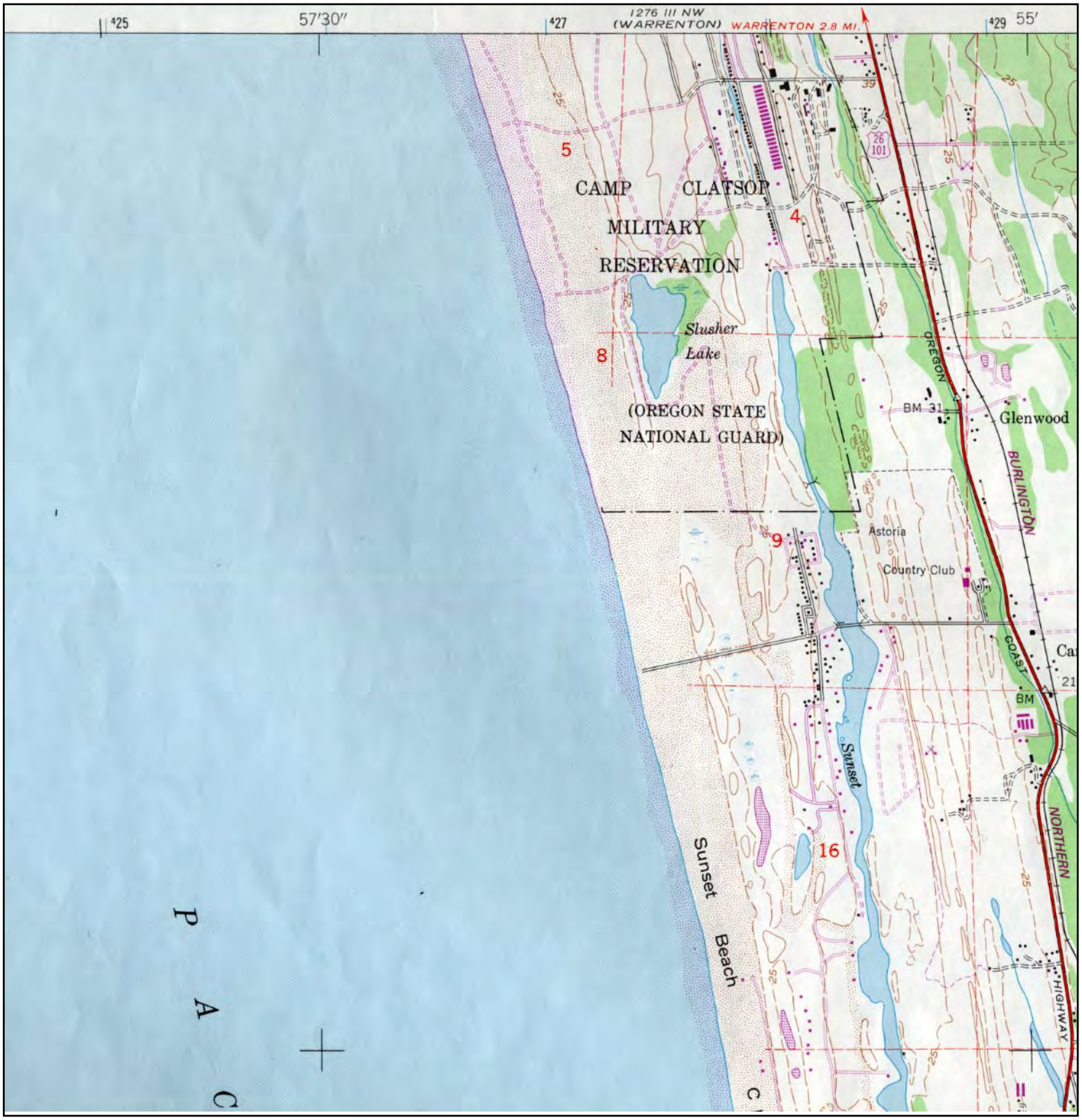
Historical Topographic Map

N	TARGET QUAD NAME: Warrenton, OR MAP YEAR: 1996 SERIES: 7.5 SCALE: 1:24,000	SITE NAME: Camp Rilea ADDRESS: 33168 Patriot Way Warrenton, OR 97146 LAT/LONG: 46.1284 / 123.9428	CLIENT: Shaw Environmental & Infrastructure CONTACT: Audrey Turpening INQUIRY#: 2893935.4 RESEARCH DATE: 10/20/2010

Historical Topographic Map

N	ADJOINING QUAD NAME: Gearhart, OR MAP YEAR: 1949 SERIES: 7.5 SCALE: 1:24,000	SITE NAME: Camp Rilea ADDRESS: 33168 Patriot Way Warrenton, OR 97146 LAT/LONG: 46.1284 / 123.9428	CLIENT: Shaw Environmental & Infrastructure CONTACT: Audrey Turpening INQUIRY#: 2893935.4 RESEARCH DATE: 10/20/2010

Historical Topographic Map



N	ADJOINING QUAD NAME: Gearhart, OR MAP YEAR: 1979 PHOTOREVISED FROM:1949 SERIES: 7.5 SCALE: 1:24,000	SITE NAME: Camp Rilea ADDRESS: 33168 Patriot Way Warrenton, OR 97146 LAT/LONG: 46.1284 / 123.9428	CLIENT: Shaw Environmental & Infrastructure CONTACT: Audrey Turpening INQUIRY#: 2893935.4 RESEARCH DATE: 10/20/2010

Camp Rilea
33168 Patriot Way
Warrenton, OR 97146

Inquiry Number: 2893935.8
October 14, 2010

The EDR Property Tax Map Report

Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

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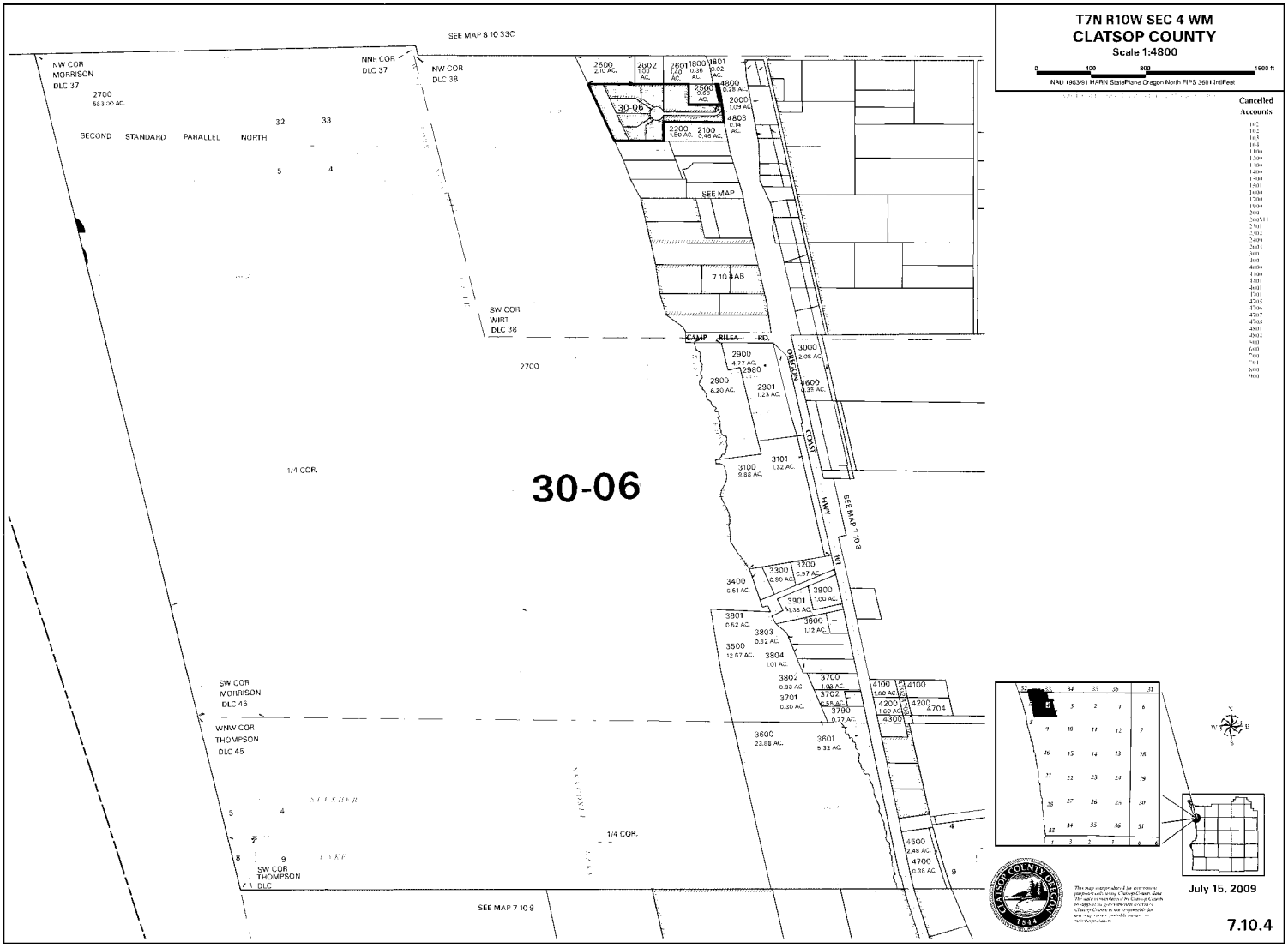
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CLATSOP COUNTY
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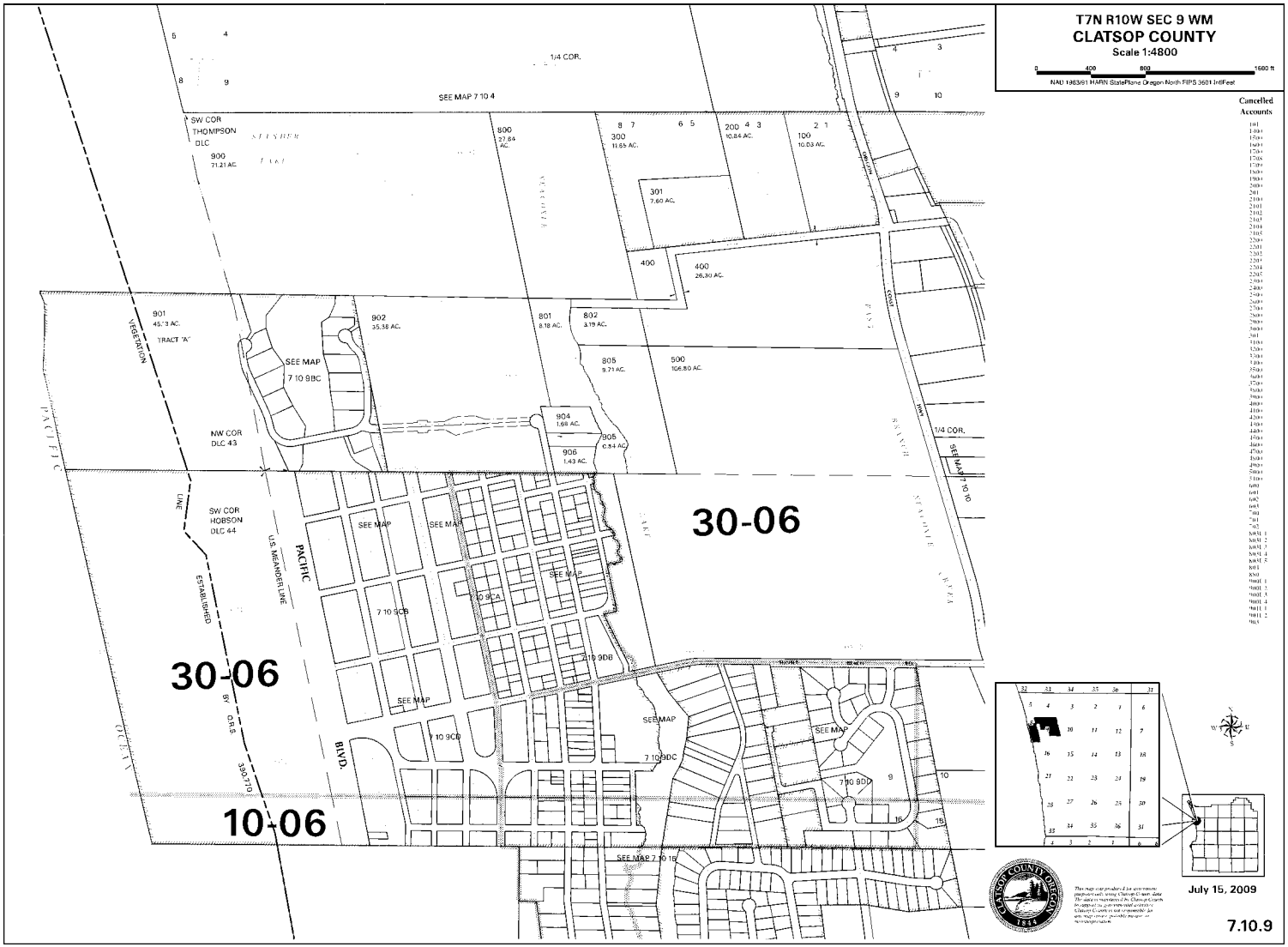
Cancelled Accounts
SEE MAP 8 10 33C
NW COR MORRISON DLC 37
NNE COR DLC 37
NW COR DLC 38
2700 583.00 AC.
SECOND STANDARD PARALLEL NORTH
30-06
SEE MAP
7 10 4AB
SW COR WIRT DLC 38
CAMP RILEA RD.
OREGON COAST HWY. 101
SEE MAP 7 10 3
1/4 COR.
SW COR MORRISON DLC 46
WNW COR THOMPSON DLC 45
SW COR THOMPSON DLC
SEE MAP 7 10 9
July 15, 2009
7.10.4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Cancelled Accounts
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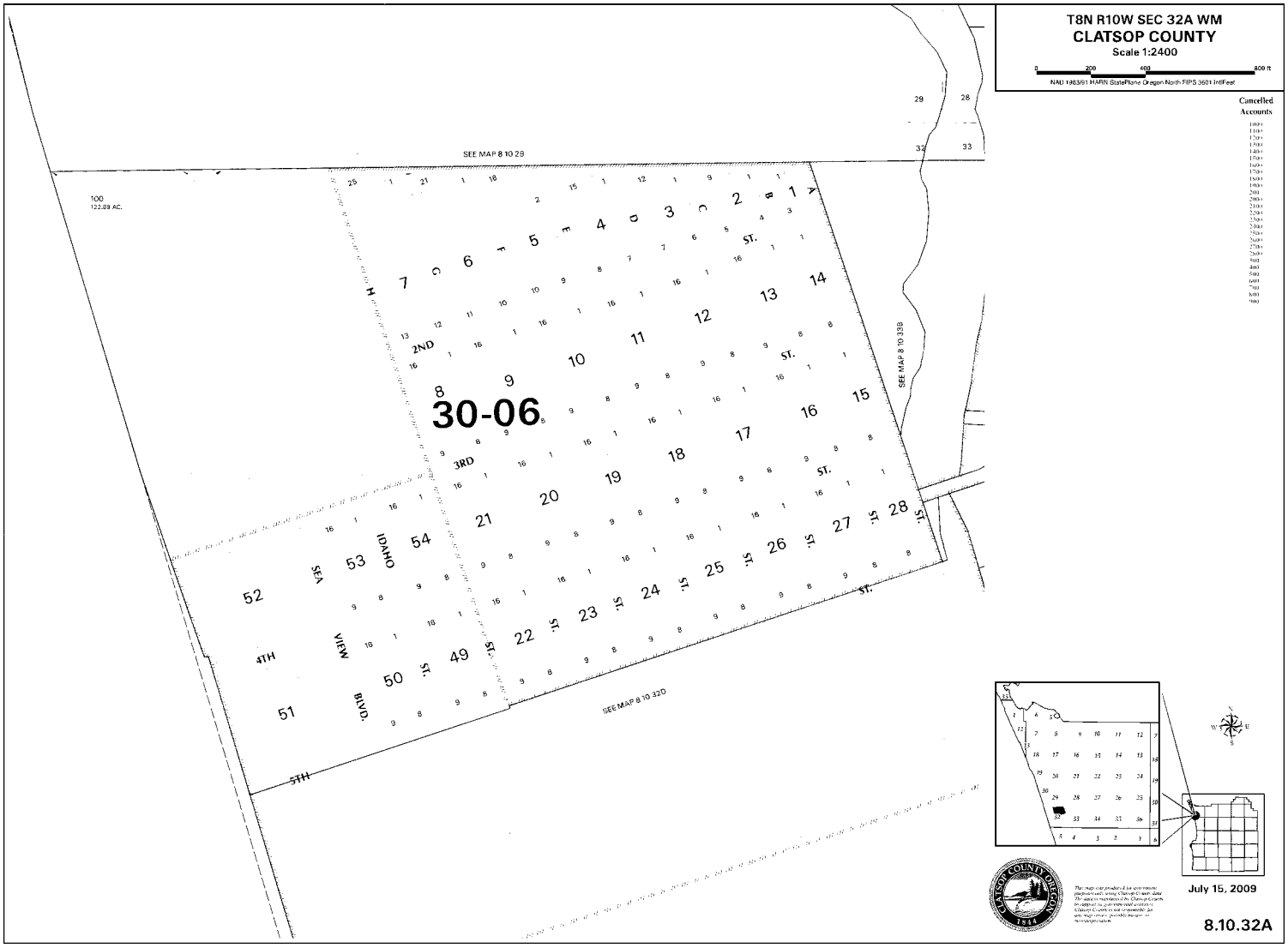
1/4 COR.
SW COR THOMPSON DLC
900 71.21 AC.
800 27.84 AC.
300 11.65 AC.
200 10.84 AC.
100 10.03 AC.
301 7.60 AC.
400 26.30 AC.
901 45.73 AC.
TRACT "A"
902 35.38 AC.
801 8.18 AC.
802 3.19 AC.
805 9.71 AC.
500 106.80 AC.
SEE MAP 7 10 9BC
904 1.68 AC.
905 0.84 AC.
906 1.43 AC.
NW COR DLC 43
SW COR HOBSON DLC 44
VEGETATION
LINE
ESTABLISHED
BY O.R.S. 390,770
U.S. MEANDER LINE
PACIFIC
BLVD.
SEE MAP
7 10 9CB
7 10 9CA
7 10 9DB
7 10 9CD
7 10 9DC
7 10 9DD
SEE MAP 7 10 16
30-06
30-06
10-06
July 15, 2009
7.10.9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CLATSOP COUNTY
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SEE MAP 8 10 29
SEE MAP 8 10 33B
SEE MAP 8 10 32D
30-06
2ND
3RD
4TH
5TH
IDAHO
SEA
VIEW
BLVD.
ST.
July 15, 2009
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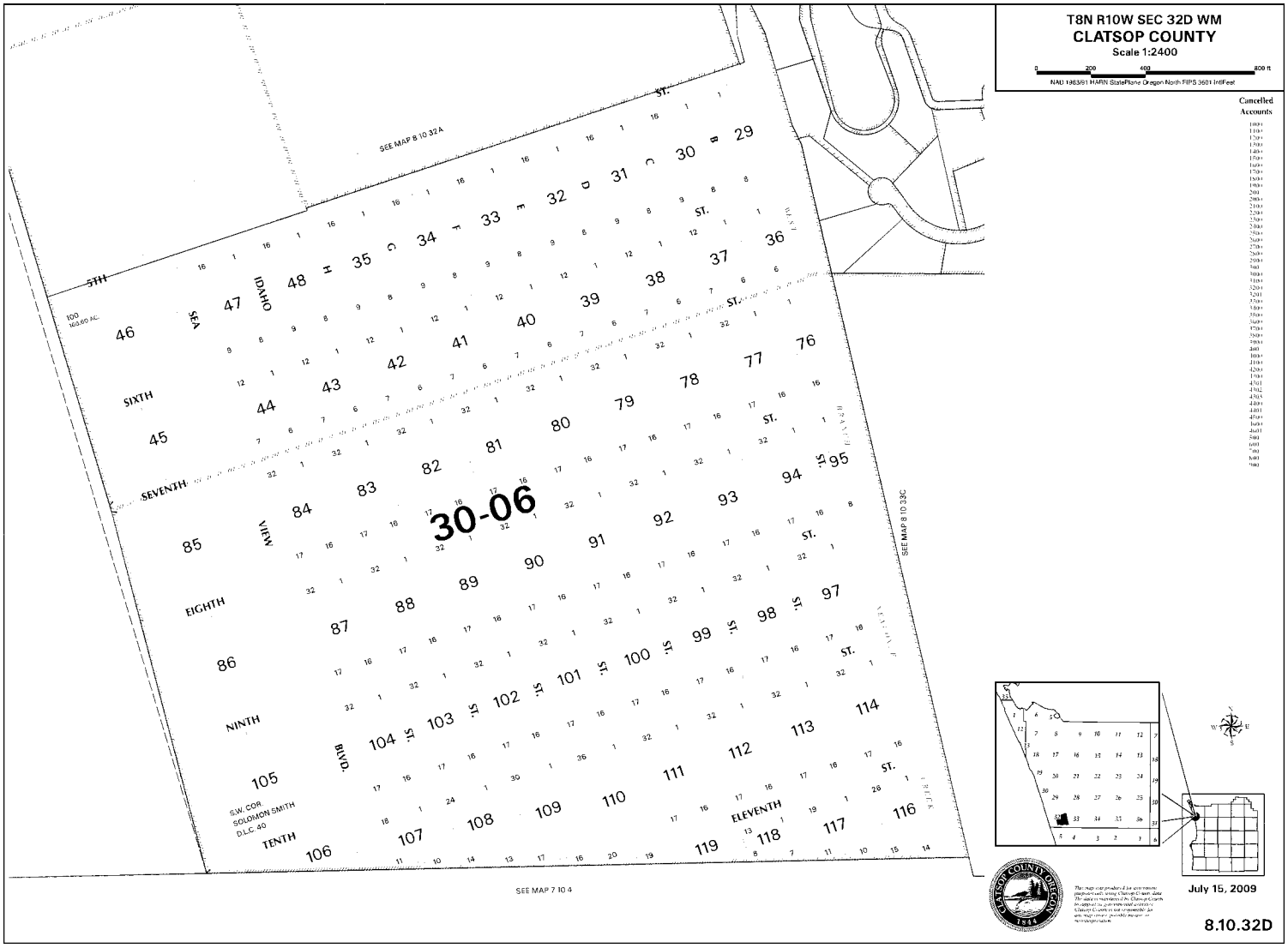
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SEE MAP 8 10 33C
SEE MAP 7 10 4
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IDAHO
SEA
VIEW
BLVD.
SIXTH
SEVENTH
EIGHTH
NINTH
TENTH
ELEVENTH
S.W. COR SOLOMON SMITH D.L.C. 40
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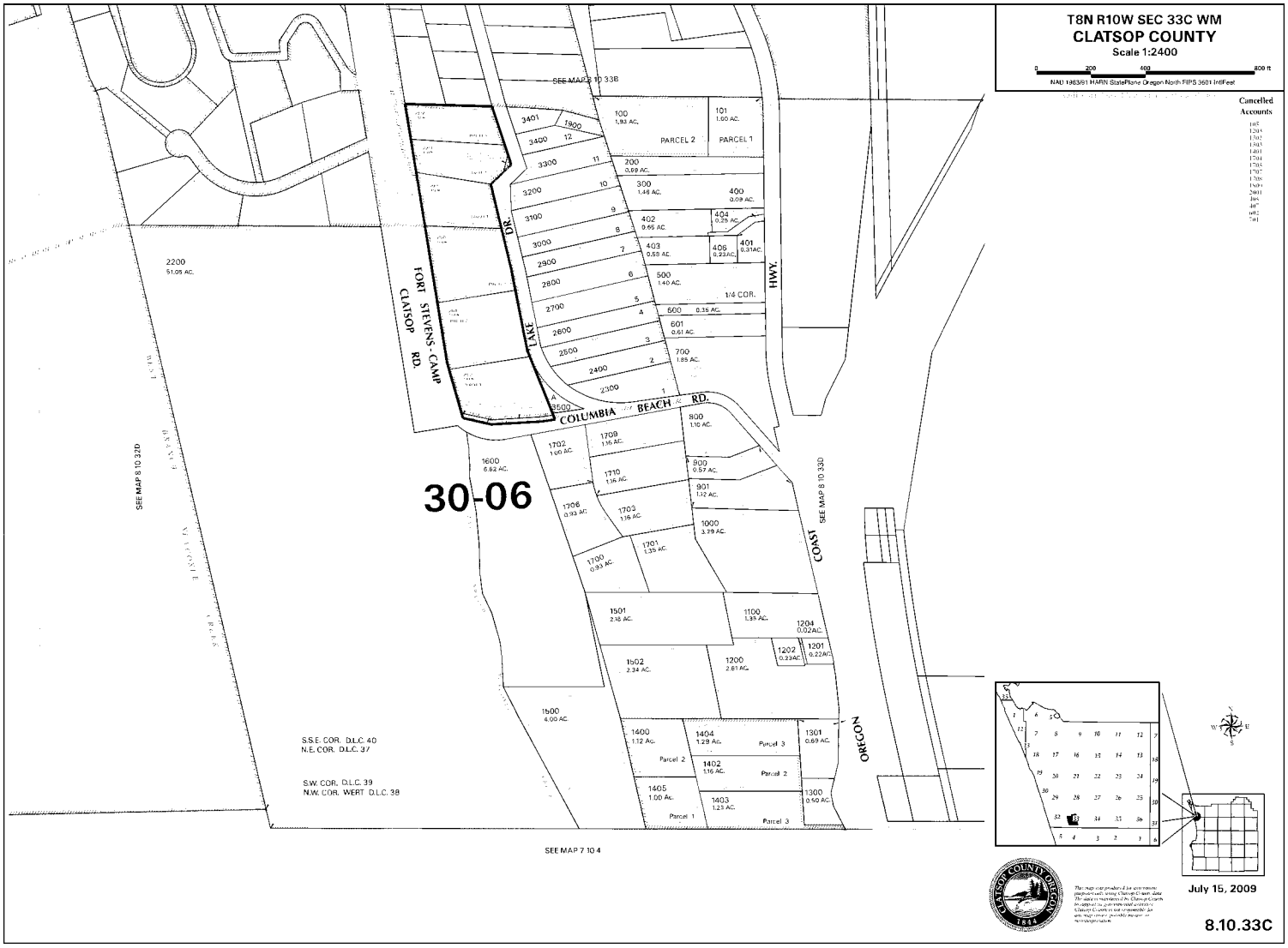
8.10.32D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CLATSOP COUNTY
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NAD 1983/91 HARN StatePlane Oregon North FIPS 3601 IntlFeet
Cancelled Accounts
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SEE MAP 8 10 32D
SEE MAP 8 10 33D
SEE MAP 7 10 4
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LAKE DR.
COLUMBIA BEACH RD.
HWY.
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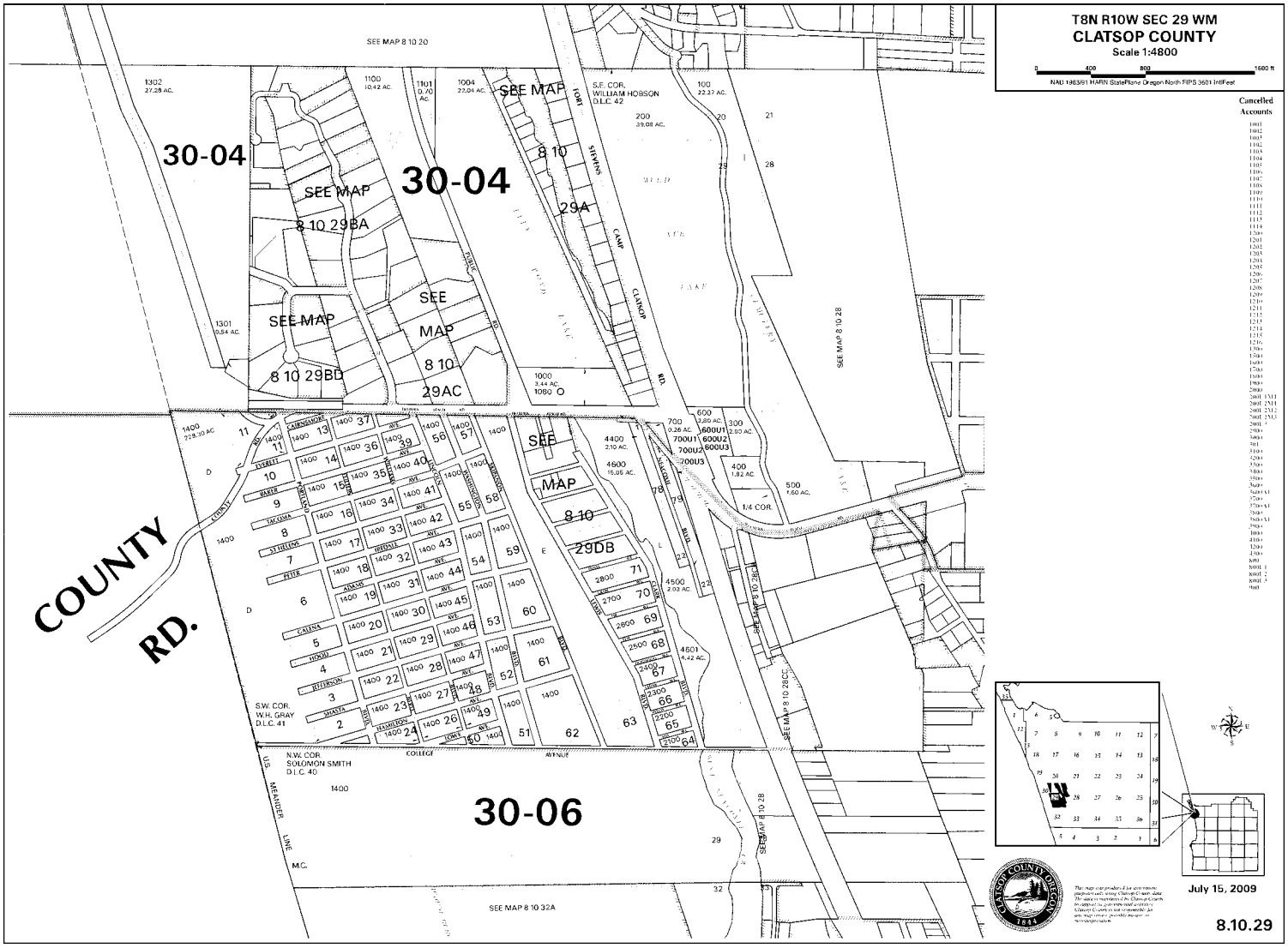
PARCEL 3
2003
1.03 AC.
PARCEL 2
2000
1.12 AC.
PARCEL 1
2100
1.68 AC.
PARCEL 3
2101
1.66 AC.
PARCEL 2
2102
1.49 AC.
PARCEL 1
LAKE
DR.

July 15, 2009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CLATSOP COUNTY
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1/4 COR.
July 15, 2009
8.10.29

Camp Rilea
33168 Patriot Way
Warrenton, OR 97146

Inquiry Number: 2893935.6
October 18, 2010

The EDR-City Directory Abstract

Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

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Findings

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2009 Enhancements to EDR City Directory Abstract

New for 2009, the EDR City Directory Abstract has been enhanced with additional information and features. These enhancements will make your city directory research process more efficient, flexible, and insightful than ever before. The enhancements will improve the options for selecting adjoining properties, and will speed up your review of the report.

City Directory Report. Three important enhancements have been made to the EDR City Directory Abstract:

1. *Executive Summary.* The report begins with an Executive Summary that lists the sources consulted in the preparation of the report. Where available, a parcel map is also provided within the report, showing the locations of properties researched.

2. *Page Images.* Where available, the actual page source images will be included in the Appendix, so that you can review them for information that may provide additional insight. EDR has copyright permission to include these images.

3. *Findings Listed by Location.* Another useful enhancement is that findings are now grouped by address. This will significantly reduce the time you need to review your abstracts. Findings are provided under each property address, listed in reverse chronological order and referencing the source for each entry.

Options for Selecting Adjoining Properties. Ensuring that the right adjoining property addresses are searched is one of the biggest challenges that environmental professionals face when conducting city directory historical research. EDR's new enhancements make it easier for you to meet this challenge. Now, when you place an order for the EDR City Directory Abstract, you have the following choices for determining which addresses should be researched.

1. *You Select Addresses and EDR Selects Addresses.* Use the "Add Another Address" feature to specify the addresses you want researched. Your selections will be supplemented by addresses selected by EDR researchers using our established research methods. Where available, a digital map will be shown, indicating property lines overlaid on a color aerial photo and their corresponding addresses. Simply use the address list below the map to check off which properties shown on the map you want to include. You may also select other addresses using the "Add Another Address" feature at the bottom of the list.

2. *EDR Selects Addresses.* Choose this method if you want EDR's researchers to select the addresses to be researched for you, using our established research methods.

3. *You Select Addresses.* Use this method for research based solely on the addresses you select or enter into the system.

4. *Hold City Directory Research Option.* If you choose to select your own adjoining addresses, you may pause production of your EDR City Directory Abstract report until you have had a chance to look at your other EDR reports and sources. Sources for property addresses include: your Certified Sanborn Map Report may show you the location of property addresses; the new EDR Property Tax Map Report may show the location of property addresses; and your field research can supplement these sources with additional address information. To use this capability, simply click "Hold City Directory research" box under "Other Options" at the bottom of the page. Once you have determined what addresses you want researched, go to your EDR Order Status page, select the EDR City Directory Abstract, and enter the addresses and submit for production.

Questions? Contact your EDR representative at 800-352-0050. For more information about all of EDR's 2009 report and service enhancements, visit www.edrnet.com/2009enhancements

EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Abstract is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Abstract includes a search and abstract of available city directory data. For each address, the directory lists the name of the corresponding occupant at five year intervals.

RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. An "X" indicates where information was identified in the source and provided in this report.

Year	Source	TP	Adjoining	Text Abstract	Source Image
2000	Polk's City Directory	-	X	X	-
1996	Polk's City Directory	-	-	-	-
1989	Polk's City Directory	-	-	-	-
1984	Polk's City Directory	-	-	-	-
1978	Polk's City Directory	-	-	-	-
1972	Polk's City Directory	-	-	-	-
1966	Polk's City Directory	-	-	-	-

FINDINGS

TARGET PROPERTY INFORMATION

ADDRESS

33168 Patriot Way
Warrenton, OR 97146

FINDINGS DETAIL

Target Property research detail.

No Addresses Found

FINDINGS

ADJOINING PROPERTY DETAIL

The following Adjoining Property addresses were researched for this report. Detailed findings are provided for each address.

Patriot Way

Patriot Way

Year	Uses	Source
2000	No addresses listed prior to 33218	Polk's City Directory

33218 Patriot Way

Year	Uses	Source
2000	Residential	Polk's City Directory

33322 Patriot Way

Year	Uses	Source
2000	Residential	Polk's City Directory

33325 Patriot Way

Year	Uses	Source
2000	Not Verified	Polk's City Directory

FINDINGS

STREET NOT IDENTIFIED IN RESEARCH SOURCE

The following Streets were researched for this report, and the Streets were not identified in the research source.

Street Researched	Street Not Identified in Research Source
Patriot Way	1996, 1989, 1984, 1978, 1972, 1966

TARGET PROPERTY: ADDRESS NOT IDENTIFIED IN RESEARCH SOURCE

The following Target Property addresses were researched for this report, and the addresses were not identified in the research source.

Address Researched	Address Not Identified in Research Source
33168 Patriot Way	2000

ADJOINING PROPERTY: ADDRESSES NOT IDENTIFIED IN RESEARCH SOURCE

The following Adjoining Property addresses were researched for this report, and the addresses were not identified in research source.

Address Researched	Address Not Identified in Research Source
Patriot Way	No Years Found
33218 Patriot Way	No Years Found
33322 Patriot Way	No Years Found
33325 Patriot Way	No Years Found

Camp Rilea
33168 Patriot Way
Warrenton, OR 97146

Inquiry Number: 2893835.7
October 18, 2010

The EDR Environmental LienSearch™ Report

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

EDR Environmental LienSearch™ Report

The EDR Environmental LienSearch Report provides results from a search of available current land title records for environmental cleanup liens and other activity and use limitations, such as engineering controls and institutional controls.

A network of professional, trained researchers, following established procedures, uses client supplied address information to:

- search for parcel information and/or legal description;
- search for ownership information;
- research official land title documents recorded at jurisdictional agencies such as recorders' offices, registries of deeds, county clerks' offices, etc.;
- access a copy of the deed;
- search for environmental encumbering instrument(s) associated with the deed;
- provide a copy of any environmental encumbrance(s) based upon a review of key words in the instrument(s) (title, parties involved, and description); and
- provide a copy of the deed or cite documents reviewed.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EDR Environmental LienSearch™ Report

TARGET PROPERTY INFORMATION

ADDRESS:

CAMP RILEA
33168 PATRIOT WAY
WARRENTON, OR 97146

RESEARCH SOURCE

Source 1: Clatsop county recorder of deeds

Source 2: N/A
Examiner's Note: Public records of Clatsop county OR were searched from January 1, 1980 to October 12, 2010, and no other deeds vesting title in the subject property were found of record during the period searched.

PROPERTY DESCRIPTION

Current Owner: State of Oregon

Legal Description: See Deed Attached

Property Identifiers:
APN: 16112; 16242; 32583; 32584; 32760; 50335; 58354

General Comments N/A

PROPERTY INFORMATION

Deed 1

Type of Deed: Deed

Title is vested in: State of Oregon
Title received from: N/A

Date Executed: N/A

Date Recorded: N/A

Book:

Page:

Volume:

Instrument:

Docket:

Land Record Comments: According to the County this property is owned by the US Government and is a Military Base. Deed copy is not attached due to administration fees to search for deed copy.

ENVIRONMENTAL LIEN

Environmental Lien: Found Not Found X

If found:

1st Party:

2nd Party:

Dated:
Recorded:
Book:
Page:
Docket:
Volume:
Instrument:
Comments:
Miscellaneous:

OTHER ACTIVITY AND USE LIMITATIONS (AULs)

Other AUL's:	Found	Not Found	X

If found:

1st Party:

2nd Party:

Dated:
Recorded:
Book:
Page:
Docket:
Volume:
Instrument:
Comments:
Miscellaneous:

EDR Environmental LienSearch™ Report

DEED EXHIBIT

Camp Rilea
33168 Patriot Way
Warrenton, OR 97146

Inquiry Number: 2893935.3
October 14, 2010

Certified Sanborn® Map Report

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

10/14/10

Site Name:
Camp Rilea
33168 Patriot Way
Warrenton, OR 97146

EDR Inquiry # 2893935.3

Client Name:
Shaw Environmental &
10300 SW Nimbus Avenue
Portland, OR 97223

Contact: Audrey Turpening

EDR® Environmental Data Resources Inc

The complete Sanborn Library collection has been searched by EDR, and fire insurance maps covering the target property location provided by Shaw Environmental & Infrastructure were identified for the years listed below. The certified Sanborn Library search results in this report can be authenticated by visiting www.edrnet.com/sanborn and entering the certification number. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by Sanborn Library LLC, the copyright holder for the collection.

Certified Sanborn Results:

Site Name: Camp Rilea
Address: 33168 Patriot Way
City, State, Zip: Warrenton, OR 97146
Cross Street:
P.O. # NA
Project: NA
Certification # A32D-4629-B46D

Sanborn® Library search results
Certification # A32D-4629-B46D

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

The Sanborn Library includes more than 1.2 million Sanborn fire insurance maps, which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ✔ Library of Congress
- ✔ University Publications of America
- ✔ EDR Private Collection

The Sanborn Library LLC Since 1866™

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Camp Rilea
33168 Patriot Way
Warrenton, OR 97146

Inquiry Number: 2906200.1s
October 28, 2010

The EDR Radius Map™ Report with GeoCheck®

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
Toll Free: 800.352.0050
www.edrnet.com

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-05) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

33168 PATRIOT WAY
WARRENTON, OR 97146

COORDINATES

Latitude (North):	46.128400 - 46˚ 7' 42.2''
Longitude (West):	123.942800 - 123˚ 56' 34.1''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	427163.8
UTM Y (Meters):	5108527.5
Elevation:	53 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	46123-B8 WARRENTON, OR
Most Recent Revision:	1999
South Map:	46123-A8 GEARHART, OR
Most Recent Revision:	1973

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	2005, 2006
Source:	USDA

TARGET PROPERTY SEARCH RESULTS

The target property was identified in the following records. For more information on this property see page 7 of the attached EDR Radius Map report:

Site	Database(s)	EPA ID
CAMP RILEA 33168 PATRIOT WAY WARRENTON, OR 97146	ECSI VCP	N/A
CAMP RILEA CAMP RILEA WARRENTON, OR 97146	UST	N/A
NATIONAL GUARD TRAINING CENTER 33168 PATRIOT WAY WARRENTON, OR 97146	RCRA-SQG PADS FINDS AST MANIFEST HSIS	ORD980988414

EXECUTIVE SUMMARY

U.S. ARMY NATIONAL GUARD CAMP RIL 33168 PATRIOT WAY WARRENTON, OR 97146	TRIS	9714WCMPRL91
OREGON MILITARY DEPARTMENT - CAMP 33168 PATRIOT WAY WARRENTON, OR	UIC	N/A

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL ..... National Priority List
Proposed NPL ..... Proposed National Priority List Sites
NPL LIENS ..... Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ..... National Priority List Deletions

Federal CERCLIS list

CERCLIS ..... Comprehensive Environmental Response, Compensation, and Liability Information System
FEDERAL FACILITY ..... Federal Facility Site Information listing

Federal CERCLIS NFRAP site List

CERC-NFRAP ..... CERCLIS No Further Remedial Action Planned

Federal RCRA CORRACTS facilities list

CORRACTS ..... Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ..... RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG ..... RCRA - Large Quantity Generators

Federal institutional controls / engineering controls registries

US ENG CONTROLS ..... Engineering Controls Sites List

US INST CONTROL..... Sites with Institutional Controls

Federal ERNS list

ERNS..... Emergency Response Notification System

State- and tribal - equivalent CERCLIS

OR CRL..... Confirmed Release List and Inventory

State and tribal landfill and/or solid waste disposal site lists

SWF/LF..... Solid Waste Facilities List

State and tribal leaking storage tank lists

INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

INDIAN UST..... Underground Storage Tanks on Indian Land
FEMA UST..... Underground Storage Tank Listing

State and tribal institutional control / engineering control registries

ENG CONTROLS..... Engineering Controls Recorded at ESCI Sites
INST CONTROL..... Institutional Controls Recorded at ESCI Sites

State and tribal voluntary cleanup sites

INDIAN VCP..... Voluntary Cleanup Priority Listing

State and tribal Brownfields sites

BROWNFIELDS..... Brownfields Projects

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

DEBRIS REGION 9..... Torres Martinez Reservation Illegal Dump Site Locations
ODI..... Open Dump Inventory
INDIAN ODI..... Report on the Status of Open Dumps on Indian Lands

Local Lists of Hazardous waste / Contaminated Sites

US CDL..... Clandestine Drug Labs
AOCONCERN..... Columbia Slough
CDL..... Uninhabitable Drug Lab Properties
US HIST CDL..... National Clandestine Laboratory Register

EXECUTIVE SUMMARY

Local Land Records

LIENS 2	CERCLA Lien Information
LUCIS	Land Use Control Information System

Records of Emergency Release Reports

HMIRS	Hazardous Materials Information Reporting System
SPILLS	Spill Database

Other Ascertainable Records

RCRA-NonGen	RCRA - Non Generators
DOT OPS	Incident and Accident Data
FUDS	Formerly Used Defense Sites
CONSENT	Superfund (CERCLA) Consent Decrees
ROD	Records Of Decision
UMTRA	Uranium Mill Tailings Sites
MINES	Mines Master Index File
TSCA	Toxic Substances Control Act
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
SSTS	Section 7 Tracking Systems
ICIS	Integrated Compliance Information System
MLTS	Material Licensing Tracking System
RADINFO	Radiation Information Database
RAATS	RCRA Administrative Action Tracking System
OR HAZMAT	Hazmat/Incidents
DRYCLEANERS	Drycleaning Facilities
NPDES	Wastewater Permits Database
AIRS	Oregon Title V Facility Listing
INDIAN RESERV	Indian Reservations
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing
PCB TRANSFORMER	PCB Transformer Registration Database
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List
COAL ASH DOE	Sleam-Electric Plan Operation Data

EDR PROPRIETARY RECORDS

EDR Proprietary Records

Manufactured Gas Plants	EDR Proprietary Manufactured Gas Plants

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

STANDARD ENVIRONMENTAL RECORDS

Federal RCRA generators list

RCRA-CESQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

A review of the RCRA-CESQG list, as provided by EDR, and dated 02/17/2010 has revealed that there is 1 RCRA-CESQG site within approximately 2.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
ODOT WARRENTON MAINTENANCE	***1960 SE DOLPHIN***	***NE 1 - 2 (1.432 mi.)***	***D14***	***59***

State- and tribal - equivalent NPL

ECSI: The Environmental Cleanup Site Information System records information about sites in Oregon that may be of environmental interest. The data come from the Department of Environmental Quality.

A review of the ECSI list, as provided by EDR, and dated 08/01/2010 has revealed that there is 1 ECSI site within approximately 2.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
TAGG PIONEER FARM	***91146 PIONEER FARM RD.***	***SE 1 - 2 (1.278 mi.)***	***C12***	***48***

State and tribal leaking storage tank lists

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the Department of Environmental Quality's LUST Database List.

A review of the LUST list, as provided by EDR, and dated 10/01/2010 has revealed that there are 6 LUST sites within approximately 2.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
FANNIE MAE	91856 HIGHWAY 104	NE 1/2 - 1 (0.849 mi.)	7	41
TAGG PIONEER FARM	***91146 PONEER FARM ROAD***	***SE 1 - 2 (1.278 mi.)***	***C11***	***47***
Cleanup Complete: 4/7/2005				

Lower Elevation	Address	Direction / Distance	Map ID	Page
WILLIAMS, LINDA	***33325 PATRIOT WAY***	***SE 1/2 - 1 (0.541 mi.)***	***6***	***40***
Cleanup Complete: 3/18/2002				
WARRENTON MAINTENANCE SECTION	***1960 SE DOLPHIN***	***NE 1 - 2 (1.432 mi.)***	***D15***	***61***
Cleanup Complete: 2/29/1996				
TEXACO STATION #63-802-1012	1895 S MAIN AVE	NNE 1 - 2 (1.520 mi.)	16	62
Cleanup Complete: 6/28/2004				

EXECUTIVE SUMMARY

Lower Elevation	Address	Direction / Distance	Map ID	Page
ASTORIA GOLF & COUNTRY CLUB	***APPROX 5 MILES N OF GEA***	***S >2 (2.032 mi.)***	***E18***	***62***
Cleanup Complete: 9/29/1989				

State and tribal registered storage tank lists

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the Department of Environmental Quality's UST List on Disk.

A review of the UST list, as provided by EDR, and dated 10/01/2010 has revealed that there are 5 UST sites within approximately 2.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
CLATSOP OPERATIONS CENTER	2340 SE DOLPHIN AVE	ENE 1 - 2 (1.214 mi.)	B10	47
WARRENTON MAINTENANCE SECTION	***1960 SE DOLPHIN***	***NE 1 - 2 (1.432 mi.)***	***D15***	***61***
CLASSIC BODYWORKS	650 ALTERNATE HWY 101	NE >2 (2.024 mi.)	17	62
ASTORIA GOLF & COUNTRY CLUB	***APPROX 5 MILES N OF GEA***	***S >2 (2.032 mi.)***	***E18***	***62***
YOUNG, BURTON L. & CYNTHIA L.	673 SW CEDAR ST	NNE >2 (2.216 mi.)	F24	73

AST: The Aboveground Storage Tank database contains registered ASTs. The data comes from the list of ASTs reported to the Office of State Fire Marshal.

A review of the AST list, as provided by EDR, and dated 03/22/2010 has revealed that there are 5 AST sites within approximately 2.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
MEDIX AMBULANCE SERVICE INC	***2325 SE DOLPHIN AVE***	***ENE 1 - 2 (1.212 mi.)***	***B8***	***41***
PACIFICORP	***2340 SE DOLPHIN AVE***	***ENE 1 - 2 (1.214 mi.)***	***B9***	***42***
ODOT	***1960 SE DOLPHIN AVE***	***NE 1 - 2 (1.432 mi.)***	***D13***	***53***
ASTORIA GOLF & COUNTRY CLUB	***33445 SUNSET BEACH LN***	***S >2 (2.037 mi.)***	***E19***	***63***
WARRENTON BUILDERS SUPPLY	***1015 S MAIN ST***	***NNE >2 (2.045 mi.)***	***21***	***69***

State and tribal voluntary cleanup sites

VCP: Responsible parties have entered into an agreement with DEQ to voluntarily address contamination associated with their property.

A review of the VCP list, as provided by EDR, and dated 08/02/2010 has revealed that there is 1 VCP site within approximately 2.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
TAGG PIONEER FARM	***91146 PIONEER FARM RD.***	***SE 1 - 2 (1.278 mi.)***	***C12***	***48***

EXECUTIVE SUMMARY

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Landfill / Solid Waste Disposal Sites

HIST LF: A list of solid waste disposal sites that have been closed for a long while.

A review of the HIST LF list, as provided by EDR, and dated 04/01/2000 has revealed that there is 1 HIST LF site within approximately 2.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
WARRENTON		NNE >2 (2.155 mi.)	F23	73

Other Ascertainable Records

DOD: Consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

A review of the DOD list, as provided by EDR, and dated 12/31/2005 has revealed that there is 1 DOD site within approximately 2.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
CAMP RILEY MILITARY RESERVATIO		0 - 1/8 (0.000 mi.)	0	40

UIC: DEQ's Underground Injection Control Program is authorized by the Environmental Protection Agency (EPA) to regulate all underground injection in Oregon to protect groundwater resources.

A review of the UIC list, as provided by EDR, and dated 08/16/2010 has revealed that there are 2 UIC sites within approximately 2.5 miles of the target property.

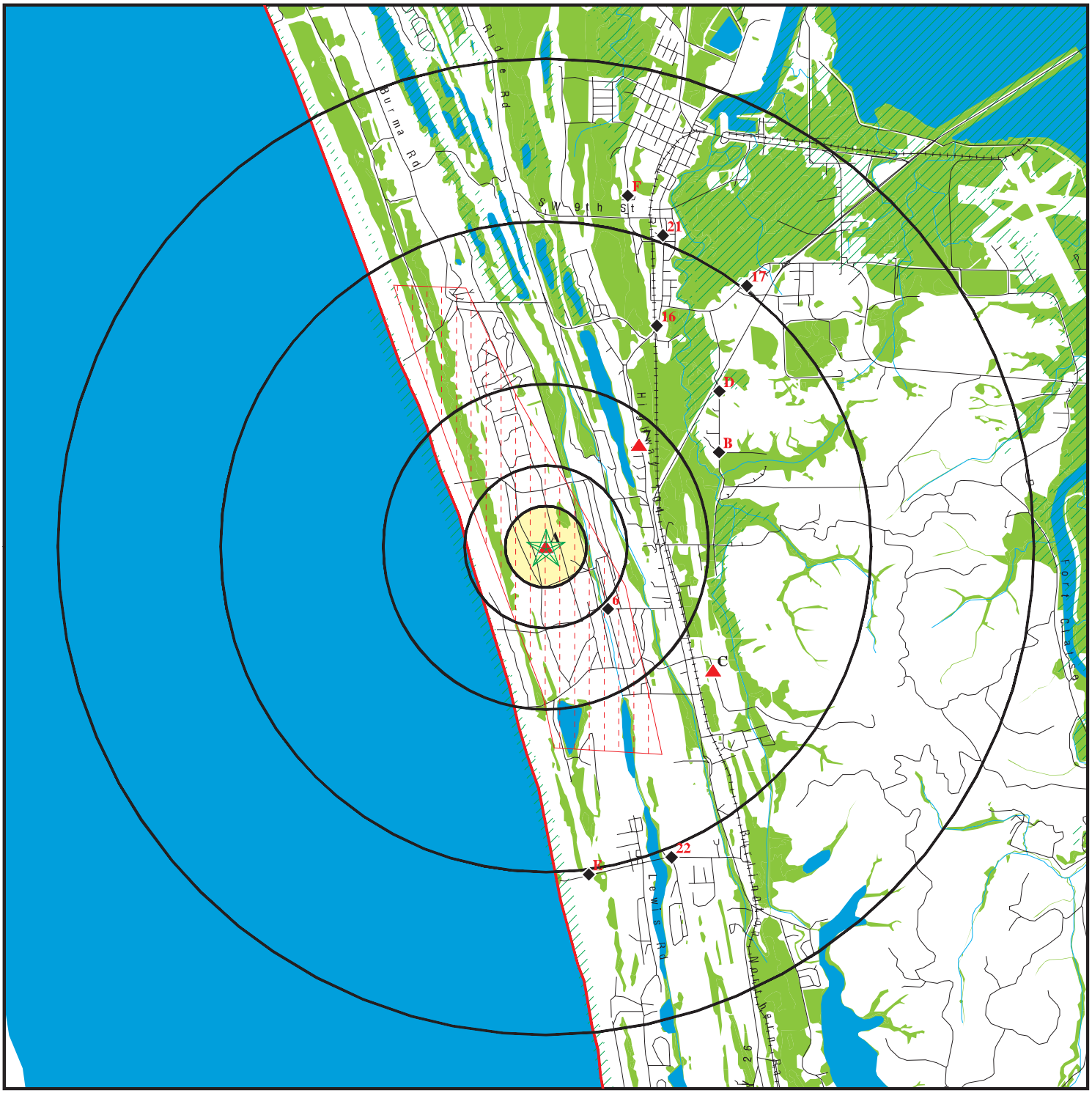
Lower Elevation	Address	Direction / Distance	Map ID	Page
ASTORIA GOLF & COUNTRY CLUB(OW	33445 SUNSET BEACH LANE	S >2 (2.037 mi.)	E20	69
SUNSET LAKE RV(OWNER:RESOURCES	33242 SUNSET BEACH LANE	SSE >2 (2.059 mi.)	22	73

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped:

Site Name	Database(s)
10TH & NW MARION	FINDS, ECSI
BAYVIEW TRANSIT MIX	ECSI
FORT STEVENS STATE PARK	FINDS, ECSI
HWY 202	FINDS, ECSI
SEASIDE BP/MARITIME FUEL	ECSI
CURS SEASIDE AHOT	ECSI
COLUMBIA BEACH MILITARY RESERVATIO	ECSI
ASTORIA AIRPORT INDUSTRIAL PARK	ECSI
WARRENTON BOAT YARD	ECSI, VCP
FORT CLATSOP - RIVER DAY USE SITE	ECSI, VCP
L.O.G. WRECKING	CERCLIS
CARLSON CONTRACTING INC	AST, HSIS
ROAD DEPARTMENT - JEWELL SHOP	UST, AST, HSIS
JEWELL SCHOOL(OWNER:JEWELL SCHOOL	UIC, AST, HSIS
BAYVIEW TRANSIT MIX INC	AST, HSIS
CLEAN SWEEP MAINTENANCE INC	AST, HSIS
VERIZON WIRELESS	AST, HSIS
WARRENTON-HAMMOND SCH DIST 30	AST, HSIS
WILCOX & FLEGEL	AST, HSIS
LEWIS AND CLARK LOG YARD LANDFILL	SWF/LF
HAMMOND MARINA	SWF/LF, SPILLS
LEWIS & N CLARK RD TS	FINDS, SWF/LF
TEEVIN AND FISCHER QUARRY	SWF/LF
MAIZE, RICHARD	LUST, UST
WARRENTON HIGH SCHOOL	LUST
TANSEY PT FUEL DOCK	UST
FORT STEVEN	UST
COLBY, W A	UST
COCA COLA BOTTLING CO. OF OREGON	UST
FRED MEYER FUEL STOP #218	UST
WARRENTON HIGH SCHOOL	UST
2793 HWY 101 N	RCRA-NonGen, FINDS
MAIN ST	RCRA-NonGen
WILLAMETTE INDUSTRIES, DALLAS	HIST LF
OP&R - BRADLEY STATE PARK(OWNER:OR	UIC
OP&R - FORT STEVENS STATE PARK(OWN	UIC
ELDERBERRY INN, INC.(OWNER:ELDERBE	UIC
ODOT HUMBUG MAINT. STATION(OWNER:O	UIC
SW 9TH AND RIDGE RD	ODI
CAMP RILEA STP	NPDES

OVERVIEW MAP - 2906200.1s



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites

0 3/4 1 1/2 3 Miles

- Indian Reservations BIA
- County Boundary
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Camp Rilea	CLIENT: Shaw Environmental & Infrastructure
ADDRESS: 33168 Patriot Way Warrenton OR 97146	CONTACT: Audrey Turpening
LAT/LONG: 46.1284 / 123.9428	INQUIRY #: 2906200.1s
	DATE: October 28, 2010 9:16 am

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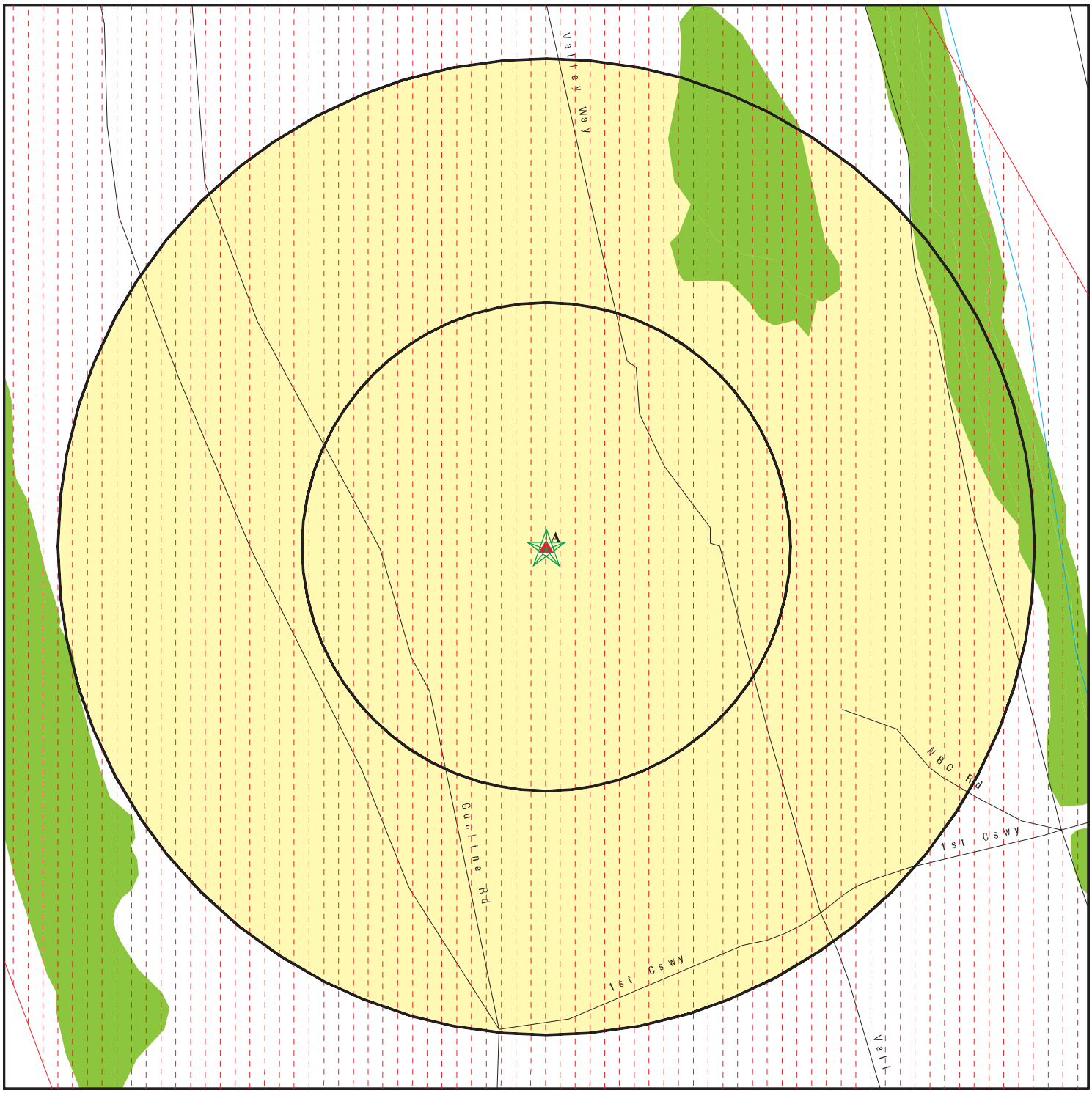
DETAIL MAP - 2906200.1s



0 1/16 1/8 1/4 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands
- Areas of Concern

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LAT/LONG: 46.1284 / 123.9428	INQUIRY #: 2906200.1s DATE: October 28, 2010 9:17 am

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MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL		2.500	0	0	0	0	0	0
Proposed NPL		2.500	0	0	0	0	0	0
NPL LIENS		TP	NR	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL		2.500	0	0	0	0	0	0
Federal CERCLIS list								
CERCLIS		2.500	0	0	0	0	0	0
FEDERAL FACILITY		2.500	0	0	0	0	0	0
Federal CERCLIS NFRAP site List								
CERC-NFRAP		2.500	0	0	0	0	0	0
Federal RCRA CORRACTS facilities list								
CORRACTS		2.500	0	0	0	0	0	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF		2.500	0	0	0	0	0	0
Federal RCRA generators list								
RCRA-LQG		2.500	0	0	0	0	0	0
RCRA-SQG	X	2.500	0	0	0	0	0	0
RCRA-CESQG		2.500	0	0	0	0	1	1
Federal institutional controls / engineering controls registries								
US ENG CONTROLS		2.500	0	0	0	0	0	0
US INST CONTROL		2.500	0	0	0	0	0	0
Federal ERNS list								
ERNS		TP	NR	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
ECSI	X	2.500	0	0	0	0	1	1
State- and tribal - equivalent CERCLIS								
OR CRL		2.500	0	0	0	0	0	0
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF		2.500	0	0	0	0	0	0
State and tribal leaking storage tank lists								
LUST		2.500	0	0	0	2	4	6
INDIAN LUST		2.500	0	0	0	0	0	0

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
State and tribal registered storage tank lists								
UST	X	2.500	0	0	0	0	5	5
AST	X	2.500	0	0	0	0	5	5
INDIAN UST		2.500	0	0	0	0	0	0
FEMA UST		2.500	0	0	0	0	0	0
State and tribal institutional control / engineering control registries								
ENG CONTROLS		2.500	0	0	0	0	0	0
INST CONTROL		2.500	0	0	0	0	0	0
State and tribal voluntary cleanup sites								
VCP	X	2.500	0	0	0	0	1	1
INDIAN VCP		2.500	0	0	0	0	0	0
State and tribal Brownfields sites								
BROWNFIELDS		2.500	0	0	0	0	0	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS		2.500	0	0	0	0	0	0
Local Lists of Landfill / Solid Waste Disposal Sites								
DEBRIS REGION 9		2.500	0	0	0	0	0	0
ODI		2.500	0	0	0	0	0	0
HIST LF		2.500	0	0	0	0	1	1
INDIAN ODI		2.500	0	0	0	0	0	0
Local Lists of Hazardous waste / Contaminated Sites								
US CDL		TP	NR	NR	NR	NR	NR	0
AOCONCERN		2.500	0	0	0	0	0	0
CDL		TP	NR	NR	NR	NR	NR	0
US HIST CDL		TP	NR	NR	NR	NR	NR	0
Local Land Records								
LIENS 2		TP	NR	NR	NR	NR	NR	0
LUCIS		2.500	0	0	0	0	0	0
Records of Emergency Release Reports								
HMIRS		TP	NR	NR	NR	NR	NR	0
SPILLS		TP	NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA-NonGen		2.500	0	0	0	0	0	0
DOT OPS		TP	NR	NR	NR	NR	NR	0
DOD		2.500	1	0	0	0	0	1

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FUDS		2.500	0	0	0	0	0	0
CONSENT		2.500	0	0	0	0	0	0
ROD		2.500	0	0	0	0	0	0
UMTRA		2.500	0	0	0	0	0	0
MINES		2.500	0	0	0	0	0	0
TRIS	X	TP	NR	NR	NR	NR	NR	0
TSCA		TP	NR	NR	NR	NR	NR	0
FTTS		TP	NR	NR	NR	NR	NR	0
HIST FTTS		TP	NR	NR	NR	NR	NR	0
SSTS		TP	NR	NR	NR	NR	NR	0
ICIS		TP	NR	NR	NR	NR	NR	0
PADS	X	TP	NR	NR	NR	NR	NR	0
MLTS		TP	NR	NR	NR	NR	NR	0
RADINFO		TP	NR	NR	NR	NR	NR	0
FINDS	X	TP	NR	NR	NR	NR	NR	0
RAATS		TP	NR	NR	NR	NR	NR	0
UIC	X	2.500	0	0	0	0	2	2
MANIFEST	X	2.500	0	0	0	0	0	0
OR HAZMAT		TP	NR	NR	NR	NR	NR	0
DRYCLEANERS		2.500	0	0	0	0	0	0
NPDES		TP	NR	NR	NR	NR	NR	0
AIRS		TP	NR	NR	NR	NR	NR	0
HSIS	X	TP	NR	NR	NR	NR	NR	0
INDIAN RESERV		2.500	0	0	0	0	0	0
SCRD DRYCLEANERS		2.500	0	0	0	0	0	0
PCB TRANSFORMER		TP	NR	NR	NR	NR	NR	0
COAL ASH EPA		2.500	0	0	0	0	0	0
COAL ASH DOE		TP	NR	NR	NR	NR	NR	0
EDR PROPRIETARY RECORDS								
EDR Proprietary Records								
Manufactured Gas Plants		2.500	0	0	0	0	0	0

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

A1 Target Property | **CAMP RILEA**
33168 PATRIOT WAY
WARRENTON, OR 97146 | **ECSI** | **S105613940**
VCP | **N/A**

Site 1 of 5 in cluster A

Actual: 53 ft.

OR ECSI:

State ID Number:	1524	Brown ID:	0
Study Area:	False	Region ID:	2
Legislatve ID:	832	Investigation ID:	206
FACA ID:	40191	Further Action:	0
Lat/Long (dms):	46 7 23.04 / -123 56 .06	County Code:	4.00
Score Value:	Not reported	Cerclis ID:	Not reported
Township Coord.:	7.00	Township Zone:	N
Range Coord:	10.00	Range Zone:	W
Section Coord:	4	Qtr Section:	Not reported
Tax Lots:	Not reported	Size:	1,850 acres
NPL:	False	Orphan:	False
Updated By:	RWILLIA	Update Date:	5/6/2010
Alias Name:	Oregon National Guard Training Facility		

OR ECSI HAZARDOUS RELEASE:

Substance ID.:	121982
Haz Release ID:	384203
Qty Released:	unknown
Date Released:	1940 - 1980
Update Date:	02/02/1994
Update By:	Not reported
Substance Code:	ECD169
Substance Name:	DIESEL - FUEL OIL
Substance Abbrev.:	Not reported
Substance Category ID:	8529
Substance Category:	Petroleum Related Releases for OSPIRG Report
Category Level:	Not reported
Created By:	Not reported
Created Date:	12/17/2002
Substance Category ID:	8529
Substance Category:	Petroleum Related Releases for OSPIRG Report
Category Level:	Not reported
Created By:	Not reported
Created Date:	12/17/2002
Substance Alias ID:	Not reported
Sub Alias Name:	Not reported
Comment ID:	Not reported
Release Code:	Not reported
Release Comments:	Not reported
Sampling Result ID:	344549
Feature Id:	Not reported
Hazard Release Id:	384203
Medium:	703
Substance Abbrev.:	Not reported
Unit Code:	Not reported
Observation:	False
Owner Operator:	False
Lab Data:	True
Sample Depth:	Not reported
Start Date:	08/13/1993
End Date:	Not reported
Min Concentration:	Not reported
Max Concentration:	Not reported

CAMP RILEA (Continued) **S105613940**

Sample Comment: 13,850 ppm
Last Update By: CONV
Update Date: 09/13/1994

Substance ID.: 121664
Haz Release ID: 386912
Qty Released: unknown
Date Released: unknown
Update Date: 10/05/2006
Update By: RWILLIA
Substance Code: 7440-38-2
Substance Name: ARSENIC
Substance Abbrev.: Not reported
Substance Category ID: 8439
Substance Category: Inorganics
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Substance Category ID: 8439
Substance Category: Inorganics
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Substance Alias ID: 319286
Sub Alias Name: AS
Comment ID: Not reported
Release Code: Not reported
Release Comments: Not reported
Sampling Result ID: 348937
Feature Id: 0
Hazard Release Id: 386912
Medium: 703
Substance Abbrev.: 0
Unit Code: Not reported
Observation: False
Owner Operator: False
Lab Data: True
Sample Depth: Not reported
Start Date: 09/20/2005
End Date: Not reported
Min Concentration: Not reported
Max Concentration: Not reported
Sample Comment: 1700 mg/kg
Last Update By: RWILLIA
Update Date: 10/05/2006
Sampling Result ID: 348940
Feature Id: 0
Hazard Release Id: 386912
Medium: 698
Substance Abbrev.: 0
Unit Code: Not reported
Observation: False
Owner Operator: False
Lab Data: True
Sample Depth: Not reported
Start Date: 09/20/2005
End Date: Not reported

CAMP RILEA (Continued) **S105613940**

Min Concentration: Not reported
Max Concentration: Not reported
Sample Comment: 24 ppb
Last Update By: RWILLIA
Update Date: 10/05/2006

Substance ID.: 121623
Haz Release ID: 387424
Qty Released: unknown
Date Released: unknown
Update Date: 12/15/2009
Update By: RWILLIA
Substance Code: 74-82-8
Substance Name: METHANE
Substance Abbrev.: Not reported
Substance Category ID: Not reported
Substance Category: Not reported
Category Level: Not reported
Created By: Not reported
Created Date: Not reported
Substance Category ID: Not reported
Substance Category: Not reported
Category Level: Not reported
Created By: Not reported
Created Date: Not reported
Substance Alias ID: Not reported
Sub Alias Name: Not reported
Comment ID: Not reported
Release Code: Not reported
Release Comments: Not reported
Sampling Result ID: 349782
Feature Id: 0
Hazard Release Id: 387424
Medium: 700
Substance Abbrev.: 0
Unit Code: Not reported
Observation: False
Owner Operator: False
Lab Data: True
Sample Depth: Not reported
Start Date: 07/31/2007
End Date: Not reported
Min Concentration: Not reported
Max Concentration: Not reported
Sample Comment: 1.4 ppmV (maximum in soil gas)
Last Update By: RWILLIA
Update Date: 12/15/2009

Substance ID.: 121781
Haz Release ID: 386914
Qty Released: unknown
Date Released: unknown
Update Date: 10/05/2006
Update By: RWILLIA
Substance Code: 79-01-6
Substance Name: TRICHLOROETHYLENE
Substance Abbrev.: Not reported

CAMP RILEA (Continued) **S105613940**

Substance Category ID: 8523
Substance Category: Volatiles
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Substance Category ID: 8545
Substance Category: Solvents of interest to Milwaukie Area GW study
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Substance Category ID: 8523
Substance Category: Volatiles
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Substance Category ID: 8545
Substance Category: Solvents of interest to Milwaukie Area GW study
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Substance Alias ID: 317517
Sub Alias Name: ETHINYL TRICHLORIDE
Substance Alias ID: 317518
Sub Alias Name: ETHYLENE TRICHLORIDE
Substance Alias ID: 317519
Sub Alias Name: TCE
Substance Alias ID: 317520
Sub Alias Name: TRI-CLENE
Substance Alias ID: 317521
Sub Alias Name: TRICHLOROETHENE
Comment ID: Not reported
Release Code: Not reported
Release Comments: Not reported
Sampling Result ID: 349439
Feature Id: 0
Hazard Release Id: 386914
Medium: 698
Substance Abbrev.: 0
Unit Code: Not reported
Observation: False
Owner Operator: False
Lab Data: True
Sample Depth: Not reported
Start Date: 08/24/2007
End Date: Not reported
Min Concentration: Not reported
Max Concentration: Not reported
Sample Comment: 6.84 ppb
Last Update By: RWILLIA
Update Date: 12/01/2008
Sampling Result ID: 348939
Feature Id: 0
Hazard Release Id: 386914
Medium: 698
Substance Abbrev.: 0
Unit Code: Not reported
Observation: False

CAMP RILEA (Continued) **S105613940**

Owner Operator: False
Lab Data: True
Sample Depth: Not reported
Start Date: 09/20/2005
End Date: Not reported
Min Concentration: Not reported
Max Concentration: Not reported
Sample Comment: 7.48 ppb
Last Update By: RWILLIA
Update Date: 10/05/2006

Substance ID.: 121790
Haz Release ID: 387217
Qty Released: unknown
Date Released: unknown
Update Date: 12/01/2008
Update By: RWILLIA
Substance Code: 79-34-5
Substance Name: TETRACHLOROETHANE,1,1,2,2-
Substance Abbrev.: Not reported
Substance Category ID: Not reported
Substance Category: Not reported
Category Level: Not reported
Created By: Not reported
Created Date: Not reported
Substance Category ID: Not reported
Substance Category: Not reported
Category Level: Not reported
Created By: Not reported
Created Date: Not reported
Substance Alias ID: 317538
Sub Alias Name: ACETYLENE TETRACHLORIDE
Substance Alias ID: 317539
Sub Alias Name: BONOFORM
Substance Alias ID: 317540
Sub Alias Name: CELLON
Substance Alias ID: 317541
Sub Alias Name: ETHANE,1,1,2,2-TETRACHLORO-
Substance Alias ID: 317542
Sub Alias Name: TETRACHLOROETHANE
Substance Alias ID: 317543
Sub Alias Name: TETRACHLOROETHANE,sym-
Comment ID: Not reported
Release Code: Not reported
Release Comments: Not reported
Sampling Result ID: 349440
Feature Id: 0
Hazard Release Id: 387217
Medium: 698
Substance Abbrev.: 0
Unit Code: Not reported
Observation: False
Owner Operator: False
Lab Data: True
Sample Depth: Not reported
Start Date: 08/24/2007
End Date: Not reported

CAMP RILEA (Continued) **S105613940**

Min Concentration: Not reported
Max Concentration: Not reported
Sample Comment: 1.97 ppb
Last Update By: RWILLIA
Update Date: 12/01/2008

Substance ID.: 121639
Haz Release ID: 386913
Qty Released: unknown
Date Released: unknown
Update Date: 10/05/2006
Update By: RWILLIA
Substance Code: 7439-92-1
Substance Name: LEAD
Substance Abbrev.: Not reported
Substance Category ID: 8466
Substance Category: Inorganics
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Substance Category ID: 8466
Substance Category: Inorganics
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Substance Alias ID: 319256
Sub Alias Name: PB
Comment ID: Not reported
Release Code: Not reported
Release Comments: Not reported
Sampling Result ID: 348938
Feature Id: 0
Hazard Release Id: 386913
Medium: 703
Substance Abbrev.: 0
Unit Code: Not reported
Observation: False
Owner Operator: False
Lab Data: True
Sample Depth: Not reported
Start Date: 09/20/2005
End Date: Not reported
Min Concentration: Not reported
Max Concentration: Not reported
Sample Comment: 1180 mg/kg
Last Update By: RWILLIA
Update Date: 10/05/2006

Substance ID.: 121011
Haz Release ID: 387216
Qty Released: unknown
Date Released: unknown
Update Date: 12/01/2008
Update By: RWILLIA
Substance Code: 127-18-4
Substance Name: TETRACHLOROETHYLENE
Substance Abbrev.: Not reported

CAMP RILEA (Continued) **S105613940**

Substance Category ID: 8519
Substance Category: Volatiles
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Substance Category ID: 8551
Substance Category: Solvents of interest to Milwaukie Area GW study
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Substance Category ID: 8519
Substance Category: Volatiles
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Substance Category ID: 8551
Substance Category: Solvents of interest to Milwaukie Area GW study
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Substance Alias ID: 316912
Sub Alias Name: ETHENE,TETRACHLORO-
Substance Alias ID: 316913
Sub Alias Name: ETHYLENE TETRACHLORIDE
Substance Alias ID: 316914
Sub Alias Name: PERCHLOROETHYLENE
Substance Alias ID: 316915
Sub Alias Name: PERCLENE
Substance Alias ID: 316916
Sub Alias Name: TETRACHLOROETHENE
Substance Alias ID: 316917
Sub Alias Name: TETRACHLOROETHENE,1,1,2,2-
Substance Alias ID: 316918
Sub Alias Name: TETRACHLOROETHYLENE,1,1,2,2-
Comment ID: Not reported
Release Code: Not reported
Release Comments: Not reported
Sampling Result ID: 349441
Feature Id: 0
Hazard Release Id: 387216
Medium: 698
Substance Abbrev.: 0
Unit Code: Not reported
Observation: False
Owner Operator: False
Lab Data: True
Sample Depth: Not reported
Start Date: 06/18/2008
End Date: Not reported
Min Concentration: Not reported
Max Concentration: Not reported
Sample Comment: 0.87 ppb
Last Update By: RWILLIA
Update Date: 12/01/2008

OR ECSI NARR:
NARR ID: 5733966
NARR Code: Contamination

CAMP RILEA (Continued) **S105613940**

Created By: Not reported
Created Date: 12/17/2002
Updated By: RWILLIA
Updated Date: 01/26/2009
NARR Comments: Barracks were heated with WW-II era diesel-burning stoves. Diesel leaked from inverted 5-gallon tanks hung outside each building over a 40-year period, up to the early 1980s. Soil around each barracks building was contaminated to a depth of 5 - 7 feet below ground surface. Data from 3 monitoring wells shows that groundwater has not been affected. The Military Department reported a diesel spill from an unknown source in April 1994, (spill # 94-129), which soaked into soils near the Neacoxie Slough.

NARR ID: 5733967
NARR Code: Data Sources
Created By: Not reported
Created Date: 12/17/2002
Updated By: RWILLIA
Updated Date: 01/26/2009
NARR Comments: Site Cleanup Report, Camp Rilea, Warrenton, Oregon by Cascade Earth Sciences, Ltd., February 2,
1994.
Phase 2 Environmental Baseline Study Sampling and Analysis Plan, C amp Rilea, AMEC Earth & Environmental, March
2005.
Phase 2 Environmental Baseline Study, Camp Rilea, AMEC Earth & Env ironmental, March
2006.
Burn Pit Soil Excavation and Disposal Work Plan, Camp Rilea, AMEC Earth & Environmental, January
2007.
Landfill Capping and Groundwater Monitoring Work Plan, Camp Rilea, Amec Earth and Environmental, January
2007.
Remedial Action and Groundwater Monitoring Report, Former Burn Pit and Landfill Areas, Camp Rilea, Oregon, AMEC Earth & Environmental, January 14, 2008.

NARR ID: 5751154
NARR Code: General Site Description
Created By: RWILLIA
Created Date: 01/26/2009
Updated By: RWILLIA
Updated Date: 01/26/2009
NARR Comments: Camp Rilea is located at 33168 Patriot Way in Warrenton and the entire property is 1,850 acres in size. The landscape at Camp Rilea consists of north-south trending sand dunes, interdunal plains, lakes, and streams. The camp is bordered by the Pacific Ocean to the west, U.S. Highway Route 101 to the east, agricultural land and a golf course to the south, and residential property to the north.

NARR ID: 5733968
NARR Code: Hazardous Substance/Waste Types
Created By: Not reported
Created Date: 12/17/2002
Updated By: RWILLIA
Updated Date: 01/26/2009

CAMP RILEA (Continued) **S105613940**

NARR Comments: Diesel was spilled around the barracks area over many years. The metals arsenic and lead were the primary contaminants at the Burn Pit. At the former landfill area VOCs 1,1,2,2-tetrachloroethene, PCE, and TCE are found at low concentrations in groundwater.

NARR ID: 5733969
NARR Code: Manner of Release
Created By: Not reported
Created Date: 12/17/2002
Updated By: Not reported
Updated Date: 12/17/2002
NARR Comments: Leakage of stove oil (diesel) into the ground out of primitive above-ground storage tanks on the outside of each barracks building. Also, in April 1994, a spill of diesel occurred on another portion of the site.

NARR ID: 5733970
NARR Code: Remedial Action
Created By: Not reported
Created Date: 12/17/2002
Updated By: RWILLIA
Updated Date: 05/06/2010
NARR Comments: Approximately 750 yards of soil have been excavated, and the Oregon Military Dept. plans removal of an additional 250 - 350 yards, along with treatment or removal of contaminated soil to complete cleanup, in 1994. Low priority for DEQ followup. (3/25/94 GMW/SAS) The Military Dept. excavated another 500 yards of soil in the spill area; confirmation samples indicated removal to 100 ppm was successful. Soil is to be treated on-site under
permit.
(6/6/2005 GEA/ICP) Site has entered the independent cleanup program. (8/11/2005 GEA) Additional groundwater investigation, including 6 temporary well points, is expected to occur in Sept 2005, at both the burn pit and former landfill areas. (10/5/06 RKW): Additional investigation of soil and groundwater was completed at the burn pit and landfill. Arsenic up 1700 mg/kg (hot spot) and lead (up to 1180 mg/kg) was found in soil at the burn pit. Arsenic, trichloroethene, and other solvents were found in groundwater at the landfill. Removal action is planned for the burn pit soil and addtional groundwater monitoring is planned for the landfill. Methane investigation was requested by DEQ at the
landfill.
In April 2007 deep groundwater sampling was performed at the forme r landfill site. A push probe boring was advanced in the vicinity of the greatest shallow groundwater VOC detection. Water samples were collected through a push probe sampling screen at 48, 73, and 84 feet below ground surface. No VOCs were
detected.
Five shallow groundwater monitoring wells were installed in the vi cinity of the former landfill for long-term groundwater monitoring. Groundwater flow direction is easterly toward Neacoxie Creek. The source area well, the two down-gradient wells and one cross gradient well consistently have low concentration detections of PCE and TCE.
(11/12/08 RKW): Excavation of 261 tons of Burn Pit soil and 342 t ons of landfill debris from the former landfill was completed in August 2007. Final Burn Pit Area excavation was 60x35 feet and 8-9 feet deep. The Burn Pit material was trucked to Hillsboro Landfill

CAMP RILEA (Continued) **S105613940**

and the landfill debris was trucked to the Warrenton Solid Waste Landfill. Confirmation sampling for lead and arsenic (COCs) indicated all Burn Pit material had been removed. A three-inch asphalt cap was installed on the former landfill.
(12/1/08 RKW): Public comment for Burn Pit Area partial NFA to ru n from 12/1-12/30. No comments-PNFA for Burn Pit issued 1/27/09.
(12/15/09 RKW): Final groundwater monitoring event at former landf ill completed in June 09. After two years of monitoring 1,1,2,2-TCA and PCE were only detected sporadically. TCE was usually detected in all wells except MW-5 and low concentrations are generally steady or declining. Modeling was used to show that TCE would not reach Neacoxie Creek concentrations greater than 1 ppb or below AWQC.
The former landfill was capped with asphalt in August 2007 after m onitoring the landfill area for methane gas. Methane was detected at 1% of LEL but below DEQ action levels of 25%
LEL.
PNFA proposed for the landfill area; public comment period to run in January
2010.
(5/5/10 RKW) NFA for the former landfill issued in May 2010. Docu mentation for the mid-90s final cleanup of the barracks area and the spill near Neacoxie Creek cannot be located so these issues remain open for now. Low priority.

NARR ID: 5749531
NARR Code: Site History
Created By: RWILLIA
Created Date: 08/01/2007
Updated By: RWILLIA
Updated Date: 08/01/2007
NARR Comments: The large coastal facility was originally established as Camp Clatsop in 1927 and has been used a military training camp ever since.

OR ECSI SITE CONTROL:
Site Control #: Not reported
Control Number: Not reported
Begin Date: Not reported
End Date: Not reported
Frequency Of Review: Not reported
Last Reviewed By: Not reported
Last Reviewed Date: Not reported
Last Update By: Not reported
Last Updated Date: Not reported
Site Comment: Not reported

OR ECSI PERMIT:
Permit Agency: Not reported
Permit Number: Not reported
Permit Type: Not reported
Comments: Not reported

OR ECSI Administrative Action:

Admin ID:	720488	Action ID:	9437
Agency:	Dept Of Environmental Quality	Region:	Not reported
Start Date:	03/25/1994	Complete Date:	03/25/1994
Substance Code:	SAS	Rank Value:	0
Employee Id:	767	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002

CAMP RILEA (Continued) **S105613940**

Action Code:	LRC	Category:	Listing Action
Action Flag:	True	Action Code Flag:	False
Action:	Listing Review completed		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	720487	Action ID:	9431
Agency:	Dept Of Environmental Quality	Region:	Not reported
Start Date:	03/26/1994	Complete Date:	Not reported
Substance Code:	SAS	Rank Value:	0
Employee Id:	767	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	HOLD	Category:	Listing Action
Action Flag:	True	Action Code Flag:	False
Action:	Place on hold		
Further Action:	Not reported		
Comments:	Postpone listing decision until remedial action is completed.		

Admin ID:	720026	Action ID:	9501
Agency:	Dept Of Environmental Quality	Region:	Not reported
Start Date:	03/24/1994	Complete Date:	03/24/1994
Substance Code:	SAS	Rank Value:	0
Employee Id:	767	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	RRA	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	Remedial Action recommended (RA)		
Further Action:	Low		
Comments:	Additional remedial action, initiated by Oregon Military Department, expected to occur at site		

Admin ID:	720025	Action ID:	9425
Agency:	Dept Of Environmental Quality	Region:	Northwestern Region
Start Date:	01/03/1994	Complete Date:	03/24/1994
Substance Code:	SAS	Rank Value:	0
Employee Id:	767	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	EV	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	SITE EVALUATION		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	716653	Action ID:	9424
Agency:	Dept Of Environmental Quality	Region:	Northwestern Region
Start Date:	03/24/1994	Complete Date:	Not reported
Substance Code:	SAS	Rank Value:	0
Employee Id:	767	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	ENTRY	Category:	Administrative Action
Action Flag:	True	Action Code Flag:	False
Action:	Site added to database		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	730481	Action ID:	9435
Agency:	Dept Of Environmental Quality	Region:	Northwestern Region

CAMP RILEA (Continued) **S105613940**

Start Date:	06/06/2005	Complete Date:	Not reported
Substance Code:	ICP	Rank Value:	Not reported
Employee Id:	2081	Cleanup Flag:	False
Created By:	MENGLIS	Created Date:	06/16/2005
Action Code:	ICP	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	Independent Cleanup Program		
Further Action:	0		
Comments:	Not reported		

Admin ID:	730480	Action ID:	9519
Agency:	Dept Of Environmental Quality	Region:	Northwestern Region
Start Date:	04/28/2005	Complete Date:	06/06/2005
Substance Code:	ICP	Rank Value:	Not reported
Employee Id:	2670	Cleanup Flag:	False
Created By:	MENGLIS	Created Date:	06/16/2005
Action Code:	VWL	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	VCS Waiting List		
Further Action:	0		
Comments:	Not reported		

Admin ID:	726305	Action ID:	9521
Agency:	Dept Of Environmental Quality	Region:	Northwestern Region
Start Date:	03/25/1994	Complete Date:	03/25/1994
Substance Code:	SAS	Rank Value:	Not reported
Employee Id:	767	Cleanup Flag:	False
Created By:	GWISTAR	Created Date:	05/22/2003
Action Code:	OPTN	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	OPTN		
Further Action:	0		
Comments:	Not reported		

Admin ID:	736118	Action ID:	9463
Agency:	Dept Of Environmental Quality	Region:	Northwestern Region
Start Date:	01/27/2009	Complete Date:	01/27/2009
Substance Code:	ICP	Rank Value:	Not reported
Employee Id:	2081	Cleanup Flag:	True
Created By:	RWILLIA	Created Date:	01/27/2009
Action Code:	PNFA	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	Partial No Further Action		
Further Action:	0		
Comments:	Burn Pit cleaned up		

Admin ID:	737182	Action ID:	9469
Agency:	Dept Of Environmental Quality	Region:	Northwestern Region
Start Date:	07/31/2007	Complete Date:	08/20/2007
Substance Code:	ICP	Rank Value:	Not reported
Employee Id:	2081	Cleanup Flag:	False
Created By:	RWILLIA	Created Date:	01/14/2010
Action Code:	RA	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	REMEDIAL ACTION		
Further Action:	0		
Comments:	Landfill CAP IRAM		

CAMP RILEA (Continued) **S105613940**

Admin ID:	737531	Action ID:	9443
Agency:	Dept Of Environmental Quality	Region:	Northwestern Region
Start Date:	05/05/2010	Complete Date:	05/05/2010
Substance Code:	ICP	Rank Value:	Not reported
Employee Id:	2081	Cleanup Flag:	False
Created By:	RWILLIA	Created Date:	05/06/2010
Action Code:	NFA	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	NO FURTHER STATE ACTION REQUIRED		
Further Action:	0		
Comments:	Not reported		

Admin ID:	735937	Action ID:	9491
Agency:	Dept Of Environmental Quality	Region:	Northwestern Region
Start Date:	07/30/2007	Complete Date:	08/20/2007
Substance Code:	ICP	Rank Value:	Not reported
Employee Id:	2081	Cleanup Flag:	True
Created By:	RWILLIA	Created Date:	12/01/2008
Action Code:	RM	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	REMOVAL		
Further Action:	0		
Comments:	Burn Pit soil removed to Hillsboro Landfill		

OR ECSI OPERATIONS:

Operation Id:	132854
Operation Status:	Active
Common Name:	Camp Rilea
Yrs of Operation:	1940 -1993
Comments:	45 barracks buildings (demolished in 1993)
Updated Date:	09/13/1994
Operations SIC Id:	195772
SIC Code:	9711
Created By:	Not reported
Created Date:	12/17/2002

VCS:

ECS Site ID:	1524
CRL:	NFA
Facility Size:	1,850 acres
Action:	NO FURTHER STATE ACTION REQUIRED
Start Date:	5/5/2010
End Date:	5/5/2010
Project Manager Name:	Robert Williams
Program:	ICP

A2 Target Property **CAMP RILEA** **UST** **U004014995**
CAMP RILEA **N/A**
WARRENTON, OR 97146

Site 2 of 5 in cluster A

Actual: 53 ft.

UST:

Facility ID:	613
Facility Telephone:	(503)378-3914
Permittee Name:	B.N. SCHIEVER, INSTALLATIONS OFFICER
Number of Permitted Tanks:	Not reported
Active Tanks:	Not reported

CAMP RILEA (Continued) **U004014995**

Decommissioned Tanks: 3
Number of Tanks: 3

A3 Target Property **NATIONAL GUARD TRAINING CENTER**
33168 PATRIOT WAY
WARRENTON, OR 97146

Site 3 of 5 in cluster A

Actual: 53 ft.

RCRA-SQG **1000344666**
PADS **ORD980988414**
FINDS
AST
MANIFEST
HSIS

RCRA-SQG:

Date form received by agency:	12/31/2008
Facility name:	ORARNG CAMP RILEA
Facility address:	33168 PATRIOT WAY WARRENTON, OR 97146
EPA ID:	ORD980988414
Mailing address:	PO BOX 14350 SALEM, OR 97309
Contact:	RON KINSLEY FACILITY MANAGE
Contact address:	33168 PATRIOT WAY WARRENTON, OR 97146
Contact country:	US
Contact telephone:	(503) 861-4007
Contact email:	Not reported
EPA Region:	10
Land type:	State
Classification:	Small Small Quantity Generator
Description:	Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:

Owner/operator name:	OREGON MILITARY DEPARTMENT
Owner/operator address:	PO BOX 14350 SALEM, OR 97309
Owner/operator country:	US
Owner/operator telephone:	503 584-3914
Legal status:	State
Owner/Operator Type:	Owner
Owner/Op start date:	12/31/2008
Owner/Op end date:	Not reported

Owner/operator name:	OREGON MILITARY DEPARTMENT
Owner/operator address:	PO BOX 14350 SALEM, OR 97309
Owner/operator country:	US
Owner/operator telephone:	503 584-3914
Legal status:	Federal
Owner/Operator Type:	Operator
Owner/Op start date:	12/31/2008
Owner/Op end date:	Not reported

Handler Activities Summary:

U.S. importer of hazardous waste:	No
Mixed waste (haz. and radioactive):	No

NATIONAL GUARD TRAINING CENTER (Continued) **1000344666**

Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	No
Furnace exemption:	No
Used oil fuel burner:	No
Used oil processor:	No
User oil refiner:	No
Used oil fuel marketer to burner:	No
Used oil Specification marketer:	No
Used oil transfer facility:	No
Used oil transporter:	No
Off-site waste receiver:	Commercial status unknown

Historical Generators:

Date form received by agency: 12/31/2007
Facility name: ORARNG CAMP RILEA
Classification: Small Quantity Generator

Date form received by agency: 12/31/2006
Facility name: ORARNG CAMP RILEA
Classification: Small Quantity Generator

Date form received by agency: 12/31/2005
Facility name: ORARNG CAMP RILEA
Classification: Small Quantity Generator

Date form received by agency: 12/31/2004
Facility name: ORARNG CAMP RILEA
Classification: Small Quantity Generator

Date form received by agency: 01/01/2004
Facility name: ORARNG CAMP RILEA
Classification: Large Quantity Generator

Date form received by agency: 12/31/2003
Facility name: ORARNG CAMP RILEA
Classification: Large Quantity Generator

Date form received by agency: 02/28/2003
Facility name: ORARNG CAMP RILEA
Classification: Small Quantity Generator

Date form received by agency: 02/19/2002
Facility name: ORARNG CAMP RILEA
Classification: Small Quantity Generator

Date form received by agency: 04/03/2001
Facility name: ORARNG CAMP RILEA
Classification: Small Quantity Generator

Date form received by agency: 03/09/2000
Facility name: ORARNG CAMP RILEA
Classification: Small Quantity Generator

Date form received by agency: 03/01/1999

NATIONAL GUARD TRAINING CENTER (Continued) **1000344666**

Facility name: ORARNG CAMP RILEA
Classification: Small Quantity Generator

Date form received by agency: 01/23/1998
Facility name: ORARNG CAMP RILEA
Classification: Small Quantity Generator

Date form received by agency: 02/28/1997
Facility name: ORARNG CAMP RILEA
Classification: Small Quantity Generator

Date form received by agency: 01/26/1996
Facility name: ORARNG CAMP RILEA
Classification: Small Quantity Generator

Date form received by agency: 02/23/1995
Facility name: ORARNG CAMP RILEA
Classification: Small Quantity Generator

Date form received by agency: 02/24/1994
Facility name: ORARNG CAMP RILEA
Classification: Small Quantity Generator

Date form received by agency: 04/16/1993
Facility name: ORARNG CAMP RILEA
Classification: Small Quantity Generator

Date form received by agency: 05/05/1992
Facility name: ORARNG CAMP RILEA
Classification: Small Quantity Generator

Facility Has Received Notices of Violations:
Regulation violated: Not reported
Area of violation: Generators - Pre-transport
Date violation determined: 04/27/2006
Date achieved compliance: 05/16/2006
Violation lead agency: State
Enforcement action: NOTICE OF NONCOMPLIANCE
Enforcement action date: 05/18/2006
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: Generators - Pre-transport
Date violation determined: 04/27/2006
Date achieved compliance: 05/03/2006
Violation lead agency: State
Enforcement action: NOTICE OF NONCOMPLIANCE
Enforcement action date: 05/18/2006
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported

NATIONAL GUARD TRAINING CENTER (Continued) **1000344666**

Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: Generators - General
Date violation determined: 09/10/1997
Date achieved compliance: 10/28/1997
Violation lead agency: State
Enforcement action: NOTICE OF NONCOMPLIANCE
Enforcement action date: 09/22/1997
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: Generators - Records/Reporting
Date violation determined: 09/10/1997
Date achieved compliance: 10/28/1997
Violation lead agency: State
Enforcement action: NOTICE OF NONCOMPLIANCE
Enforcement action date: 09/22/1997
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: TSD - Container Use and Management
Date violation determined: 09/10/1997
Date achieved compliance: 10/28/1997
Violation lead agency: State
Enforcement action: NOTICE OF NONCOMPLIANCE
Enforcement action date: 09/22/1997
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: Generators - Manifest
Date violation determined: 09/10/1997
Date achieved compliance: 10/28/1997
Violation lead agency: State
Enforcement action: NOTICE OF NONCOMPLIANCE
Enforcement action date: 09/22/1997
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported

NATIONAL GUARD TRAINING CENTER (Continued) **1000344666**

Paid penalty amount: Not reported

Evaluation Action Summary:

Evaluation date: 11/03/2009
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 04/27/2006
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - Pre-transport
Date achieved compliance: 05/16/2006
Evaluation lead agency: State

Evaluation date: 04/27/2006
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - Pre-transport
Date achieved compliance: 05/03/2006
Evaluation lead agency: State

Evaluation date: 09/10/1997
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - Container Use and Management
Date achieved compliance: 10/28/1997
Evaluation lead agency: State

Evaluation date: 09/10/1997
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - Records/Reporting
Date achieved compliance: 10/28/1997
Evaluation lead agency: State

Evaluation date: 09/10/1997
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 10/28/1997
Evaluation lead agency: State

Evaluation date: 09/10/1997
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - Manifest
Date achieved compliance: 10/28/1997
Evaluation lead agency: State

PADS:

EPAID: ORD980988414
Facility name: Camp Rilea
Facility Address: 91426 Rilea McCarter Rd
Warrenton, OR 97146
Facility country: US
Generator: Yes
Storer: No
Transporter: No
Disposer: No
Research facility: No
Smelter: No

NATIONAL GUARD TRAINING CENTER (Continued) **1000344666**

Facility owner name: Oregon Military Department
Contact title: Not reported
Contact name: Jennifer Losson
Contact tel: (503)584-3866
Contact extension: Not reported
Mailing address: 91426 Rilea McCarter Rd
Warrenton, OR 97146
Mailing country: US
Cert. title: Not reported
Cert. name: Not reported
Cert. date: 3/8/2006
Date received: 4/12/2006

FINDS:

Registry ID: 110014227265

Environmental Interest/Information System

OR-DEQ (Oregon - Department Of Environmental Quality) is a regulatory agency whose job is to protect the quality of Oregon's Environment. DEQ uses a combination of technical assistance, inspections and permitting to help public and private facilities and citizens understand and comply with state and federal environmental regulations.

US EPA TRIS (Toxics Release Inventory System) contains information from facilities on the amounts of over 300 listed toxic chemicals that these facilities release directly to air, water, land, or that are transported off-site.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

AST:

Facility Id: 016410
Hazardous Substance: JP-8 JET FUEL
Reporting Quantities: 10,000-49,999
Quantity Units: GALLONS
Physical State: LIQUID
Storage 1: ABOVEGROUND TANK

Facility Id: 016410
Hazardous Substance: GASOLINE
Reporting Quantities: 500-999
Quantity Units: GALLONS
Physical State: LIQUID
Storage 1: ABOVEGROUND TANK

Facility Id: 016410
Hazardous Substance: USED OIL
Reporting Quantities: 5,000-9,999

NATIONAL GUARD TRAINING CENTER (Continued) **1000344666**

Quantity Units: GALLONS
Physical State: LIQUID
Storage 1: ABOVEGROUND TANK

OR MANIFEST:
Manifest Year: Manifest Year - 2009
Epa Id: ORD980988414
Inactive Status: Not reported
Year: 2009
Facility Status: SQG
Organization Name: Not reported
Contact First Name: Ron Kinsley
Contact Last Name: Facility Manager
Contact Telephone Number: Not reported
Mailing Address: 33168 Patriot Way
Mailing City: Warrenton
Mailing State: OR
Mailing Zip: 97146-9711

RCRA Id : ORD980988414
Inactive : Not reported
Year : 2004
Status : SQG
Manifest : 4148a
Ship Date : 5/27/2004
TSD : WAD991281767
WS Num: Not reported
Transporter : WAR000001743
Ship Qty : 390
Rpt Unit : LB
Off Mng : H050
EPA Waste Codes: D001 D035 F005
Waste Description: Not reported
Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported
Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported

RCRA Id : ORD980988414
Inactive : Not reported
Year : 2004
Status : SQG
Manifest : 4274A
Ship Date : 9/30/2004
TSD : WAD991281767
WS Num: Not reported
Transporter : WAR000001743
Ship Qty : 35
Rpt Unit : LB
Off Mng : H040
EPA Waste Codes: D001 D008
Waste Description: Not reported
Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported
Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported

RCRA Id : ORD980988414
Inactive : Not reported
Year : 2009
Status : SQG

NATIONAL GUARD TRAINING CENTER (Continued) **1000344666**

Manifest : 004814299JJK
Ship Date : 9/3/2009
TSD : WAD991281767
WS Num: 1
Transporter : WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D008
Waste Description: Weapons Cleaning Rags, Patches, Residue/ D008
Tot Amt Of Waste Stream Generated in Reporting Yr:127.4335
Tot Amt Of Waste Stream Generated in Reporting Yr:32.1985

RCRA Id : ORD980988414
Inactive : Not reported
Year : 2009
Status : SQG
Manifest : 004803855JJK
Ship Date : 2/9/2009
TSD : WAD991281767
WS Num: 1
Transporter : WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D008
Waste Description: Weapons Cleaning Rags, Patches, Residue/ D008
Tot Amt Of Waste Stream Generated in Reporting Yr:127.4335
Tot Amt Of Waste Stream Generated in Reporting Yr:41.722

RCRA Id : ORD980988414
Inactive : Not reported
Year : 2009
Status : SQG
Manifest : 004811440JJK
Ship Date : 6/4/2009
TSD : WAD991281767
WS Num: 1
Transporter : WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D008
Waste Description: Weapons Cleaning Rags, Patches, Residue/ D008
Tot Amt Of Waste Stream Generated in Reporting Yr:127.4335
Tot Amt Of Waste Stream Generated in Reporting Yr:63.9435

RCRA Id : ORD980988414
Inactive : Not reported
Year : 2004
Status : SQG
Manifest : 4148a
Ship Date : 5/27/2004
TSD : WAD991281767
WS Num: Not reported

NATIONAL GUARD TRAINING CENTER (Continued) **1000344666**

Transporter : WAR000001743
Ship Qty : 390
Rpt Unit : LB
Off Mng : H050
EPA Waste Codes: D001 D035 F005
Waste Description: Not reported
Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported
Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported

RCRA Id : ORD980988414
Inactive : Not reported
Year : 2004
Status : SQG
Manifest : 4274A
Ship Date : 9/30/2004
TSD : WAD991281767
WS Num: Not reported
Transporter : WAR000001743
Ship Qty : 35
Rpt Unit : LB
Off Mng : H040
EPA Waste Codes: D001 D008
Waste Description: Not reported
Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported
Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported

RCRA Id : ORD980988414
Inactive : Not reported
Year : 2009
Status : SQG
Manifest : 004814299JJK
Ship Date : 9/3/2009
TSD : WAD991281767
WS Num: 1
Transporter : WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D008
Waste Description: Weapons Cleaning Rags, Patches, Residue/ D008
Tot Amt Of Waste Stream Generated in Reporting Yr:127.4335
Tot Amt Of Waste Stream Generated in Reporting Yr:32.1985

RCRA Id : ORD980988414
Inactive : Not reported
Year : 2009
Status : SQG
Manifest : 004803855JJK
Ship Date : 2/9/2009
TSD : WAD991281767
WS Num: 1
Transporter : WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D008
Waste Description: Weapons Cleaning Rags, Patches, Residue/ D008

NATIONAL GUARD TRAINING CENTER (Continued) **1000344666**

Tot Amt Of Waste Stream Generated in Reporting Yr:127.4335
Tot Amt Of Waste Stream Generated in Reporting Yr:41.722

RCRA Id :	ORD980988414
Inactive :	Not reported
Year :	2009
Status :	SQG
Manifest :	004811440JJK
Ship Date :	6/4/2009
TSD :	WAD991281767
WS Num:	1
Transporter :	WAR000001743
Ship Qty :	Not reported
Rpt Unit :	Not reported
Off Mng :	H132
EPA Waste Codes:	D008
Waste Description:	Weapons Cleaning Rags, Patches, Residue/ D008

Tot Amt Of Waste Stream Generated in Reporting Yr:127.4335
Tot Amt Of Waste Stream Generated in Reporting Yr:63.9435

RCRA Id :	ORD980988414
Inactive :	Not reported
Year :	2004
Status :	SQG
Manifest :	4148a
Ship Date :	5/27/2004
TSD :	WAD991281767
WS Num:	Not reported
Transporter :	WAR000001743
Ship Qty :	390
Rpt Unit :	LB
Off Mng :	H050
EPA Waste Codes:	D001 D035 F005
Waste Description:	Not reported

Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported
Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported

RCRA Id :	ORD980988414
Inactive :	Not reported
Year :	2004
Status :	SQG
Manifest :	4274A
Ship Date :	9/30/2004
TSD :	WAD991281767
WS Num:	Not reported
Transporter :	WAR000001743
Ship Qty :	35
Rpt Unit :	LB
Off Mng :	H040
EPA Waste Codes:	D001 D008
Waste Description:	Not reported

Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported
Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported

RCRA Id : ORD980988414

NATIONAL GUARD TRAINING CENTER (Continued) **1000344666**

Inactive : Not reported
Year : 2009
Status : SQG
Manifest : 004814299JJK
Ship Date : 9/3/2009
TSD : WAD991281767
WS Num: 1
Transporter : WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D008
Waste Description: Weapons Cleaning Rags, Patches, Residue/ D008
Tot Amt Of Waste Stream Generated in Reporting Yr:127.4335
Tot Amt Of Waste Stream Generated in Reporting Yr:32.1985

RCRA Id : ORD980988414
Inactive : Not reported
Year : 2009
Status : SQG
Manifest : 004803855JJK
Ship Date : 2/9/2009
TSD : WAD991281767
WS Num: 1
Transporter : WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D008
Waste Description: Weapons Cleaning Rags, Patches, Residue/ D008
Tot Amt Of Waste Stream Generated in Reporting Yr:127.4335
Tot Amt Of Waste Stream Generated in Reporting Yr:41.722

RCRA Id : ORD980988414
Inactive : Not reported
Year : 2009
Status : SQG
Manifest : 004811440JJK
Ship Date : 6/4/2009
TSD : WAD991281767
WS Num: 1
Transporter : WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D008
Waste Description: Weapons Cleaning Rags, Patches, Residue/ D008
Tot Amt Of Waste Stream Generated in Reporting Yr:127.4335
Tot Amt Of Waste Stream Generated in Reporting Yr:63.9435

RCRA Id : ORD980988414
Inactive : Not reported
Year : 2004
Status : SQG
Manifest : 4148a

NATIONAL GUARD TRAINING CENTER (Continued) **1000344666**

Ship Date : 5/27/2004
TSD : WAD991281767
WS Num: Not reported
Transporter : WAR000001743
Ship Qty : 390
Rpt Unit : LB
Off Mng : H050
EPA Waste Codes: D001 D035 F005
Waste Description: Not reported
Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported
Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported

RCRA Id : ORD980988414
Inactive : Not reported
Year : 2004
Status : SQG
Manifest : 4274A
Ship Date : 9/30/2004
TSD : WAD991281767
WS Num: Not reported
Transporter : WAR000001743
Ship Qty : 35
Rpt Unit : LB
Off Mng : H040
EPA Waste Codes: D001 D008
Waste Description: Not reported
Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported
Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported

RCRA Id : ORD980988414
Inactive : Not reported
Year : 2009
Status : SQG
Manifest : 004814299JJK
Ship Date : 9/3/2009
TSD : WAD991281767
WS Num: 1
Transporter : WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D008
Waste Description: Weapons Cleaning Rags, Patches, Residue/ D008
Tot Amt Of Waste Stream Generated in Reporting Yr:127.4335
Tot Amt Of Waste Stream Generated in Reporting Yr:32.1985

RCRA Id : ORD980988414
Inactive : Not reported
Year : 2009
Status : SQG
Manifest : 004803855JJK
Ship Date : 2/9/2009
TSD : WAD991281767
WS Num: 1
Transporter : WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported

NATIONAL GUARD TRAINING CENTER (Continued) **1000344666**

Off Mng : H132
EPA Waste Codes: D008
Waste Description: Weapons Cleaning Rags, Patches, Residue/ D008
Tot Amt Of Waste Stream Generated in Reporting Yr:127.4335
Tot Amt Of Waste Stream Generated in Reporting Yr:41.722

RCRA Id : ORD980988414
Inactive : Not reported
Year : 2009
Status : SQG
Manifest : 004811440JJK
Ship Date : 6/4/2009
TSD : WAD991281767
WS Num: 1
Transporter : WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D008
Waste Description: Weapons Cleaning Rags, Patches, Residue/ D008
Tot Amt Of Waste Stream Generated in Reporting Yr:127.4335
Tot Amt Of Waste Stream Generated in Reporting Yr:63.9435

RCRA Id : ORD980988414
Inactive : Not reported
Year : 2004
Status : SQG
Manifest : 4148a
Ship Date : 5/27/2004
TSD : WAD991281767
WS Num: Not reported
Transporter : WAR000001743
Ship Qty : 390
Rpt Unit : LB
Off Mng : H050
EPA Waste Codes: D001 D035 F005
Waste Description: Not reported
Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported
Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported

RCRA Id : ORD980988414
Inactive : Not reported
Year : 2004
Status : SQG
Manifest : 4274A
Ship Date : 9/30/2004
TSD : WAD991281767
WS Num: Not reported
Transporter : WAR000001743
Ship Qty : 35
Rpt Unit : LB
Off Mng : H040
EPA Waste Codes: D001 D008
Waste Description: Not reported
Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported

NATIONAL GUARD TRAINING CENTER (Continued) **1000344666**

Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported

RCRA Id : ORD980988414
Inactive : Not reported
Year : 2009
Status : SQG
Manifest : 004814299JJK
Ship Date : 9/3/2009
TSD : WAD991281767
WS Num: 1
Transporter : WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D008
Waste Description: Weapons Cleaning Rags, Patches, Residue/ D008
Tot Amt Of Waste Stream Generated in Reporting Yr:127.4335
Tot Amt Of Waste Stream Generated in Reporting Yr:32.1985

RCRA Id : ORD980988414
Inactive : Not reported
Year : 2009
Status : SQG
Manifest : 004803855JJK
Ship Date : 2/9/2009
TSD : WAD991281767
WS Num: 1
Transporter : WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D008
Waste Description: Weapons Cleaning Rags, Patches, Residue/ D008
Tot Amt Of Waste Stream Generated in Reporting Yr:127.4335
Tot Amt Of Waste Stream Generated in Reporting Yr:41.722

RCRA Id : ORD980988414
Inactive : Not reported
Year : 2009
Status : SQG
Manifest : 004811440JJK
Ship Date : 6/4/2009
TSD : WAD991281767
WS Num: 1
Transporter : WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D008
Waste Description: Weapons Cleaning Rags, Patches, Residue/ D008
Tot Amt Of Waste Stream Generated in Reporting Yr:127.4335
Tot Amt Of Waste Stream Generated in Reporting Yr:63.9435

HSIS:
Facility Id: 016410
Physical State Of The Substance: 3

NATIONAL GUARD TRAINING CENTER (Continued) **1000344666**

Physical State:	GAS
Average Amount Possessed During The Year Code:	20
Maximum Amount Possessed During The Year Code:	20
Chemical Trade Name:	ACETYLENE
Applicable Unit Of Measure Code:	3
Description Of The Unit Of Measure:	CUBIC FEET
Type Code:	L
Description:	CYLINDER
Type Code:	Not reported
Temperature Description:	Not reported
Pressure of Code:	2
Pressure Description:	GREATER THAN NORMAL PRESSURE
Pressure of Code:	Not reported
Pressure Description:	Not reported
Temperature Description:	4
Temperature of The Hazardous Substance Code:	N
Temperature Description:	Not reported
Temperature of The Hazardous Substance Code:	Not reported
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	1,000-4,999
Description Of The Avg Qnty Code:	1,000-4,999
Most Hazardous Ingridient:	ACETYLENE
United Nations/north America 4 Digit Class Number:	1001
Hazard Rank:	2
Chemical Abstract Service Identifier Number:	74862
Is Substance Pure Or Mixture:	Pure
Chemical Is Extremely Hazardous Substance (EHS):	Not reported
First Hazardous Class Code For Chemical:	2.1
Second Hazardous Class Code For Chemical:	6.3
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	Flammable Gas
Hazard Class 2 Of The Chemical:	Acute Health Hazard
Hazard Class 3 Of The Chemical:	Not reported
Chemical Is A Toxic 313 Chemical:	No
EPA Pesticide Registration Number:	Not reported
Department Or Division Of Company:	CAMP RILEA
Facility Has Written Emergency Plan:	Yes
Does The Chemical Contain A 112r Chemical:	No
Contains 112R:	No
Contains EHS:	No
Fertilizer:	No
Pesticide:	No
Contains 313:	No
NAICS Code 1:	928110
NAICS Desc 1:	NATIONAL SECURITY
NAICS Code 2:	000000
NAICS Desc 2:	Not reported
Company Name:	ORARNG
Manager Name:	RAYMOND F REES MG
Business Phone:	5038614000
Mailing Address:	PO BOX 14350
Mailing City,St,Zip:	SALEM, OR 973095047
No. of Employees:	90
Day Phone:	5038614007
Placard:	Yes
Fire Dept Code:	0398

NATIONAL GUARD TRAINING CENTER (Continued) **1000344666**

Sprinkler System: Yes
Emergency Contact: RONALD D KINSLEY
Emergency Procedure: UTES HAZMAT OFFICE
Business Type: NATIONAL GUARD TRAINING SITE

Facility Id: 016410
Physical State Of The Substance: 1
Physical State: SOLID
Average Amount Possessed During The Year Code: 02
Maximum Amount Possessed During The Year Code: 04
Chemical Trade Name: NIGHT VISION
Applicable Unit Of Measure Code: 1
Description Of The Unit Of Measure: POUNDS
Type Code: R
Description: OTHER
Type Code: Not reported
Temperature Description: Not reported
Pressure of Code: 1
Pressure Description: NORMAL PRESSURE
Pressure of Code: Not reported
Pressure Description: Not reported
Temperature Description: 4
Temperature of The Hazardous Substance Code: N
Temperature Description: Not reported
Temperature of The Hazardous Substance Code: Not reported
Days Hazardous Substance On Site During Year: 365
Is The Substance Protected A Trade Secret: False
Description Of The Max Qnty Code: 50-199
Description Of The Avg Qnty Code: 10-19
Most Hazardous Ingridient: THORIUM TETRAFLUORIDE
United Nations/north America 4 Digit Class Number: 2910
Hazard Rank: 3
Chemical Abstract Service Identifier Number: 13709596
Is Substance Pure Or Mixture: Mixture
Chemical Is Extremely Hazardous Substance (EHS): Not reported
First Hazardous Class Code For Chemical: 7
Second Hazardous Class Code For Chemical: 6.3
Third Hazardous Class Code For Chemical: Not reported
Hazard Class 1 Of The Chemical: Radioactive Material
Hazard Class 2 Of The Chemical: Acute Health Hazard
Hazard Class 3 Of The Chemical: Not reported
Chemical Is A Toxic 313 Chemical: No
EPA Pesticide Registration Number: Not reported
Department Or Division Of Company: CAMP RILEA
Facility Has Written Emergency Plan: Yes
Does The Chemical Contain A 112r Chemical: No
Contains 112R: No
Contains EHS: No
Fertilizer: No
Pesticide: No
Contains 313: No
NAICS Code 1: 928110
NAICS Desc 1: NATIONAL SECURITY
NAICS Code 2: 000000
NAICS Desc 2: Not reported
Company Name: ORARNG
Manager Name: RAYMOND F REES MG

NATIONAL GUARD TRAINING CENTER (Continued) **1000344666**

Business Phone:	5038614000
Mailing Address:	PO BOX 14350
Mailing City,St,Zip:	SALEM, OR 973095047
No. of Employees:	90
Day Phone:	5038614007
Placard:	Yes
Fire Dept Code:	0398
Sprinkler System:	Yes
Emergency Contact:	RONALD D KINSLEY
Emergency Procedure:	UTES HAZMAT OFFICE
Business Type:	NATIONAL GUARD TRAINING SITE

Facility Id:	016410
Physical State Of The Substance:	1
Physical State:	SOLID
Average Amount Possessed During The Year Code:	20
Maximum Amount Possessed During The Year Code:	20
Chemical Trade Name:	AMMUNITION
Applicable Unit Of Measure Code:	1
Description Of The Unit Of Measure:	POUNDS
Type Code:	R
Description:	OTHER
Type Code:	Not reported
Temperature Description:	Not reported
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Pressure of Code:	Not reported
Pressure Description:	Not reported
Temperature Description:	4
Temperature of The Hazardous Substance Code:	N
Temperature Description:	Not reported
Temperature of The Hazardous Substance Code:	Not reported
Days Hazardous Substance On Site During Year:	35
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	1,000-4,999
Description Of The Avg Qnty Code:	1,000-4,999
Most Hazardous Ingridient:	GUN POWDER
United Nations/north America 4 Digit Class Number:	1325
Hazard Rank:	2
Chemical Abstract Service Identifier Number:	Not reported
Is Substance Pure Or Mixture:	Pure
Chemical Is Extremely Hazardous Substance (EHS):	Not reported
First Hazardous Class Code For Chemical:	1.3
Second Hazardous Class Code For Chemical:	4.1
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	Explosives (with predominately a fire hazard)
Hazard Class 2 Of The Chemical:	Flammable Solids
Hazard Class 3 Of The Chemical:	Not reported
Chemical Is A Toxic 313 Chemical:	Not reported
EPA Pesticide Registration Number:	Not reported
Department Or Division Of Company:	CAMP RILEA
Facility Has Written Emergency Plan:	Yes
Does The Chemical Contain A 112r Chemical:	No
Contains 112R:	Not reported
Contains EHS:	Not reported
Fertilizer:	Not reported
Pesticide:	Not reported

NATIONAL GUARD TRAINING CENTER (Continued) **1000344666**

Contains 313:	Not reported
NAICS Code 1:	928110
NAICS Desc 1:	NATIONAL SECURITY
NAICS Code 2:	000000
NAICS Desc 2:	Not reported
Company Name:	ORARNG
Manager Name:	RAYMOND F REES MG
Business Phone:	5038614000
Mailing Address:	PO BOX 14350
Mailing City,St,Zip:	SALEM, OR 973095047
No. of Employees:	90
Day Phone:	5038614007
Placard:	Yes
Fire Dept Code:	0398
Sprinkler System:	Yes
Emergency Contact:	RONALD D KINSLEY
Emergency Procedure:	UTES HAZMAT OFFICE
Business Type:	NATIONAL GUARD TRAINING SITE

Facility Id:	016410
Physical State Of The Substance:	3
Physical State:	GAS
Average Amount Possessed During The Year Code:	10
Maximum Amount Possessed During The Year Code:	10
Chemical Trade Name:	CHLORINE
Applicable Unit Of Measure Code:	2
Description Of The Unit Of Measure:	GALLONS
Type Code:	L
Description:	CYLINDER
Type Code:	Not reported
Temperature Description:	Not reported
Pressure of Code:	2
Pressure Description:	GREATER THAN NORMAL PRESSURE
Pressure of Code:	Not reported
Pressure Description:	Not reported
Temperature Description:	4
Temperature of The Hazardous Substance Code:	N
Temperature Description:	Not reported
Temperature of The Hazardous Substance Code:	Not reported
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	200-499
Description Of The Avg Qnty Code:	200-499
Most Hazardous Ingridient:	CHLORINE
United Nations/north America 4 Digit Class Number:	1017
Hazard Rank:	2
Chemical Abstract Service Identifier Number:	7782505
Is Substance Pure Or Mixture:	Mixture
Chemical Is Extremely Hazardous Substance (EHS):	Yes
First Hazardous Class Code For Chemical:	2.3
Second Hazardous Class Code For Chemical:	5.1
Third Hazardous Class Code For Chemical:	8.0
Hazard Class 1 Of The Chemical:	Poisonous Gas
Hazard Class 2 Of The Chemical:	Oxidizers
Hazard Class 3 Of The Chemical:	Corrosive Material
Chemical Is A Toxic 313 Chemical:	Yes
EPA Pesticide Registration Number:	168-372

NATIONAL GUARD TRAINING CENTER (Continued) **1000344666**

Department Or Division Of Company:	CAMP RILEA
Facility Has Written Emergency Plan:	Yes
Does The Chemical Contain A 112r Chemical:	No
Contains 112R:	No
Contains EHS:	No
Fertilizer:	No
Pesticide:	Yes
Contains 313:	No
NAICS Code 1:	928110
NAICS Desc 1:	NATIONAL SECURITY
NAICS Code 2:	000000
NAICS Desc 2:	Not reported
Company Name:	ORARNG
Manager Name:	RAYMOND F REES MG
Business Phone:	5038614000
Mailing Address:	PO BOX 14350
Mailing City,St,Zip:	SALEM, OR 973095047
No. of Employees:	90
Day Phone:	5038614007
Placard:	Yes
Fire Dept Code:	0398
Sprinkler System:	Yes
Emergency Contact:	RONALD D KINSLEY
Emergency Procedure:	UTES HAZMAT OFFICE
Business Type:	NATIONAL GUARD TRAINING SITE

Facility Id:	016410
Physical State Of The Substance:	3
Physical State:	GAS
Average Amount Possessed During The Year Code:	04
Maximum Amount Possessed During The Year Code:	04
Chemical Trade Name:	FREON
Applicable Unit Of Measure Code:	2
Description Of The Unit Of Measure:	GALLONS
Type Code:	L
Description:	CYLINDER
Type Code:	Not reported
Temperature Description:	Not reported
Pressure of Code:	2
Pressure Description:	GREATER THAN NORMAL PRESSURE
Pressure of Code:	Not reported
Pressure Description:	Not reported
Temperature Description:	4
Temperature of The Hazardous Substance Code:	N
Temperature Description:	Not reported
Temperature of The Hazardous Substance Code:	Not reported
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	50-199
Description Of The Avg Qnty Code:	50-199
Most Hazardous Ingridient:	DICHLORODIFLUOROMETHANE
United Nations/north America 4 Digit Class Number:	1028
Hazard Rank:	2
Chemical Abstract Service Identifier Number:	75718
Is Substance Pure Or Mixture:	Pure
Chemical Is Extremely Hazardous Substance (EHS):	Not reported
First Hazardous Class Code For Chemical:	2.2

NATIONAL GUARD TRAINING CENTER (Continued) **1000344666**

Second Hazardous Class Code For Chemical:	6.3
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	Non-flammable Gas
Hazard Class 2 Of The Chemical:	Acute Health Hazard
Hazard Class 3 Of The Chemical:	Not reported
Chemical Is A Toxic 313 Chemical:	Yes
EPA Pesticide Registration Number:	Not reported
Department Or Division Of Company:	CAMP RILEA
Facility Has Written Emergency Plan:	Yes
Does The Chemical Contain A 112r Chemical:	No
Contains 112R:	Not reported
Contains EHS:	Not reported
Fertilizer:	Not reported
Pesticide:	Not reported
Contains 313:	No
NAICS Code 1:	928110
NAICS Desc 1:	NATIONAL SECURITY
NAICS Code 2:	000000
NAICS Desc 2:	Not reported
Company Name:	ORARNG
Manager Name:	RAYMOND F REES MG
Business Phone:	5038614000
Mailing Address:	PO BOX 14350
Mailing City,St,Zip:	SALEM, OR 973095047
No. of Employees:	90
Day Phone:	5038614007
Placard:	Yes
Fire Dept Code:	0398
Sprinkler System:	Yes
Emergency Contact:	RONALD D KINSLEY
Emergency Procedure:	UTES HAZMAT OFFICE
Business Type:	NATIONAL GUARD TRAINING SITE

Click this hyperlink while viewing on your computer to access
15 additional OR_HSIS: record(s) in the EDR Site Report.

A4 Target Property **U.S. ARMY NATIONAL GUARD CAMP RILEA RANGES** **TRIS** **1012208967**
33168 PATRIOT WAY **9714WCMPRL91**
WARRENTON, OR 97146

Site 4 of 5 in cluster A

Actual: 53 ft.

A5 Target Property **OREGON MILITARY DEPARTMENT - CAMP RILEA UNIT TRAIN** **UIC** **S106771551**
33168 PATRIOT WAY **N/A**
WARRENTON, OR

Site 5 of 5 in cluster A

Actual: 53 ft.

OR UIC:

# of UIC Wells:	8
Type:	5D2
Type Description:	Storm Water Drainage
Status:	Formal Closure
UIC Number:	10607

OREGON MILITARY DEPARTMENT - CAMP RILEA UNIT TRAIN (Continued) **S106771551**

Facility Status: UICs Closed
Lat/Long: 46.15333 / -123.9442
DEQ Permit: permit type: NPDES permit number: 1700A

DOD Region **CAMP RILEY MILITARY RESERVATION** **DOD** **CUSA102703**
N/A

CAMP RILEY MILITARY RESER (County), OR

< 1/8
1 ft.

DOD:
Feature 1: Army DOD
Feature 2: Not reported
Feature 3: Not reported
URL: Not reported
Name 1: Camp Riley Military Reservation
Name 2: Not reported
Name 3: Not reported
State: OR
DOD Site: Yes
Tile name: ORCLATSOP

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6 **WILLIAMS, LINDA** **FINDS** **1006866556**
SE **33325 PATRIOT WAY** **LUST** **N/A**
1/2-1 **WARRENTON, OR 97146**
0.541 mi.
2856 ft.

Relative:
Lower

Actual:
39 ft.

FINDS:

Registry ID: 110014294753

Environmental Interest/Information System
OR-DEQ (Oregon - Department Of Environmental Quality) is a regulatory agency whose job is to protect the quality of Oregon's Environment. DEQ uses a combination of technical assistance, inspections and permitting to help public and private facilities and citizens understand and comply with state and federal environmental regulations.

LUST:
Region: North Western Region
Facility ID: 04-02-5196
Cleanup Received Date: 2/4/2002
Cleanup Start Date: 2/4/2002
Cleanup Complete Date: 3/18/2002

7 NE 1/2-1 0.849 mi. 4484 ft. | **FANNIE MAE**
91856 HIGHWAY 104
WARRENTON, OR 97146 | **LUST** | **S105856199**
N/A

Relative: Higher

Actual: 58 ft.

LUST:

Region:	North Western Region
Facility ID:	04-03-1162
Cleanup Received Date:	6/3/2003
Cleanup Start Date:	5/28/2003
Cleanup Complete Date:	**Not reported**

B8 ENE > 1 1.212 mi. 6399 ft. | **MEDIX AMBULANCE SERVICE INC**
2325 SE DOLPHIN AVE
WARRENTON, OR 97103 | **AST HSIS** | **S110286878**
N/A

Site 1 of 3 in cluster B

Relative: Lower

Actual: 31 ft.

AST:

Facility Id:	055548
Hazardous Substance:	DIESEL FUEL
Reporting Quantities:	200-499
Quantity Units:	GALLONS
Physical State:	LIQUID
Storage 1:	ABOVEGROUND TANK

HSIS:

Facility Id:	055548
Physical State Of The Substance:	2
Physical State:	LIQUID
Average Amount Possessed During The Year Code:	10
Maximum Amount Possessed During The Year Code:	10
Chemical Trade Name:	DIESEL FUEL
Applicable Unit Of Measure Code:	2
Description Of The Unit Of Measure:	GALLONS
Type Code:	A
Description:	ABOVEGROUND TANK
Type Code:	Not reported
Temperature Description:	Not reported
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Pressure of Code:	Not reported
Pressure Description:	Not reported
Temperature Description:	4
Temperature of The Hazardous Substance Code:	N
Temperature Description:	Not reported
Temperature of The Hazardous Substance Code:	Not reported
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	200-499
Description Of The Avg Qnty Code:	200-499
Most Hazardous Ingridient:	PETROLEUM MID-DISTILLATES
United Nations/north America 4 Digit Class Number:	1993
Hazard Rank:	2
Chemical Abstract Service Identifier Number:	68476346
Is Substance Pure Or Mixture:	Pure
Chemical Is Extremely Hazardous Substance (EHS):	Not reported
First Hazardous Class Code For Chemical:	3

MEDIX AMBULANCE SERVICE INC (Continued) **S110286878**

Second Hazardous Class Code For Chemical:	Not reported
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	Flammable and Combustible Liquid
Hazard Class 2 Of The Chemical:	Not reported
Hazard Class 3 Of The Chemical:	Not reported
Chemical Is A Toxic 313 Chemical:	No
EPA Pesticide Registration Number:	Not reported
Department Or Division Of Company:	Not reported
Facility Has Written Emergency Plan:	No
Does The Chemical Contain A 112r Chemical:	No
Contains 112R:	No
Contains EHS:	No
Fertilizer:	No
Pesticide:	No
Contains 313:	No
NAICS Code 1:	621910
NAICS Desc 1:	AMBULANCE SVCS
NAICS Code 2:	485991
NAICS Desc 2:	SPECIAL NEEDS TRANS
Company Name:	MEDIX AMBULANCE SERVICE INC
Manager Name:	JD FUITEN
Business Phone:	5038611990
Mailing Address:	2325 SE DOLPHIN AVE
Mailing City,St,Zip:	WARRENTON, OR 97146
No. of Employees:	26
Day Phone:	5038611990
Placard:	No
Fire Dept Code:	0398
Sprinkler System:	No
Emergency Contact:	DUANE MULLINS
Emergency Procedure:	Not reported
Business Type:	AMBULANCE SERVICE

B9 **PACIFICORP** **AST** **S105744617**
ENE **2340 SE DOLPHIN AVE** **HSIS** **N/A**
> 1 **WARRENTON, OR 97146**
1.214 mi.
6410 ft. **Site 2 of 3 in cluster B**

Relative:
Lower

Actual:
31 ft.

AST:

Facility Id:	017220
Hazardous Substance:	PROPANE
Reporting Quantities:	50-199
Quantity Units:	GALLONS
Physical State:	GAS
Storage 1:	ABOVEGROUND TANK

HSIS:

Facility Id:	017220
Physical State Of The Substance:	2
Physical State:	LIQUID
Average Amount Possessed During The Year Code:	20
Maximum Amount Possessed During The Year Code:	20
Chemical Trade Name:	GASOLINE
Applicable Unit Of Measure Code:	2
Description Of The Unit Of Measure:	GALLONS
Type Code:	B

PACIFICORP (Continued) **S105744617**

Description:	UNDERGROUND TANK
Type Code:	Not reported
Temperature Description:	Not reported
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Pressure of Code:	Not reported
Pressure Description:	Not reported
Temperature Description:	4
Temperature of The Hazardous Substance Code:	N
Temperature Description:	Not reported
Temperature of The Hazardous Substance Code:	Not reported
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	1,000-4,999
Description Of The Avg Qnty Code:	1,000-4,999
Most Hazardous Ingridient:	PETROLEUM DISTILLATES
United Nations/north America 4 Digit Class Number:	1203
Hazard Rank:	2
Chemical Abstract Service Identifier Number:	8006619
Is Substance Pure Or Mixture:	Mixture
Chemical Is Extremely Hazardous Substance (EHS):	Not reported
First Hazardous Class Code For Chemical:	3
Second Hazardous Class Code For Chemical:	6.3
Third Hazardous Class Code For Chemical:	6.4
Hazard Class 1 Of The Chemical:	Flammable and Combustible Liquid
Hazard Class 2 Of The Chemical:	Acute Health Hazard
Hazard Class 3 Of The Chemical:	Chronic Health Hazard
Chemical Is A Toxic 313 Chemical:	No
EPA Pesticide Registration Number:	Not reported
Department Or Division Of Company:	CLATSOP OPERATIONS CTR
Facility Has Written Emergency Plan:	Yes
Does The Chemical Contain A 112r Chemical:	No
Contains 112R:	No
Contains EHS:	No
Fertilizer:	No
Pesticide:	No
Contains 313:	Yes
NAICS Code 1:	221122
NAICS Desc 1:	ELECTRIC POWER DISTRIBUTION
NAICS Code 2:	000000
NAICS Desc 2:	Not reported
Company Name:	PACIFICORP
Manager Name:	GREG ABEL
Business Phone:	5038136839
Mailing Address:	825 NE MULTNOMAH STE 906 LCT
Mailing City,St,Zip:	PORTLAND, OR 97232
No. of Employees:	28
Day Phone:	5038616001
Placard:	Yes
Fire Dept Code:	0398
Sprinkler System:	No
Emergency Contact:	STEVE MCGRORTY
Emergency Procedure:	FRONT OFFICE & MANAGER OFFICE
Business Type:	ELECTRIC UTILITY

Facility Id:	017220
Physical State Of The Substance:	3

PACIFICORP (Continued) **S105744617**

Physical State:	GAS
Average Amount Possessed During The Year Code:	04
Maximum Amount Possessed During The Year Code:	04
Chemical Trade Name:	PROPANE
Applicable Unit Of Measure Code:	2
Description Of The Unit Of Measure:	GALLONS
Type Code:	A
Description:	ABOVEGROUND TANK
Type Code:	Not reported
Temperature Description:	Not reported
Pressure of Code:	2
Pressure Description:	GREATER THAN NORMAL PRESSURE
Pressure of Code:	Not reported
Pressure Description:	Not reported
Temperature Description:	4
Temperature of The Hazardous Substance Code:	N
Temperature Description:	Not reported
Temperature of The Hazardous Substance Code:	Not reported
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	50-199
Description Of The Avg Qnty Code:	50-199
Most Hazardous Ingridient:	PROPANE
United Nations/north America 4 Digit Class Number:	1075
Hazard Rank:	2
Chemical Abstract Service Identifier Number:	74986
Is Substance Pure Or Mixture:	Pure
Chemical Is Extremely Hazardous Substance (EHS):	Not reported
First Hazardous Class Code For Chemical:	2.1
Second Hazardous Class Code For Chemical:	6.3
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	Flammable Gas
Hazard Class 2 Of The Chemical:	Acute Health Hazard
Hazard Class 3 Of The Chemical:	Not reported
Chemical Is A Toxic 313 Chemical:	No
EPA Pesticide Registration Number:	Not reported
Department Or Division Of Company:	CLATSOP OPERATIONS CTR
Facility Has Written Emergency Plan:	Yes
Does The Chemical Contain A 112r Chemical:	No
Contains 112R:	No
Contains EHS:	No
Fertilizer:	No
Pesticide:	No
Contains 313:	No
NAICS Code 1:	221122
NAICS Desc 1:	ELECTRIC POWER DISTRIBUTION
NAICS Code 2:	000000
NAICS Desc 2:	Not reported
Company Name:	PACIFICORP
Manager Name:	GREG ABEL
Business Phone:	5038136839
Mailing Address:	825 NE MULTNOMAH STE 906 LCT
Mailing City,St,Zip:	PORTLAND, OR 97232
No. of Employees:	28
Day Phone:	5038616001
Placard:	Yes
Fire Dept Code:	0398

PACIFICORP (Continued) **S105744617**

Sprinkler System: No
Emergency Contact: STEVE MCGRORTY
Emergency Procedure: FRONT OFFICE & MANAGER OFFICE
Business Type: ELECTRIC UTILITY

Facility Id:	017220
Physical State Of The Substance:	2
Physical State:	LIQUID
Average Amount Possessed During The Year Code:	20
Maximum Amount Possessed During The Year Code:	20
Chemical Trade Name:	DIESEL FUEL
Applicable Unit Of Measure Code:	2
Description Of The Unit Of Measure:	GALLONS
Type Code:	B
Description:	UNDERGROUND TANK
Type Code:	Not reported
Temperature Description:	Not reported
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Pressure of Code:	Not reported
Pressure Description:	Not reported
Temperature Description:	4
Temperature of The Hazardous Substance Code:	N
Temperature Description:	Not reported
Temperature of The Hazardous Substance Code:	Not reported
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	1,000-4,999
Description Of The Avg Qnty Code:	1,000-4,999
Most Hazardous Ingridient:	PETROLEUM MID-DISTILLATES
United Nations/north America 4 Digit Class Number:	1993
Hazard Rank:	2
Chemical Abstract Service Identifier Number:	68476346
Is Substance Pure Or Mixture:	Mixture
Chemical Is Extremely Hazardous Substance (EHS):	Not reported
First Hazardous Class Code For Chemical:	3
Second Hazardous Class Code For Chemical:	Not reported
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	Flammable and Combustible Liquid
Hazard Class 2 Of The Chemical:	Not reported
Hazard Class 3 Of The Chemical:	Not reported
Chemical Is A Toxic 313 Chemical:	No
EPA Pesticide Registration Number:	Not reported
Department Or Division Of Company:	CLATSOP OPERATIONS CTR
Facility Has Written Emergency Plan:	Yes
Does The Chemical Contain A 112r Chemical:	No
Contains 112R:	No
Contains EHS:	No
Fertilizer:	No
Pesticide:	No
Contains 313:	No
NAICS Code 1:	221122
NAICS Desc 1:	ELECTRIC POWER DISTRIBUTION
NAICS Code 2:	000000
NAICS Desc 2:	Not reported
Company Name:	PACIFICORP
Manager Name:	GREG ABEL

PACIFICORP (Continued) **S105744617**

Business Phone:	5038136839
Mailing Address:	825 NE MULTNOMAH STE 906 LCT
Mailing City,St,Zip:	PORTLAND, OR 97232
No. of Employees:	28
Day Phone:	5038616001
Placard:	Yes
Fire Dept Code:	0398
Sprinkler System:	No
Emergency Contact:	STEVE MCGRORTY
Emergency Procedure:	FRONT OFFICE & MANAGER OFFICE
Business Type:	ELECTRIC UTILITY

Facility Id:	017220
Physical State Of The Substance:	2
Physical State:	LIQUID
Average Amount Possessed During The Year Code:	04
Maximum Amount Possessed During The Year Code:	04
Chemical Trade Name:	TRANSFORMER OIL
Applicable Unit Of Measure Code:	2
Description Of The Unit Of Measure:	GALLONS
Type Code:	D
Description:	STEEL DRUM
Type Code:	Not reported
Temperature Description:	Not reported
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Pressure of Code:	Not reported
Pressure Description:	Not reported
Temperature Description:	4
Temperature of The Hazardous Substance Code:	N
Temperature Description:	Not reported
Temperature of The Hazardous Substance Code:	Not reported
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	50-199
Description Of The Avg Qnty Code:	50-199
Most Hazardous Ingridient:	LIGHT NAPHTHENIC PETROLEUM DISTILLATES
United Nations/north America 4 Digit Class Number:	1270
Hazard Rank:	2
Chemical Abstract Service Identifier Number:	64742467
Is Substance Pure Or Mixture:	Mixture
Chemical Is Extremely Hazardous Substance (EHS):	Not reported
First Hazardous Class Code For Chemical:	4.5
Second Hazardous Class Code For Chemical:	Not reported
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	Combustible Material
Hazard Class 2 Of The Chemical:	Not reported
Hazard Class 3 Of The Chemical:	Not reported
Chemical Is A Toxic 313 Chemical:	Not reported
EPA Pesticide Registration Number:	Not reported
Department Or Division Of Company:	CLATSOP OPERATIONS CTR
Facility Has Written Emergency Plan:	Yes
Does The Chemical Contain A 112r Chemical:	No
Contains 112R:	Not reported
Contains EHS:	Not reported
Fertilizer:	Not reported
Pesticide:	Not reported

PACIFICORP (Continued) **S105744617**

Contains 313:	Not reported
NAICS Code 1:	221122
NAICS Desc 1:	ELECTRIC POWER DISTRIBUTION
NAICS Code 2:	000000
NAICS Desc 2:	Not reported
Company Name:	PACIFICORP
Manager Name:	GREG ABEL
Business Phone:	5038136839
Mailing Address:	825 NE MULTNOMAH STE 906 LCT
Mailing City,St,Zip:	PORTLAND, OR 97232
No. of Employees:	28
Day Phone:	5038616001
Placard:	Yes
Fire Dept Code:	0398
Sprinkler System:	No
Emergency Contact:	STEVE MCGRORTY
Emergency Procedure:	FRONT OFFICE & MANAGER OFFICE
Business Type:	ELECTRIC UTILITY

B10
ENE
> 1
1.214 mi.
6410 ft.

Relative:
Lower

Actual:
31 ft.

CLATSOP OPERATIONS CENTER **UST** **U000432024**
2340 SE DOLPHIN AVE **N/A**
WARRENTON, OR 97146

Site 3 of 3 in cluster B

UST:

Facility ID:	8593
Facility Telephone:	503-866-3104
Permittee Name:	STAN YEEND
Number of Permitted Tanks:	2
Active Tanks:	2
Decommissioned Tanks:	Not reported
Number of Tanks:	2

C11
SE
> 1
1.278 mi.
6749 ft.

Relative:
Higher

Actual:
54 ft.

TAGG PIONEER FARM **FINDS** **1007150745**
91146 PONEER FARM ROAD **LUST** **N/A**
WARRENTON, OR 97146

Site 1 of 2 in cluster C

FINDS:

Registry ID: 110017343150

Environmental Interest/Information System
OR-DEQ (Oregon - Department Of Environmental Quality) is a regulatory agency whose job is to protect the quality of Oregon's Environment. DEQ uses a combination of technical assistance, inspections and permitting to help public and private facilities and citizens understand and comply with state and federal environmental regulations.

LUST:

Region:	North Western Region
Facility ID:	04-03-2520

TAGG PIONEER FARM (Continued) **1007150745**

Cleanup Received Date: 12/5/2003
Cleanup Start Date: 12/5/2003
Cleanup Complete Date: 4/7/2005

C12 **TAGG PIONEER FARM** **ECSI** **S106497272**
SE **91146 PIONEER FARM RD.** **VCP** **N/A**
> 1 **WARRENTON, OR 97146**
1.278 mi.
6749 ft. **Site 2 of 2 in cluster C**

Relative:
Higher

Actual:
54 ft.

OR ECSI:

State ID Number:	4186	Brown ID:	0
Study Area:	False	Region ID:	2
Legislatve ID:	831	Investigation ID:	206
FACA ID:	80621	Further Action:	0
Lat/Long (dms):	46 6 55.80 / -123 55 23.50	County Code:	4.00
Score Value:	Not reported	Cerclis ID:	Not reported
Township Coord.:	7.00	Township Zone:	N
Range Coord:	10.00	Range Zone:	W
Section Coord:	4	Qtr Section:	Not reported
Tax Lots:	Not reported	Size:	365 acres
NPL:	False	Orphan:	False
Updated By:	GWISTAR	Update Date:	2/26/2009
Alias Name:	Not reported		

OR ECSI HAZARDOUS RELEASE:

Substance ID.:	Not reported
Haz Release ID:	Not reported
Qty Released:	Not reported
Date Released:	Not reported
Update Date:	Not reported
Update By:	Not reported
Substance Code:	Not reported
Substance Name:	Not reported
Substance Abbrev.:	Not reported
Substance Category ID:	Not reported
Substance Category:	Not reported
Category Level:	Not reported
Created By:	Not reported
Created Date:	Not reported
Substance Category ID:	Not reported
Substance Category:	Not reported
Category Level:	Not reported
Created By:	Not reported
Created Date:	Not reported
Substance Alias ID:	Not reported
Sub Alias Name:	Not reported
Comment ID:	Not reported
Release Code:	Not reported
Release Comments:	Not reported
Sampling Result ID:	Not reported
Feature Id:	Not reported
Hazard Release Id:	Not reported
Medium:	Not reported
Substance Abbrev.:	Not reported
Unit Code:	Not reported
Observation:	Not reported
Owner Operator:	Not reported

TAGG PIONEER FARM (Continued) **S106497272**

Lab Data: Not reported
Sample Depth: Not reported
Start Date: Not reported
End Date: Not reported
Min Concentration: Not reported
Max Concentration: Not reported
Sample Comment: Not reported
Last Update By: Not reported
Update Date: Not reported

OR ECSI NARR:
NARR ID: 5746000
NARR Code: Contamination
Created By: DCROUSE
Created Date: 12/03/2004
Updated By: JWAGGY
Updated Date: 04/29/2005
NARR Comments:(7/30/04 BPM/ER ICP) Review of Independent Cleanup of a heating oi/heavy oil release.

NARR ID: 5746570
NARR Code: Data Sources
Created By: JWAGGY
Created Date: 04/29/2005
Updated By: JWAGGY
Updated Date: 04/29/2005
NARR Comments:Heating Oil and Heavy Oil Contaminated Soil Risk-based Cleanup Report, Tagg Pioneer Farm, 3 Kings Environmental, Inc., March 16, 2005.

NARR ID: 5746781
NARR Code: Site Location
Created By: GWISTAR
Created Date: 06/29/2005
Updated By: GWISTAR
Updated Date: 06/29/2005
NARR Comments:Tagg Pioneer Farm is on the east side of Highway 101 in Warrenton.

NARR ID: 5746002
NARR Code: Remedial Action
Created By: DCROUSE
Created Date: 12/03/2004
Updated By: BSCHWAR
Updated Date: 07/26/2005
NARR Comments:(6/1/05 RPS/ER ICP) DEQ received a report documenting investigation and cleanup of petroleum contamination at two locations on the property. One is an aboveground heating oil tank on the north side of a vacant farmhouse and the other is a former shed about 90 feet northeast of the
house.
A heating oil aboveground storage tank was decommissioned by remov al and testing between December 1, 2003 and March 8, 2004. The tank was pumped out and removed. Contaminated soil was excavated to a depth of about 8 feet, and 16.6 tons of this soil were taken to Hillsboro Landfill. Residual diesel in soil was found at concentrations up to 15,700 mg/kg. No further excavation was done, because the tank was immediately adjacent to the house. Although excavation did not extend below a depth of 8 feet, soil samples were

TAGG PIONEER FARM (Continued) **S106497272**

also collected at a depth of 10.5 feet, at the soil-groundwater interface. Neither diesel nor heavy oil was detected at this depth (reporting limits of 25 and 100 mg/kg respectively). A water sample was collected and analyzed for petroleum by NWTPH-Dx, and for BTEX and
PAHs.
Contamination in soil does not extend more than 10 feet north, wes t, or east of the tank. The southern extent of contamination could not be determined because samples were not collected beneath the house. Only one groundwater sample was collected, so extent of groundwater contamination was not determined. However, both soil and groundwater contaminant concentrations at the tank location are below relevant risk-based
concentrations.
A small shed on the property was used to store several 55-gallon d rums of heavy oil, waste motor oil, motor oil and lubricating oil and grease. Although the drums appeared to be in good condition, the wood and soil floor of the shed were stained with oil. About 455 gallons of the various types of petroleum were pumped out and taken to Oil Re-refining in Portland. Wood flooring soaked with oil was taken to Hillsboro Landfill. The owner tore down the rest of the building and burned the wood on site. Over the course of the investigation, a total of about 8 tons of contaminated soil was excavated and disposed of at Hillsboro
Landfill.
The excavation covers an area of roughly 15 by 15 feet. Contaminat ion extended to a depth of about 1.5 feet over most of this area, and to a depth of about 2.5 feet on the east side. Confirmation sampling following excavation indicated the residual contamination is below levels of
concern.
(July 26, 2005, Bob Schwarz) DEQ issued a No Further Action determ ination on July 19, 2005.

NARR ID: 5746569
NARR Code: Residual Risk Assessment
Created By: JWAGGY
Created Date: 04/29/2005
Updated By: JWAGGY
Updated Date: 04/29/2005
NARR Comments: Human health risk assessment: Following excavation and disposal, residual concentrations of contaminants of interest are below screening levels (primarily RBCs in DEQ?s RBDM guidance). In accordance with section 2.3.2 of DEQ?s Guidance for Conduct of Deterministic Human Health Risk Assessments (December 1998), it was therefore concluded that no further evaluation of risk to human health is
necessary.
Ecological risk assessment: Most contamination has been removed f rom the site, and those contaminants remaining have been covered with several feet of clean fill, thereby preventing exposure to ecological receptors. In light of this, and the fact that the contaminated areas are very small, ecological risk was not
evaluated.
Locality of the facility determination: Locality of the facility is defined in the Cleanup Rules as any point where a human or an ecological receptor contacts, or is reasonably likely to come into

TAGG PIONEER FARM (Continued) **S106497272**

contact with, facility-related hazardous substances (OAR 340-122-115). An assessment of risk must consider all receptors within the locality of the facility. Soil contamination is restricted to two very small areas, as described above. The extent of groundwater contamination has not been delineated. However, contaminant levels at the source are below human health risk screening levels.

OR ECSI SITE CONTROL:

Site Control #:	Not reported
Control Number:	Not reported
Begin Date:	Not reported
End Date:	Not reported
Frequency Of Review:	Not reported
Last Reviewed By:	Not reported
Last Reviewed Date:	Not reported
Last Update By:	Not reported
Last Updated Date:	Not reported
Site Comment:	Not reported

OR ECSI PERMIT:

Permit Agency:	Not reported
Permit Number:	Not reported
Permit Type:	Not reported
Comments:	Not reported

OR ECSI Administrative Action:

Admin ID:	730739	Action ID:	9443
Agency:	Dept Of Environmental Quality	Region:	Northwestern Region
Start Date:	07/19/2005	Complete Date:	07/19/2005
Substance Code:	ICP	Rank Value:	Not reported
Employee Id:	664	Cleanup Flag:	False
Created By:	JWAGGY	Created Date:	08/01/2005
Action Code:	NFA	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	NO FURTHER STATE ACTION REQUIRED		
Further Action:	0		
Comments:	Not reported		

Admin ID:	729484	Action ID:	9433
Agency:	Dept Of Environmental Quality	Region:	Eastern Region
Start Date:	03/12/2004	Complete Date:	07/19/2005
Substance Code:	ICP	Rank Value:	Not reported
Employee Id:	664	Cleanup Flag:	False
Created By:	DCROUSE	Created Date:	12/03/2004
Action Code:	IC	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	INDEPENDENT CLEANUP		
Further Action:	0		
Comments:	PM from Brian McClure 2/1/05		

Admin ID:	728739	Action ID:	9424
Agency:	Dept Of Environmental Quality	Region:	Not reported
Start Date:	07/27/2004	Complete Date:	07/27/2004
Substance Code:	Not reported	Rank Value:	Not reported
Employee Id:	293	Cleanup Flag:	False
Created By:	DCROUSE	Created Date:	07/27/2004
Action Code:	ENTRY	Category:	Administrative Action
Action Flag:	True	Action Code Flag:	False

TAGG PIONEER FARM (Continued) **S106497272**

Action: Site added to database
Further Action: Not reported
Comments: Not reported

Admin ID:	728740	Action ID:	9442
Agency:	Dept Of Environmental Quality	Region:	Eastern Region
Start Date:	05/25/2004	Complete Date:	03/30/2005
Substance Code:	ICP	Rank Value:	Not reported
Employee Id:	664	Cleanup Flag:	False
Created By:	DCROUSE	Created Date:	07/27/2004
Action Code:	NEG	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False

Action: NEGOTIATIONS
Further Action: 0
Comments: PM from Brian McClure 2/1/05

Admin ID:	730239	Action ID:	9486
Agency:	Dept Of Environmental Quality	Region:	Eastern Region
Start Date:	04/01/2004	Complete Date:	03/30/2005
Substance Code:	ICP	Rank Value:	Not reported
Employee Id:	664	Cleanup Flag:	False
Created By:	JWAGGY	Created Date:	04/29/2005
Action Code:	RISK	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False

Action: RISK ASSESSMENT
Further Action: 0
Comments: Not reported

Admin ID:	730240	Action ID:	9423
Agency:	Dept Of Environmental Quality	Region:	Eastern Region
Start Date:	04/01/2004	Complete Date:	03/30/2005
Substance Code:	ICP	Rank Value:	Not reported
Employee Id:	664	Cleanup Flag:	False
Created By:	JWAGGY	Created Date:	04/29/2005
Action Code:	ECORA	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False

Action: Ecological Risk Assessment
Further Action: 0
Comments: Not reported

OR ECSI OPERATIONS:

Operation Id: Not reported
Operation Status: Not reported
Common Name: Not reported
Yrs of Operation: Not reported
Comments: Not reported
Updated Date: Not reported
Operations SIC Id: Not reported
SIC Code: Not reported
Created By: Not reported
Created Date: Not reported

VCS:

ECS Site ID: 4186
CRL: NFA
Facility Size: 365 acres
Action: NO FURTHER STATE ACTION REQUIRED

TAGG PIONEER FARM (Continued) **S106497272**

Start Date: 7/19/2005
End Date: 7/19/2005
Project Manager Name: Bob Schwarz
Program: ICP

D13 **ODOT** **AST** **S105744256**
NE **1960 SE DOLPHIN AVE** **HSIS** **N/A**
> 1 **WARRENTON, OR 97146**
1.432 mi.
7562 ft. **Site 1 of 3 in cluster D**

Relative:
Lower

Actual:
28 ft.

AST:

Facility Id:	006018
Hazardous Substance:	PROPANE
Reporting Quantities:	200-499
Quantity Units:	GALLONS
Physical State:	GAS
Storage 1:	ABOVEGROUND TANK
Storage 2:	CYLINDER

HSIS:

Facility Id:	006018
Physical State Of The Substance:	1
Physical State:	SOLID
Average Amount Possessed During The Year Code:	02
Maximum Amount Possessed During The Year Code:	02
Chemical Trade Name:	LAND MARK
Applicable Unit Of Measure Code:	1
Description Of The Unit Of Measure:	POUNDS
Type Code:	N
Description:	PLASTIC BOTTLE, JUG, BUCKET
Type Code:	Not reported
Temperature Description:	Not reported
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Pressure of Code:	Not reported
Pressure Description:	Not reported
Temperature Description:	4
Temperature of The Hazardous Substance Code:	N
Temperature Description:	Not reported
Temperature of The Hazardous Substance Code:	Not reported
Days Hazardous Substance On Site During Year:	270
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	10-19
Description Of The Avg Qnty Code:	10-19
Most Hazardous Ingridient:	SULFOMETURON METHYH
United Nations/north America 4 Digit Class Number:	Not reported
Hazard Rank:	2
Chemical Abstract Service Identifier Number:	74222972
Is Substance Pure Or Mixture:	Mixture
Chemical Is Extremely Hazardous Substance (EHS):	Not reported
First Hazardous Class Code For Chemical:	4.5
Second Hazardous Class Code For Chemical:	6.5
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	Combustible Material
Hazard Class 2 Of The Chemical:	Pesticide
Hazard Class 3 Of The Chemical:	Not reported

ODOT (Continued) **S105744256**

Chemical Is A Toxic 313 Chemical:	Not reported
EPA Pesticide Registration Number:	352-621
Department Or Division Of Company:	REG 2 HAZMAT COORD
Facility Has Written Emergency Plan:	Yes
Does The Chemical Contain A 112r Chemical:	No
Contains 112R:	Not reported
Contains EHS:	Not reported
Fertilizer:	Not reported
Pesticide:	Yes
Contains 313:	Not reported
NAICS Code 1:	921190
NAICS Desc 1:	OTHER GENERAL GOV SUPPORT
NAICS Code 2:	237310
NAICS Desc 2:	HIGHWAY, STREET, & BRIDGE CONST
Company Name:	ODOT
Manager Name:	MATTHEW GARRETT DIRECTOR
Business Phone:	5038612355
Mailing Address:	1960 SE DOLPHIN AVE
Mailing City,St,Zip:	WARRENTON, OR 97146
No. of Employees:	11
Day Phone:	5033257222
Placard:	Yes
Fire Dept Code:	0398
Sprinkler System:	No
Emergency Contact:	STEVE STRATTON
Emergency Procedure:	UPSTAIRS CREW RM
Business Type:	HIGHWAY MAINT

Facility Id:	006018
Physical State Of The Substance:	2
Physical State:	LIQUID
Average Amount Possessed During The Year Code:	03
Maximum Amount Possessed During The Year Code:	04
Chemical Trade Name:	WETTING AGENT
Applicable Unit Of Measure Code:	2
Description Of The Unit Of Measure:	GALLONS
Type Code:	N
Description:	PLASTIC BOTTLE, JUG, BUCKET
Type Code:	Not reported
Temperature Description:	Not reported
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Pressure of Code:	Not reported
Pressure Description:	Not reported
Temperature Description:	4
Temperature of The Hazardous Substance Code:	N
Temperature Description:	Not reported
Temperature of The Hazardous Substance Code:	Not reported
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	50-199
Description Of The Avg Qnty Code:	20-49
Most Hazardous Ingridient:	AMINE SALT
United Nations/north America 4 Digit Class Number:	Not reported
Hazard Rank:	2
Chemical Abstract Service Identifier Number:	Not reported
Is Substance Pure Or Mixture:	Mixture

ODOT (Continued) **S105744256**

Chemical Is Extremely Hazardous Substance (EHS):	Not reported
First Hazardous Class Code For Chemical:	9.0
Second Hazardous Class Code For Chemical:	Not reported
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	Miscellaneous Hazardous Material
Hazard Class 2 Of The Chemical:	Not reported
Hazard Class 3 Of The Chemical:	Not reported
Chemical Is A Toxic 313 Chemical:	Not reported
EPA Pesticide Registration Number:	Not reported
Department Or Division Of Company:	REG 2 HAZMAT COORD
Facility Has Written Emergency Plan:	Yes
Does The Chemical Contain A 112r Chemical:	No
Contains 112R:	Not reported
Contains EHS:	Not reported
Fertilizer:	Not reported
Pesticide:	Not reported
Contains 313:	Not reported
NAICS Code 1:	921190
NAICS Desc 1:	OTHER GENERAL GOV SUPPORT
NAICS Code 2:	237310
NAICS Desc 2:	HIGHWAY, STREET, & BRIDGE CONST
Company Name:	ODOT
Manager Name:	MATTHEW GARRETT DIRECTOR
Business Phone:	5038612355
Mailing Address:	1960 SE DOLPHIN AVE
Mailing City,St,Zip:	WARRENTON, OR 97146
No. of Employees:	11
Day Phone:	5033257222
Placard:	Yes
Fire Dept Code:	0398
Sprinkler System:	No
Emergency Contact:	STEVE STRATTON
Emergency Procedure:	UPSTAIRS CREW RM
Business Type:	HIGHWAY MAINT

Facility Id:	006018
Physical State Of The Substance:	1
Physical State:	SOLID
Average Amount Possessed During The Year Code:	00
Maximum Amount Possessed During The Year Code:	02
Chemical Trade Name:	PAYLOAD
Applicable Unit Of Measure Code:	1
Description Of The Unit Of Measure:	POUNDS
Type Code:	N
Description:	PLASTIC BOTTLE, JUG, BUCKET
Type Code:	Not reported
Temperature Description:	Not reported
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Pressure of Code:	Not reported
Pressure Description:	Not reported
Temperature Description:	4
Temperature of The Hazardous Substance Code:	N
Temperature Description:	Not reported
Temperature of The Hazardous Substance Code:	Not reported
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False

ODOT (Continued) **S105744256**

Description Of The Max Qnty Code:	10-19
Description Of The Avg Qnty Code:	0-4
Most Hazardous Ingridient:	FLUMIOXAZIN
United Nations/north America 4 Digit Class Number:	Not reported
Hazard Rank:	2
Chemical Abstract Service Identifier Number:	103361097
Is Substance Pure Or Mixture:	Mixture
Chemical Is Extremely Hazardous Substance (EHS):	Not reported
First Hazardous Class Code For Chemical:	6.3
Second Hazardous Class Code For Chemical:	6.4
Third Hazardous Class Code For Chemical:	6.5
Hazard Class 1 Of The Chemical:	Acute Health Hazard
Hazard Class 2 Of The Chemical:	Chronic Health Hazard
Hazard Class 3 Of The Chemical:	Pesticide
Chemical Is A Toxic 313 Chemical:	No
EPA Pesticide Registration Number:	59639-120
Department Or Division Of Company:	REG 2 HAZMAT COORD
Facility Has Written Emergency Plan:	Yes
Does The Chemical Contain A 112r Chemical:	No
Contains 112R:	No
Contains EHS:	No
Fertilizer:	No
Pesticide:	Yes
Contains 313:	No
NAICS Code 1:	921190
NAICS Desc 1:	OTHER GENERAL GOV SUPPORT
NAICS Code 2:	237310
NAICS Desc 2:	HIGHWAY, STREET, & BRIDGE CONST
Company Name:	ODOT
Manager Name:	MATTHEW GARRETT DIRECTOR
Business Phone:	5038612355
Mailing Address:	1960 SE DOLPHIN AVE
Mailing City,St,Zip:	WARRENTON, OR 97146
No. of Employees:	11
Day Phone:	5033257222
Placard:	Yes
Fire Dept Code:	0398
Sprinkler System:	No
Emergency Contact:	STEVE STRATTON
Emergency Procedure:	UPSTAIRS CREW RM
Business Type:	HIGHWAY MAINT

Facility Id:	006018
Physical State Of The Substance:	2
Physical State:	LIQUID
Average Amount Possessed During The Year Code:	02
Maximum Amount Possessed During The Year Code:	02
Chemical Trade Name:	RANGER PRO
Applicable Unit Of Measure Code:	2
Description Of The Unit Of Measure:	GALLONS
Type Code:	N
Description:	PLASTIC BOTTLE, JUG, BUCKET
Type Code:	Not reported
Temperature Description:	Not reported
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Pressure of Code:	Not reported

ODOT (Continued) **S105744256**

Pressure Description:	Not reported
Temperature Description:	4
Temperature of The Hazardous Substance Code:	N
Temperature Description:	Not reported
Temperature of The Hazardous Substance Code:	Not reported
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	10-19
Description Of The Avg Qnty Code:	10-19
Most Hazardous Ingridient:	ISOPROPYLAMINE SALT OF GLYPHOSATE
United Nations/north America 4 Digit Class Number:	Not reported
Hazard Rank:	2
Chemical Abstract Service Identifier Number:	38641940
Is Substance Pure Or Mixture:	Mixture
Chemical Is Extremely Hazardous Substance (EHS):	Not reported
First Hazardous Class Code For Chemical:	6.3
Second Hazardous Class Code For Chemical:	6.5
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	Acute Health Hazard
Hazard Class 2 Of The Chemical:	Pesticide
Hazard Class 3 Of The Chemical:	Not reported
Chemical Is A Toxic 313 Chemical:	No
EPA Pesticide Registration Number:	524-517
Department Or Division Of Company:	REG 2 HAZMAT COORD
Facility Has Written Emergency Plan:	Yes
Does The Chemical Contain A 112r Chemical:	No
Contains 112R:	No
Contains EHS:	No
Fertilizer:	No
Pesticide:	Yes
Contains 313:	No
NAICS Code 1:	921190
NAICS Desc 1:	OTHER GENERAL GOV SUPPORT
NAICS Code 2:	237310
NAICS Desc 2:	HIGHWAY, STREET, & BRIDGE CONST
Company Name:	ODOT
Manager Name:	MATTHEW GARRETT DIRECTOR
Business Phone:	5038612355
Mailing Address:	1960 SE DOLPHIN AVE
Mailing City,St,Zip:	WARRENTON, OR 97146
No. of Employees:	11
Day Phone:	5033257222
Placard:	Yes
Fire Dept Code:	0398
Sprinkler System:	No
Emergency Contact:	STEVE STRATTON
Emergency Procedure:	UPSTAIRS CREW RM
Business Type:	HIGHWAY MAINT

Facility Id:	006018
Physical State Of The Substance:	3
Physical State:	GAS
Average Amount Possessed During The Year Code:	10
Maximum Amount Possessed During The Year Code:	10
Chemical Trade Name:	OXYGEN
Applicable Unit Of Measure Code:	3
Description Of The Unit Of Measure:	CUBIC FEET

ODOT (Continued) **S105744256**

Type Code:	L
Description:	CYLINDER
Type Code:	Not reported
Temperature Description:	Not reported
Pressure of Code:	2
Pressure Description:	GREATER THAN NORMAL PRESSURE
Pressure of Code:	Not reported
Pressure Description:	Not reported
Temperature Description:	4
Temperature of The Hazardous Substance Code:	N
Temperature Description:	Not reported
Temperature of The Hazardous Substance Code:	Not reported
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	200-499
Description Of The Avg Qnty Code:	200-499
Most Hazardous Ingridient:	OXYGEN
United Nations/north America 4 Digit Class Number:	1072
Hazard Rank:	2
Chemical Abstract Service Identifier Number:	7782447
Is Substance Pure Or Mixture:	Pure
Chemical Is Extremely Hazardous Substance (EHS):	Not reported
First Hazardous Class Code For Chemical:	5.1
Second Hazardous Class Code For Chemical:	2.2
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	Oxidizers
Hazard Class 2 Of The Chemical:	Non-flammable Gas
Hazard Class 3 Of The Chemical:	Not reported
Chemical Is A Toxic 313 Chemical:	No
EPA Pesticide Registration Number:	Not reported
Department Or Division Of Company:	REG 2 HAZMAT COORD
Facility Has Written Emergency Plan:	Yes
Does The Chemical Contain A 112r Chemical:	No
Contains 112R:	No
Contains EHS:	No
Fertilizer:	No
Pesticide:	No
Contains 313:	No
NAICS Code 1:	921190
NAICS Desc 1:	OTHER GENERAL GOV SUPPORT
NAICS Code 2:	237310
NAICS Desc 2:	HIGHWAY, STREET, & BRIDGE CONST
Company Name:	ODOT
Manager Name:	MATTHEW GARRETT DIRECTOR
Business Phone:	5038612355
Mailing Address:	1960 SE DOLPHIN AVE
Mailing City,St,Zip:	WARRENTON, OR 97146
No. of Employees:	11
Day Phone:	5033257222
Placard:	Yes
Fire Dept Code:	0398
Sprinkler System:	No
Emergency Contact:	STEVE STRATTON
Emergency Procedure:	UPSTAIRS CREW RM
Business Type:	HIGHWAY MAINT

ODOT (Continued) **S105744256**

Click this hyperlink while viewing on your computer to access
11 additional OR_HSIS: record(s) in the EDR Site Report.

D14 **ODOT WARRENTON MAINTENANCE** **RCRA-CESQG** **1004770448**
NE **1960 SE DOLPHIN** **FINDS** **ORD987174521**
> 1 **WARRENTON, OR 97146**
1.432 mi.
7562 ft. **Site 2 of 3 in cluster D**

Relative:
Lower

Actual:
28 ft.

RCRA-CESQG:

Date form received by agency:	12/31/2002
Facility name:	ODOT WARRENTON MAINTENANCE
Facility address:	1960 SE DOLPHIN WARRENTON, OR 97146
EPA ID:	ORD987174521
Mailing address:	1960 SW DOLPHIN AVE WARRENTON, OR 97146
Contact:	DENNIS OCONNOR
Contact address:	1960 SW DOLPHIN AVE WARRENTON, OR 97146
Contact country:	US
Contact telephone:	(503) 861-2355
Contact email:	Not reported
EPA Region:	10
Classification:	Conditionally Exempt Small Quantity Generator
Description:	Handler: generates 100 kg or less of hazardous waste per calendar month, and accumulates 1000 kg or less of hazardous waste at any time; or generates 1 kg or less of acutely hazardous waste per calendar month, and accumulates at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste

Owner/Operator Summary:

Owner/operator name:	ODOT DIST #1
Owner/operator address:	PO BOX 686 ASTORIA, OR 97103
Owner/operator country:	US
Owner/operator telephone:	(503) 861-0788
Legal status:	State
Owner/Operator Type:	Operator
Owner/Op start date:	12/31/2002
Owner/Op end date:	Not reported
Owner/operator name:	ODOT DISTRICT 1
Owner/operator address:	1960 SE DOLPHIN AVE WARRENTON, OR 97146
Owner/operator country:	US
Owner/operator telephone:	(503) 861-2355

ODOT WARRENTON MAINTENANCE (Continued) **1004770448**

Legal status: Other
Owner/Operator Type: Owner
Owner/Op start date: 12/31/2002
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No
Off-site waste receiver: Commercial status unknown

Historical Generators:
Date form received by agency: 01/14/2002
Facility name: ODOT WARRENTON MAINTENANCE
Classification: Conditionally Exempt Small Quantity Generator

Date form received by agency: 01/12/2001
Facility name: ODOT WARRENTON MAINTENANCE
Classification: Conditionally Exempt Small Quantity Generator

Date form received by agency: 02/02/2000
Facility name: ODOT WARRENTON MAINTENANCE
Classification: Conditionally Exempt Small Quantity Generator

Date form received by agency: 02/05/1999
Facility name: ODOT WARRENTON MAINTENANCE
Classification: Conditionally Exempt Small Quantity Generator

Date form received by agency: 02/02/1998
Facility name: ODOT WARRENTON MAINTENANCE
Classification: Conditionally Exempt Small Quantity Generator

Date form received by agency: 01/06/1997
Facility name: ODOT WARRENTON MAINTENANCE
Classification: Conditionally Exempt Small Quantity Generator

Date form received by agency: 01/08/1996
Facility name: ODOT WARRENTON MAINTENANCE
Classification: Not a generator, verified

Date form received by agency: 01/11/1995
Facility name: ODOT WARRENTON MAINTENANCE
Classification: Conditionally Exempt Small Quantity Generator

ODOT WARRENTON MAINTENANCE (Continued) **1004770448**

Date form received by agency: 01/11/1994
Facility name: ODOT WARRENTON MAINTENANCE
Classification: Conditionally Exempt Small Quantity Generator

Date form received by agency: 01/13/1993
Facility name: ODOT WARRENTON MAINTENANCE
Classification: Conditionally Exempt Small Quantity Generator

Date form received by agency: 01/13/1992
Facility name: ODOT WARRENTON MAINTENANCE
Classification: Small Quantity Generator

Violation Status: No violations found

FINDS:

Registry ID: 110004797355

Environmental Interest/Information System

OR-DEQ (Oregon - Department Of Environmental Quality) is a regulatory agency whose job is to protect the quality of Oregon's Environment. DEQ uses a combination of technical assistance, inspections and permitting to help public and private facilities and citizens understand and comply with state and federal environmental regulations.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

D15 **WARRENTON MAINTENANCE SECTION** **LUST** **U000432035**
NE **1960 SE DOLPHIN** **UST** **N/A**
> 1 **WARRENTON, OR 97146**
1.432 mi.
7562 ft. **Site 3 of 3 in cluster D**

Relative:
Lower

Actual:
28 ft.

LUST:
Region: North Western Region
Facility ID: 04-95-0154
Cleanup Received Date: 6/22/1995
Cleanup Start Date: 6/21/1995
Cleanup Complete Date: 2/29/1996

UST:
Facility ID: 8611
Facility Telephone: (503)325-5646
Permittee Name: DUANE MILLER, SECTION SUPERVISOR
Number of Permitted Tanks: Not reported
Active Tanks: Not reported
Decommissioned Tanks: 3
Number of Tanks: 3

16 NNE > 1 1.520 mi. 8026 ft. | **TEXACO STATION #63-802-1012**
1895 S MAIN AVE
WARRENTON, OR 97146 | **LUST** | **S109051866**
N/A

Relative: Lower
Actual: 24 ft.

LUST:

Region:	North Western Region
Facility ID:	04-94-0165
Cleanup Received Date:	9/9/1994
Cleanup Start Date:	9/9/1994
Cleanup Complete Date:	**6/28/2004**

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17 NE > 1 2.024 mi. 10689 ft. | **CLASSIC BODYWORKS**
650 ALTERNATE HWY 101
ASTORIA, OR 97103 | **UST** | **U000431318**
N/A

Relative: Lower
Actual: 29 ft.

UST:

Facility ID:	1845
Facility Telephone:	(503)325-0294
Permittee Name:	RICHARD SMITH, OWNER
Number of Permitted Tanks:	Not reported
Active Tanks:	Not reported
Decommissioned Tanks:	1
Number of Tanks:	3

E18 South > 1 2.032 mi. 10729 ft. | **ASTORIA GOLF & COUNTRY CLUB**
APPROX 5 MILES N OF GEARHART ON HWY 101
WARRENTON, OR 97146
Site 1 of 3 in cluster E | **LUST**
UST | **U000432021**
N/A

Relative: Lower
Actual: 29 ft.

LUST:

Region:	North Western Region
Facility ID:	04-88-0050
Cleanup Received Date:	8/22/1988
Cleanup Start Date:	9/29/1989
Cleanup Complete Date:	**9/29/1989**

UST:

Facility ID:	5338
Facility Telephone:	(503)861-2211
Permittee Name:	LARRY BARROWS, MAINTENANCE SUPERVISOR
Number of Permitted Tanks:	Not reported
Active Tanks:	Not reported
Decommissioned Tanks:	1
Number of Tanks:	1

E19 **ASTORIA GOLF & COUNTRY CLUB** **AST** **S104325933**
South **33445 SUNSET BEACH LN** **HSIS** **N/A**
> 1 **WARRENTON, OR 97146**
2.037 mi.
10753 ft. **Site 2 of 3 in cluster E**

Relative:
Lower

Actual:
27 ft.

AST:

Facility Id:	043285
Hazardous Substance:	DIESEL FUEL
Reporting Quantities:	200-499
Quantity Units:	GALLONS
Physical State:	LIQUID
Storage 1:	ABOVEGROUND TANK

Facility Id:	043285
Hazardous Substance:	GASOLINE UNLEADED
Reporting Quantities:	200-499
Quantity Units:	GALLONS
Physical State:	LIQUID
Storage 1:	ABOVEGROUND TANK

Facility Id:	043285
Hazardous Substance:	PROPANE
Reporting Quantities:	50-199
Quantity Units:	GALLONS
Physical State:	LIQUID
Storage 1:	ABOVEGROUND TANK

HSIS:

Facility Id:	043285
Physical State Of The Substance:	2
Physical State:	LIQUID
Average Amount Possessed During The Year Code:	04
Maximum Amount Possessed During The Year Code:	10
Chemical Trade Name:	GASOLINE UNLEADED
Applicable Unit Of Measure Code:	2
Description Of The Unit Of Measure:	GALLONS
Type Code:	A
Description:	ABOVEGROUND TANK
Type Code:	Not reported
Temperature Description:	Not reported
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Pressure of Code:	Not reported
Pressure Description:	Not reported
Temperature Description:	4
Temperature of The Hazardous Substance Code:	N
Temperature Description:	Not reported
Temperature of The Hazardous Substance Code:	Not reported
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	200-499
Description Of The Avg Qnty Code:	50-199
Most Hazardous Ingridient:	PETROLEUM DISTILLATES
United Nations/north America 4 Digit Class Number:	1203
Hazard Rank:	2
Chemical Abstract Service Identifier Number:	000000
Is Substance Pure Or Mixture:	Mixture
Chemical Is Extremely Hazardous Substance (EHS):	Not reported

ASTORIA GOLF & COUNTRY CLUB (Continued) **S104325933**

First Hazardous Class Code For Chemical:	3
Second Hazardous Class Code For Chemical:	6.3
Third Hazardous Class Code For Chemical:	6.4
Hazard Class 1 Of The Chemical:	Flammable and Combustible Liquid
Hazard Class 2 Of The Chemical:	Acute Health Hazard
Hazard Class 3 Of The Chemical:	Chronic Health Hazard
Chemical Is A Toxic 313 Chemical:	No
EPA Pesticide Registration Number:	Not reported
Department Or Division Of Company:	COURSE MAINT
Facility Has Written Emergency Plan:	Yes
Does The Chemical Contain A 112r Chemical:	No
Contains 112R:	No
Contains EHS:	No
Fertilizer:	No
Pesticide:	No
Contains 313:	Yes
NAICS Code 1:	713910
NAICS Desc 1:	GOLF COURSES & COUNTRY CLUBS
NAICS Code 2:	000000
NAICS Desc 2:	Not reported
Company Name:	ASTORIA GOLF & COUNTRY CLUB
Manager Name:	RIC GERTTULA
Business Phone:	5038612637
Mailing Address:	PO BOX 148
Mailing City,St,Zip:	ASTORIA, OR 97103
No. of Employees:	13
Day Phone:	5038612637
Placard:	Yes
Fire Dept Code:	0398
Sprinkler System:	No
Emergency Contact:	JOHN M WHISLER
Emergency Procedure:	MAINT SHOP & CLUBHOUSE
Business Type:	GOLF COURSE MAINT

Facility Id:	043285
Physical State Of The Substance:	2
Physical State:	LIQUID
Average Amount Possessed During The Year Code:	04
Maximum Amount Possessed During The Year Code:	10
Chemical Trade Name:	DIESEL FUEL
Applicable Unit Of Measure Code:	2
Description Of The Unit Of Measure:	GALLONS
Type Code:	A
Description:	ABOVEGROUND TANK
Type Code:	Not reported
Temperature Description:	Not reported
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Pressure of Code:	Not reported
Pressure Description:	Not reported
Temperature Description:	4
Temperature of The Hazardous Substance Code:	N
Temperature Description:	Not reported
Temperature of The Hazardous Substance Code:	Not reported
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	200-499

ASTORIA GOLF & COUNTRY CLUB (Continued) **S104325933**

Description Of The Avg Qnty Code:	50-199
Most Hazardous Ingridient:	PETROLEUM MID-DISTILLATES
United Nations/north America 4 Digit Class Number:	1993
Hazard Rank:	2
Chemical Abstract Service Identifier Number:	68476346
Is Substance Pure Or Mixture:	Mixture
Chemical Is Extremely Hazardous Substance (EHS):	Not reported
First Hazardous Class Code For Chemical:	3
Second Hazardous Class Code For Chemical:	Not reported
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	Flammable and Combustible Liquid
Hazard Class 2 Of The Chemical:	Not reported
Hazard Class 3 Of The Chemical:	Not reported
Chemical Is A Toxic 313 Chemical:	No
EPA Pesticide Registration Number:	Not reported
Department Or Division Of Company:	COURSE MAINT
Facility Has Written Emergency Plan:	Yes
Does The Chemical Contain A 112r Chemical:	No
Contains 112R:	No
Contains EHS:	No
Fertilizer:	No
Pesticide:	No
Contains 313:	No
NAICS Code 1:	713910
NAICS Desc 1:	GOLF COURSES & COUNTRY CLUBS
NAICS Code 2:	000000
NAICS Desc 2:	Not reported
Company Name:	ASTORIA GOLF & COUNTRY CLUB
Manager Name:	RIC GERTTULA
Business Phone:	5038612637
Mailing Address:	PO BOX 148
Mailing City,St,Zip:	ASTORIA, OR 97103
No. of Employees:	13
Day Phone:	5038612637
Placard:	Yes
Fire Dept Code:	0398
Sprinkler System:	No
Emergency Contact:	JOHN M WHISLER
Emergency Procedure:	MAINT SHOP & CLUBHOUSE
Business Type:	GOLF COURSE MAINT

Facility Id:	043285
Physical State Of The Substance:	2
Physical State:	LIQUID
Average Amount Possessed During The Year Code:	03
Maximum Amount Possessed During The Year Code:	04
Chemical Trade Name:	HYDRAULIC OIL
Applicable Unit Of Measure Code:	2
Description Of The Unit Of Measure:	GALLONS
Type Code:	E
Description:	PLASTIC OR NON-METALLIC DRUM
Type Code:	Not reported
Temperature Description:	Not reported
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Pressure of Code:	Not reported
Pressure Description:	Not reported

ASTORIA GOLF & COUNTRY CLUB (Continued) **S104325933**

Temperature Description:	4
Temperature of The Hazardous Substance Code:	N
Temperature Description:	Not reported
Temperature of The Hazardous Substance Code:	Not reported
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	50-199
Description Of The Avg Qnty Code:	20-49
Most Hazardous Ingridient:	BASE LUBRICATING OILS
United Nations/north America 4 Digit Class Number:	1270
Hazard Rank:	2
Chemical Abstract Service Identifier Number:	64742547
Is Substance Pure Or Mixture:	Mixture
Chemical Is Extremely Hazardous Substance (EHS):	Not reported
First Hazardous Class Code For Chemical:	4.5
Second Hazardous Class Code For Chemical:	Not reported
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	Combustible Material
Hazard Class 2 Of The Chemical:	Not reported
Hazard Class 3 Of The Chemical:	Not reported
Chemical Is A Toxic 313 Chemical:	Not reported
EPA Pesticide Registration Number:	Not reported
Department Or Division Of Company:	COURSE MAINT
Facility Has Written Emergency Plan:	Yes
Does The Chemical Contain A 112r Chemical:	No
Contains 112R:	Not reported
Contains EHS:	Not reported
Fertilizer:	Not reported
Pesticide:	Not reported
Contains 313:	Not reported
NAICS Code 1:	713910
NAICS Desc 1:	GOLF COURSES & COUNTRY CLUBS
NAICS Code 2:	000000
NAICS Desc 2:	Not reported
Company Name:	ASTORIA GOLF & COUNTRY CLUB
Manager Name:	RIC GERTTULA
Business Phone:	5038612637
Mailing Address:	PO BOX 148
Mailing City,St,Zip:	ASTORIA, OR 97103
No. of Employees:	13
Day Phone:	5038612637
Placard:	Yes
Fire Dept Code:	0398
Sprinkler System:	No
Emergency Contact:	JOHN M WHISLER
Emergency Procedure:	MAINT SHOP & CLUBHOUSE
Business Type:	GOLF COURSE MAINT

Facility Id:	043285
Physical State Of The Substance:	2
Physical State:	LIQUID
Average Amount Possessed During The Year Code:	04
Maximum Amount Possessed During The Year Code:	04
Chemical Trade Name:	MOTOR OIL
Applicable Unit Of Measure Code:	2
Description Of The Unit Of Measure:	GALLONS
Type Code:	D

ASTORIA GOLF & COUNTRY CLUB (Continued) **S104325933**

Description:	STEEL DRUM
Type Code:	Not reported
Temperature Description:	Not reported
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Pressure of Code:	Not reported
Pressure Description:	Not reported
Temperature Description:	4
Temperature of The Hazardous Substance Code:	N
Temperature Description:	Not reported
Temperature of The Hazardous Substance Code:	Not reported
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	50-199
Description Of The Avg Qnty Code:	50-199
Most Hazardous Ingridient:	PETROLEUM HYDROCARBONS
United Nations/north America 4 Digit Class Number:	0000
Hazard Rank:	2
Chemical Abstract Service Identifier Number:	64742547
Is Substance Pure Or Mixture:	Mixture
Chemical Is Extremely Hazardous Substance (EHS):	Not reported
First Hazardous Class Code For Chemical:	4.5
Second Hazardous Class Code For Chemical:	6.4
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	Combustible Material
Hazard Class 2 Of The Chemical:	Chronic Health Hazard
Hazard Class 3 Of The Chemical:	Not reported
Chemical Is A Toxic 313 Chemical:	Not reported
EPA Pesticide Registration Number:	Not reported
Department Or Division Of Company:	COURSE MAINT
Facility Has Written Emergency Plan:	Yes
Does The Chemical Contain A 112r Chemical:	No
Contains 112R:	Not reported
Contains EHS:	Not reported
Fertilizer:	No
Pesticide:	No
Contains 313:	Not reported
NAICS Code 1:	713910
NAICS Desc 1:	GOLF COURSES & COUNTRY CLUBS
NAICS Code 2:	000000
NAICS Desc 2:	Not reported
Company Name:	ASTORIA GOLF & COUNTRY CLUB
Manager Name:	RIC GERTTULA
Business Phone:	5038612637
Mailing Address:	PO BOX 148
Mailing City,St,Zip:	ASTORIA, OR 97103
No. of Employees:	13
Day Phone:	5038612637
Placard:	Yes
Fire Dept Code:	0398
Sprinkler System:	No
Emergency Contact:	JOHN M WHISLER
Emergency Procedure:	MAINT SHOP & CLUBHOUSE
Business Type:	GOLF COURSE MAINT

Facility Id:	043285
Physical State Of The Substance:	1

ASTORIA GOLF & COUNTRY CLUB (Continued) **S104325933**

Physical State:	SOLID
Average Amount Possessed During The Year Code:	10
Maximum Amount Possessed During The Year Code:	21
Chemical Trade Name:	FERTILIZER 22-4-12
Applicable Unit Of Measure Code:	1
Description Of The Unit Of Measure:	POUNDS
Type Code:	J
Description:	BAG
Type Code:	Not reported
Temperature Description:	Not reported
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Pressure of Code:	Not reported
Pressure Description:	Not reported
Temperature Description:	4
Temperature of The Hazardous Substance Code:	N
Temperature Description:	Not reported
Temperature of The Hazardous Substance Code:	Not reported
Days Hazardous Substance On Site During Year:	90
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	5,000-9,999
Description Of The Avg Qnty Code:	200-499
Most Hazardous Ingridient:	AMMONIUM SULFATE
United Nations/north America 4 Digit Class Number:	0000
Hazard Rank:	1
Chemical Abstract Service Identifier Number:	7783202
Is Substance Pure Or Mixture:	Mixture
Chemical Is Extremely Hazardous Substance (EHS):	Not reported
First Hazardous Class Code For Chemical:	9.0
Second Hazardous Class Code For Chemical:	Not reported
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	Miscellaneous Hazardous Material
Hazard Class 2 Of The Chemical:	Not reported
Hazard Class 3 Of The Chemical:	Not reported
Chemical Is A Toxic 313 Chemical:	No
EPA Pesticide Registration Number:	Not reported
Department Or Division Of Company:	COURSE MAINT
Facility Has Written Emergency Plan:	Yes
Does The Chemical Contain A 112r Chemical:	No
Contains 112R:	No
Contains EHS:	No
Fertilizer:	Yes
Pesticide:	No
Contains 313:	No
NAICS Code 1:	713910
NAICS Desc 1:	GOLF COURSES & COUNTRY CLUBS
NAICS Code 2:	000000
NAICS Desc 2:	Not reported
Company Name:	ASTORIA GOLF & COUNTRY CLUB
Manager Name:	RIC GERTTULA
Business Phone:	5038612637
Mailing Address:	PO BOX 148
Mailing City,St,Zip:	ASTORIA, OR 97103
No. of Employees:	13
Day Phone:	5038612637
Placard:	Yes
Fire Dept Code:	0398

ASTORIA GOLF & COUNTRY CLUB (Continued) **S104325933**

Sprinkler System: No
Emergency Contact: JOHN M WHISLER
Emergency Procedure: MAINT SHOP & CLUBHOUSE
Business Type: GOLF COURSE MAINT

Click this hyperlink while viewing on your computer to access
3 additional OR_HSIS: record(s) in the EDR Site Report.

E20
South
> 1
2.037 mi.
10753 ft.

ASTORIA GOLF & COUNTRY CLUB(OWNER:ASTORIA GOLF & C **UIC** **S106770690**
33445 SUNSET BEACH LANE **N/A**
WARRENTON, OR

Site 3 of 3 in cluster E

Relative:
Lower

Actual:
27 ft.

OR UIC:
# of UIC Wells: 72
Type: 5D2
Type Description: Storm Water Drainage
Status: Active
UIC Number: 10342
Facility Status: Registered & not RA
Lat/Long: 46.1156 / -123.9225
DEQ Permit: permit type: WPCF-OS permit number: 101353

21
NNE
> 1
2.045 mi.
10797 ft.

WARRENTON BUILDERS SUPPLY **AST** **S110292114**
1015 S MAIN ST **HSIS** **N/A**
WARRENTON, OR 97146

Relative:
Lower

Actual:
28 ft.

AST:
Facility Id: 059937
Hazardous Substance: PROPANE
Reporting Quantities: 200-499
Quantity Units: GALLONS
Physical State: GAS
Storage 1: ABOVEGROUND TANK
Storage 2: CYLINDER

HSIS:
Facility Id: 059937
Physical State Of The Substance: 3
Physical State: GAS
Average Amount Possessed During The Year Code: 10
Maximum Amount Possessed During The Year Code: 10
Chemical Trade Name: PROPANE
Applicable Unit Of Measure Code: 2
Description Of The Unit Of Measure: GALLONS
Type Code: A
Description: ABOVEGROUND TANK
Type Code: L
Temperature Description: CYLINDER
Pressure of Code: 2
Pressure Description: GREATER THAN NORMAL PRESSURE
Pressure of Code: 2
Pressure Description: GREATER THAN NORMAL PRESSURE

WARRENTON BUILDERS SUPPLY (Continued) **S110292114**

Temperature Description:	4
Temperature of The Hazardous Substance Code:	N
Temperature Description:	4
Temperature of The Hazardous Substance Code:	N
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	200-499
Description Of The Avg Qnty Code:	200-499
Most Hazardous Ingridient:	PROPANE
United Nations/north America 4 Digit Class Number:	1075
Hazard Rank:	2
Chemical Abstract Service Identifier Number:	74986
Is Substance Pure Or Mixture:	Pure
Chemical Is Extremely Hazardous Substance (EHS):	Not reported
First Hazardous Class Code For Chemical:	2.1
Second Hazardous Class Code For Chemical:	6.3
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	Flammable Gas
Hazard Class 2 Of The Chemical:	Acute Health Hazard
Hazard Class 3 Of The Chemical:	Not reported
Chemical Is A Toxic 313 Chemical:	No
EPA Pesticide Registration Number:	Not reported
Department Or Division Of Company:	Not reported
Facility Has Written Emergency Plan:	No
Does The Chemical Contain A 112r Chemical:	No
Contains 112R:	No
Contains EHS:	No
Fertilizer:	No
Pesticide:	No
Contains 313:	No
NAICS Code 1:	444190
NAICS Desc 1:	OTHER BLDG MATERIAL DEALERS
NAICS Code 2:	444110
NAICS Desc 2:	HOME CENTERS
Company Name:	WARRENTON BUILDERS SUPPLY
Manager Name:	CHARLES R WALTER
Business Phone:	5038611362
Mailing Address:	1015 S MAIN ST
Mailing City,St,Zip:	WARRENTON, OR 97146
No. of Employees:	3
Day Phone:	5038611362
Placard:	No
Fire Dept Code:	0398
Sprinkler System:	No
Emergency Contact:	CRAIG R WALTER
Emergency Procedure:	Not reported
Business Type:	RETAIL HOME IMPROVEMENT CENTER

Facility Id:	059937
Physical State Of The Substance:	2
Physical State:	LIQUID
Average Amount Possessed During The Year Code:	10
Maximum Amount Possessed During The Year Code:	10
Chemical Trade Name:	WATER BASED LATEX PAINT
Applicable Unit Of Measure Code:	2
Description Of The Unit Of Measure:	GALLONS
Type Code:	F

WARRENTON BUILDERS SUPPLY (Continued) **S110292114**

Description:	CAN
Type Code:	Not reported
Temperature Description:	Not reported
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Pressure of Code:	Not reported
Pressure Description:	Not reported
Temperature Description:	4
Temperature of The Hazardous Substance Code:	N
Temperature Description:	Not reported
Temperature of The Hazardous Substance Code:	Not reported
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	200-499
Description Of The Avg Qnty Code:	200-499
Most Hazardous Ingridient:	2-BUTOXYETHANOL/1,2-ETHANEDIOL
United Nations/north America 4 Digit Class Number:	Not reported
Hazard Rank:	1
Chemical Abstract Service Identifier Number:	111762
Is Substance Pure Or Mixture:	Mixture
Chemical Is Extremely Hazardous Substance (EHS):	Not reported
First Hazardous Class Code For Chemical:	9.0
Second Hazardous Class Code For Chemical:	Not reported
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	Miscellaneous Hazardous Material
Hazard Class 2 Of The Chemical:	Not reported
Hazard Class 3 Of The Chemical:	Not reported
Chemical Is A Toxic 313 Chemical:	Not reported
EPA Pesticide Registration Number:	Not reported
Department Or Division Of Company:	Not reported
Facility Has Written Emergency Plan:	No
Does The Chemical Contain A 112r Chemical:	No
Contains 112R:	Not reported
Contains EHS:	Not reported
Fertilizer:	Not reported
Pesticide:	Not reported
Contains 313:	Not reported
NAICS Code 1:	444190
NAICS Desc 1:	OTHER BLDG MATERIAL DEALERS
NAICS Code 2:	444110
NAICS Desc 2:	HOME CENTERS
Company Name:	WARRENTON BUILDERS SUPPLY
Manager Name:	CHARLES R WALTER
Business Phone:	5038611362
Mailing Address:	1015 S MAIN ST
Mailing City,St,Zip:	WARRENTON, OR 97146
No. of Employees:	3
Day Phone:	5038611362
Placard:	No
Fire Dept Code:	0398
Sprinkler System:	No
Emergency Contact:	CRAIG R WALTER
Emergency Procedure:	Not reported
Business Type:	RETAIL HOME IMPROVEMENT CENTER

Facility Id:	059937
Physical State Of The Substance:	2

WARRENTON BUILDERS SUPPLY (Continued) **S110292114**

Physical State:	LIQUID
Average Amount Possessed During The Year Code:	04
Maximum Amount Possessed During The Year Code:	04
Chemical Trade Name:	PAINT SOLVENT BASED
Applicable Unit Of Measure Code:	2
Description Of The Unit Of Measure:	GALLONS
Type Code:	F
Description:	CAN
Type Code:	Not reported
Temperature Description:	Not reported
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Pressure of Code:	Not reported
Pressure Description:	Not reported
Temperature Description:	4
Temperature of The Hazardous Substance Code:	N
Temperature Description:	Not reported
Temperature of The Hazardous Substance Code:	Not reported
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	50-199
Description Of The Avg Qnty Code:	50-199
Most Hazardous Ingridient:	PETROLEUM DISTILLATES
United Nations/north America 4 Digit Class Number:	1263
Hazard Rank:	2
Chemical Abstract Service Identifier Number:	64742478
Is Substance Pure Or Mixture:	Mixture
Chemical Is Extremely Hazardous Substance (EHS):	Not reported
First Hazardous Class Code For Chemical:	3
Second Hazardous Class Code For Chemical:	6.3
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	Flammable and Combustible Liquid
Hazard Class 2 Of The Chemical:	Acute Health Hazard
Hazard Class 3 Of The Chemical:	Not reported
Chemical Is A Toxic 313 Chemical:	No
EPA Pesticide Registration Number:	Not reported
Department Or Division Of Company:	Not reported
Facility Has Written Emergency Plan:	No
Does The Chemical Contain A 112r Chemical:	No
Contains 112R:	No
Contains EHS:	No
Fertilizer:	No
Pesticide:	No
Contains 313:	No
NAICS Code 1:	444190
NAICS Desc 1:	OTHER BLDG MATERIAL DEALERS
NAICS Code 2:	444110
NAICS Desc 2:	HOME CENTERS
Company Name:	WARRENTON BUILDERS SUPPLY
Manager Name:	CHARLES R WALTER
Business Phone:	5038611362
Mailing Address:	1015 S MAIN ST
Mailing City,St,Zip:	WARRENTON, OR 97146
No. of Employees:	3
Day Phone:	5038611362
Placard:	No
Fire Dept Code:	0398

WARRENTON BUILDERS SUPPLY (Continued) **S110292114**

Sprinkler System: No
Emergency Contact: CRAIG R WALTER
Emergency Procedure: Not reported
Business Type: RETAIL HOME IMPROVEMENT CENTER

22
SSE
> 1
2.059 mi.
10872 ft.

SUNSET LAKE RV(OWNER:RESOURCES NORTHWEST, INC.)
33242 SUNSET BEACH LANE
WARRENTON, OR

UIC **S109694547**
N/A

Relative:
Lower

Actual:
32 ft.

OR UIC:
# of UIC Wells: 1
Type: 5W32
Type Description: Septic Systems (drainfield Disposal Method)
Status: Unknown
UIC Number: 11177
Facility Status: Registered w/permit
Lat/Long: 46.1 / -123.9254
DEQ Permit: permit type: WPCF-OS permit number: 102340

F23
NNE
> 1
2.155 mi.
11377 ft.

WARRENTON

CLATSOP (County), OR

Site 1 of 2 in cluster F

HIST LF **1001767778**
N/A

Relative:
Lower

Actual:
27 ft.

LF HIST:
Permit Number: 120
Section/Town/Range: S20T08NR10W
SW Type: General Municipal Waste
SW Closed Date: 1985
Owner: City of Warrenton
Operator: City of Warrenton

F24
NNE
> 1
2.216 mi.
11700 ft.

YOUNG, BURTON L. & CYNTHIA L.
673 SW CEDAR ST
WARRENTON, OR 97146

Site 2 of 2 in cluster F

UST **U000432038**
N/A

Relative:
Lower

Actual:
29 ft.

UST:
Facility ID: 2269
Facility Telephone: (503)861-2592
Permittee Name: BURTON L. & CYNTHIA L. YOUNG, OWNERS
Number of Permitted Tanks: Not reported
Active Tanks: Not reported
Decommissioned Tanks: 1
Number of Tanks: 1

City	EDR ID	Site Name	Site Address	Zip	Database(s)
CLATSOP COUNTY	S109155138	OP&R - BRADLEY STATE PARK(OWNER:OR	US 30 22MI E OF ASTORIA		UIC
CLATSOP COUNTY	S107134707	LEWIS AND CLARK LOG YARD LANDFILL	SEC12,T07N,R10W		SWF/LF
GEARHART	1006854651		10TH & NW MARION	97138	FINDS, ECSI
GEARHART	S110280784	BAYVIEW TRANSIT MIX	1399 OSTER RD	97138	ECSI
HAMMOND	U004014905	TANSEY PT FUEL DOCK	NW 14TH ST	97121	UST
HAMMOND	1006854579		FORT STEVENS STATE PARK	97121	FINDS, ECSI
HAMMOND	U004014903	FORT STEVEN	FORT STEVENS STATE PARK	97121	UST
HAMMOND	S106771686	OP&R - FORT STEVENS STATE PARK(OWN	RIDGE RD	97121	UIC
HAMMOND	S110282772	CARLSON CONTRACTING INC	1865 3RD ST	97121	AST, HSIS
HAMMOND	S108420221	HAMMOND MARINA	1090 1ST ST	97121	SWF/LF, SPILLS
JEWELL	U000431916	ROAD DEPARTMENT - JEWELL SHOP	HWY 202	97138	UST, AST, HSIS
JEWELL	1006857651		HWY 202	97138	FINDS, ECSI
SEASIDE	1000151500		2793 HWY 101 N	97138	RCRA-NonGen, FINDS
SEASIDE	S105746039	JEWELL SCHOOL(OWNER:JEWELL SCHOOL	83874 HWY 103	97138	UIC, AST, HSIS
SEASIDE	S110282173	BAYVIEW TRANSIT MIX INC	13TH & RR AVE	97138	AST, HSIS
SEASIDE	S104326470	CLEAN SWEEP MAINTENANCE INC	1570TH LEWIS & CLARK RD	97138	AST, HSIS
SEASIDE	S107151600	ELDERBERRY INN, INC.(OWNER:ELDERBE	44601 HWY 26	97138	UIC
SEASIDE	S106771615	ODOT HUMBUG MAINT. STATION(OWNER:O	36455 HWY 26	97138	UIC
SEASIDE	S108246563	VERIZON WIRELESS	HWY 26 MP 27	97138	AST, HSIS
SEASIDE	S106249740	SEASIDE BP/MARITIME FUEL	2323 S HOLLADAY	97138	ECSI
SEASIDE	1006855585		LEWIS & N CLARK RD TS	97138	FINDS, SWF/LF
SEASIDE	S108010609	CURS SEASIDE AHOT	1750 LEWIS AND CLARK RD	97138	ECSI
SEASIDE	S108246131	TEEVIN AND FISCHER QUARRY	NW OF INTERSECTION RIPPET RD &	97138	SWF/LF
SEASIDE	1011845366	L.O.G. WRECKING	5 R10W SEC4D	97138	CERCLIS
WARRENTON	U000432030	MAIZE, RICHARD	RT 1	97146	LUST, UST
WARRENTON	U004014996	COLBY, W A	RT 1	97146	UST
WARRENTON	S107692389	COLUMBIA BEACH MILITARY RESERVATIO	HWY 101	97146	ECSI
WARRENTON	U000438300	COCA COLA BOTTLING CO. OF OREGON	21146TH JCT RIDGE RD & 101ST	97146	UST
WARRENTON	1007445126		SW 9TH AND RIDGE RD	97146	ODI
WARRENTON	S107692396	ASTORIA AIRPORT INDUSTRIAL PARK	SE AIRPORT RD	97146	ECSI
WARRENTON	S106497184	WARRENTON BOAT YARD	NE BAY AND HARBOR PL & 101ST N	97146	ECSI, VCP
WARRENTON	U004051469	FRED MEYER FUEL STOP #218	695 S HWY 101	97146	UST
WARRENTON	S104320857	WILLAMETTE INDUSTRIES, DALLAS	LEWIS & CLARK COUNTY RD MP 2ND	97146	HIST LF
WARRENTON	S106778138	FORT CLATSOP - RIVER DAY USE SITE	LEWIS & CLARK ROAD NEAR MILEPO	97146	ECSI, VCP
WARRENTON	S107466267	WARRENTON-HAMMOND SCH DIST 30	1700 SE MAIN ST	97146	AST, HSIS
WARRENTON	1004772047		MAIN ST	97146	RCRA-NonGen
WARRENTON	S104044476	WILCOX & FLEGEL	389 13TH NW	97146	AST, HSIS
WARRENTON	S100496983	WARRENTON HIGH SCHOOL	OLD HIGHWAY 101	97146	LUST
WARRENTON	U000432036	WARRENTON HIGH SCHOOL	OLD HIGHWAY 101	97146	UST
WARRENTON	S108658849	CAMP RILEA STP	91204 RILEA OREGON RD	97146	NPDES

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 07/02/2010
Date Data Arrived at EDR: 07/14/2010
Date Made Active in Reports: 10/04/2010
Number of Days to Update: 82

Source: EPA
Telephone: N/A
Last EDR Contact: 10/13/2010
Next Scheduled EDR Contact: 01/24/2011
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 07/02/2010
Date Data Arrived at EDR: 07/14/2010
Date Made Active in Reports: 10/04/2010
Number of Days to Update: 82

Source: EPA
Telephone: N/A
Last EDR Contact: 10/13/2010
Next Scheduled EDR Contact: 01/24/2011
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/16/2010
Next Scheduled EDR Contact: 11/29/2010
Data Release Frequency: No Update Planned

Federal Delisted NPL site list

DELISTED NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 07/02/2010	Source: EPA
Date Data Arrived at EDR: 07/14/2010	Telephone: N/A
Date Made Active in Reports: 10/04/2010	Last EDR Contact: 10/13/2010
Number of Days to Update: 82	Next Scheduled EDR Contact: 01/24/2011
	Data Release Frequency: Quarterly

Federal CERCLIS list

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 01/29/2010	Source: EPA
Date Data Arrived at EDR: 02/09/2010	Telephone: 703-412-9810
Date Made Active in Reports: 04/12/2010	Last EDR Contact: 10/01/2010
Number of Days to Update: 62	Next Scheduled EDR Contact: 01/10/2011
	Data Release Frequency: Quarterly

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPAa??s Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 06/23/2009	Source: Environmental Protection Agency
Date Data Arrived at EDR: 01/15/2010	Telephone: 703-603-8704
Date Made Active in Reports: 02/10/2010	Last EDR Contact: 10/13/2010
Number of Days to Update: 26	Next Scheduled EDR Contact: 01/24/2011
	Data Release Frequency: Varies

Federal CERCLIS NFRAP site List

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 06/23/2009	Source: EPA
Date Data Arrived at EDR: 09/02/2009	Telephone: 703-412-9810
Date Made Active in Reports: 09/21/2009	Last EDR Contact: 10/01/2010
Number of Days to Update: 19	Next Scheduled EDR Contact: 12/13/2010
	Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 05/25/2010
Date Data Arrived at EDR: 06/02/2010
Date Made Active in Reports: 10/04/2010
Number of Days to Update: 124

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 08/16/2010
Next Scheduled EDR Contact: 11/29/2010
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 02/17/2010
Date Data Arrived at EDR: 02/19/2010
Date Made Active in Reports: 05/17/2010
Number of Days to Update: 87

Source: Environmental Protection Agency
Telephone: (206) 553-1200
Last EDR Contact: 10/07/2010
Next Scheduled EDR Contact: 01/17/2011
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 02/17/2010
Date Data Arrived at EDR: 02/19/2010
Date Made Active in Reports: 05/17/2010
Number of Days to Update: 87

Source: Environmental Protection Agency
Telephone: (206) 553-1200
Last EDR Contact: 10/07/2010
Next Scheduled EDR Contact: 01/17/2011
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 02/17/2010
Date Data Arrived at EDR: 02/19/2010
Date Made Active in Reports: 05/17/2010
Number of Days to Update: 87

Source: Environmental Protection Agency
Telephone: (206) 553-1200
Last EDR Contact: 10/07/2010
Next Scheduled EDR Contact: 01/17/2011
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 02/17/2010
Date Data Arrived at EDR: 02/19/2010
Date Made Active in Reports: 05/17/2010
Number of Days to Update: 87

Source: Environmental Protection Agency
Telephone: (206) 553-1200
Last EDR Contact: 10/07/2010
Next Scheduled EDR Contact: 01/17/2011
Data Release Frequency: Varies

Federal institutional controls / engineering controls registries

US ENG CONTROLS: Engineering Controls Sites List
A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 12/20/2009
Date Data Arrived at EDR: 01/20/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 09/13/2010
Next Scheduled EDR Contact: 12/27/2010
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls
A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 12/20/2009
Date Data Arrived at EDR: 01/20/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 09/13/2010
Next Scheduled EDR Contact: 12/27/2010
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System
Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 07/09/2010
Date Data Arrived at EDR: 07/09/2010
Date Made Active in Reports: 08/17/2010
Number of Days to Update: 39

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 10/06/2010
Next Scheduled EDR Contact: 01/17/2011
Data Release Frequency: Annually

State- and tribal - equivalent NPL

ECSI: Environmental Cleanup Site Information System
Sites that are or may be contaminated and may require cleanup.

Date of Government Version: 08/01/2010
Date Data Arrived at EDR: 08/30/2010
Date Made Active in Reports: 10/15/2010
Number of Days to Update: 46

Source: Department of Environmental Quality
Telephone: 503-229-6629
Last EDR Contact: 10/26/2010
Next Scheduled EDR Contact: 02/07/2011
Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

CRL: Confirmed Release List and Inventory
All facilities with a confirmed release.

Date of Government Version: 09/01/2010
Date Data Arrived at EDR: 09/01/2010
Date Made Active in Reports: 10/15/2010
Number of Days to Update: 44

Source: Department of Environmental Quality
Telephone: 503-229-6170
Last EDR Contact: 09/01/2010
Next Scheduled EDR Contact: 12/06/2010
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF: Solid Waste Facilities List

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 09/01/2010
Date Data Arrived at EDR: 09/07/2010
Date Made Active in Reports: 10/15/2010
Number of Days to Update: 38

Source: Department of Environmental Quality
Telephone: 503-229-6299
Last EDR Contact: 08/30/2010
Next Scheduled EDR Contact: 12/13/2010
Data Release Frequency: Semi-Annually

State and tribal leaking storage tank lists

LUST: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 10/01/2010
Date Data Arrived at EDR: 10/15/2010
Date Made Active in Reports: 10/20/2010
Number of Days to Update: 5

Source: Department of Environmental Quality
Telephone: 503-229-5790
Last EDR Contact: 10/15/2010
Next Scheduled EDR Contact: 12/06/2010
Data Release Frequency: Quarterly

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 08/30/2010
Date Data Arrived at EDR: 08/30/2010
Date Made Active in Reports: 10/04/2010
Number of Days to Update: 35

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 08/02/2010
Next Scheduled EDR Contact: 11/15/2010
Data Release Frequency: Quarterly

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 08/27/2010
Date Data Arrived at EDR: 08/30/2010
Date Made Active in Reports: 10/04/2010
Number of Days to Update: 35

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 08/02/2010
Next Scheduled EDR Contact: 11/15/2010
Data Release Frequency: Semi-Annually

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 08/05/2010
Date Data Arrived at EDR: 08/06/2010
Date Made Active in Reports: 10/04/2010
Number of Days to Update: 59

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 08/02/2010
Next Scheduled EDR Contact: 11/15/2010
Data Release Frequency: Quarterly

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 02/19/2009
Date Data Arrived at EDR: 02/19/2009
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 25

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 08/02/2010
Next Scheduled EDR Contact: 11/15/2010
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 08/05/2010
Date Data Arrived at EDR: 08/06/2010
Date Made Active in Reports: 10/04/2010
Number of Days to Update: 59

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 08/02/2010
Next Scheduled EDR Contact: 11/15/2010
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 11/04/2009
Date Data Arrived at EDR: 05/04/2010
Date Made Active in Reports: 07/07/2010
Number of Days to Update: 64

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 08/11/2010
Next Scheduled EDR Contact: 11/15/2010
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 05/24/2010
Date Data Arrived at EDR: 05/27/2010
Date Made Active in Reports: 08/09/2010
Number of Days to Update: 74

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 08/02/2010
Next Scheduled EDR Contact: 11/15/2010
Data Release Frequency: Quarterly

State and tribal registered storage tank lists

UST: Underground Storage Tank Database
Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 10/01/2010
Date Data Arrived at EDR: 10/15/2010
Date Made Active in Reports: 10/21/2010
Number of Days to Update: 6

Source: Department of Environmental Quality
Telephone: 503-229-5815
Last EDR Contact: 10/15/2010
Next Scheduled EDR Contact: 12/06/2010
Data Release Frequency: Quarterly

AST: Aboveground Storage Tanks
Aboveground storage tank locations reported to the Office of State Fire Marshal.

Date of Government Version: 03/22/2010
Date Data Arrived at EDR: 05/13/2010
Date Made Active in Reports: 06/15/2010
Number of Days to Update: 33

Source: Office of State Fire Marshal
Telephone: 503-378-3473
Last EDR Contact: 08/19/2010
Next Scheduled EDR Contact: 11/22/2010
Data Release Frequency: Semi-Annually

INDIAN UST R4: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 08/27/2010
Date Data Arrived at EDR: 08/30/2010
Date Made Active in Reports: 10/04/2010
Number of Days to Update: 35

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 08/02/2010
Next Scheduled EDR Contact: 11/15/2010
Data Release Frequency: Semi-Annually

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 08/30/2010
Date Data Arrived at EDR: 08/30/2010
Date Made Active in Reports: 10/04/2010
Number of Days to Update: 35

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 08/02/2010
Next Scheduled EDR Contact: 11/15/2010
Data Release Frequency: Quarterly

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 05/24/2010
Date Data Arrived at EDR: 05/27/2010
Date Made Active in Reports: 08/09/2010
Number of Days to Update: 74

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 08/02/2010
Next Scheduled EDR Contact: 11/15/2010
Data Release Frequency: Quarterly

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 08/05/2010
Date Data Arrived at EDR: 08/06/2010
Date Made Active in Reports: 10/04/2010
Number of Days to Update: 59

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 08/02/2010
Next Scheduled EDR Contact: 11/15/2010
Data Release Frequency: Quarterly

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 02/19/2009
Date Data Arrived at EDR: 02/19/2009
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 25

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 08/02/2010
Next Scheduled EDR Contact: 11/15/2010
Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 02/11/2010
Date Data Arrived at EDR: 02/11/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 60

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 08/02/2010
Next Scheduled EDR Contact: 11/15/2010
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 08/03/2010
Date Data Arrived at EDR: 08/04/2010
Date Made Active in Reports: 10/04/2010
Number of Days to Update: 61

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 08/02/2010
Next Scheduled EDR Contact: 11/15/2010
Data Release Frequency: Semi-Annually

INDIAN UST R7: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 04/01/2008
Date Data Arrived at EDR: 12/30/2008
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 76

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 08/11/2010
Next Scheduled EDR Contact: 11/15/2010
Data Release Frequency: Varies

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010
Date Data Arrived at EDR: 02/16/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 55

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 07/19/2010
Next Scheduled EDR Contact: 11/01/2010
Data Release Frequency: Varies

State and tribal institutional control / engineering control registries

ENG CONTROLS: Engineering Controls Recorded at ESCI Sites
Engineering controls are physical measures selected or approved by the Director for the purpose of preventing or minimizing exposure to hazardous substances. Engineering controls may include, but are not limited to, fencing, capping, horizontal or vertical barriers, hydraulic controls, and alternative water supplies.

Date of Government Version: 08/01/2010
Date Data Arrived at EDR: 08/30/2010
Date Made Active in Reports: 10/15/2010
Number of Days to Update: 46

Source: Department of Environmental Quality
Telephone: 503-229-5193
Last EDR Contact: 10/26/2010
Next Scheduled EDR Contact: 02/07/2011
Data Release Frequency: Quarterly

INST CONTROL: Institutional Controls Recorded at ESCI Sites
An institutional control is a legal or administrative tool or action taken to reduce the potential for exposure to hazardous substances. Institutional controls may include, but are not limited to, use restrictions, environmental monitoring requirements, and site access and security measures.

Date of Government Version: 08/01/2010
Date Data Arrived at EDR: 08/30/2010
Date Made Active in Reports: 10/15/2010
Number of Days to Update: 46

Source: Department of Environmental Quality
Telephone: 503-229-5193
Last EDR Contact: 10/26/2010
Next Scheduled EDR Contact: 02/07/2011
Data Release Frequency: Quarterly

State and tribal voluntary cleanup sites

VCS: Voluntary Cleanup Program Sites
Responsible parties have entered into an agreement with DEQ to voluntarily address contamination associated with their property.

Date of Government Version: 08/02/2010
Date Data Arrived at EDR: 08/02/2010
Date Made Active in Reports: 09/09/2010
Number of Days to Update: 38

Source: DEQ
Telephone: 503-229-5256
Last EDR Contact: 10/12/2010
Next Scheduled EDR Contact: 01/24/2011
Data Release Frequency: Quarterly

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 04/02/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 10/04/2010
Next Scheduled EDR Contact: 01/17/2011
Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

State and tribal Brownfields sites

BROWNFIELDS: Brownfields Projects
Brownfields investigations and/or cleanups that have been conducted in Oregon.

Date of Government Version: 09/01/2010
Date Data Arrived at EDR: 09/01/2010
Date Made Active in Reports: 10/15/2010
Number of Days to Update: 44

Source: Department of Environmental Quality
Telephone: 503-229-6801
Last EDR Contact: 09/01/2010
Next Scheduled EDR Contact: 12/06/2010
Data Release Frequency: Semi-Annually

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Included in the listing are brownfields properties addresses by Cooperative Agreement Recipients and brownfields properties addressed by Targeted Brownfields Assessments. Targeted Brownfields Assessments-EPA's Targeted Brownfields Assessments (TBA) program is designed to help states, tribes, and municipalities--especially those without EPA Brownfields Assessment Demonstration Pilots--minimize the uncertainties of contamination often associated with brownfields. Under the TBA program, EPA provides funding and/or technical assistance for environmental assessments at brownfields sites throughout the country. Targeted Brownfields Assessments supplement and work with other efforts under EPA's Brownfields Initiative to promote cleanup and redevelopment of brownfields. Cooperative Agreement Recipients-States, political subdivisions, territories, and Indian tribes become Brownfields Cleanup Revolving Loan Fund (BCRLF) cooperative agreement recipients when they enter into BCRLF cooperative agreements with the U.S. EPA. EPA selects BCRLF cooperative agreement recipients based on a proposal and application process. BCRLF cooperative agreement recipients must use EPA funds provided through BCRLF cooperative agreement for specified brownfields-related cleanup activities.

Date of Government Version: 06/24/2010
Date Data Arrived at EDR: 06/25/2010
Date Made Active in Reports: 08/17/2010
Number of Days to Update: 53

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 09/29/2010
Next Scheduled EDR Contact: 01/10/2011
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

ODI: Open Dump Inventory
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 10/18/2010
Next Scheduled EDR Contact: 01/10/2011
Data Release Frequency: Varies

HIST LF: Old Closed SW Disposal Sites
A list of solid waste disposal sites that have been closed for a long while.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 07/08/2003
Date Made Active in Reports: 07/18/2003
Number of Days to Update: 10

Source: Department of Environmental Quality
Telephone: 503-229-5409
Last EDR Contact: 07/08/2003
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 09/07/2010
Next Scheduled EDR Contact: 11/22/2010
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US CDL: Clandestine Drug Labs
A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 05/07/2010
Date Data Arrived at EDR: 06/18/2010
Date Made Active in Reports: 08/17/2010
Number of Days to Update: 60

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 09/17/2010
Next Scheduled EDR Contact: 12/20/2010
Data Release Frequency: Quarterly

AOC MU: East Multnomah County Area
Approximate extent of TSA VOC plume February , 2002

Date of Government Version: N/A
Date Data Arrived at EDR: 10/07/2002
Date Made Active in Reports: 10/22/2002
Number of Days to Update: 15

Source: City of Portland Environmental Services
Telephone: 503-823-5310
Last EDR Contact: 03/13/2007
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

AOC COL: Columbia Slough
Columbia Slough waterway boundaries.

Date of Government Version: 08/10/2005
Date Data Arrived at EDR: 05/17/2006
Date Made Active in Reports: 06/16/2006
Number of Days to Update: 30

Source: City of Portland Environmental Services
Telephone: 503-823-5310
Last EDR Contact: 03/13/2007
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CDL 2: Clandestine Drug Lab Site Listing
A listing of clandestine drug lab site locations included in the Incident database.

Date of Government Version: 05/17/2010
Date Data Arrived at EDR: 05/26/2010
Date Made Active in Reports: 07/12/2010
Number of Days to Update: 47

Source: Oregon State Police
Telephone: 503-373-1540
Last EDR Contact: 08/02/2010
Next Scheduled EDR Contact: 11/15/2010
Data Release Frequency: Varies

CDL: Uninhabitable Drug Lab Properties

The properties listed on these county pages have been declared by a law enforcement agency to be unfit for use due to meth lab and/or storage activities. The properties are considered uninhabitable until cleaned up by a state certified decontamination contractor and a certificate of fitness is issued by the Oregon Health Division.

Date of Government Version: 08/23/2010
Date Data Arrived at EDR: 08/27/2010
Date Made Active in Reports: 09/09/2010
Number of Days to Update: 13

Source: Department of Consumer & Business Services
Telephone: 503-378-4133
Last EDR Contact: 08/24/2010
Next Scheduled EDR Contact: 12/06/2010
Data Release Frequency: Varies

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 09/01/2007
Date Data Arrived at EDR: 11/19/2008
Date Made Active in Reports: 03/30/2009
Number of Days to Update: 131

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

Local Land Records

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 05/06/2010
Date Data Arrived at EDR: 05/11/2010
Date Made Active in Reports: 08/09/2010
Number of Days to Update: 90

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 08/02/2010
Next Scheduled EDR Contact: 11/15/2010
Data Release Frequency: Varies

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 12/09/2005
Date Data Arrived at EDR: 12/11/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 31

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 09/08/2010
Next Scheduled EDR Contact: 12/06/2010
Data Release Frequency: Varies

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 04/06/2010
Date Data Arrived at EDR: 04/07/2010
Date Made Active in Reports: 05/27/2010
Number of Days to Update: 50

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 10/07/2010
Next Scheduled EDR Contact: 01/17/2011
Data Release Frequency: Annually

SPILLS: Spill Data
Oil and hazardous material spills reported to the Environmental Response Program.

Date of Government Version: 10/01/2010
Date Data Arrived at EDR: 10/07/2010
Date Made Active in Reports: 10/20/2010
Number of Days to Update: 13

Source: Department of Environmental Quality
Telephone: 503-229-5815
Last EDR Contact: 10/04/2010
Next Scheduled EDR Contact: 01/03/2011
Data Release Frequency: Semi-Annually

Other Ascertainable Records

RCRA-NonGen: RCRA - Non Generators
RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 02/17/2010
Date Data Arrived at EDR: 02/19/2010
Date Made Active in Reports: 05/17/2010
Number of Days to Update: 87

Source: Environmental Protection Agency
Telephone: (206) 553-1200
Last EDR Contact: 10/07/2010
Next Scheduled EDR Contact: 01/17/2011
Data Release Frequency: Varies

DOT OPS: Incident and Accident Data
Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 01/12/2010
Date Data Arrived at EDR: 02/09/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 62

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 08/11/2010
Next Scheduled EDR Contact: 11/22/2010
Data Release Frequency: Varies

DOD: Department of Defense Sites
This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 703-692-8801
Last EDR Contact: 07/22/2010
Next Scheduled EDR Contact: 11/01/2010
Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites
The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 12/31/2008
Date Data Arrived at EDR: 09/30/2009
Date Made Active in Reports: 12/01/2009
Number of Days to Update: 62

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 09/14/2010
Next Scheduled EDR Contact: 12/27/2010
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 04/11/2010
Date Data Arrived at EDR: 04/19/2010
Date Made Active in Reports: 05/17/2010
Number of Days to Update: 28

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 10/04/2010
Next Scheduled EDR Contact: 01/17/2011
Data Release Frequency: Varies

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 06/01/2010
Date Data Arrived at EDR: 06/16/2010
Date Made Active in Reports: 08/17/2010
Number of Days to Update: 62

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 09/15/2010
Next Scheduled EDR Contact: 12/27/2010
Data Release Frequency: Annually

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 12/14/2009
Date Data Arrived at EDR: 09/29/2010
Date Made Active in Reports: 10/04/2010
Number of Days to Update: 5

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 09/01/2010
Next Scheduled EDR Contact: 12/13/2010
Data Release Frequency: Varies

MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 05/07/2010
Date Data Arrived at EDR: 06/09/2010
Date Made Active in Reports: 08/30/2010
Number of Days to Update: 82

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 09/09/2010
Next Scheduled EDR Contact: 12/20/2010
Data Release Frequency: Semi-Annually

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2008
Date Data Arrived at EDR: 01/13/2010
Date Made Active in Reports: 02/18/2010
Number of Days to Update: 36

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 09/01/2010
Next Scheduled EDR Contact: 12/13/2010
Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2002
Date Data Arrived at EDR: 04/14/2006
Date Made Active in Reports: 05/30/2006
Number of Days to Update: 46

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 10/01/2010
Next Scheduled EDR Contact: 01/10/2011
Data Release Frequency: Every 4 Years

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/30/2010
Next Scheduled EDR Contact: 12/13/2010
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/30/2010
Next Scheduled EDR Contact: 12/13/2010
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

SSTS: Section 7 Tracking Systems
Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2008
Date Data Arrived at EDR: 01/06/2010
Date Made Active in Reports: 02/10/2010
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 08/16/2010
Next Scheduled EDR Contact: 11/15/2010
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 04/24/2010
Date Data Arrived at EDR: 04/29/2010
Date Made Active in Reports: 05/17/2010
Number of Days to Update: 18

Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 09/27/2010
Next Scheduled EDR Contact: 01/10/2011
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 02/01/2010
Date Data Arrived at EDR: 04/22/2010
Date Made Active in Reports: 08/09/2010
Number of Days to Update: 109

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 07/30/2010
Next Scheduled EDR Contact: 11/01/2010
Data Release Frequency: Annually

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 03/18/2010
Date Data Arrived at EDR: 04/06/2010
Date Made Active in Reports: 05/27/2010
Number of Days to Update: 51

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 09/13/2010
Next Scheduled EDR Contact: 12/27/2010
Data Release Frequency: Quarterly

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/13/2010
Date Data Arrived at EDR: 07/14/2010
Date Made Active in Reports: 08/09/2010
Number of Days to Update: 26

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 10/14/2010
Next Scheduled EDR Contact: 01/24/2011
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 04/14/2010
Date Data Arrived at EDR: 04/16/2010
Date Made Active in Reports: 05/27/2010
Number of Days to Update: 41

Source: EPA
Telephone: (206) 553-1200
Last EDR Contact: 09/15/2010
Next Scheduled EDR Contact: 12/27/2010
Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2007
Date Data Arrived at EDR: 02/25/2010
Date Made Active in Reports: 05/12/2010
Number of Days to Update: 76

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 08/24/2010
Next Scheduled EDR Contact: 12/06/2010
Data Release Frequency: Biennially

UIC: Underground Injection Control Program Database

DEQ's Underground Injection Control Program is authorized by the Environmental Protection Agency (EPA) to regulate all underground injection in Oregon to protect groundwater resources.

Date of Government Version: 08/16/2010
Date Data Arrived at EDR: 08/16/2010
Date Made Active in Reports: 09/09/2010
Number of Days to Update: 24

Source: Department of Environmental Quality
Telephone: 503-229-5945
Last EDR Contact: 10/18/2010
Next Scheduled EDR Contact: 01/17/2011
Data Release Frequency: Varies

OR MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 09/08/2010
Date Made Active in Reports: 10/15/2010
Number of Days to Update: 37

Source: Department of Environmental Quality
Telephone: N/A
Last EDR Contact: 08/30/2010
Next Scheduled EDR Contact: 11/29/2010
Data Release Frequency: Annually

HAZMAT: Hazmat/Incidents

Hazardous material incidents reported to the State Fire Marshal by emergency responders. The hazardous material may or may not have been released.

Date of Government Version: 05/17/2010
Date Data Arrived at EDR: 05/26/2010
Date Made Active in Reports: 07/12/2010
Number of Days to Update: 47

Source: State Fire Marshal's Office
Telephone: 503-373-1540
Last EDR Contact: 08/02/2010
Next Scheduled EDR Contact: 11/15/2010
Data Release Frequency: Semi-Annually

DRYCLEANERS: Drycleaning Facilities

A listing of registered drycleaning facilities in Oregon.

Date of Government Version: 08/09/2010
Date Data Arrived at EDR: 08/11/2010
Date Made Active in Reports: 09/09/2010
Number of Days to Update: 29

Source: Department of Environmental Quality
Telephone: 503-229-6783
Last EDR Contact: 08/09/2010
Next Scheduled EDR Contact: 11/22/2010
Data Release Frequency: Varies

NPDES: Wastewater Permits Database

A listing of permitted wastewater facilities.

Date of Government Version: 06/02/2010
Date Data Arrived at EDR: 06/03/2010
Date Made Active in Reports: 07/12/2010
Number of Days to Update: 39

Source: Department of Environmental Quality
Telephone: 503-229-5657
Last EDR Contact: 09/02/2010
Next Scheduled EDR Contact: 11/15/2010
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

AIRS: Oregon Title V Facility Listing
A listing of Title V facility source and emissions information.

Date of Government Version: 12/31/2007
Date Data Arrived at EDR: 12/28/2009
Date Made Active in Reports: 01/19/2010
Number of Days to Update: 22

Source: Department of Environmental Quality
Telephone: 503-229-6459
Last EDR Contact: 09/07/2010
Next Scheduled EDR Contact: 12/20/2010
Data Release Frequency: Varies

HSIS: Hazardous Substance Information Survey
Companies in Oregon submitting the Hazardous Substance Information Survey and either reporting or not reporting hazardous substances.

Date of Government Version: 03/22/2010
Date Data Arrived at EDR: 05/13/2010
Date Made Active in Reports: 05/25/2010
Number of Days to Update: 12

Source: State Fire Marshal's Office
Telephone: 503-373-1540
Last EDR Contact: 08/19/2010
Next Scheduled EDR Contact: 11/22/2010
Data Release Frequency: Semi-Annually

INDIAN RESERV: Indian Reservations
This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 12/08/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 34

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 07/22/2010
Next Scheduled EDR Contact: 11/01/2010
Data Release Frequency: Semi-Annually

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing
The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 05/12/2010
Date Data Arrived at EDR: 05/13/2010
Date Made Active in Reports: 08/17/2010
Number of Days to Update: 96

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 10/25/2010
Next Scheduled EDR Contact: 02/07/2011
Data Release Frequency: Varies

COAL ASH DOE: Sleam-Electric Plan Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 07/21/2010
Next Scheduled EDR Contact: 11/01/2010
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 11/09/2009
Date Data Arrived at EDR: 12/18/2009
Date Made Active in Reports: 02/10/2010
Number of Days to Update: 54

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 09/15/2010
Next Scheduled EDR Contact: 12/27/2010
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 01/01/2008
Date Data Arrived at EDR: 02/18/2009
Date Made Active in Reports: 05/29/2009
Number of Days to Update: 100

Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 08/10/2010
Next Scheduled EDR Contact: 11/15/2010
Data Release Frequency: Varies

FEDLAND: Federal and Indian Lands
Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 07/22/2010
Next Scheduled EDR Contact: 11/01/2010
Data Release Frequency: N/A

EDR PROPRIETARY RECORDS

EDR Proprietary Records

Manufactured Gas Plants: EDR Proprietary Manufactured Gas Plants
The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 07/28/2010
Date Data Arrived at EDR: 08/11/2010
Date Made Active in Reports: 09/24/2010
Number of Days to Update: 44

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 08/11/2010
Next Scheduled EDR Contact: 11/22/2010
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 07/06/2010
Date Made Active in Reports: 07/26/2010
Number of Days to Update: 20

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 09/20/2010
Next Scheduled EDR Contact: 01/03/2011
Data Release Frequency: Annually

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Electric Power Transmission Line Data
Source: Rextag Strategies Corp.
Telephone: (281) 769-2247
U.S. Electric Transmission and Power Plants Systems Digital GIS Data

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Child Care Listings
Source: Employment Department
Telephone: 503-947-1420

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2009 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetlands Inventory Data
Source: Oregon Geospatial Enterprise Office
Telephone: 503-378-2166

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

CAMP RILEA
33168 PATRIOT WAY
WARRENTON, OR 97146

TARGET PROPERTY COORDINATES

Latitude (North):	46.12840 - 46˚ 7' 42.2''
Longitude (West):	123.9428 - 123˚ 56' 34.1''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	427163.8
UTM Y (Meters):	5108527.5
Elevation:	53 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	46123-B8 WARRENTON, OR
Most Recent Revision:	1999
South Map:	46123-A8 GEARHART, OR
Most Recent Revision:	1973

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

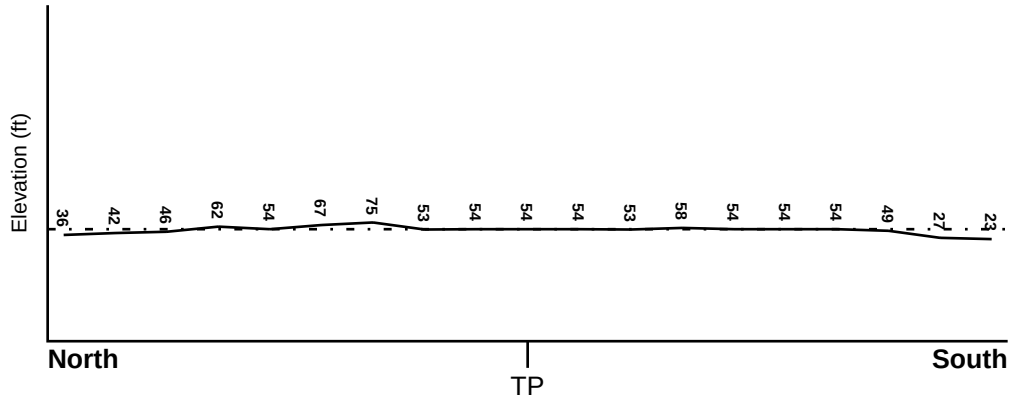
TOPOGRAPHIC INFORMATION

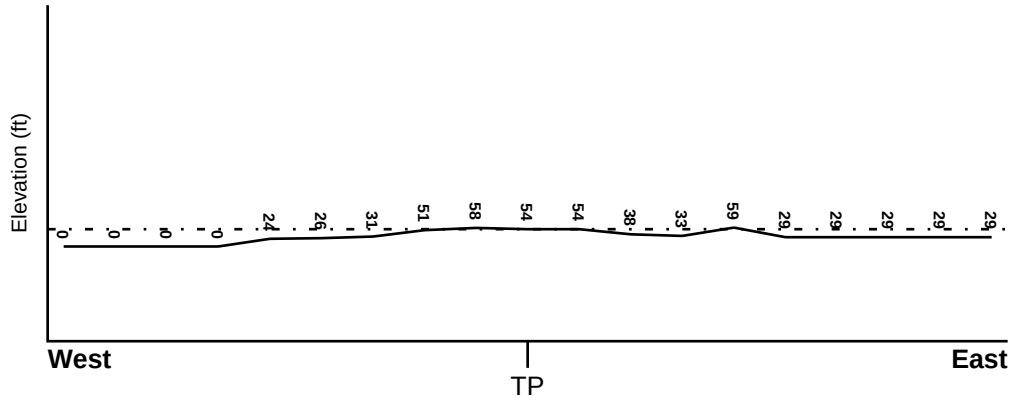
Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General SE

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES





Target Property Elevation: 54 ft.

0 1/2 1 Miles

Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
CLATSOP, OR	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property: 4100270020A - FEMA Q3 Flood data

Additional Panels in search area: Not Reported

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
WARRENTON	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

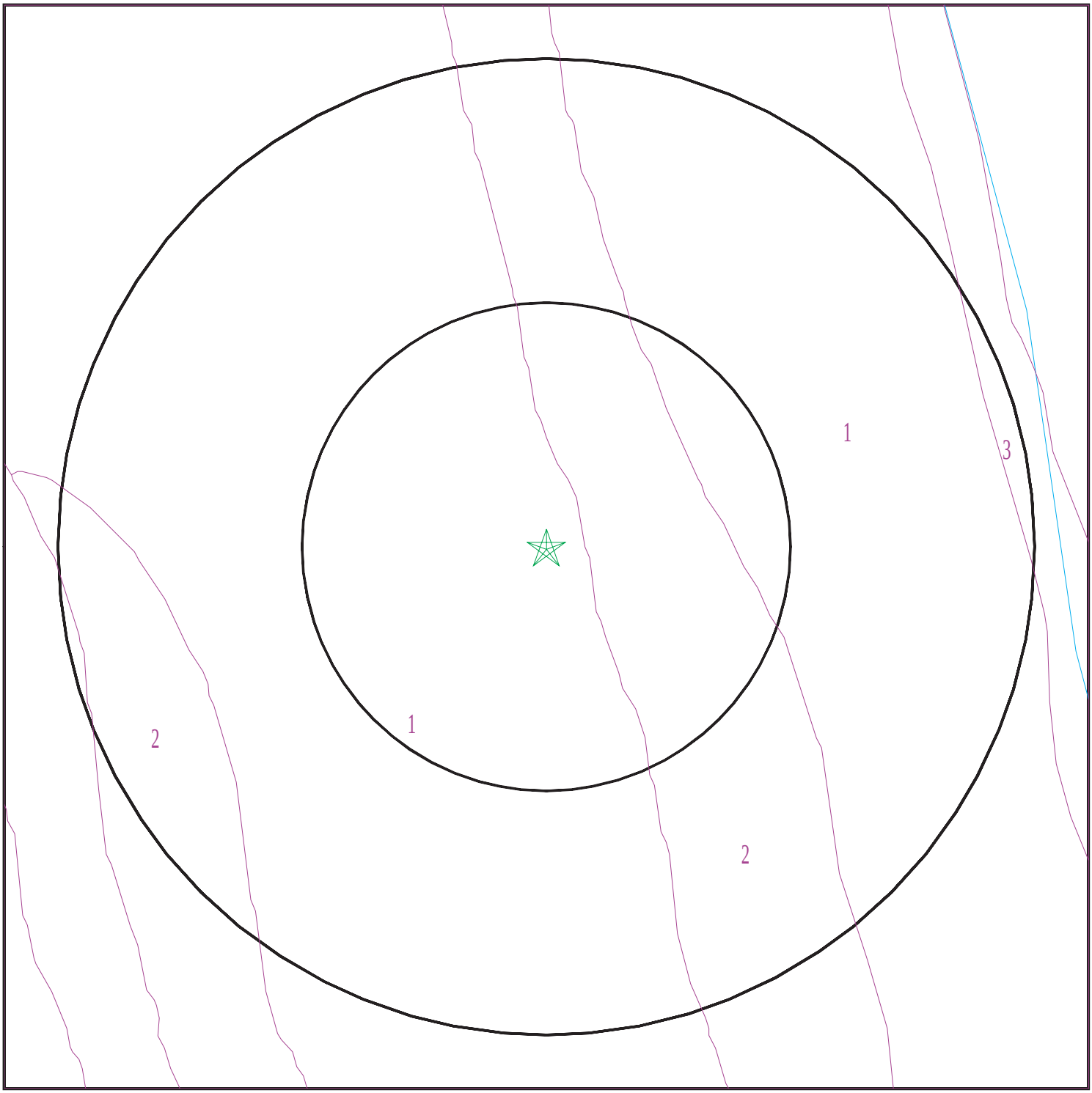
Era:	Cenozoic
System:	Tertiary
Series:	Oligocene
Code:	To *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratified Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 2906200.1s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME:	Camp Rilea	CLIENT:	Shaw Environmental & Infrastructure
ADDRESS:	33168 Patriot Way Warrenton OR 97146	CONTACT:	Audrey Turpening
		INQUIRY #:	2906200.1s
LAT/LONG:	46.1284 / 123.9428	DATE:	October 28, 2010 9:17 am

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Waldport

Soil Surface Texture: fine sand

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class: Excessively drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	3 inches	fine sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 705 Min: 141	Max: 6.5 Min: 5.1
2	3 inches	59 inches	fine sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 705 Min: 141	Max: 6.5 Min: 5.1

Soil Map ID: 2

Soil Component Name: Waldport

Soil Surface Texture: fine sand

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class: Excessively drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	3 inches	fine sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 705 Min: 141	Max: 6.5 Min: 5.1
2	3 inches	59 inches	fine sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 705 Min: 141	Max: 6.5 Min: 5.1

Soil Map ID: 3

Soil Component Name: Water

Soil Surface Texture: fine sand

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class:
Hydric Status: Unknown

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Map ID: 4

Soil Component Name: Heceta

Soil Surface Texture: fine sand

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Poorly drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 30 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	3 inches	fine sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.3 Min: 5.6
2	3 inches	59 inches	sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.3 Min: 5.6

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	2.500
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	2.500

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	USGS3250817	1/8 - 1/4 Mile East
3	USGS3250816	1/4 - 1/2 Mile SSE
4	USGS3250815	1/2 - 1 Mile SSW
5	USGS3250818	1/2 - 1 Mile NW
6	USGS3250814	1/2 - 1 Mile South
7	USGS3250813	1 - 2 Miles SE
8	USGS3250828	1 - 2 Miles NE
9	USGS3250809	2 - 3 Miles South
10	USGS3250808	2 - 3 Miles South
11	USGS3250830	2 - 3 Miles NNE
12	USGS3250831	2 - 3 Miles North
13	USGS3250811	2 - 3 Miles SSE
15	USGS3250832	2 - 3 Miles NNW
16	USGS3250810	2 - 3 Miles SSE

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

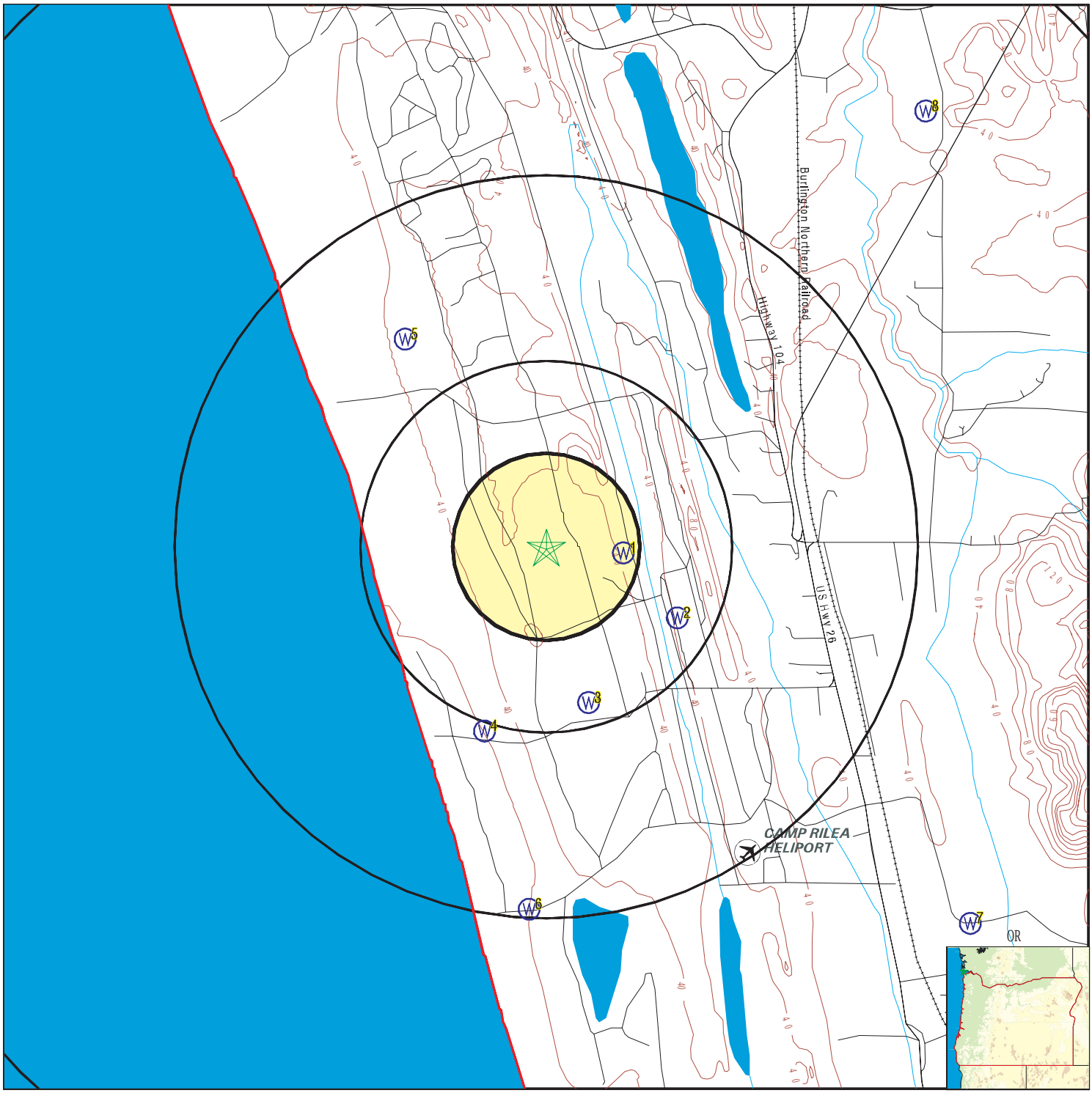
MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
2	ORW400000012225	1/4 - 1/2 Mile ESE
14	ORI400000016269	2 - 3 Miles North
17	ORI400000016273	2 - 3 Miles North

PHYSICAL SETTING SOURCE MAP - 2906200.1s



County Boundary
Major Roads
Contour Lines
Airports
Earthquake epicenter, Richter 5 or greater
Water Wells
Public Water Supply Wells
Cluster of Multiple Icons

0 1/4 1/2 1 Miles

Groundwater Flow Direction
GI Indeterminate Groundwater Flow at Location
GV Groundwater Flow Varies at Location

N

SITE NAME: Camp Rilea ADDRESS: 33168 Patriot Way Warrenton OR 97146 LAT/LONG: 46.1284 / 123.9428	CLIENT: Shaw Environmental & Infrastructure CONTACT: Audrey Turpening INQUIRY #: 2906200.1s DATE: October 28, 2010 9:17 am

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Map ID Direction Distance Elevation	Database	EDR ID Number
1 **East** **1/8 - 1/4 Mile** **Lower**	**FED USGS**	**USGS3250817**

Agency cd:	USGS	Site no:	460733123560301
Site name:	08N/10W-33CCC1		
Latitude:	460742	EDR Site id:	USGS3250817
Longitude:	1235614	Dec lat:	46.12816087
Dec lon:	-123.93847701	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	41
State:	41	County:	007
Country:	US	Land net:	SWSWSWS33T08NR10WW
Location map:	WARRENTON	Map scale:	24000
Altitude:	34.13		
Altitude method:	Level or other surveying method		
Altitude accuracy:	0.1		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Lower Columbia. Oregon, Washington. Area = 672 sq.mi.		
Topographic:	Dunes		
Site type:	Ground-water other than Spring	Date construction:	19670228
Date inventoried:	Not Reported	Mean greenwich time offset:	PST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	88	Hole depth:	135
Source of depth data:	driller		
Project number:	4741-00200		
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1967-03-21	Ground water data end date:	2002-10-03
Ground water data count:	577		

Ground-water levels, Number of Measurements: 577

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
2002-10-03	14.7		2002-08-01	14.0	
2002-05-09	12.8		2002-01-16	14.1	
2001-10-04	14.5		2001-06-20	13.6	
2001-04-24	14.7		2000-12-21	14.3	
2000-10-19	15.1		2000-07-26	14.0	
2000-04-01	12.1		1999-12-07	13.9	
1999-09-24	14.2		1999-06-09	13.8	
1999-04-05	11.5		1999-01-05	15.1	
1998-12-09	14.4		1998-09-15	14.4	
1998-08-14	13.1		1998-05-08	14.2	
1998-01-21	14.2		1997-10-14	14.6	
1997-08-06	14.8		1997-06-05	12.6	
1997-01-09	11.8		1996-10-16	15.4	
1996-08-13	14.8		1996-04-17	13.3	
1996-03-11	11.9		1995-10-02	17.0	

Ground-water levels, continued.

Date	Feet below Surface	Feet to Sealevel
1995-07-12	14.2	
1995-03-02	13.2	
1994-08-17	14.8	
1994-01-21	15.8	
1993-06-28	14.6	
1993-01-28	15.6	
1992-08-13	15.2	
1991-03-26	13.6	
1991-01-24	13.8	
1990-11-27	14.4	
1990-09-25	15.2	
1990-07-25	14.3	
1990-05-29	14.0	
1990-03-27	13.0	
1990-01-30	13.8	
1989-11-27	15.4	
1989-05-23	14.2	
1989-03-22	14.0	
1989-01-30	14.1	
1988-10-24	15.9	
1988-08-30	15.4	
1988-06-21	15.0	
1988-05-03	14.8	
1988-02-01	15.4	
1987-11-30	15.8	
1987-09-23	15.3	
1987-07-21	14.6	
1987-06-02	14.4	
1987-03-31	13.3	
1987-01-27	14.4	
1986-11-25	14.7	
1986-08-25	15.0	
1986-06-17	14.7	
1986-04-14	13.9	
1986-01-27	14.4	
1985-12-16	14.7	
1985-09-30	15.2	
1985-09-23	15.2	
1985-09-15	15.2	
1985-09-05	15.3	
1985-08-25	15.2	
1985-08-19	15.0	
1985-08-10	15.0	
1985-07-31	15.0	
1985-07-22	14.8	
1985-07-15	14.8	
1985-07-05	14.8	
1985-06-26	14.8	
1985-06-20	14.8	
1985-06-13	14.7	
1985-06-05	14.7	
1985-05-25	14.7	
1985-05-15	14.7	
1985-05-05	14.5	
1985-04-25	14.5	

Date	Feet below Surface	Feet to Sealevel
1995-06-02	14.3	
1994-09-30	14.5	
1994-05-19	13.8	
1993-11-08	15.6	
1993-06-01	14.6	
1992-10-16	14.5	
1991-04-24	13.0	
1991-02-26	13.3	
1990-12-18	13.8	
1990-10-26	15.2	
1990-08-28	14.8	
1990-06-26	14.2	
1990-04-25	13.5	
1990-02-28	12.6	
1990-01-03	14.8	
1989-10-25	15.4	
1989-04-25	13.9	
1989-02-22	14.1	
1988-11-29	15.4	
1988-10-10	15.8	
1988-07-27	15.1	
1988-05-25	14.9	
1988-02-24	15.4	
1987-12-30	15.7	
1987-10-27	15.7	
1987-08-25	15.1	
1987-06-29	14.6	
1987-04-28	13.8	
1987-03-02	13.8	
1986-12-16	14.0	
1986-09-25	15.4	
1986-07-24	14.7	
1986-05-16	14.3	
1986-03-14	13.7	
1986-01-17	14.9	
1985-10-23	15.2	
1985-09-25	15.2	
1985-09-20	15.2	
1985-09-10	15.3	
1985-08-31	15.2	
1985-08-20	15.0	
1985-08-15	15.0	
1985-08-05	15.0	
1985-07-25	14.8	
1985-07-20	14.8	
1985-07-10	14.7	
1985-06-30	14.8	
1985-06-25	14.8	
1985-06-15	14.7	
1985-06-10	14.7	
1985-05-31	12.6	
1985-05-20	14.7	
1985-05-10	14.5	
1985-04-30	14.5	
1985-04-22	14.5	

Ground-water levels, continued.

Date	Feet below Surface	Feet to Sealevel
1985-04-20	14.4	
1985-04-10	14.5	
1985-03-31	14.6	
1985-03-20	14.6	
1985-03-10	14.7	
1985-02-28	14.5	
1985-02-22	14.5	
1985-02-15	14.5	
1985-02-05	14.4	
1985-01-25	14.2	
1985-01-20	14.2	
1985-01-10	14.0	
1985-01-03	13.9	
1984-10-25	15.1	
1984-10-15	14.9	
1984-10-05	14.7	
1984-09-20	13.9	
1984-09-05	13.1	
1984-08-25	12.9	
1984-08-20	12.8	
1984-08-10	12.7	
1984-07-31	12.6	
1984-06-28	12.5	
1984-06-15	12.5	
1984-05-31	12.6	
1984-05-21	12.8	
1984-04-30	12.9	
1984-04-23	13.1	
1984-04-15	13.0	
1984-04-05	13.2	
1984-03-26	13.4	
1984-03-10	13.3	
1984-02-29	13.3	
1984-02-23	13.5	
1984-02-15	13.6	
1984-02-05	13.7	
1984-01-25	13.6	
1984-01-20	13.8	
1984-01-10	13.7	
1983-12-31	13.7	
1983-12-20	13.6	
1983-12-10	13.5	
1983-11-30	13.3	
1983-11-22	13.6	
1983-11-15	13.9	
1983-11-05	14.2	
1983-10-26	14.4	
1983-10-20	14.3	
1983-10-10	14.2	
1983-09-28	14.1	
1983-08-24	13.8	
1983-07-25	13.4	
1983-06-27	13.5	
1983-05-23	13.3	
1983-04-25	12.7	

Date	Feet below Surface	Feet to Sealevel
1985-04-15	14.4	
1985-04-05	14.5	
1985-03-25	14.7	
1985-03-15	14.7	
1985-03-05	14.6	
1985-02-25	14.5	
1985-02-20	14.5	
1985-02-10	14.5	
1985-01-31	14.3	
1985-01-22	14.2	
1985-01-15	14.1	
1985-01-05	13.8	
1984-12-28	14.0	
1984-10-20	15.0	
1984-10-10	14.8	
1984-09-24	14.2	
1984-09-10	13.2	
1984-08-31	13.0	
1984-08-23	12.9	
1984-08-15	12.7	
1984-08-05	12.6	
1984-07-26	12.6	
1984-06-20	12.6	
1984-06-05	12.6	
1984-05-25	12.7	
1984-05-05	12.8	
1984-04-25	13.0	
1984-04-20	13.0	
1984-04-10	13.2	
1984-03-31	13.4	
1984-03-15	13.3	
1984-03-05	13.3	
1984-02-25	13.4	
1984-02-20	13.6	
1984-02-10	13.8	
1984-01-31	13.7	
1984-01-24	13.8	
1984-01-15	13.7	
1984-01-05	13.6	
1983-12-25	13.7	
1983-12-15	13.5	
1983-12-05	13.4	
1983-11-25	13.3	
1983-11-20	13.6	
1983-11-10	14.1	
1983-10-31	14.4	
1983-10-25	14.3	
1983-10-15	14.3	
1983-10-05	14.2	
1983-09-15	13.9	
1983-08-15	13.7	
1983-07-15	13.4	
1983-06-15	13.5	
1983-05-15	13.1	
1983-04-15	12.4	

Ground-water levels, continued.

Date	Feet below Surface	Feet to Sealevel
1983-03-28	12.0	
1983-02-24	11.7	
1983-01-27	11.3	
1983-01-05	13.8	
1982-12-15	12.7	
1982-11-15	13.5	
1982-10-15	13.9	
1982-09-15	13.7	
1982-08-15	13.5	
1982-07-15	13.3	
1982-06-15	13.3	
1982-05-16	12.4	
1982-04-15	11.6	
1982-03-15	10.7	
1982-01-27	11.4	
1981-12-21	12.8	
1981-11-24	14.3	
1981-10-26	14.8	
1981-09-30	14.9	
1981-09-22	14.9	
1981-09-15	14.8	
1981-09-05	14.7	
1981-08-25	14.6	
1981-08-15	14.4	
1981-08-05	14.3	
1981-07-29	14.2	
1981-07-20	14.2	
1981-07-10	14.1	
1981-06-30	14.1	
1981-06-25	14.1	
1981-06-15	14.1	
1981-06-05	14.2	
1981-05-26	14.3	
1981-05-20	14.3	
1981-05-10	14.3	
1981-04-30	14.2	
1981-04-25	14.2	
1981-04-15	14.3	
1981-04-05	14.4	
1981-03-27	14.4	
1981-03-20	14.4	
1981-03-10	14.2	
1981-03-03	14.1	
1981-02-25	14.2	
1981-02-15	14.8	
1981-02-05	14.8	
1981-01-28	14.6	
1981-01-20	14.5	
1981-01-10	14.5	
1980-12-31	14.8	
1980-12-20	15.3	
1980-12-10	15.3	
1980-11-30	15.6	
1980-11-20	15.8	
1980-11-10	15.6	

Date	Feet below Surface	Feet to Sealevel
1983-03-15	12.0	
1983-02-15	11.6	
1983-01-15	11.3	
1982-12-30	12.5	
1982-11-24	13.3	
1982-10-27	13.9	
1982-09-28	13.7	
1982-08-27	13.6	
1982-07-26	13.3	
1982-06-23	13.2	
1982-05-20	12.6	
1982-04-22	11.7	
1982-03-24	11.1	
1982-02-24	10.5	
1982-01-15	13.1	
1981-12-15	12.9	
1981-11-15	14.7	
1981-10-15	14.7	
1981-09-25	14.9	
1981-09-20	14.9	
1981-09-10	14.8	
1981-08-31	14.7	
1981-08-20	14.5	
1981-08-10	14.4	
1981-07-31	14.2	
1981-07-25	14.2	
1981-07-15	14.1	
1981-07-05	14.1	
1981-06-26	14.1	
1981-06-20	14.1	
1981-06-10	14.2	
1981-05-31	14.3	
1981-05-25	14.3	
1981-05-15	14.3	
1981-05-05	14.2	
1981-04-27	14.3	
1981-04-20	14.3	
1981-04-10	14.3	
1981-03-31	14.4	
1981-03-25	14.4	
1981-03-15	14.3	
1981-03-05	14.1	
1981-02-28	14.1	
1981-02-20	14.3	
1981-02-10	14.8	
1981-01-31	14.7	
1981-01-25	14.6	
1981-01-15	14.5	
1981-01-05	14.6	
1980-12-25	15.2	
1980-12-15	15.3	
1980-12-05	15.4	
1980-11-25	15.6	
1980-11-15	15.7	
1980-11-05	15.7	

Ground-water levels, continued.

Date	Feet below Surface	Feet to Sealevel
1980-10-31	15.7	
1980-10-25	15.7	
1980-10-15	15.5	
1980-10-05	15.3	
1980-09-25	15.2	
1980-09-15	15.1	
1980-09-05	15.0	
1980-08-26	14.9	
1980-08-20	14.9	
1980-08-13	14.8	
1980-08-05	14.7	
1980-07-25	14.6	
1980-07-15	14.5	
1980-07-05	14.4	
1980-06-25	14.4	
1980-06-20	14.4	
1980-06-10	14.3	
1980-05-31	14.3	
1980-05-22	14.2	
1980-05-15	14.1	
1980-05-05	14.0	
1980-04-29	13.8	
1980-04-20	13.8	
1980-04-10	13.8	
1980-03-31	13.8	
1980-03-20	13.6	
1980-03-10	13.6	
1980-02-29	13.7	
1980-02-25	13.9	
1980-02-15	13.9	
1980-02-05	13.8	
1980-01-28	13.9	
1980-01-20	13.9	
1980-01-10	14.1	
1979-12-31	14.2	
1979-12-20	14.5	
1979-12-10	15.0	
1979-12-03	15.1	
1979-11-25	15.3	
1979-11-15	15.4	
1979-11-05	15.4	
1979-10-20	15.6	
1979-10-10	15.6	
1979-09-30	15.5	
1979-09-20	15.4	
1979-09-10	15.3	
1979-08-31	15.2	
1979-08-10	14.7	
1979-07-30	14.3	
1979-07-20	14.2	
1979-07-10	14.2	
1979-06-30	14.3	
1979-06-20	14.2	
1979-06-10	14.2	
1979-05-31	14.1	

Date	Feet below Surface	Feet to Sealevel
1980-10-27	15.7	
1980-10-20	15.6	
1980-10-10	15.4	
1980-09-30	15.2	
1980-09-20	15.2	
1980-09-10	15.1	
1980-08-31	14.9	
1980-08-25	14.9	
1980-08-15	14.8	
1980-08-10	14.7	
1980-07-31	14.7	
1980-07-20	14.6	
1980-07-10	14.5	
1980-06-30	14.5	
1980-06-24	14.4	
1980-06-15	14.4	
1980-06-05	14.3	
1980-05-25	14.3	
1980-05-20	14.2	
1980-05-10	14.0	
1980-04-30	13.8	
1980-04-25	13.8	
1980-04-15	13.8	
1980-04-05	13.8	
1980-03-25	13.6	
1980-03-15	13.6	
1980-03-05	13.6	
1980-02-27	13.7	
1980-02-20	13.9	
1980-02-10	13.8	
1980-01-31	13.9	
1980-01-25	13.9	
1980-01-15	14.0	
1980-01-05	14.1	
1979-12-25	14.3	
1979-12-15	14.9	
1979-12-05	15.0	
1979-11-30	15.3	
1979-11-20	15.5	
1979-11-10	15.3	
1979-10-31	15.5	
1979-10-15	15.7	
1979-10-05	15.5	
1979-09-25	15.4	
1979-09-15	15.3	
1979-09-05	15.2	
1979-08-15	14.9	
1979-08-05	14.5	
1979-07-25	14.2	
1979-07-15	14.2	
1979-07-05	14.3	
1979-06-25	14.2	
1979-06-15	14.2	
1979-06-05	14.1	
1979-05-25	14.1	

Ground-water levels, continued.

Date	Feet below Surface	Feet to Sealevel
1979-05-20	14.1	
1979-05-10	13.7	
1979-04-30	13.6	
1979-04-20	13.6	
1979-04-10	13.7	
1979-03-31	13.6	
1979-03-20	13.5	
1979-03-10	13.7	
1979-02-28	14.1	
1979-02-20	14.4	
1979-02-10	14.9	
1979-01-31	15.2	
1978-09-05	14.9	
1978-08-25	14.9	
1978-08-15	14.8	
1978-06-05	14.3	
1978-05-25	14.2	
1978-05-15	14.0	
1978-04-30	14.1	
1978-04-20	14.1	
1978-04-10	14.1	
1978-02-28	13.9	
1978-02-20	13.9	
1978-02-10	13.8	
1978-01-31	13.8	
1978-01-20	13.8	
1977-12-31	13.5	
1977-12-20	14.4	
1977-12-10	14.6	
1977-11-30	15.2	
1977-11-20	15.5	
1977-11-10	15.9	
1977-09-30	16.0	
1977-09-20	16.0	
1977-08-25	16.0	
1977-08-15	16.0	
1977-08-05	16.0	
1977-01-21	15.9	
1976-07-30	14.7	
1967-11-30	16.1	
1967-11-20	16.1	
1967-11-10	16.3	
1967-10-31	16.2	
1967-10-20	16.3	
1967-10-10	16.2	
1967-09-10	16.1	
1967-08-30	15.9	
1967-08-20	15.8	
1967-08-10	15.6	
1967-07-31	15.4	
1967-07-20	15.1	
1967-07-10	14.8	
1967-06-30	14.7	
1967-03-21	13	

Date	Feet below Surface	Feet to Sealevel
1979-05-15	14.0	
1979-05-05	13.5	
1979-04-25	13.6	
1979-04-15	13.6	
1979-04-05	13.6	
1979-03-25	13.5	
1979-03-15	13.7	
1979-03-05	13.9	
1979-02-25	14.2	
1979-02-15	14.7	
1979-02-05	15.2	
1979-01-25	15.1	
1978-08-31	14.9	
1978-08-20	14.8	
1978-08-10	14.8	
1978-05-30	14.2	
1978-05-20	14.1	
1978-05-10	14.1	
1978-04-25	14.1	
1978-04-15	14.1	
1978-04-05	14.1	
1978-02-25	13.9	
1978-02-15	13.9	
1978-02-05	13.8	
1978-01-25	13.8	
1978-01-15	13.8	
1977-12-25	13.4	
1977-12-15	14.0	
1977-12-05	14.9	
1977-11-25	15.4	
1977-11-15	15.7	
1977-10-31	16.1	
1977-09-25	16.0	
1977-08-31	16.0	
1977-08-20	16.1	
1977-08-10	16.0	
1977-04-22	15.4	
1976-10-15	15.3	
1967-12-05	15.7	
1967-11-25	16.1	
1967-11-15	16.1	
1967-11-05	16.2	
1967-10-25	16.3	
1967-10-15	16.2	
1967-09-15	16.1	
1967-09-05	16.0	
1967-08-25	15.9	
1967-08-15	15.7	
1967-08-05	15.5	
1967-07-25	15.3	
1967-07-15	15.0	
1967-07-05	14.8	
1967-05-26	14.5	

Map ID Direction Distance Elevation	Database	EDR ID Number
2 **ESE** **1/4 - 1/2 Mile** **Lower**	**OR WELLS**	**ORW400000012225**

Logid:	CLAT 50230	Lstupdate:	Not Reported
Establby:	UNKNOWN	Xysource:	UNKNOWN
Horizerr:	9999	Sourceorg:	OWRD
Sourceowrd:	OLD SOW COVERAGE		
Welltag:	0		
Sownum:	71	Obswell:	C
Recwell:	N	Obsflagall:	SC
Lsdelev:	38	Site id:	ORW400000012225

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3 **SSE** **1/4 - 1/2 Mile** **Higher**	**FED USGS**	**USGS3250816**

Agency cd:	USGS	Site no:	460721123562101
Site name:	07N/10W-04BCB		
Latitude:	460721	EDR Site id:	USGS3250816
Longitude:	1235621	Dec lat:	46.12232762
Dec lon:	-123.9404213	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	41
State:	41	County:	007
Country:	US	Land net:	NWSWNWS04 T07N R10W
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	37.00		
Altitude method:	Level or other surveying method		
Altitude accuracy:	.5		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Lower Columbia. Oregon, Washington. Area = 672 sq.mi.		
Topographic:	Dunes		
Site type:	Ground-water other than Spring	Date construction:	19660101
Date inventoried:	Not Reported	Mean greenwich time offset:	PST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	21.0	Hole depth:	Not Reported
Source of depth data:	Not Reported		
Project number:	Not Reported		
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1966-08-01	Ground water data end date:	1966-08-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1966-08-01	16.00	

4
SSW
1/2 - 1 Mile
Lower

FED USGS **USGS3250815**

Agency cd:	USGS	Site no:	460717123564201
Site name:	07N/10W-05ADC		
Latitude:	460717	EDR Site id:	USGS3250815
Longitude:	1235642	Dec lat:	46.12121643
Dec lon:	-123.94625477	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	41
State:	41	County:	007
Country:	US	Land net:	SWSENES05 T07N R10W
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	20.00		
Altitude method:	Level or other surveying method		
Altitude accuracy:	.5		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Necanicum. Oregon. Area = 129 sq.mi.		
Topographic:	Dunes		
Site type:	Ground-water other than Spring	Date construction:	19660101
Date inventoried:	Not Reported	Mean greenwich time offset:	PST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	9.0	Hole depth:	Not Reported
Source of depth data:	Not Reported		
Project number:	Not Reported		
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1966-09-01	Ground water data end date:	1966-09-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1966-09-01	4.00	

5
NW
1/2 - 1 Mile
Lower

FED USGS **USGS3250818**

Agency cd:	USGS	Site no:	460812123565801
Site name:	08N/10W-32ACB		
Latitude:	460812	EDR Site id:	USGS3250818
Longitude:	1235658	Dec lat:	46.1364938
Dec lon:	-123.95069992	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	41
State:	41	County:	007
Country:	US	Land net:	NWSWNES32 T08N R10W
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	15.00		
Altitude method:	Level or other surveying method		
Altitude accuracy:	.5		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Necanicum. Oregon. Area = 129 sq.mi.		
Topographic:	Dunes		
Site type:	Ground-water other than Spring	Date construction:	19660101
Date inventoried:	Not Reported	Mean greenwich time offset:	PST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	10.0	Hole depth:	Not Reported
Source of depth data:	Not Reported		
Project number:	Not Reported		
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1966-08-01	Ground water data end date:	1966-08-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1966-08-01	2.00	

6
South
1/2 - 1 Mile
Lower

FED USGS **USGS3250814**

Agency cd:	USGS	Site no:	460652123563301
Site name:	07N/10W-05DDD		
Latitude:	460652	EDR Site id:	USGS3250814
Longitude:	1235633	Dec lat:	46.11427217
Dec lon:	-123.94375444	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	41
State:	41	County:	007
Country:	US	Land net:	SESESES05 T07N R10W
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	18.00		
Altitude method:	Level or other surveying method		
Altitude accuracy:	.5		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Necanicum. Oregon. Area = 129 sq.mi.		
Topographic:	Dunes		
Site type:	Ground-water other than Spring	Date construction:	19660101
Date inventoried:	Not Reported	Mean greenwich time offset:	PST

Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	9.0	Hole depth:	Not Reported
Source of depth data:	Not Reported		
Project number:	Not Reported		
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1966-08-01	Ground water data end date:	1966-08-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1966-08-01	3.00	

7
SE
1 - 2 Miles
Lower

FED USGS **USGS3250813**

Agency cd:	USGS	Site no:	460650123550401
Site name:	07N/10W-03CCC		
Latitude:	460650	EDR Site id:	USGS3250813
Longitude:	1235504	Dec lat:	46.11371709
Dec lon:	-123.91903144	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	41
State:	41	County:	007
Country:	US	Land net:	SWSWSWS03 T07N R10W
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	18.00		
Altitude method:	Level or other surveying method		
Altitude accuracy:	.5		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Lower Columbia. Oregon, Washington. Area = 672 sq.mi.		
Topographic:	Dunes		
Site type:	Ground-water other than Spring	Date construction:	19660101
Date inventoried:	Not Reported	Mean greenwich time offset:	PST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	9.0	Hole depth:	Not Reported
Source of depth data:	Not Reported		
Project number:	Not Reported		
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1966-08-01	Ground water data end date:	1966-08-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1966-08-01	6.00	

8
NE
1 - 2 Miles
Lower

FED USGS **USGS3250828**

Agency cd:	USGS	Site no:	460844123551301
Site name:	08N/10W-33DDA		
Latitude:	460844	EDR Site id:	USGS3250828
Longitude:	1235513	Dec lat:	46.14538306
Dec lon:	-123.92153266	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	41
State:	41	County:	007
Country:	US	Land net:	NESESES33 T08N R10W
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	11.00		
Altitude method:	Level or other surveying method		
Altitude accuracy:	.5		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Lower Columbia. Oregon, Washington. Area = 672 sq.mi.		
Topographic:	Dunes		
Site type:	Ground-water other than Spring	Date construction:	19660101
Date inventoried:	Not Reported	Mean greenwich time offset:	PST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	17.0	Hole depth:	Not Reported
Source of depth data:	Not Reported		
Project number:	Not Reported		
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1966-08-01	Ground water data end date:	1966-08-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1966-08-01	3.00	

9
South
2 - 3 Miles
Lower

FED USGS **USGS3250809**

Agency cd:	USGS	Site no:	460557123561801
Site name:	07N/10W-09CCC		
Latitude:	460557	EDR Site id:	USGS3250809
Longitude:	1235618	Dec lat:	46.09899479
Dec lon:	-123.93958709	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	41
State:	41	County:	007
Country:	US	Land net:	SWSWSWS09 T07N R10W
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	20.00		
Altitude method:	Level or other surveying method		
Altitude accuracy:	.5		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Necanicum. Oregon. Area = 129 sq.mi.		
Topographic:	Dunes		
Site type:	Ground-water other than Spring	Date construction:	19660101
Date inventoried:	Not Reported	Mean greenwich time offset:	PST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	10.0	Hole depth:	Not Reported
Source of depth data:	Not Reported		
Project number:	Not Reported		
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1966-08-01	Ground water data end date:	1966-08-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1966-08-01	6.00	

10
South
2 - 3 Miles
Lower

FED USGS **USGS3250808**

Agency cd:	USGS	Site no:	460557123560301
Site name:	07N/10W-09CDC		
Latitude:	460557	EDR Site id:	USGS3250808
Longitude:	1235603	Dec lat:	46.09899487
Dec lon:	-123.93542029	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	41
State:	41	County:	007
Country:	US	Land net:	SWSESWS09 T07N R10W
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	23.00		
Altitude method:	Level or other surveying method		
Altitude accuracy:	.5		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Necanicum. Oregon. Area = 129 sq.mi.		
Topographic:	Dunes		
Site type:	Ground-water other than Spring	Date construction:	19660101
Date inventoried:	Not Reported	Mean greenwich time offset:	PST

Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	9.0	Hole depth:	Not Reported
Source of depth data:	Not Reported		
Project number:	Not Reported		
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1966-08-01	Ground water data end date:	1966-08-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1966-08-01	5.00	

11
NNE
2 - 3 Miles
Lower

FED USGS **USGS3250830**

Agency cd:	USGS	Site no:	460928123555401
Site name:	08N/10W-21CDD		
Latitude:	460928	EDR Site id:	USGS3250830
Longitude:	1235554	Dec lat:	46.15760481
Dec lon:	-123.93292236	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	41
State:	41	County:	007
Country:	US	Land net:	SESESWS21 T08N R10W
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	11.00		
Altitude method:	Level or other surveying method		
Altitude accuracy:	.5		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Lower Columbia. Oregon, Washington. Area = 672 sq.mi.		
Topographic:	Dunes		
Site type:	Ground-water other than Spring	Date construction:	19660101
Date inventoried:	Not Reported	Mean greenwich time offset:	PST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	10.0	Hole depth:	Not Reported
Source of depth data:	Not Reported		
Project number:	Not Reported		
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1966-08-01	Ground water data end date:	1966-08-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1966-08-01	3.00	

12
North
2 - 3 Miles
Lower

FED USGS **USGS3250831**

Agency cd:	USGS	Site no:	460934123563001
Site name:	08N/10W-20DDA		
Latitude:	460934	EDR Site id:	USGS3250831
Longitude:	1235630	Dec lat:	46.15927124
Dec lon:	-123.94292274	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	41
State:	41	County:	007
Country:	US	Land net:	NESESES20 T08N R10W
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	21.00		
Altitude method:	Level or other surveying method		
Altitude accuracy:	.5		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Lower Columbia. Oregon, Washington. Area = 672 sq.mi.		
Topographic:	Dunes		
Site type:	Ground-water other than Spring	Date construction:	19660101
Date inventoried:	Not Reported	Mean greenwich time offset:	PST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	10.0	Hole depth:	Not Reported
Source of depth data:	Not Reported		
Project number:	Not Reported		
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1966-08-01	Ground water data end date:	1966-08-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1966-08-01	4.00	

13
SSE
2 - 3 Miles
Lower

FED USGS **USGS3250811**

Agency cd:	USGS	Site no:	460602123551501
Site name:	07N/10W-09DDA		
Latitude:	460602	EDR Site id:	USGS3250811
Longitude:	1235515	Dec lat:	46.10038397
Dec lon:	-123.92208661	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	41
State:	41	County:	007
Country:	US	Land net:	NESESES09 T07N R10W
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	31.00		
Altitude method:	Level or other surveying method		
Altitude accuracy:	.5		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Necanicum. Oregon. Area = 129 sq.mi.		
Topographic:	Dunes		
Site type:	Ground-water other than Spring	Date construction:	19660101
Date inventoried:	Not Reported	Mean greenwich time offset:	PST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	15.0	Hole depth:	Not Reported
Source of depth data:	Not Reported		
Project number:	Not Reported		
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1966-08-01	Ground water data end date:	1966-08-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1966-08-01	11.00	

14
North
2 - 3 Miles
Lower

OR WELLS **ORI400000016269**

Well inspe:	30742		
Physical l:	Not Reported	Inspection:	06/05/2003
Startcard :	Not Reported	Wl county :	Not Reported
Wl nbr:	Not Reported	Startcard1:	Not Reported
Well tag n:	Not Reported	No log:	0
Property o:	Not Reported	Inspecti 1:	Not Reported
Special st:	0	Title:	Not Reported
Inspecti 2:	Not Reported	Witnesses:	Not Reported
Name owner:	CITY OF WARRENTON; EAST OF RIDGE RD, NORTH OF SW 9TH, NEAR SOCCER FIELDS		
Street:	Not Reported	City:	Not Reported

State:	Not Reported	Zip:	Not Reported
Phone home:	Not Reported	Phone comp:	Not Reported
Gps on wel:	0	Distance t:	Not Reported
Bearing to:	Not Reported	Drilling m:	Not Reported
Use of wel:	Not Reported	Drilling 1:	0
Rough log :	0	Inspected :	Not Reported
Well tag r:	Not Reported		
Monitoring:	Not Reported	Monitori 1:	0
Protective:	0	Well locke:	0
Consultant:	0	Water in v:	0
Seal test :	Not Reported	Samples ta:	0
Casing dia:	Not Reported	Csg above :	Not Reported
Csg gauge:	Not Reported	Borehole d:	Not Reported
Dedicated :	0	Access por:	0
Access p 1:	Not Reported	Measuring :	Not Reported
Measuring1:	0	Depth belo:	Not Reported
Depth be 1:	Not Reported	Tape hold:	Not Reported
Tape missi:	Not Reported	Tape cut:	Not Reported
Water leve:	Not Reported	Water le 1:	Not Reported
Cascading :	0	Pump type:	Not Reported
Pump make:	Not Reported	Pump hp:	Not Reported
Flowmeter :	Not Reported	Flowmeter1:	Not Reported
Flowmete 1:	Not Reported	Flowmete 2:	Not Reported
Associated:	Not Reported	Nbr of hou:	Not Reported
Deficiency:	Not Reported		
Inspecti 3:	FLUSH, 2" CASING, J-PLUG WITH LOCK, WATER IN VAULT		
Work new:	-1	Work deepe:	0
Work conve:	0	Work alter:	0
Work aband:	0	Work exist:	0
Work other:	Not Reported	Drill rota:	0
Drill ro 1:	0	Drill cabl:	0
Drill ca 1:	0	Drill reve:	0
Drill re 1:	0	Drill auge:	0
Drill push:	0	Drill hand:	0
Drill holl:	0	Drill soni:	0
Drill othe:	Not Reported	Use domest:	0
Use irriga:	0	Use commun:	0
Use indust:	0	Use livest:	0
Use dewate:	0	Use monito:	0
Use therma:	0	Use inject:	0
Use piezom:	0	Use observ:	0
Use recove:	0	Use other:	Not Reported
Bentonite :	0	Conductivi:	Not Reported
Conducti 1:	Not Reported		
Measuremen:	Not Reported		
Well tag 1:	Not Reported	Bonded lic:	Not Reported
Unbonded l:	Not Reported	Bonded dri:	Not Reported
Unbonded d:	Not Reported	County cod:	CLAT
Tax lot:	Not Reported		
Township:	8		
Township c:	N		
Range:	10		
Range char:	W		
Sctn:	20		
Qtr40:	NW	Qtr160:	SE
Latitude d:	46.16109		
Longitude :	123.94735		
Gps horizo:	Not Reported		
Year const:	2002		
Date const:	Not Reported	Date con 1:	Not Reported

Deficienci:	N	Previous i:	0
Inspected1:	DIP	Wm region:	NW
Well tag a:	BANDED TO CEMENT		
Well tag 2:	Not Reported	Depth:	Not Reported
Static wat:	Not Reported	Status of :	Not Reported
Location r:	Not Reported		
Site visit:	0	Type of lo:	Not Reported
Casing cap:	Not Reported	Pictures t:	0
Street of :	Not Reported		
Street of1:	Not Reported		
Last updt :	01/01/2000	Last updt1:	pedersdi
Rec creati:	06/01/2009	Rec crea 1:	OWRD\migrate
Newlat:	46.16109		
Newlong:	-123.94735		
Site id:	ORI400000016269		

15
NNW **FED USGS** **USGS3250832**
2 - 3 Miles
Lower

Agency cd:	USGS	Site no:	460934123573101
Site name:	08N/10W-20CCA		
Latitude:	460934	EDR Site id:	USGS3250832
Longitude:	1235731	Dec lat:	46.15927091
Dec lon:	-123.95986773	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	41
State:	41	County:	007
Country:	US	Land net:	NESWSWS20 T08N R10W
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	21.00		
Altitude method:	Level or other surveying method		
Altitude accuracy:	.5		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Lower Columbia. Oregon, Washington. Area = 672 sq.mi.		
Topographic:	Dunes		
Site type:	Ground-water other than Spring	Date construction:	19660101
Date inventoried:	Not Reported	Mean greenwich time offset:	PST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	10.0	Hole depth:	Not Reported
Source of depth data:	Not Reported		
Project number:	Not Reported		
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1966-07-01	Ground water data end date:	1966-07-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1966-07-01	4.00	

16
SSE
2 - 3 Miles
Lower

FED USGS **USGS3250810**

Agency cd:	USGS	Site no:	460601123545501
Site name:	07N/10W-10CCA		
Latitude:	460601	EDR Site id:	USGS3250810
Longitude:	1235455	Dec lat:	46.1001063
Dec lon:	-123.91653088	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	41
State:	41	County:	007
Country:	US	Land net:	NESWSWS10 T07N R10W
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	12.00		
Altitude method:	Level or other surveying method		
Altitude accuracy:	.5		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Lower Columbia. Oregon, Washington. Area = 672 sq.mi.		
Topographic:	Dunes		
Site type:	Ground-water other than Spring	Date construction:	19660101
Date inventoried:	Not Reported	Mean greenwich time offset:	PST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	9.0	Hole depth:	Not Reported
Source of depth data:	Not Reported		
Project number:	Not Reported		
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1966-08-01	Ground water data end date:	1966-08-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1966-08-01	3.00	

17
North
2 - 3 Miles
Lower

OR WELLS **ORI400000016273**

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Well inspe:	34763		
Physical l:	Not Reported	Inspection:	06/05/2003
Startcard :	Not Reported	Wl county :	Not Reported
Wl nbr:	Not Reported	Startcard1:	Not Reported
Well tag n:	Not Reported	No log:	0
Property o:	Not Reported	Inspecti 1:	Not Reported
Special st:	0	Title:	Not Reported
Inspecti 2:	Not Reported	Witnesses:	Not Reported
Name owner:	CITY OF WARRENTON; EAST OF RIDGE RD, NORTH OF SW 9TH, NEAR SOCCER FIELDS		
Street:	Not Reported	City:	Not Reported
State:	Not Reported	Zip:	Not Reported
Phone home:	Not Reported	Phone comp:	Not Reported
Gps on wel:	0	Distance t:	Not Reported
Bearing to:	Not Reported	Drilling m:	Not Reported
Use of wel:	Not Reported	Drilling 1:	0
Rough log :	0	Inspected :	Not Reported
Well tag r:	Not Reported		
Monitoring:	Not Reported	Monitori 1:	0
Protective:	0	Well locke:	0
Consultant:	0	Water in v:	0
Seal test :	Not Reported	Samples ta:	0
Casing dia:	Not Reported	Csg above :	Not Reported
Csg gauge:	Not Reported	Borehole d:	Not Reported
Dedicated :	0	Access por:	0
Access p 1:	Not Reported	Measuring :	Not Reported
Measuring1:	0	Depth belo:	Not Reported
Depth be 1:	Not Reported	Tape hold:	Not Reported
Tape missi:	Not Reported	Tape cut:	Not Reported
Water leve:	Not Reported	Water le 1:	Not Reported
Cascading :	0	Pump type:	Not Reported
Pump make:	Not Reported	Pump hp:	Not Reported
Flowmeter :	Not Reported	Flowmeter1:	Not Reported
Flowmete 1:	Not Reported	Flowmete 2:	Not Reported
Associated:	Not Reported	Nbr of hou:	Not Reported
Deficiency:	Not Reported		
Inspecti 3:	ABOVE GROUND, LOCKED, 3 PROTECTIVE POSTS		
Work new:	-1	Work deepe:	0
Work conve:	0	Work alter:	0
Work aband:	0	Work exist:	0
Work other:	Not Reported	Drill rota:	0
Drill ro 1:	0	Drill cabl:	0
Drill ca 1:	0	Drill reve:	0
Drill re 1:	0	Drill auge:	0
Drill push:	0	Drill hand:	0
Drill holl:	0	Drill soni:	0
Drill othe:	Not Reported	Use domest:	0
Use irriga:	0	Use commun:	0
Use indust:	0	Use livest:	0
Use dewate:	0	Use monito:	0
Use therma:	0	Use inject:	0
Use piezom:	0	Use observ:	0
Use recove:	0	Use other:	Not Reported
Bentonite :	0	Conductivi:	Not Reported
Conducti 1:	Not Reported		
Measuremen:	Not Reported		
Well tag 1:	Not Reported	Bonded lic:	Not Reported
Unbonded l:	Not Reported	Bonded dri:	Not Reported
Unbonded d:	Not Reported	County cod:	CLAT
Tax lot:	Not Reported		
Township:	8		

Township c:	N		
Range:	10		
Range char:	W		
Sctn:	20		
Qtr40:	NW	Qtr160:	SE
Latitude d:	46.163		
Longitude :	123.94714		
Gps horizo:	Not Reported		
Year const:	2002		
Date const:	Not Reported	Date con 1:	Not Reported
Deficienci:	N	Previous i:	0
Inspected1:	DIP	Wm region:	NW
Well tag a:	BANDED TO PROTECTIVE CASING		
Well tag 2:	Not Reported	Depth:	Not Reported
Static wat:	Not Reported	Status of :	Not Reported
Location r:	Not Reported		
Site visit:	0	Type of lo:	Not Reported
Casing cap:	Not Reported	Pictures t:	0
Street of :	Not Reported		
Street of1:	Not Reported		
Last updt :	01/01/2000	Last updt1:	pedersdi
Rec creati:	06/01/2009	Rec crea 1:	OWRD\migrate
Newlat:	46.163		
Newlong:	-123.94714		
Site id:	ORI400000016273		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: OR Radon

Radon Test Results

Zip	Total Sites	Min pCi/L	Max pCi/L	Avg pCi/L	>4 pCi/L
97146	5	0.1	1.0	0.4	0

Federal EPA Radon Zone for CLATSOP County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for CLATSOP COUNTY, OR

Number of sites tested: 17

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area	1.200 pCi/L	94%	6%	0%
Basement	3.350 pCi/L	50%	50%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2009 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetlands Inventory Data
Source: Oregon Geospatial Enterprise Office
Telephone: 503-378-2166

HYDROGEOLOGIC INFORMATION

AQUIFLOW[R] Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Services, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Well Data
Source: Department of Water Resources
Telephone: 503-986-0843

OTHER STATE DATABASE INFORMATION

Oil and Gas Well Locations
Source: Department of Geology and Mineral Industries
Telephone: 971-673-1540
A listing of oil and gas well locations in the state.

RADON

State Database: OR Radon
Source: Oregon Health Services
Telephone: 503-731-4272
Radon Levels in Orgeon

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STREET AND ADDRESS INFORMATION

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Oregon
Theodore Kulongoski, Governor

Department of Environmental Quality
Northwest Region-Eastside Office
1550 NW Eastman Parkway, Suite 290
Gresham, OR 97030-3832
(503) 667-8414
FAX (503)674-5148

2010 MAY -6 AM 10: 23

May 4, 2010

Mr. Jim Arnold
Oregon Military Department
PO Box 14350
Salem OR 97309-5047

Re: **No Further Action Determination**
Former Landfill Area, Camp Rilea
ECSI #1524
Warrenton, Oregon

Dear Mr. Arnold,

The Oregon Department of Environmental Quality has completed its review of the findings of the environmental investigation and cleanup work performed at the former landfill area located on the Camp Rilea site in Warrenton, Oregon. Camp Rilea is located at 33168 Patriot Way in Warrenton, Oregon. The investigation and cleanup work was completed under DEQ oversight pursuant to the terms of an Independent Cleanup Program Letter Agreement signed by the Oregon Military Department on July 27, 2006. A partial No Further Action determination for the nearby Burn Pit Area was issued in January 2009. DEQ's Staff Report, dated December 10, 2009, provides a summary of our review of the investigation and cleanup for the Camp Rilea Landfill site. The report can be viewed on our web site by searching under the ECSI number, #1524, at: http://www.deq.state.or.us/lq/ECSI/ecsi.htm.

Pursuant to Oregon Revised Statute, ORS 465.320, and Oregon Administrative Rules, OAR 340-122-100, DEQ invited the public to comment on the proposed "No Further Action" cleanup decision for the site. DEQ published the proposed "No Further Action" decision in the Daily Astorian and the Oregon Secretary of State's Bulletin on or about January 1, 2010 and requested public comments through February 1, 2010. No comments were received.

DEQ concludes that the cleanup at the former landfill area is currently protective of public health and the environment and requires no further action under the Oregon Cleanup Law, ORS 465.200 et seq., unless new or previously undisclosed information becomes available. Other areas of the camp that may require further investigation, such as the barracks buildings diesel release area, are not covered by this determination.

If you have any questions, please contact the Project Manager for this site, Bob Williams, at (503) 229-6802 or via email at williams.robert.k@deq.state.or.us.

Sincerely,

Bruce Gilles, Manager
Northwest Region Cleanup Program

cc: Scott Kranz, AMEC

PRECONSTRUCTION ASSESSMENT

Oregon Military Department
Camp Rilea
33168 Patriot Way
Warrenton, Oregon 97146

Shaw Project No.: 138792

March 2010

Prepared for:

Oregon Military Department
1776 Militia Way SE
Salem, OR 97301

Submitted by:

Shaw Environmental, Inc.
10300 SW Nimbus Ave, Suite B
Portland, OR 97223

PRECONSTRUCTION ASSESSMENT

Oregon Military Department
Camp Rilea
33168 Patriot Way
Warrenton, Oregon 97146

Shaw Project No.: 138792

March 2010

I declare that, to the best of my professional knowledge and belief, I meet the definition of *environmental professional*, or have worked under the supervision or responsible charge of a person meeting the definition of *environmental professional*, as defined in Section 312.10 of 40 CFR.

Prepared by:_____ Date: March 30, 2010
Audrey Turpening
Staff Engineer

I declare that to the best of my professional knowledge and belief, I meet the definition of *environmental professional* as defined in Section 312.10 of 40 CFR, and I have the specific qualifications based on education, training, and experience to assess a *property* of the nature, history, and setting of the subject *property*. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Section 312.

Reviewed by: _____ Date: March 30, 2010
Dave Seluga
Client Program Manager

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Executive Summary

Shaw Environmental, Inc. (Shaw) is pleased to present this Preconstruction Assessment (PCA) report prepared for the areas to be impacted by the Oregon Military Department's Wastewater Treatment Plant Improvement and Water Supply System Projects at Camp Rilea, Warrenton, Oregon. Below is an overview of the project, including a summary of our significant findings:

Property name:	Camp Rilea
Property address (or other legal or physical Property location description):	Mailing address 33168 Patriot Way, Warrenton, Clatsop County, Oregon. Camp Rilea is located on the Oregon Coastline along the Pacific Ocean, west of Highway 101/26. Camp Rilea consists of approximately 1,850 acres, lying within Township 8 North, Range 10 West, Sections 32 and 33 and Township 7 North, Range 10 West, Sections 4, 5, 8 and 9. The Property lies within Camp Rilea, as described in "Property description" below.

User of this report:	Oregon Military Department
Reason for requesting the Phase I ESA:	Preconstruction Assessment
Date of site reconnaissance:	March 5, 2010

Property description:	Project Area (Property) lies within Camp Rilea and follows the proposed new water pipeline pathway from the waste water treatment ponds to the proposed rapid infiltration (RI) basins to the northwest, west of the firing ranges. It also includes the proposed water well installation area, north of the proposed RI basins and running east along Tank Hill Road, following the proposed water pipelines, ending at the existing water pipelines in the intersection of First Causeway Road and N Neacoxie Street. Figure 2 illustrates the Property boundaries within Camp Rilea. The Preconstruction Assessment was performed on these Project Areas, now and hereafter referred to as the Property, within Camp Rilea.
Property operations:	Currently Oregon Military Department installation. The southeast corner contains two waste water treatment ponds, one for aeration and one for settling, and a chlorine treatment system. The treated waste water is then sprayed onto leachate fields to the south. The Property contains roadways to the east, paralleling a military and police training facility at the southwest corner. The training facility contains a mock city and MARS training building. The far west portion of the Property runs through a lightly wooded dune area, west of the grenade range and firing ranges. The wooded area is used for training exercises; no live munitions are used in this area. Two new proposed water supply wells will lie north of an existing water supply well, also in this dune area. Piping for these water wells will run east along roadways, and through a field which contained a previous landfill and burn pit, and will join the existing water supply piping at the intersection of First Causeway Road and N Neacoxie Street. Current uses of this area are roadways.

	The former landfill area contains groundwater monitoring wells.

Summary of Property History

1927 – Present	Oregon Military Department (OMD) installation. Training center for multiple OMD and civilian operations, including air force and local police forces. Name of the camp was changed from Camp Clatsop to Camp Rilea in 1959.

Conclusions and Recommendations

Conclusions

Shaw has performed a Preconstruction Assessment in conformance with the scope and limitations of US Army Environmental Center (USAEC) Procedures Manual for the Environmental Survey and Clearance of a Construction Site, dated October 1999 of The Project Area as described in Section 2.1 within Camp Rilea, 33168 Patriot Way, Warrenton, Clatsop County, Oregon 97146 (the Property). Any exceptions to, or deletions from, this practice are described in Section 1.3 of this report.

This assessment has revealed no recognized environmental conditions in connection with the Property.

This assessment has revealed the following historical RECs in connection with the Property.

Former Landfill

The former landfill was located on the east side of the current MARF range maintenance shop, west of Neacoxie Road and at the northern tip of NBC Road. According to previous site assessments, the landfill was active from about the 1930's until the 1980's. The landfill covered approximately 4,000 square feet.

From 1996 to 2009, soils and groundwater at the former landfill were sampled and analyzed. Analytical results revealed trichloroethene (TCE) contamination in the shallow groundwater consistently at or above the Environmental Protection Agency (EPA) maximum contaminant level (MCL) for drinking water. The affected shallow groundwater in this area flows east towards Neacoxie Creek. Hydrogeological modeling conducted on the groundwater indicates the TCE plume not affecting Neacoxie Creek.

In January 2010 Oregon Department of Environmental Quality (ODEQ) proposed a Conditional No Further Action (NFA) for the former landfill. At present time, the Conditional NFA is still in process. However, based on the status of the site and groundwater flow, this area is no longer considered an active REC.

Burn Pit

The burn pit is located at First Causeway Road, south/southeast of the former landfill. Dimensions were approximately 25 feet by 30 feet in an oval shape and approximately 3 feet deep. The burn pit was used to reduce solid waste volume prior to disposal in the 1980's.

Between 2001 and 2005, soil and groundwater in the burn pit area was sampled and analyzed. Analytical results revealed arsenic (As) and lead (Pb) contamination in the soils above ODEQ Risk Based Concentrations (RBC) for As and EPA Preliminary Remediation Goals (PRG) for Pb. In 2007, approximately 261 tons of excavated soils and burn pit materials were removed. Confirmation samples indicated all soils that had been impacted by the burn pit had been removed.

A Partial NFA was issued for the burn pit in January 2009. Based on the Partial NFA issued by ODEQ, as well as on site visual observations of the former burn pit area, the burn pit no longer appears to be an active REC.

Recommendations / Known or Suspected Areas with Restrictions

Based on the findings of this PCA, there are no areas on the Property with any restrictions for construction.

1.0 Introduction

1.1 Location and Property Identification

Property name:	Camp Rilea
Property address (or other legal or physical Property location description):	Mailing address 33168 Patriot Way, Warrenton, Clatsop County, Oregon. Camp Rilea is located on the Oregon Coastline along the Pacific Ocean, west of Highway 101. Camp Rilea consists of approximately 1,850 acres, lying within Township 8 North, Range 10 West, Sections 32 and 33 and Township 7 North, Range 10 West, Sections 4, 5, 8 and 9. The Property lies within Camp Rilea, as described in Property description in Section 2.1.

1.2 References

Résumés or other biographical sketch of the Environmental Professional(s) involved in the preparation of this report are included in Appendix A.

1.3 Methodology

Scope of Services
Shaw conducted the work in accordance with the following specifications (hereinafter collectively referred to as the "Scope":
US Army Environmental Center (USAEC) Procedures Manual for the Environmental Survey and Clearance of a Construction Site, Section 2.1, dated October 1999 (USAEC Procedures Manual). ARNG Environmental Condition of Property Standard Operating Procedure, Appendix G, dated 3-14-2007 (SOP).
The layout of this report follows Appendix G of the SOP. Information contained within the report was obtained through the guidance of the USAEC Procedures Manual.
Limitations to this assessment are presented in Appendix B of this report.

Objective of this PCA:
The objective of this Preconstruction Assessment (PCA) was to identify, to the extent feasible, recognized environmental conditions (REC) as defined by ASTM D6008, and to evaluate selected non-scope considerations beyond ASTM D6008.
The term ***recognized environmental conditions*** means "the presence or likely presence of any hazardous substances or petroleum products on any federal real property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into the environment." **ASTM D6008**

Exceptions to, or deletions from, the above referenced Scope of Work, including significant data gaps:	None
Weather-related property restrictions:	None

Exceptions to, or deletions from, the above referenced Scope of Work, including significant data gaps:	None
Facility access restrictions:	None

2.0 Property Description and Environmental Settings

2.1 Property Description

Property description (acreage, structures, roads, and other improvements):	Project Area (Property) lies within Camp Rilea and follows the proposed new water pipeline pathway from the waste water treatment ponds to the proposed rapid infiltration (RI) basins to the northwest, west of the firing ranges. It also includes the proposed water well installation area, north of the proposed RI basins and running east along Tank Hill Road, following the proposed water pipelines, ending at the existing water pipelines in the intersection of First Causeway Road and N Neacoxie Street. Figure 2 illustrates the Property boundaries within Camp Rilea. The Preconstruction Assessment was performed on these Project Areas, now and hereafter referred to as the Property, within Camp Rilea.
Estimated percentage of property covered by buildings and/or pavement:	Approximately 50% - the project area follows the established roadways, part paved and part dirt roads.
Property operations:	Currently Oregon Military Department installation. The southeast corner contains two waste water treatment ponds, one for aeration and one for settling, and a chlorine treatment system. The treated waste water is then sprayed into leachate fields to the south. The Property contains roadways to the east, paralleling a military and police training facility at the southwest corner. The training facility contains a mock city and MARS training building. The far west portion of the Property runs through a lightly wooded dune area, west of the grenade range and firing ranges. The wooded area is used for training exercises; no live ammunitions are used in this area. Two new proposed water supply wells will lie north of an existing water supply well, also in this dune area. Piping for these water wells will run east along roadways, and through a field which contained a previous landfill and burn pit, and will join the existing water supply piping at the intersection of First Causeway Road and N Neacoxie Street. Current uses of this area are roadways; the former landfill area contains groundwater monitoring wells.
Type of sewage disposal system (and age):	POTW, sanitary sewer; constructed in 1978
Potable water source:	City of Warrenton
Electric utility:	Pacific Power
Natural gas:	Northwest Natural Gas
Energy source(s) for heating:	Electricity and natural gas
Current uses of adjoining properties, North:	Residential, agricultural, and forestland
South:	Astoria Country Club, light residential and agricultural

East:	Hwy 101, light commercial properties (church, school) and residential/agricultural land
West:	Coastline, Pacific Ocean

Figure 2 in Appendix C presents a not-to-scale site plan of the Property depicting important Property features and relevant observations. Site photographs are provided in Appendix D.

2.2 Physical Setting of Property

Topography:	The average Property elevation is 29 feet above mean sea level (amsl). Elevation increases to the west, to approximately 60 feet amsl in the wooded dune area. Elevations stay relatively flat to the east, north and south.
Geology	The Property lies atop two soil components: Warrenton and Gearhart. Warrenton soils are loamy fine sands with very slow infiltration rates, are poorly drained, and are very clayey with high water tables. Gearhart soils are fine sandy loams with high infiltration rates, are somewhat excessively drained, and run deep within their respective layers. Boundary layers of the soils are as follows (inches indicates inches below ground surface [bgs]): Warrenton: *0 – 11 inches*: loamy fine sand, coarse grained, saturated hydraulic conductivity is 42 – 141 micrometer/second (um/sec), pH is 3.6 – 5. *11 – 59 inches*: fine sand, coarse grained, saturated hydraulic conductivity is 42 – 141 um/sec, pH is 3.5 – 5. Gearhart: *0 – 11 inches*: fine sandy loam, coarse grained, saturated hydraulic conductivity is 141 – 705 um/sec, pH is 4.5 – 5.5. *11-16 inches:* loamy fine sand, coarse grained, saturated hydraulic conductivity is 141 – 705 um/sec, pH is 4.5 – 5.5. *16 – 59 inches:* fine sand, coarse grained, saturated hydraulic conductivity is 141 – 705 um/sec, pH is 4.5 – 5.5. The soils lie atop the Rock Stratigraphic Unit Cenozoic Era, Tertiary System, Oligocene Series.
Hydrogeology:	The Property lies atop the Pacific Northwest basin-fill aquifers, which are a type of Unconsolidated sand and gravel aquifers. These aquifers "have intergranular porosity, and all contain water primarily under unconfined or water-table conditions. The hydraulic conductivity of the aquifers is variable, depending on the sorting of aquifer materials and the amount of silt and clay present, but generally it is high. The unconsolidated sand and gravel aquifers are susceptible to contamination because of their generally high hydraulic conductivity. Ground water in these aquifers flows along relatively short flow paths typical of local flow systems; however, all of the basin-fill aquifers have intermediate flow systems."
Flood plain:	The Property lies approximately 3/8 mile west of the nearest 100-year flood zone.
Depth to groundwater/ gradient:	Based on monitoring wells located on the Property at the former landfill location, groundwater elevation is approximately 60 feet above mean sea level (amsl), which is approximately 40 feet bgs in the former landfill area. The site topography varies from east to west, and groundwater gradients, depths, and elevations likely vary with the topography. Gradient at the monitoring wells is to the east towards Neacoxie Creek.

Sources of the above information include:

- Nationalatlas.gov Map Maker - U.S. Department of the Interior, U.S. Geological Survey, Aquifer Basics, last updated April 2009.
- EDR Geocheck® – Physical Setting Source Addendum, Inquiry Number 2713719.2s
- *Final Groundwater Monitoring Report, Former Landfill Area, Camp Rilea, Warrenton, Oregon*, AMEC Earth and Environmental, October 2009.

2.3 Sensitive Environments and Natural/Cultural Resources

Shaw was asked to investigate the possible existence of sensitive environments and or natural and cultural resources that are on the Property.

There are currently 67 acres of designated butterfly habitat on Camp Rilea property; portions of this habitat lie within the Property. The habitat has been set in place for protection of the Oregon Silverspot Butterfly. On January 28, 2010, the US Fish and Wildlife Service issued a Biological Opinion that would allow the habitat areas within the Property to be used for other purposes with no further action by the Oregon Military Department.

Slusher Lake lies off of the southwest corner of the Property, within Camp Rilea. According to Mr. Ken Klee, site maintenance supervisor at Camp Rilea, studies are currently being conducted to determine if Slusher Lake was a possible inlet for the Lewis and Clark expedition. If so, the lake can be considered an archeological and historical site. The lake is not within the Property, so final determination will likely not affect the Property.

3.0 Past and Current Operations

3.1 Interviews

During the course of this assessment, Shaw interviewed or attempted to interview the following individuals.

3.1.1 Current Owner Interview

The Property is currently owned by the Oregon Military Department. Jim Arnold of Oregon Military Department's Environmental Branch, the Property owner's representative, was interviewed on multiple occasions during this PCA. Mr. Arnold provided Shaw with the following environmental documents for reference.

- *Installation Compatible Use Noise Zone Study No. 52-34-0510-83, Effects of Large Caliber Weapons Firing and Demolition Activities at Camp Rilea, Oregon*, August 1982, US Army Environmental Hygiene Agency
- *Oregon Army National Guard Statewide Operational Noise Management Plan*, July 2005, US Army Center for Health Promotion and Preventative Medicine
- Excerpt from Camp Rilea Barracks Cleanup Report, January 1994, Cascade Earth Sciences, Ltd.
- Letter Report: *Deep Groundwater Investigation Results, Camp Rilea Former Landfill, Warrenton, OR*, May 2007, AMEC Earth & Environmental, Inc.
- Letter: *Partial No Further Action Determination, Camp Rilea Burn Pit Area, ECSI # 1524, Warrenton, Oregon*, January 2009, Oregon Department of Environmental Quality.
- *Site Assessment Survey No., 38-EH-1332b-01, Camp Rilea, Warrenton, Clatsop County, Oregon*, September 2001, US Army Center for Health Promotion and Preventative Medicine.
- *Final Groundwater Monitoring Report, Former Landfill Area, Camp Rilea, Warrenton, Oregon*, October 2009, AMEC Earth & Environmental, Inc.
- *Phase II Environmental Baseline Study, Camp Rilea*, March 2006, AMEC Earth & Environmental, Inc.
- *Remedial Action and Groundwater Monitoring Report, Camp Rilea*, January 2008, AMEC Earth & Environmental, Inc.
- Letter: *Status Report of Spill #DEQ 94-129*, October 1994, Oregon National Guard Headquarters, Installations Office

3.1.2 Current Operator Interview(s)

Name	Title and Relationship to Property (former owner or operator)	Company Name	Telephone	Knowledge of litigation, administrative proceedings, or environmental regulatory violations/liabilities (Y/N)	Comments, including year(s) involved with the Property
Ken Klee	Maintenance Supervisor	Oregon Military Department	503-861-4178	N	Worked as maintenance employee/ supervisor for 37 years on site.

3.1.3 Past Property Owner and Operators Interviews

Since Camp Rilea started operations in 1927, there are no past property owners or operators available for interview.

3.1.4 Local Government Officials

Shaw did not interview any Local Government Officials during this PCA.

3.1.5 State & Federal Government Officials

Shaw interviewed the following state and/or federal government officials, and learned the following:

Name	Title	Agency	Telephone	Comments
Shelly Kendrick	Information Assistant	State Fire Marshall's Office	503-373-1540 ext. 353	State Fire Marshall information was requested from Ms. Kendrick. Information could not be provided during the course of this PCA.

3.1.6 Others

Shaw did not interview any other individuals in connection with the Property.

3.2 Standard Environmental Records Sources

The regulatory agency database was obtained from Environmental Data Resources, Inc. (EDR), Report ID No. 2713719.2s. A complete copy of the database report as provided by EDR, including the date the report was prepared, the date the information was last updated, and the definition of databases searched, is provided in Appendix F.

The Property was identified in the following environmental databases:

Database(s) Listed	Comments	REC (y/n)
RCRA-SQG PADS FINDS MANIFEST	The National Guard Training Center has been a Resource Conservation and Recovery Act (RCRA) registered small quantity generator since 1992. Notices of Non-Compliance were received in 1997 and 2006, with compliance achieved shortly after dates of notice. Camp Rilea holds an annual waste permit with Hillsboro Landfill for disposal of the sludge from the wash racks. These wash racks are located northeast of the Property. Camp Rilea also holds a National Pollutant Discharge Elimination System (NPDES) permit for discharge of the wash waters from the wash racks to Neacoxie Creek, and also holds an Industrial WPCF permit for operation of the water treatment ponds at the southeast corner of the Property. PADS is the PCB activity database, which identifies generators, transporters, commercial storers, brokers and/or disposers of PCBs that notify the EPA. Camp Rilea was listed as a generator in 2006. Based on conversations with Ken Klee, Camp Rilea maintenance supervisor, there are no transformers on the Property that contain PCBs. There are no buildings on the Property, and therefore light ballasts that contain PCBs are not likely to be found on the Property.	N
AST HSIS	ORARNG has one registered gasoline aboveground storage tank (AST). They also store flammable liquids on site. These liquids, including the gasoline, are used for site operations, including vehicle fueling. The gasoline AST is not within the Property boundaries. Chlorine is stored at the current waste water treatment area, near the waste water treatment ponds. The chlorine is used to treat the water prior to spraying onto the leach field.	N
ECSI VCP	Three cleanups have occurred on the site, and the extent of those cleanups is documented in some of the reports provided by OMD, listed in Section 3.1.1. The three cleanups are the former landfill, the burn pit, and the barracks area. <u>Former Landfill</u> The former landfill was located on the east side of the current MARF range maintenance shop, west of Neacoxie Road and at the northern tip of NBC Road. According to previous site assessments, the landfill was active from about the 1930's until the 1980's. The landfill covered approximately 4,000 square feet. In 1996 six temporary well points were installed by the US Army Center for Health Promotion and Preventative Medicine (USACHPPM). Groundwater was sampled, analyzed, and found to contain trichloroethylene (TCE) above regulatory cleanup levels. In September 2005, 28 borings and four tests pits were completed in the former landfill area to determine landfill delineation and possible contamination. Arsenic, lead and mercury were discovered in the soils, as well as TCE and tetrachlorethylene (PCE). Groundwater samples were analyzed, they contained arsenic, lead, TCE, PCE, and 1,1,2,2-tetrachloroethane. In 2007 a deep groundwater investigation was conducted by AMEC Earth & Environmental, Inc. (AMEC). A boring was advanced to a total depth of 86 feet bgs, water was sampled at 48, 73, and 84 feet bgs. No volatile organic compounds (VOCs) were detected, and it was determined the VOC contamination was limited to shallow groundwater. Five permanent groundwater monitoring wells were installed in 2007. A total of nine groundwater monitoring events have been conducted at the former landfill site. Groundwater samples have been analyzed for metals and VOCs. TCE has been continuously detected in groundwater, at a concentration of 7 micrograms per liter (ug/L). The Environmental Protection Agency (EPA) maximum contaminant level	N

Database(s) Listed	Comments	REC (y/n)
	(MCL) for drinking water for TCE is 5 ug/L. Since the initial maximum of 7 ug/L, TCE concentrations have been at or below the MCL. Lead concentrations in soil exceed the ODEQ Risk Based Concentration (RBC) for leaching into groundwater, however low lead concentrations in groundwater suggest lead is not actively leaching in this area. Based on the groundwater monitoring events, shallow groundwater is expected to flow east towards Neacoxie Creek. In December 2009, DEQ concluded that, based on all available information, the environmental conditions at the former landfill do not pose an unacceptable risk to human health and the environment. They therefore proposed a Conditional No Further Action (NFA) determination for the former landfill in January 2010. This Conditional NFA is still in process. Based on the status of this site with ODEQ and the apparent groundwater flow direction, the former landfill does not appear to be a REC to the Property. <u>Burn Pit</u> The burn pit is located First Causeway Road, south/southeast of the former landfill. Dimensions were approximately 25 feet by 30 feet in an oval shape and approximately 3 feet deep. The burn pit was used to reduce solid waste volume prior to disposal in the 1980's. A 2001 survey of the burn pit soils was conducted by USACHPPM. Soil samples were collected and analyzed, and several metals and leachable lead was discovered in the soil samples exceeding hazardous waste levels. In 2005, ten borings were completed in the burn pit area. Arsenic, barium, cadmium, chromium and lead were discovered in the soils and groundwater. Concentrations of arsenic and lead were above DEQ RBCs for arsenic and EPA Preliminary Remediation Goals (PRGs) for lead. Arsenic concentrations in groundwater exceeded both PRGs and MCLs, however these concentrations were contributed to high total suspended solids in the unfiltered groundwater samples. Leaching of Arsenic from the burn pit was not suspected. In August 2007, approximately 261 tons of excavated soils and other materials were removed from the burn pit area, the excavation measured 60 feet by 35 feet and up to 9 feet deep. Confirmation samples indicated all soils that had been impacted by the burn pit had been removed. A Partial NFA was issued for the burn pit in January 2009. Based on the Partial NFA issued by ODEQ, as well as on site visual observations of the former burn pit area, the burn pit does not appear to be a REC to the Property. <u>Barracks Area</u> The former barracks area is located along the west side of McCarter Road, south of Patriot Way. The barracks used to be heated with WW-II era diesel-burning stoves. From approximately 1940's until the 1980's diesel leaked from those stoves, contaminating the surrounding soils. Based on monitoring wells installed in the area, groundwater had not been affected. Based on conversations with Jim Arnold of the OMD, the diesel contaminated soils have been removed and the site remediated. This area is not within the Property boundaries. Based on the location of the former barracks, the lack of groundwater contamination, and the conversations with OMD personnel, the barracks area does not appear to be a REC to the Property.	

Database(s) Listed	Comments	REC (y/n)
UIC	Eight (8) Underground Injection Control (UIC) wells, or drywells, are located on Camp Rilea. These UICs were removed as part of a compound improvement and paving project, completed in June 2003. These UICs did not fall within the Property.	N
DOD	Federally owned or administered land, administered by the Department of Defense, greater than 640 acres within the United States. Camp Rilea falls into this DOD category, and is listed in the database as "Camp Rilea Military Reservation".	N

3.2.1 Local Fire Department Records

Agency Contacted (Name, Address, Phone Number)	Description of records
State of Oregon Fire Marshal Community Right to Know 4760 Portland Road NE Salem, OR 97305-1760	The State Fire Marshal has a list of all hazardous substances used, generated, or stored on properties in Oregon. Information could not be obtained from the State Fire Marshal during the course of this PCA.

3.2.2 Local Health Department/ State Environmental Agency Records

Agency Contacted (Name, Address, Phone Number)	Description of records
Oregon Department of Environmental Quality (ODEQ)	ODEQ manages environmental records of properties within the state of Oregon; records include, but are not limited to, underground storage tanks, above ground storage tanks, water discharge permits, hazardous materials handling, disposal and storage permits, contaminant releases, and cleanups. Camp Rilea has four listings with ODEQ. Details are in Section 3.2.

Photocopies of relevant supporting materials documenting the status of RECs, where readily ascertainable, are included in Appendix E.

3.3 Historical Records Search

The table below presents a summary of the operational history of the Property. The summary is an integration of the findings of the individual historical record sources presented in subsequent sections.

Summary of Property History	
Dates	Property Use

1927 – Present	Oregon Military Department (OMD) installation. Training center for multiple OMD and civilian operations, including air force and local police forces. Name of the camp was changed from Camp Clatsop to Camp Rilea in 1959.

3.3.1 Aerial Photographs

Year	Scale	Observations
1956	1" = 1000'	Slusher Lake is observed, as well as Neacoxie Creek that runs north-south located to the east of the Property, west of the current Highway 101. A small number of buildings are observed on Camp Rilea.
1977	1"= 1000'	No large changes are observed from the 1956 aerial photograph. Camp Rilea appears developed (landscaping observed), however no buildings are discernable.
1981	1" = 1000'	The waste water treatment ponds are observed in the current location. Roadways and fields are observed on Camp Rilea.
1990	1" = 750'	Buildings are observed on Camp Rilea to the northwest of the waste water treatment ponds. Quality of the aerial photo is poor, no other large changes are observed from the 1981 aerial photograph.
2000	1" = 750'	The layout of Camp Rilea reflects current conditions. The west side of the Property is not within the aerial photograph.
2005	1" = 604'	The layout of Camp Rilea reflects current conditions. The west side of the Property is not within the aerial photograph.

Historical aerial photographs were obtained from, or viewed at, the following sources:

- The EDR Aerial Photo Decade Package, Inquiry Number: 2713719.5

3.3.2 Topographic Maps

Year	Scale	Observations
1949	1:24,000	Gearhart, OR Quad Approximately half of the southern portion of Camp Clatsop Military Reservation (Camp Rilea) observed in the north of the map along the coastline. Long rows of buildings are observed along the main center road. Highway 101/26 is observed to the east. Slusher Lake is observed to the south.
1973	1:24,000	Gearhart, OR Quad New buildings are observed to the east of the existing rows of buildings; the new buildings are larger in size. Additional unpaved roads are observed in the dune areas towards the coastline, on western Camp Rilea.

Year	Scale	Observations
1953	1:24,000	Warrenton, OR Quad Approximately half of the northern portion of Camp Clatsop Military Reservation (Camp Rilea) observed in the south of the map along the coastline. One long road is observed running north to south, and very few buildings are depicted.
1996	1:24,000	Warrenton, OR Quad Additional unpaved roads are observed on Camp Rilea. No buildings are observed.

Historical topographic maps were obtained from, or viewed at, the following sources:

- The EDR Historical Topographic Map Report, Inquiry Number: 2713719.4

3.3.3 Historical Fire Insurance Maps

Shaw was unable to access reasonably ascertainable historical fire insurance maps from the following sources:

- EDR Certified Sanborn® Map Report, Inquiry Number: 2713719.3

3.3.4 City Directories

Year	Uses	Historical City Directory
1966 – 2000	Target Property Address Not Found	Polk's City Directory Abstract

Name of city directories and source:

- The EDR-City Directory Abstract, Inquiry No. 2713719.6

3.3.5 Property Tax Files

Year	Owner
1937 to Present	Oregon Military Department (occupied by Oregon Army National Guard (ORARNG)

Source of ownership information:

- *Site Assessment Survey No., 38-EH-1332b-01, Camp Rilea, Warrenton, Clatsop County, Oregon,* September 2001, US Army Center for Health Promotion and Preventative Medicine.

3.3.6 Building Department Records

Year	Description of Permit (permitee and subject of permit)
Feb 2009 – Feb 2010	During this time, permits have been issued to build a pole building, transformer pad, training platform, three buildings were resided and/or reroofed, transition range cover, freestanding loading dock, and the VA medical unit was remodeled.

Source of building permit records:

- Clatsop County Building Permits Department

3.3.7 Zoning/Land Use Records

Year	Description of Zoning / Land Use Records
Present	Property is zoned Military Reserve, with portions zoned as Lake and Wetland. The lake/wetland area includes a seasonal stream that leads north from Slusher Lake during high water. The actual construction area will lie to the east of this seasonal stream, and no construction is anticipated to occur in this area.

Source of zoning / land use records:

- Clatsop County GIS, http://maps.co.clatsop.or.us

3.4 Hazardous Materials

Chlorine is stored in the waste water treatment building, south of the water treatment ponds. The chlorine is stored in accordance with applicable rules and regulations, and only authorized personnel can access this area. The chlorine is used to treat the waste water prior to the leachate spray system. This building is located adjacent to the southeastern tip of the Property.

Munitions are temporarily stored in bunkers at the Police Training Facility near the center-south of the Property. The bunker is not on the Property, but lies adjacent to it. The munitions are handled by trained personnel only, and are never stored outside of the bunker.

The Property runs north along a roadway that is west of the firing ranges. The firing ranges are located approximately 300 to 900 feet away from the Property. It is possible that stray fired munitions can reach the Property area, however this is highly unlikely, due to the way the firing ranges are designed. The firing ranges and targets lie at an elevation approximately 30 feet below the elevation of the Property. The targets are placed at the edges of the dunes, so that any munitions fired that do not hit the targets will be stopped by the dunes.

There were not historically any hazardous materials stored on the Property. As with current conditions, the possibility of fired munitions from the firing ranges reaching the Property is low.

3.5 Hazardous Wastes

There are not currently any hazardous wastes that are handled on the Property. There are hazardous wastes that are handled east of the Property on Camp Rilea. These wastes do not appear to come in contact with or affect the Property. All hazardous wastes that are generated on Camp Rilea are regularly and properly disposed of off site in accordance with Oregon Military Department guidelines and regulations.

Historically, the former landfill and former burn pit areas potentially contained hazardous wastes. Historical analytical results from soils and groundwater collected in these areas indicated metals and VOCs above regulatory cleanup levels. As described in Section 3.2, a Partial NFA has been issued for the burn pit, and a Conditional NFA is in process for the former landfill. Based on the current status of these sites, they do not appear to be a current environmental condition to the Property.

3.6 Petroleum Products

No petroleum products are currently, or were historically, stored on the Property. Used oils were possibly burned in the burn pit, located along the Property line on First Causeway Road. The burn pit was remediated in 2007, and ODEQ issued a Partial NFA in 2009 for the burn pit area. Based on the cleanup of this area and the ODEQ Partial NFA, the possible disposal of these petroleum products in the burn pit does not appear to be a REC to the Property.

3.7 Other Environmental Contamination

Shaw investigated the following Special Contamination Concerns as part of the scope of this PCA.

Currently, on all Oregon Military Department sites, all hazardous and toxic materials are managed in conformance with applicable Oregon Army National Guard, state, and federal requirements.

3.7.1 Lead-Based Paint

There are no buildings located on the Property, and therefore Lead-Based Paint (LBP) will not likely be encountered on the Property. There was no evidence of historical dumping or disposal of LBP encountered during this PCA.

3.7.2 Asbestos

There are no buildings located on the Property, and therefore Asbestos Containing Materials (ACM) will not likely be encountered on the Property. There was no evidence of historical dumping or disposal of ACM encountered during this PCA.

3.7.3 Radon

Shaw's assessment of radon was limited to research of published information specific to the general area of the Property location. Radon is a colorless, tasteless, radioactive gas with an EPA-specified action level of 4.0 picoCuries per liter (pCi/L) of air. Radon gas has a very short half-life of 3.8 days. The health risk potential of radon is associated with its rate of accumulation within confined areas, particularly confined areas near or in the ground, such as basements, where vapors can readily transfer to indoor air from the ground through foundation cracks or

other pathways. Large, adequately ventilated rooms generally present limited risk for radon exposure.

According to regional radon information obtained from the EPA, the Property is located within EPA-designated Zone 2 for radon gas. Average radon concentrations within Zone 2 are reported to be between 2 and 4 pCi/L. Based on Shaw's review of available information, as well as the absence of buildings on the Property, elevated radon levels do not appear to represent a potential environmental risk.

A copy of the EPA radon map of Oregon is provided in Appendix E.

3.7.4 Pesticides

Shaw's assessment of the use of pesticides on the Property was limited to research of published information and interviews.

No historical information about pesticide use was available to Shaw during this PCA.

In accordance with Oregon Military Department and Oregon Army National Guard rules and regulations, all pesticides are applied by a certified applicator and the application plan is monitored. All pesticide use is reported to the National Guard Bureau. Pesticides applied in accordance with manufacturer instructions as part of the landscape maintenance program are not considered a potential environmental risk.

3.7.5 Polychlorinated Biphenyls (PCBs)

Camp Rilea is listed on the US Environmental Protection Agency (EPA) PCB Activity Database System (PADS) as a generator of PCBs. The site contact on the database is Jennifer Losson. Ms. Losson was contacted regarding the PCB generation on site, but could not be reached in a timely manner. These listings are usually related to generating waste containing PCBs, including light ballasts, transformers, and possibly hydraulic or cooling oils.

During the site reconnaissance, Shaw's representative did not observe any evidence of stains, leaks or other hazardous conditions associated with the transformers adjacent to or on the Property. There are no buildings on the Property, therefore light ballasts are not a likely concern. Mr. Ken Klee, the site maintenance supervisor, informed the Shaw representative during the site visit that all transformers currently on site are free of PCBs. Analytical samples of the soils at the former burn pit and former landfill were analyzed for PCBs, all resulting in no PCBs detected at or above method reporting limits. Therefore, PCBs do not appear to be an environmental concern to the Property.

3.7.6 Unexploded Ordnance (UXO)

Shaw's assessment of the Property included the possible existence of UXO on the site. The firing and grenade ranges are east of the Property, and the likelihood is low that any UXO may have reached the Property.

Based on observations, interviews and historical information recovered, it does not appear that UXO are of concern on the Property.

4.0 Site Reconnaissance

Shaw's representative, Audrey Turpening, conducted a site reconnaissance of the Property and surrounding area on March 5, 2010. The objective of the site reconnaissance was to obtain information indicating the presence of RECs in connection with the Property.

4.1 Methodology

Shaw used the following methodology to observe the Property:

- Confirmed the definition of the Property boundaries with Ken Klee of the Oregon Military Department
- Traversed the outer Property boundary
- Traversed transects across the Property
- Drove all roadways within the Property.

Photographs of the Property and adjacent properties are included as Appendix D to this report.

4.2 Site Reconnaissance Observations

4.2.1 Property Representative Escorting Site Assessor

Name of Property Representative and relationship to the Property	Company	Title	Years of Experience with Property and Other Site Qualifications
Ken Klee	Oregon Military Department	Maintenance Supervisor	37 years as maintenance supervisor

4.2.2 Interior Observations

There are no buildings located on the Property.

4.2.3 Exterior Observations

Shaw made the following exterior observations during out site reconnaissance:

Issue	Comments
Hazardous materials or petroleum products	None observed
Hazardous waste	None observed

Issue	Comments
Solid waste	The former landfill is located adjacent to the Property off of First Causeway Road and NBC Road. A Partial NFA is currently being issued by ODEQ. This former landfill does not appear to be a REC to the Property.
Wells	A water supply well is located on the Property, adjacent to the proposed location to two more water supply wells. This well has been developed, but is not currently connected to any water pipelines for use.
Process wastewater	None observed
Storm water	Stormwater mainly infiltrates the sandy soils on the Property, and will sheet flow off the roads and either infiltrate the adjacent soils or run into catch basins. The stormwater catch basins discharge into Neacoxie Creek on Camp Rilea, east of the Property. Camp Rilea currently holds a NPDES discharge permit for discharges to Neacoxie Creek.
Drains, sumps, and drywells	Drywells have been registered with ODEQ, and are located north of the Property in the wash rack area of Camp Rilea. There are no sumps or drywells located within the Property boundaries.
Odors	None observed
PCB-containing equipment	None observed
Pits, ponds, or lagoons; Property	Two waste water treatment ponds are located just east of the southern tip of the Property. The first pond is for aeration, the second pond for settling, then the waste water leads through a chlorine treatment and is sprayed into a leachate field.
Stained soil or pavement	None observed
Stressed vegetation	None observed
General exterior yardkeeping	The Property is kept in generally good condition. The lawns are mowed short and no debris was observed.

4.2.4 Underground Storage Tanks/Structures

Existing underground storage tanks (UST):	There were no existing on-site USTs reported or observed.
Former USTs:	All historical USTs have been decommissioned. None of these historical USTs were located on the Property.

NOTE: Shaw's assessment of USTs included interviews with the Property Owner/Operator and visually apparent observations including repairs to pavement, vent pipes, ancillary equipment, and fill ports; as well as a review of readily ascertainable records relating to current and historical heating fuel sources and local and state records.

4.2.5 Aboveground Storage Tanks

Existing aboveground storage tanks (AST):	One AST is located on Camp Rilea, north of the Property in the vehicle wash rack/fueling area.

Former ASTs:	Quonset huts were placed on the Property between the 1940's and the 1980's in the barracks area. These huts used individual oil burning stoves for heat. Releases from these stoves have been recorded with ODEQ. According to interviews with OMD personnel, the petroleum contaminated soils have been removed. No petroleum contaminated groundwater was encountered during previous investigations. These areas are not on the Property, and do not appear to be a REC to the Property.

NOTE: Shaw's assessment of ASTs included interviews with the Property Owner/Operator and visually apparent observations including repairs to pavement, tank pads and ancillary equipment, and spill containment berms; as well as a review of readily ascertainable records relating to current and historical heating fuel sources and local and state records.

4.2.6 De minimis Conditions

ASTM defines de minimis conditions as those that "generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies," i.e., minor soil staining. There were no de minimis conditions identified during the course of this PCA.

5.0 Response Actions

Shaw investigated the possible existence of current and/or closed response actions, consent orders, or other regulatory orders that pertain to the Property. Based on State investigation, Federal investigation, and interviews with site personnel, Shaw discovered the following information regarding response actions.

5.1 Ongoing Response Actions

5.1.1 Former Landfill

The former landfill was located on the east side of the current MARF range maintenance shop, west of Neacoxie Road and at the northern tip of NBC Road. According to previous site assessments, the landfill was active from about the 1930's until the 1980's. The landfill covered approximately 4,000 square feet.

In 1996 six temporary well points were installed by the US Army Center for Health Promotion and Preventative Medicine (USACHPPM). Groundwater was sampled, analyzed, and found to contain trichloroethylene (TCE) above regulatory cleanup levels. In September 2005, 28 borings and four tests pits were completed in the former landfill area to determine landfill delineation and possible contamination. Arsenic, lead and mercury were discovered in the soils, as well as TCE and tetrachlorethylene (PCE). Groundwater samples were analyzed, they contained arsenic, lead, TCE, PCE, and 1,1,2,2-tetrachloroethane.

In 2007 a deep groundwater investigation was conducted by AMEC Earth & Environmental, Inc. (AMEC). A boring was advanced to a total depth of 86 feet bgs, water was sampled at 48, 73, and 84 feet bgs. No volatile organic compounds (VOCs) were detected, and it was determined the VOC contamination was limited to shallow groundwater.

Five permanent groundwater monitoring wells were installed in 2007. A total of nine groundwater monitoring events have been conducted at the former landfill site. Groundwater samples have been analyzed for metals and VOCs. TCE has been continuously detected in groundwater, at a concentration of 7 micrograms per liter (ug/L). The Environmental Protection Agency (EPA) maximum contaminant level (MCL) for drinking water for TCE is 5 ug/L. Since the initial maximum of 7 ug/L, TCE concentrations have been at or below the MCL. Lead concentrations in soil exceed the ODEQ Risk Based Concentration (RBC) for leaching into groundwater, however low lead concentrations in groundwater suggest lead is not actively leaching in this area.

Based on the groundwater monitoring events, shallow groundwater is expected to flow east towards Neacoxie Creek.

In December 2009, DEQ concluded that, based on all available information, the environmental conditions at the former landfill do not pose an unacceptable risk to human health and the environment. They therefore proposed a Conditional No Further Action (NFA) determination for the former landfill in January 2010. This Conditional NFA is still in process. Based on the status of this site with ODEQ and the apparent groundwater flow direction, the former landfill does not appear to be a REC to the Property.

5.2 Closed Response Actions

5.2.1 Burn Pit

The burn pit is located First Causeway Road, south/southeast of the former landfill. Dimensions were approximately 25 feet by 30 feet in an oval shape and approximately 3 feet deep. The burn pit was used to reduce solid waste volume prior to disposal in the 1980's.

A 2001 survey of the burn pit soils was conducted by USACHPPM. Soil samples were collected and analyzed, and several metals and leachable lead was discovered in the soil samples exceeding hazardous waste levels.

In 2005, ten borings were completed in the burn pit area. Arsenic, barium, cadmium, chromium and lead were discovered in the soils and groundwater. Concentrations of arsenic and lead were above DEQ RBCs for arsenic and EPA Preliminary Remediation Goals (PRGs) for lead. Arsenic concentrations in groundwater exceeded both PRGs and MCLs, however these concentrations were contributed to high total suspended solids in the unfiltered groundwater samples. Leaching of Arsenic from the burn pit was not suspected.

In August 2007, approximately 261 tons of excavated soils and other materials were removed from the burn pit area, the excavation measured 60 feet by 35 feet and up to 9 feet deep. Confirmation samples indicated all soils that had been impacted by the burn pit had been removed.

A Partial NFA was issued for the burn pit in January 2009. Based on the Partial NFA issued by ODEQ, as well as on site visual observations of the former burn pit area, the burn pit does not appear to be a REC to the Property.

6.0 Adjacent Properties

6.1 Historical Records Search

The table below presents a summary of the operational history of the adjacent properties. The summary is an integration of the findings of the individual historical record sources presented in subsequent sections.

Summary of Adjacent Property History	
	Property Use
North	At least 1949 to Present: the north property line of Camp Rilea acts as the city limits for Warrenton, Oregon. Area has been light residential, agricultural, and forestland
South	At least 1949 to Present: Astoria Country Club, light residential/agricultural, and wetland/forestland
East	At least 1949 to Present: Highway 101/26, residential and agricultural, and light commercial, including a church and a school.
West	Pacific Ocean and coastline.

6.1.1 Standard Environmental Records Search

Shaw reviewed the regulatory database information provided by Environmental Data Resources, Inc. (EDR), Inquiry No. 2713719.2s. Regulatory database information for all listed adjacent properties is provided below:

Facility Name/Address	Listing	Distance from Property	Direction from Property	Gradient
Williams, Linda 33325 Patriot Way	LUST	1431 feet	West	Up-gradient
Comments: A leaking underground storage tank (LUST) was discovered in February 2002. Cleanup was completed and reported to Oregon Department of Environmental Quality (ODEQ) in March 2002. This site does not appear to be a REC to the Property.				
Tagg Pioneer Farm 91146 Pioneer Farm Road	ECSI VCP	3000 feet	Southeast	Down-gradient
Comments: An independent cleanup was conducted on the site in 2004, and the site received a No Further Action (NFA) from ODEQ in July 2005. No details are available regarding type and extent of contamination. Based on NFA status of the site, it does not appear to be a REC to the Property.				

6.1.2 Aerial Photographs

Year	Scale	Observations
1956	1" = 1000'	North: The area north of Camp Rilea appears undeveloped or agricultural South: Slusher Lake is observed. The area south of Camp Rilea is not within the extent of the aerial photograph East: Neacoxie Creek and Highway 101/26 are observed. Small buildings are observed on the land east of the highway. The land appears agriculturally developed West: Property west of Camp Rilea is not within the extent of the aerial photograph
1977	1" = 1000'	No significant changes are observed from the 1956 aerial photograph.
1981	1" = 1000'	North: More development is observed on Camp Rilea, including more roads and buildings. The area north of Camp Rilea appears agricultural or undeveloped. South: Slusher Lake is observed. The area south of Camp Rilea is not within the extent of the aerial photograph East: The treatment ponds are observed, as well as Neacoxie Creek and the Highway. Properties east of the highway appear agricultural. West: Property west of Camp Rilea is not within the extent of the aerial photograph
1990	1" = 750'	North: The properties north of Camp Rilea are not within the extent of the aerial photograph. South: The area south of Camp Rilea is not within the extent of the aerial photograph East: More buildings are observed on Camp Rilea, and Neacoxie Creek and the highway are still observed. Properties east of the highway appear agricultural or residential. West: Property west of Camp Rilea is not within the extent of the aerial photograph.
2000	1" = 750'	North: The properties north of Camp Rilea are not within the extent of the aerial photograph. South: The area south of Camp Rilea is not within the extent of the aerial photograph East: More buildings are observed on Camp Rilea, and Neacoxie Creek and the highway are still observed. Properties east of the highway appear agricultural or residential. West: Property west of Camp Rilea is not within the extent of the aerial photograph.
2005	1" = 604'	North: The properties north of Camp Rilea are not within the extent of the aerial photograph. South: The area south of Camp Rilea is not within the extent of the aerial photograph East: More buildings are observed on Camp Rilea, and Neacoxie Creek and the highway are still observed. Properties east of the highway appear agricultural, residential, and possibly light commercial (stores). West: Property west of Camp Rilea is not within the extent of the aerial photograph.

Historical aerial photographs were obtained from, or viewed at, the following sources:

- The EDR Aerial Photo Decade Package, Inquiry Number: 2713719.5

6.1.3 Topographic Maps

Year	Scale	Observations
1949	1:24,000	Gearhart, OR Quad North: The Property north of Camp Rilea is not within the topo map South: Slusher Lake, Sunset Lake, a few main roads and unpaved roads, and buildings line those roads. Astoria Country Club is observed off the southeast corner of Camp Rilea. East: Highway 101/26 is observed, as well as the Spokane, Portland, and Seattle railroad. Unpaved roads and buildings are observed east of the highway. West: The coastline and Pacific Ocean is observed west of Camp Rilea.
1973	1:24,000	Gearhart, OR Quad No significant changes are observed.
1953	1:24,000	Warrenton, OR Quad North: Kyle Lake, Long Lake, and Leinenweber Lake are observed north of Camp Rilea. These lakes appear to be wetlands. South: Properties south of Camp Rilea are not within the extent of the topo map East: Smith Lake and the highway are observed. Buildings are observed along the highway. The railroad is observed east of the highway. West: The coastline and Pacific Ocean is observed west of Camp Rilea.
1996	1:24,000	Warrenton, OR Quad North: The size and shapes of the lakes have been altered. No other significant changes are observed. South: Properties south of Camp Rilea are not within the extent of the topo map East: Smith Lake and the highway are observed. Buildings are observed along the highway; more buildings are observed than in 1953. The railroad is observed east of the highway. West: The coastline and Pacific Ocean is observed west of Camp Rilea.

Historical topographic maps were obtained from, or viewed at, the following sources:

- The EDR Historical Topographic Map Report, Inquiry Number: 2713719.4

6.1.4 Historical Fire Insurance Maps

Shaw was unable to access reasonably ascertainable historical fire insurance maps from the following sources:

- EDR Certified Sanborn® Map Report, Inquiry Number: 2713719.3

6.1.5 *City Directories*

Year	Address	Uses	Historical City Directory
2000	33218 Patriot Way	Residential	Polk's City Directory Abstract
	33322 Patriot Way	Residential	
	33325 Patriot Way	Not Verified	

Note: Property uses anticipated to have potential environmental significance have been italicized.

Name of city directories and source:

- The EDR-City Directory Abstract, Inquiry No. 2713719.6

6.1.6 *Zoning/Land Use Records*

Vicinity	Description of Zoning / Land Use Records
North	City of Warrenton Boundary
South	Open space park and recreation; lake and wetland; RA-5: Residential agriculture 5
East	Lake and wetland; RA-1: Residential agriculture 1; RA-5: Residential agriculture 5
West	Not zoned: Pacific Ocean.

Source of zoning / land use records:

- Clatsop County GIS, http://maps.co.clatsop.or.us

7.0 Conclusions

7.1 Historical Recognized Environmental Conditions and de Minimis Conditions

This assessment has revealed the following historical RECs in connection with the Property.

Former Landfill

The former landfill was located on the east side of the current MARF range maintenance shop, west of Neacoxie Road and at the northern tip of NBC Road. According to previous site assessments, the landfill was active from about the 1930's until the 1980's. The landfill covered approximately 4,000 square feet.

From 1996 to 2009, soils and groundwater at the former landfill were sampled and analyzed. Analytical results revealed trichloroethene (TCE) contamination in the shallow groundwater consistently at or above the Environmental Protection Agency (EPA) maximum contaminant level (MCL) for drinking water. The affected shallow groundwater in this area flows east towards Neacoxie Creek; models conducted on the groundwater indicate the TCE plume not affecting Neacoxie Creek.

In January 2010 Oregon Department of Environmental Quality (ODEQ) proposed a Conditional No Further Action (NFA) for the former landfill. At present time, the Conditional NFA is still in process. However, based on the status of the site and groundwater flow, this site is no longer considered an active REC.

Burn Pit

The burn pit is located First Causeway Road, south/southeast of the former landfill. Dimensions were approximately 25 feet by 30 feet in an oval shape and approximately 3 feet deep. The burn pit was used to reduce solid waste volume prior to disposal in the 1980's.

Between 2001 and 2005, soil and groundwater in the burn pit area was sampled and analyzed. Analytical results revealed arsenic (As) and lead (Pb) contamination in the soils above ODEQ Risk Based Concentrations (RBC) for As and EPA Preliminary Remediation Goals (PRG) for Pb. In 2007, approximately 261 tons of excavated soils and burn pit materials were removed. Confirmation samples indicated all soils that had been impacted by the burn pit had been removed.

A Partial NFA was issued for the burn pit in January 2009. Based on the Partial NFA issued by ODEQ, as well as on site visual observations of the former burn pit area, the burn pit no longer appears to be a REC.

7.2 Current Recognized Environmental Conditions

Shaw has performed a Preconstruction Assessment in conformance with the scope and limitations of US Army Environmental Center (USAEC) Procedures Manual for the Environmental Survey and Clearance of a Construction Site, dated October 1999 of The Project Areas as described in Section 2.1 within Camp Rilea, 33168 Patriot Way, Warrenton, Clatsop County, Oregon 97146 (the Property). Any exceptions to, or deletions from, this practice are described in Section 1.3 of this report.

This assessment has revealed no recognized environmental conditions in connection with the Property.

7.3 Known or Suspected Areas with Restrictions

Based on the findings of this PCA, there are no areas on the Property with any restrictions for construction.

Appendix A

Qualifications of Environmental Professionals

David Seluga

Experience Highlights:

- More than 25 years of experience managing and assisting client to meet their environmental obligations.
- Experience conducting audits and internal investigations and identifying regulatory impacts.
- Broadly knowledgeable in regulatory requirements, compliance assurance methods, and due diligence.

Office Location:

Portland, OR

Education

Post-Baccalaureate studies in Process Management, Oregon Institute of Technology, Klamath Falls, OR

BS, Wood Science and Engineering, Oregon State University, Corvallis, OR

Additional Training

Production Management, Labor Relations, Total Quality Statistical Process Control, Leadership Institute, Total Quality Environmental Audit Training, Team Leadership/Management Support Role, Team Interaction, Rapid Change, Business Process Improvement, Capital Projects Management Systems

Affiliations

Charter Member, Oregon Department of Environmental Quality (ODEQ) Western Region Industry Roundtable

Sustaining member, National Council for Air and Stream Improvement

Background Summary

Mr. Seluga is a senior project manager in Shaw's Portland, Oregon, office with more than 25 years of experience managing and assisting industrial facilities to meet their environmental obligations as well as to improve operational efficiencies. He has career-long experience in industry as a facility staff scientist and manager, corporate consultant, and independent consultant. Mr. Seluga has experience conducting compliance audits and internal investigations, identifying regulatory impacts, assessing contamination risks, and implementing needed facility changes. Mr. Seluga's industrial environmental experience includes obtaining and managing environmental permits for various manufacturing facilities as well as being responsible for all regulatory relationships. He is broadly knowledgeable in regulatory requirements, compliance assurance methods, and due diligence.

Relevant Experience

- **Port of Portland, EMS Assessment and Implementation, Project Manager.** Currently serving as Project Manager and primary point of contact with the client. Manages the day-to-day aspects of the project, provides peer/senior review of procedures and standard operating procedures, and assisted in the development of the EMS manual for the Port EMS.
- **Oregon Department of Transportation, Client Manager.** Served as client interface and overall project director for the following Oregon Department of Transportation projects:
  - ***Klamath Falls Hazardous Materials Corridor Assessment –*** Project manager for a two mile hazardous materials assessment along Highway 97 in southern Oregon. On time, on budget project.
  - ***Detroit Lake Oil Spill –*** Project manager and client lead for evaluating clean up solutions for an oil spill near Detroit lake. On time and on budget project.
  - ***Humbug Mountain Hazardous Materials Inventory –*** Project manager for a hazardous materials assessment of three buildings in the ODOT right-of-way on the Oregon coast. On time and on budget project.
  - ***Redmond Sidewalk Infilling –*** Project manager for a 12 city block hazardous materials assessment for sidewalk placement along Highway 97. On time and on budget.
  - ***Redmond US 97 Reroute –*** Project manager and client lead for two high profile cleanups of sites in the ODOT reroute of Hwy 97 in Redmond, OR. On time and on budget.
- **Confidential Retail Client; Project Director, Compliance Support; Western US.** Western US Lead for exception review, implementation, and compliance support program for a confidential retail client. Coordinated, communicated, and implemented a compliance based review of 500 stores in the western US. Coordinated the review efforts of two outside consultant firms, two legal firms, and the client project management team.
- **Weyerhaeuser Company, Client Manager/Project Manager.** Served as client interface and overall project director for the following Weyerhaeuser projects:

- ***Wood Products Roundtable –*** Served as a member of the roundtable to develop an ISO compliant Weyerhaeuser-wide EMS.
- ***Mt. Solo Landfill Post-Closure Operations and Maintenance –*** Project manager overseeing three field technicians monitoring landfill gas systems.
- ***Ostrander Rock Landfill Post-Closure Operations and Maintenance –*** Project manager overseeing three field technicians monitoring landfill gas systems and stormwater.
- ***Wimer Truck Shop Phase 2 Investigation –*** Project manager for a detailed Phase 2 subsurface investigation of a former truck shop in Lebanon, OR. On time and on budget project.
- ***Headquarters Landfill Water Monitoring –*** Project manager overseeing three technicians completing surface and subsurface water monitoring.

- **Louisiana-Pacific, Client Manager/Project Manager.** Served as client interface and overall project director for the following LP projects:
  - ***Comparative Study of Best-in Class EMS –*** Project manager and client lead for evaluating best in class EMS in the US. On time and below budget project.
  - ***EMS Development –*** Assisted five sawmills in Idaho and Montana in the development of a compliance-based EMS.
  - ***Elk Creek and Red Bluff Landfill Post-closure Monitoring –*** Project Manager for subsurface water monitoring of two closed landfills in CA.
  - ***Limited-Scope Phase II ESA for at the Hillsboro Airport –*** Project manager for a Phase 2 subsurface investigation at the Hillsboro airport as part of an LP divestiture.
- **7-Eleven Western Region Project Manager.** Project manager overseeing four auditors in eight western states involved in completing gas station hazardous materials audits and a review of the gas EMS.

Audrey Turpening, EIT

Experience Highlights:

Experience with Phase I Environmental Site Assessments (ESAs); data management and reporting; field work, including assistance with petroleum, polychlorinated biphenyls, and drilling; Spill Prevention, Control and Countermeasure (SPCC) Plans, Water Pollution Control Facilities (WPCF) and Stormwater Pollution Control Plans (SWPCP).

Office Location

Portland, OR

Education

BS, Chemical Engineering, Oregon State University, Corvallis, OR.

Registered Engineer in Training, Cert #80505EIT, 2008

Additional Training

40 hr HAZWOPER certification, 2006, Portland, OR

8hr HAZWOPER refresher, 2009, Portland, OR

Affiliations

American Institute of Chemical Engineers, Member, 2006

Background Summary

Ms. Turpening is currently an Engineer 1 in Shaw's Portland, OR office. She has about two years experience with environmental engineering and consulting, including over twenty-five Phase I ESAs, data management for large cleanups, and field work in petroleum, asbestos, and polychlorinated biphenyls cleanups. Ms. Turpening has also assisted in Phase II sampling events, including drilling, sampling, documentation, data management and reporting. She has experience writing Spill Response Reports, Quarterly and Annual Monitoring Reports, and Oregon Department of Environmental Quality correspondence. Ms. Turpening has extensive experience preparing Spill Prevention, Control and Countermeasure (SPCC) Plans, Phase I ESAs, and Stormwater Plans in Oregon and Washington.

Relevant Experience

- **Oregon Department of Transportation - Redmond Highway 97 Reroute; Engineer – Field Work; Redmond, OR.** Served as an assistant engineer in various aspects of the project, including site mapping, soil sampling, and data management. Sampling included soils with polychlorinated biphenyls, petroleum, and asbestos.
- **First Strike Environmental – Roberts Creek Spill; Engineer – Beneficial Use Survey; Roseburg, OR.** Completed a Beneficial Use Survey for the site after a large petroleum spill, managed all data from sampling events at the site for six months, and assisted with the Spill Response Report to receive No Further Action from ODEQ.
- **Shore-Bank Pacific – Phase I ESA; Oregon.** Completed residential Phase I ESA in Portland, OR. Assisted with a residential Phase I ESA in Warrenton, OR, including the discovery of an UST by means of historical research and personal interviews. Assisted with a Phase II on a commercial site in Portland, OR, including soil sampling and drafting a site plan.
- **Confidential Client – Phase I ESA; Oregon.** Conducted multiple Phase I ESAs for residential, commercial, and industrial sites in Oregon and Washington. Sites included commercial, industrial, residential, and vacant residential and commercial sites for future development.
- **Oregon Military Department – Phase I Environmental Baseline Survey (EBS) and Environmental Condition of Property (ECOP); Oregon.** Conducted two Phase I EBS based on Oregon Military Department standards, including an ECOP designation for the entire Property. Properties included a military base and an agricultural lot.
- **Confederated Tribes of the Grand Ronde – Phase I ESA; Oregon.** Conducted two Phase I ESAs on residential properties for the tribe to be brought into Tribal Trust. Reports were submitted to the Bureau of Indian Affairs (BIA), under strict requirements from the BIA.

- **The Holland, Inc – Burgerville, USA Phase I and Phase II ESA; Washington.** Conducted Phase I ESA on three blocks of downtown Vancouver, WA; resulting in the discovery of three underground storage tanks from previous Property operations by means of site reconnaissance and historical research. Conducted Phase II ESA including locating historical tanks, oversight of petroleum removal from tanks, and sampling of surrounding soils.

- **CEMEX, USA; Engineer – Spill Prevention, Control and Countermeasure (SPCC) Plans; Oregon and Washington**
  Prepared SPCC plans for multiple sites in Oregon and Washington for CEMEX, including aggregate mining sites and an asphalt manufacturing sites. Also prepared a Stormwater Pollution Control Plan (SWPCP) 1200-A permit for the mining site and a Water Pollution Control Facilities (WPCF) Permit for the liquid asphalt site.

- **Cessna Aircraft Company; Engineer – Stormwater Pollution Control Plan (SWPCP); Bend, OR.** Prepared SWPCP plan and 1200-Z permit for aircraft manufacturing company, as well as trained staff on stormwater pollution control.

- **Allied Waste – Spill Prevention, Control and Countermeasure (SPCC) Plans; Oregon.** Prepared multiple SPCC plans for Oregon sites, including vehicle and equipment maintenance sites.

- **Schnitzer Steel Industries – Spill Prevention, Control, and Countermeasure (SPCC) Plan; Oregon.** Prepared SPCC plan for main scrap metal collection, processing, and shipping terminal on the Columbia River. Also conducted training for all Schnitzer management staff
- **Multiple Landfills – Data Management and Monitoring Reports; Oregon and Washington.** Manage and coordinate sampling events for groundwater, stormwater, surface water and leachate; manage quarterly and semiannual data; prepare Discharge Monitoring Reports for Stormwater Permits and Quarterly and Annual Environmental Monitoring Reports for groundwater, stormwater, surface water, and leachate for submittal to Oregon Department of Environmental Quality and Washington Department of Ecology; assist with completing Annual Air Emissions Reports for submittal to Southwest Clean Air Agency (state of WA).

Appendix B

Database Assessment Criteria and Statement of Limitations

Regulatory Database Assessment Criteria

The purpose of the regulatory agency environmental database review was to identify reported environmental issues for the Property and other properties in the vicinity. The database search criteria included the approximate minimum search distances specified in the Scope of Work described in Section 1.3. The descriptions of the databases searched and the associated search distances from the Property are identified in the regulatory agency database search report presented in Appendix F.

The database search report lists a number of sites identified as "unmappable." The database search firm was unable to confirm the physical locations of these sites relative to the Property or to assess whether they were located within the designated search radii. Shaw Environmental, Inc. (Shaw) independently reviewed the locations of these "unmappable" sites, to the extent possible, using various maps and our knowledge of the Property area. Any of the "unmappable" sites determined to be within the designated search radii were included in our evaluation of the various listed sites potential to result in a recognized environmental condition relative to the Property.

Shaw evaluated each reported site identified in the regulatory agency database search report with respect to the nature and extent of the release, the distance of the site from the Property, the stratigraphy of soils, the expected soil permeability, and the topographic position of a reported release site with respect to known or expected local and/or regional groundwater flow direction. Reported release sites located within ¼-mile upgradient or ⅛-mile cross-gradient or adjacent downgradient are considered to have a potential to have impacted the Property and were further assessed by reviewing agency records and/or interviewing agency personnel.

Statement of Limitations

The conclusions presented in this report are professional opinions based on data described in this report. These opinions have been arrived at in accordance with currently accepted environmental industry standards and practices applicable to the work described in this report. The opinions presented are subject to the following inherent limitations:

1. This report was prepared for the exclusive use of the entity referenced in the Executive Summary, the User. No other entity may rely on the information presented in the report without the expressed written consent of Shaw. Any use of the Preconstruction Assessment (PCA) report constitutes acceptance of the limits of Shaw's liability. Shaw's liability extends only to its client and not to any other parties who may obtain the PCA report.

2. Shaw derived the data in this report primarily from visual inspections, examination of records in the public domain, and interviews with individuals having information about the Property. The passage of time, manifestation of latent conditions, or occurrence of future events may require further study at the Property; analysis of the data; and reevaluation of the findings, observations, and conclusions in the report.

3. The data reported and the findings, observations, and conclusions expressed in the report are limited by the scope of work that was performed within the approved time and budgetary requirements. The scope of work is presented in Section 1.3 and was agreed to by the client.

4. Shaw's PCA report presents professional opinions and findings of a scientific and technical nature. The report shall not be construed to offer legal opinion or representations as to the requirements of, or compliance with, environmental laws, rules, regulations, or policies of federal, state, or local governmental agencies.

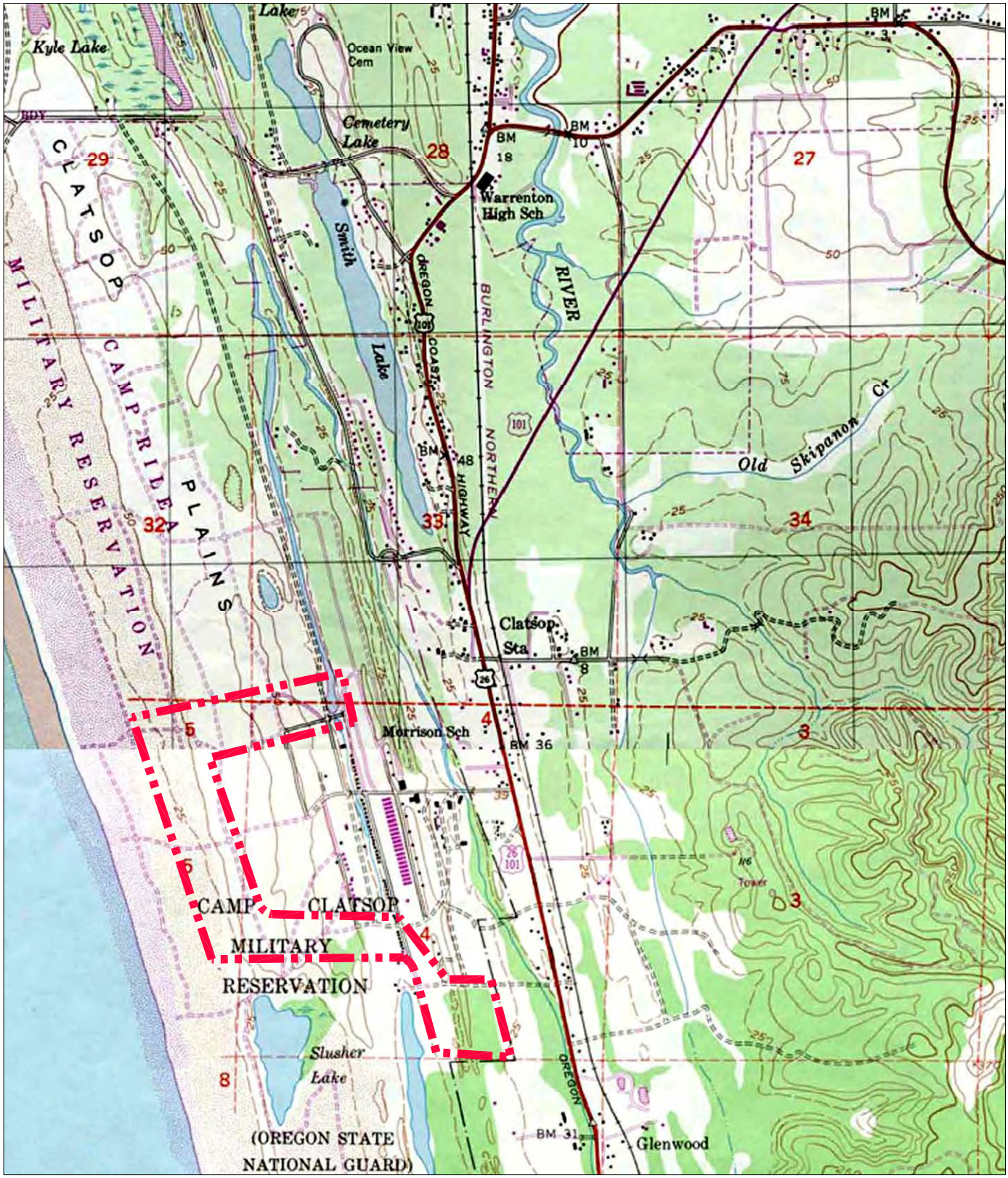
5. This report is not a definitive study of contamination at the Property and should not be interpreted as such. Unless indicated to the contrary in Section 1.3, an intrusive assessment of subsurface soil, groundwater, or other environmental media was not performed as part of this investigation,

6. This report is based, in part, on unverified information supplied to Shaw by third-party sources. While efforts have been made to substantiate this third-party information, Shaw cannot guarantee its completeness or accuracy.

Appendix C

Figures

OFFICE	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
BOTHELL	MPortacio 3/2010	AT 3/10		BT-CRILEA-F1



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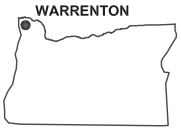


OREGON

LEGEND:

APPROXIMATE PROPERTY BOUNDARY

SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC MAP, GEARHART, OREGON, 1973
WARRENTON, OREGON, 1996

10300 SW Nimbus Avenue, Suite B
Portland, Oregon 97223
Phone (503) 603-1000
Fax. (503) 603-1001

Shaw® Shaw Environmental, Inc.

FIGURE 1

SITE LOCATION MAP

CAMP RILEA
33168 PATRIOT WAY
WARRENTON, OREGON

XREF Files: IMAGE Files: F1 TOPO 1973-1996.jpg
File: N:\Project\final\CADD 2010-Shaw Offices\CAD-Portland\Phase 1-OMD\Drawings\BT-CRILEA-F1.dwg Layout: Model User: maria.portacio Mar 25, 2010 - 3:12pm

XREF Files: IMAGE Files: SITE.jpg
File: N:\Project\final\CADD 2010-Shaw Offices\CAD-Portland\Phase 1-OMD\Drawings\BT-CRILEA-F2.dwg Layout: Model User: maria.portacio Mar 25, 2010 - 4:51pm

OFFICE	DRAWN BY		CHECKED BY		APPROVED BY		DRAWING NUMBER	BT-CRILEA-F2
BOTHELL	MPortacio	3/2010	AT	3/10				

LEGEND:

1. POLICE TRAINING FACILITY
2. APPROXIMATE LOCATION OF PROPOSED RAPID INFILTRATION BASINS
3. GRENADE RANGE
4. FIRING RANGE
5. PROPOSED APPROXIMATE LOCATION OF WATER SUPPLY WELLS
6. FIRING RANGE
7. FORMER BURN PIT
8. FORMER LANDFILL
9. WASTE WATER TREATMENT
10. LEACHATE SPRAY FIELD

APPROXIMATE PROPERTY BOUNDARY

APPROXIMATE SCALE

0 1500 3000 FEET

10300 SW Nimbus Avenue, Suite B
Portland, Oregon 97223
Phone (503) 603-1000
Fax. (503) 603-1001

Shaw® Shaw Environmental, Inc.

FIGURE 2

SITE PLAN

CAMP RILEA
33168 PATRIOT WAY
WARRENTON, OREGON

Appendix D

Photographs

Shaw Environmental & Infrastructure, Inc.

Photographic Documentation

Client: Oregon Military Department
Location: Camp Rilea 33168 Patriot Way, Warrenton, OR
Photograph Date: March 5, 2010

Prepared by: Shaw Environmental, Inc.
Photographer: Audrey Turpening
Shaw Project No.: 138794

Photograph No. 1 **Direction:** East	
Description: Chlorine waste water treatment building	

Photograph No. 2 **Direction:** Northeast	
Description: View of waste water treatment ponds, ponds located at top of hill	

Client: Oregon Military Department
Location: Camp Rilea 33168 Patriot Way, Warrenton, OR
Photograph Date: March 5, 2010

Prepared by: Shaw Environmental, Inc.
Photographer: Audrey Turpening
Shaw Project No.: 138794

Photograph No. 3 **Direction:** South	
Description: Leachate spray field	

Photograph No. 4 **Direction:** North	
Description: Waste water treatment pond, one of two.	

Client: Oregon Military Department
Location: Camp Rilea 33168 Patriot Way, Warrenton, OR
Photograph Date: March 5, 2010

Prepared by: Shaw Environmental, Inc.
Photographer: Audrey Turpening
Shaw Project No.: 138794

Photograph No. 5 **Direction:** Southeast	
Description: Chlorine waste water treatment building, view from treatment ponds.	

Photograph No. 6 **Direction:** South	
Description: View of leachate spray field from treatment pond	

Client: Oregon Military Department
Location: Camp Rilea 33168 Patriot Way, Warrenton, OR
Photograph Date: March 5, 2010

Prepared by: Shaw Environmental, Inc.
Photographer: Audrey Turpening
Shaw Project No.: 138794

Photograph No. 7 **Direction:** West	
Description: View of proposed rapid infiltration (RI) basin construction area	

Photograph No. 8 **Direction:** South	
Description: View of proposed RI basin construction area	

Client: Oregon Military Department
Location: Camp Rilea 33168 Patriot Way, Warrenton, OR
Photograph Date: March 5, 2010

Prepared by: Shaw Environmental, Inc.
Photographer: Audrey Turpening
Shaw Project No.: 138794

Photograph No. 9 **Direction:** West	
Description: View of construction area and coastline from roadway near proposed RI basin area	

Photograph No. 10 **Direction:** South	
Description: View of roadway and proposed pipeline construction area	

Client: Oregon Military Department
Location: Camp Rilea 33168 Patriot Way, Warrenton, OR
Photograph Date: March 5, 2010

Prepared by: Shaw Environmental, Inc.
Photographer: Audrey Turpening
Shaw Project No.: 138794

Photograph No. 11 **Direction:** East	
Description: Forested dune area in proposed pipeline construction area	

Photograph No. 12 **Direction:** North	
Description: Roadway in proposed pipeline construction area	

Client: Oregon Military Department
Location: Camp Rilea 33168 Patriot Way, Warrenton, OR
Photograph Date: March 5, 2010

Prepared by: Shaw Environmental, Inc.
Photographer: Audrey Turpening
Shaw Project No.: 138794

Photograph No. 13 **Direction:** West	
Description: Current water supply well	

Photograph No. 14 **Direction:** North	
Description: Proposed area (approximately) for second water supply well	

Client: Oregon Military Department
Location: Camp Rilea 33168 Patriot Way, Warrenton, OR
Photograph Date: March 5, 2010

Prepared by: Shaw Environmental, Inc.
Photographer: Audrey Turpening
Shaw Project No.: 138794

Photograph No. 15 **Direction:** North	
Description: Proposed area (approximate) for third water supply well	

Photograph No. 16 **Direction:** North	
Description: Roadway for proposed water supply piping	

Client: Oregon Military Department
Location: Camp Rilea 33168 Patriot Way, Warrenton, OR
Photograph Date: March 5, 2010

Prepared by: Shaw Environmental, Inc.
Photographer: Audrey Turpening
Shaw Project No.: 138794

Photograph No. 17 **Direction:** West	
Description: Transformers that will be used for water supply wells.	

Photograph No. 18 **Direction:** North	
Description: Proposed location of fire suppression system and water treatment system.	

Client: Oregon Military Department
Location: Camp Rilea 33168 Patriot Way, Warrenton, OR
Photograph Date: March 5, 2010

Prepared by: Shaw Environmental, Inc.
Photographer: Audrey Turpening
Shaw Project No.: 138794

Photograph No. 19 **Direction:** North	
Description: Roadway adjacent to proposed fire suppression and water treatment systems	

Photograph No. 20 **Direction:** Southeast	
Description: Roadway adjacent to proposed fire suppression and water treatment systems	

Client: Oregon Military Department
Location: Camp Rilea 33168 Patriot Way, Warrenton, OR
Photograph Date: March 5, 2010

Prepared by: Shaw Environmental, Inc.
Photographer: Audrey Turpening
Shaw Project No.: 138794

Photograph No. 21 **Direction:** South	
Description: Roadway adjacent to proposed fire suppression and water treatment systems	

Photograph No. 22 **Direction:** East	
Description: Former burn pit	

Client: Oregon Military Department
Location: Camp Rilea 33168 Patriot Way, Warrenton, OR
Photograph Date: March 5, 2010

Prepared by: Shaw Environmental, Inc.
Photographer: Audrey Turpening
Shaw Project No.: 138794

Photograph No. 23 **Direction:** Northeast	
Description: Former landfill, beyond small hill in foreground	

Photograph No. 24 **Direction:** North	
Description: Top of crest just west of former landfill. Buildings shown lie adjacent to former landfill	

Client: Oregon Military Department
Location: Camp Rilea 33168 Patriot Way, Warrenton, OR
Photograph Date: March 5, 2010

Prepared by: Shaw Environmental, Inc.
Photographer: Audrey Turpening
Shaw Project No.: 138794

Photograph No. 25 **Direction:** Northeast	
Description: Former landfill	

Photograph No. 26 **Direction:** West	
Description: Former landfill. Groundwater monitoring wells observed (yellow bollards).	

Client: Oregon Military Department
Location: Camp Rilea 33168 Patriot Way, Warrenton, OR
Photograph Date: March 5, 2010

Prepared by: Shaw Environmental, Inc.
Photographer: Audrey Turpening
Shaw Project No.: 138794

Photograph No. 27 **Direction:** South	
Description: Former landfill, groundwater monitoring wells observed (yellow bollards).	

Appendix E

Photocopies of Additional Supporting Materials

Documents Provided by Oregon Military Department

- *Installation Compatible Use Noise Zone Study No. 52-34-0510-83, Effects of Large Caliber Weapons Firing and Demolition Activities at Camp Rilea, Oregon*, August 1982, US Army Environmental Hygiene Agency
- *Oregon Army National Guard Statewide Operational Noise Management Plan,* July 2005, US Army Center for Health Promotion and Preventative Medicine
- Excerpt from Camp Rilea Barracks Cleanup Report, January 1994, Cascade Earth Sciences, Ltd.
- Letter Report: *Deep Groundwater Investigation Results, Camp Rilea Former Landfill, Warrenton, OR*, May 2007, AMEC Earth & Environmental, Inc.
- Letter: *Partial No Further Action Determination, Camp Rilea Burn Pit Area, ECSI # 1524, Warrenton, Oregon,* January 2009, Oregon Department of Environmental Quality.
- *Site Assessment Survey No., 38-EH-1332b-01, Camp Rilea, Warrenton, Clatsop County, Oregon,* September 2001, US Army Center for Health Promotion and Preventative Medicine.
- *Final Groundwater Monitoring Report, Former Landfill Area, Camp Rilea, Warrenton, Oregon,* October 2009, AMEC Earth & Environmental, Inc.
- *Phase II Environmental Baseline Study, Camp Rilea,* March 2006, AMEC Earth & Environmental, Inc.
- *Remedial Action and Groundwater Monitoring Report, Camp Rilea,* January 2008, AMEC Earth & Environmental, Inc.
- Letter: *Status Report of Spill #DEQ 94-129*, October 1994, Oregon National Guard Headquarters, Installations Office

CLATSOP COUNTY WEBMAPS
Real Property Map Summary for the
Current Tax Year

Account Info:

Taxlot Key:	710040002700	Property Class:	961
Account Number:	16112	MA:	5
Real Market Value:	86744342	NH:	U
Assessed Value:	19691334	Unit:	
Primary Situs:			

Owner Info:

Owners:	Oregon State Of
Agents:	
Mailing Address:	,

Land Size Info:

Account Num:	Taxcode:	Acres:
34439	3006	
16112	3006	583

Property Info:

Account Num:	Num Stories:	Sq Ft:	Num Bathrooms:	Num Bedrooms:	
34439	1	924	2	2	Diagram

Recent Transactions:

Account Num:	Instrument Num:	Sale Date:	Sale Price:
34439		02/15/2006	0

Special Interest Info:

Account Num:	Spec Int Type:	Spec Int Num:
34439		
16112		

Account Info:

Taxlot Key:	81032D000100	Property Class:	961
Account Number:	32584	MA:	5
Real Market Value:	6149407	NH:	N
Assessed Value:	943054	Unit:	
Primary Situs:			

Owner Info:

Owners:	Oregon State Of
Agents:	
Mailing Address:	,

Land Size Info:

Account Num:	Taxcode:	Acres:
32584	3006	166.6

Special Interest Info:

Account Num:	Spec Int Type:	Spec Int Num:
32584		

Account Info:

Taxlot Key:	81032A000100	Property Class:	961
Account Number:	32583	MA:	5
Real Market Value:	4536051	NH:	N
Assessed Value:	773586	Unit:	
Primary Situs:			

Owner Info:

Owners:	Oregon Military Dept
Agents:	
Mailing Address:	,

Land Size Info:

Account Num:	Taxcode:	Acres:
32583	3006	122.89

Special Interest Info:

Account Num:	Spec Int Type:	Spec Int Num:
32583		

Account Info:

Taxlot Key:	81033C002200	Property Class:	961
Account Number:	32760	MA:	5
Real Market Value:	1884316	NH:	N
Assessed Value:	384539	Unit:	
Primary Situs:			

Owner Info:

Owners:	Oregon State Of
Agents:	
Mailing Address:	,

Land Size Info:

Account Num:	Taxcode:	Acres:
32760	3006	51.05

Special Interest Info:

Account Num:	Spec Int Type:	Spec Int Num:
32760		

Account Info:

Taxlot Key:	71004AB01600	Property Class:	971
Account Number:	16207	MA:	5
Real Market Value:	254071	NH:	M
Assessed Value:	144124	Unit:	
Primary Situs:			

Owner Info:

Owners:	Oregon Military Department
Agents:	
Mailing Address:	Salem, OR 97309-5047

Land Size Info:

Account Num:	Taxcode:	Acres:
16207	3006	2.25

Property Info:

Account Num:	Num Stories:	Sq Ft:	Num Bathrooms:	Num Bedrooms:	
16207	1.2	2402	1	3	Diagram

Recent Transactions:

Account Num:	Instrument Num:	Sale Date:	Sale Price:
16207	200204825	04/17/2002	152675

Special Interest Info:

Account Num:	Spec Int Type:	Spec Int Num:
16207		

Account Info:

Taxlot Key:	710040003100	Property Class:	961
Account Number:	16118	MA:	5
Real Market Value:	14799	NH:	M7
Assessed Value:	3265	Unit:	
Primary Situs:			

Owner Info:

Owners:	Oregon Military Department
Agents:	State of Oregon
Mailing Address:	Salem, OR 97309

Land Size Info:

Account Num:	Taxcode:	Acres:
16118	3005	0.5
16119	3006	9.38

Property Info:

Account Num:	Num Stories:	Sq Ft:	Num Bathrooms:	Num Bedrooms:	
16119	1	3448	3	3	Diagram

Recent Transactions:

Account Num:	Instrument Num:	Sale Date:	Sale Price:
16119	200403710	03/24/2004	295000

Special Interest Info:

Account Num:	Spec Int Type:	Spec Int Num:
16118		
16119		

Account Info:

Taxlot Key:	710040003200	Property Class:	961
Account Number:	16121	MA:	5
Real Market Value:	48645	NH:	M
Assessed Value:	30510	Unit:	
Primary Situs:			

Owner Info:

Owners:	Oregon State of Oregon Military Department
Agents:	
Mailing Address:	Salem, OR 97309

Land Size Info:

Account Num:	Taxcode:	Acres:
16121	3006	0.97

Special Interest Info:

Account Num:	Spec Int Type:	Spec Int Num:
16121		

Account Info:

Taxlot Key:	710040003300	Property Class:	961
Account Number:	16122	MA:	5
Real Market Value:	267686	NH:	M
Assessed Value:	130088	Unit:	
Primary Situs:			

Owner Info:

Owners:	Oregon State of Oregon Military Department
Agents:	
Mailing Address:	Salem, OR 97309

Land Size Info:

Account Num:	Taxcode:	Acres:
16122	3006	0.9

Property Info:

Account Num:	Num Stories:	Sq Ft:	Num Bathrooms:	Num Bedrooms:	
16122	1.2	2101	1	2	Diagram

Recent Transactions:

Account Num:	Instrument Num:	Sale Date:	Sale Price:
16122	200808534	09/09/2008	340000

Special Interest Info:

Account Num:	Spec Int Type:	Spec Int Num:
16122		

Account Info:

Taxlot Key:	710040003400	Property Class:	960
Account Number:	16123	MA:	5
Real Market Value:	1948	NH:	M
Assessed Value:	984	Unit:	
Primary Situs:			

Owner Info:

Owners:	Oregon State of Oregon Military Department
Agents:	
Mailing Address:	Salem, OR 97309

Land Size Info:

Account Num:	Taxcode:	Acres:
16123	3006	0.51

Special Interest Info:

Account Num:	Spec Int Type:	Spec Int Num:
16123		

Account Info:

Taxlot Key:	710090000900	Property Class:	961
Account Number:	16242	MA:	5
Real Market Value:	5925080	NH:	M4
Assessed Value:	1838591	Unit:	
Primary Situs:			

Owner Info:

Owners:	Oregon Military Dept
Agents:	
Mailing Address:	,

Land Size Info:

Account Num:	Taxcode:	Acres:
16242	3006	71.21

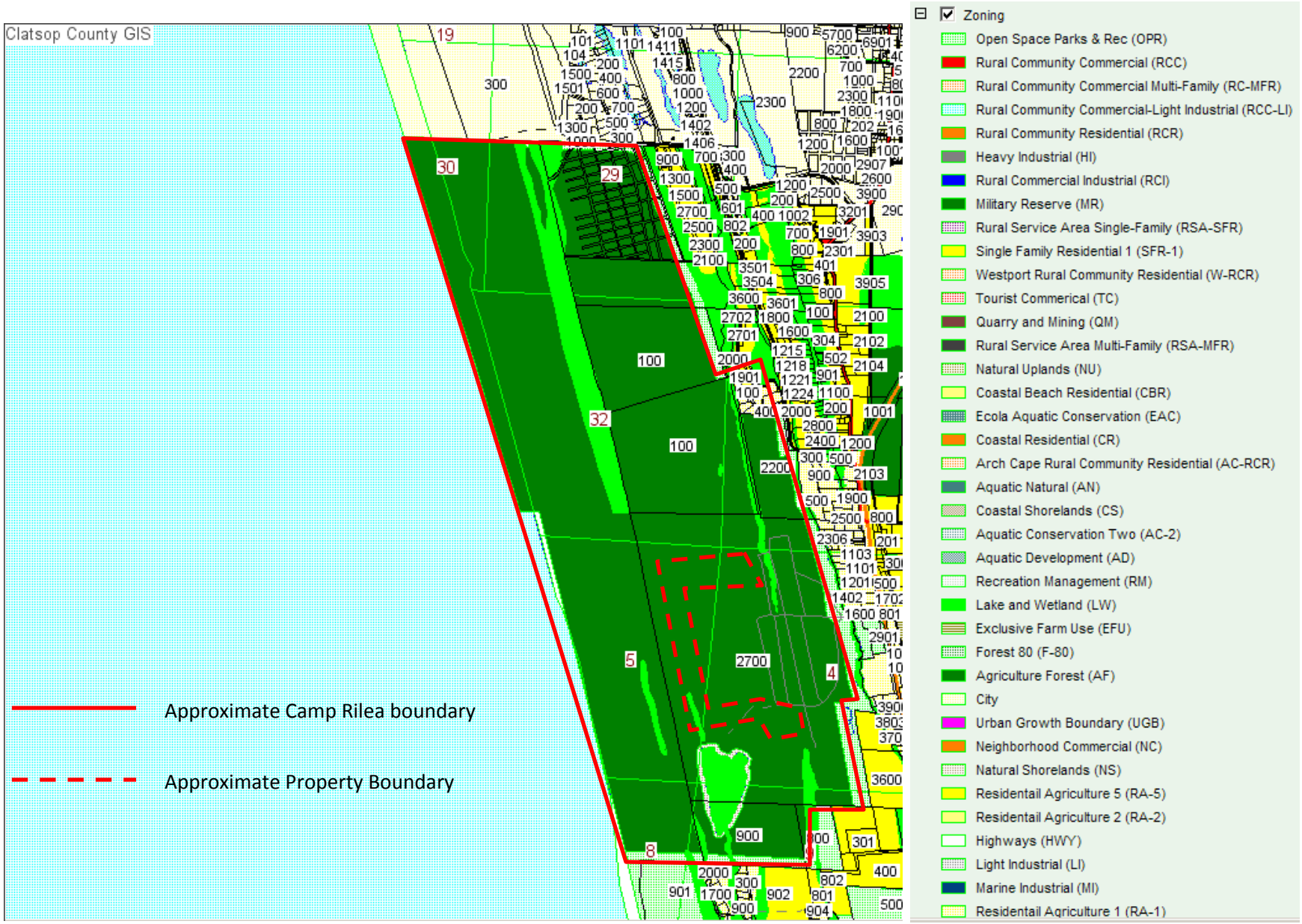
Special Interest Info:

Account Num:	Spec Int Type:	Spec Int Num:
16242		

Contact the Clatsop County Assessor's Department for more information or questions about this report.

Disclaimer: The information and data included on Clatsop County servers have been compiled by County staff from

a variety of sources, and are subject to change without notice. Clatsop County makes no warranties or representations whatsoever regarding the quality, content, completeness, or adequacy of such information and data. In any situation where the official printed publications of Clatsop County differ from the text contained in this system, the official printed documents take precedence.


Clatsop County GIS
Approximate Camp Rilea boundary
Approximate Property Boundary
Zoning
Open Space Parks & Rec (OPR)
Rural Community Commercial (RCC)
Rural Community Commercial Multi-Family (RC-MFR)
Rural Community Commercial-Light Industrial (RCC-LI)
Rural Community Residential (RCR)
Heavy Industrial (HI)
Rural Commercial Industrial (RCI)
Military Reserve (MR)
Rural Service Area Single-Family (RSA-SFR)
Single Family Residential 1 (SFR-1)
Westport Rural Community Residential (W-RCR)
Tourist Commerical (TC)
Quarry and Mining (QM)
Rural Service Area Multi-Family (RSA-MFR)
Natural Uplands (NU)
Coastal Beach Residential (CBR)
Ecola Aquatic Conservation (EAC)
Coastal Residential (CR)
Arch Cape Rural Community Residential (AC-RCR)
Aquatic Natural (AN)
Coastal Shorelands (CS)
Aquatic Conservation Two (AC-2)
Aquatic Development (AD)
Recreation Management (RM)
Lake and Wetland (LW)
Exclusive Farm Use (EFU)
Forest 80 (F-80)
Agriculture Forest (AF)
City
Urban Growth Boundary (UGB)
Neighborhood Commercial (NC)
Natural Shorelands (NS)
Residentail Agriculture 5 (RA-5)
Residentail Agriculture 2 (RA-2)
Highways (HWY)
Light Industrial (LI)
Marine Industrial (MI)
Residentail Agriculture 1 (RA-1)

EPA Map of Radon Zones

Oregon

The purpose of this map is to assist National, State, and local organizations to target their resources and to implement radon-resistant building codes. This map is not intended to be used to determine if a home in a given zone should be tested for radon. Homes with elevated levels of radon have been found in all three zones. All homes should be tested regardless of geographic location. Important points to note:

All homes should test for radon, regardless of geographic location or zone designation

There are many thousands of individual homes with elevated radon levels in Zone 2 and 3. Elevated levels can be found in Zone 2 and Zone 3 counties.

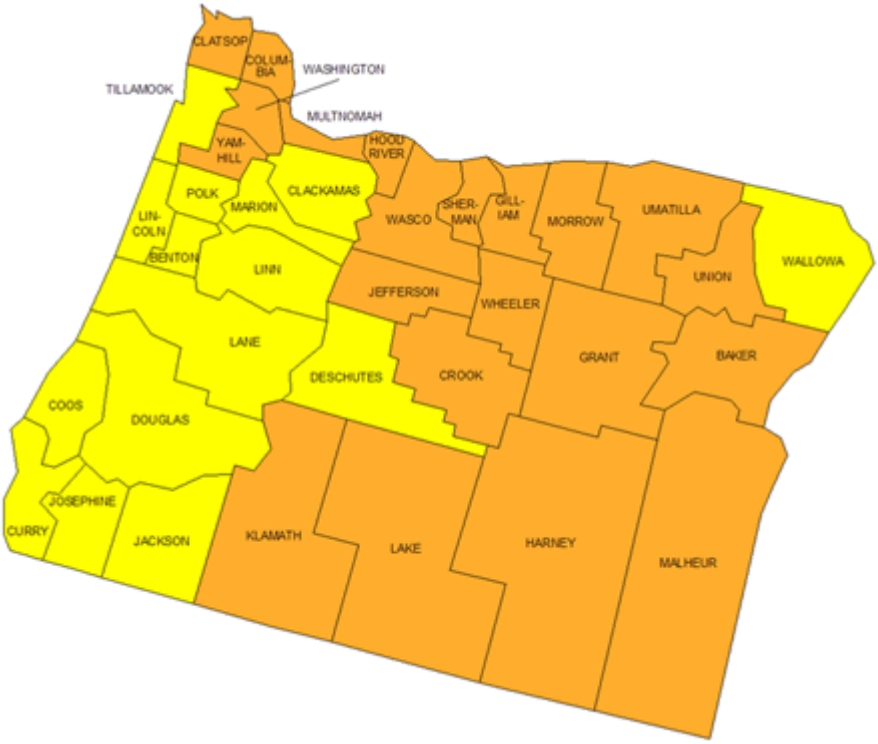
All users of the map should carefully review the map documentation for information on within-county variations in radon potential and supplement the map with locally available information before making any decisions.

The map is not to be used in lieu of testing during real estate transactions.

The Map was developed using five factors to determine radon potential: indoor radon measurements; geology; aerial radioactivity; soil permeability; and, foundation type. Radon potential assessment is based on geologic provinces. Radon Index Matrix is the quantitative assessment of radon potential. Confidence Index Matrix shows the quantity and quality of the data used to assess radon potential. Geologic Provinces were adapted to county boundaries for the Map of Radon Zones.

Sections 307 and 309 of the Indoor Radon Abatement Act of 1988 (IRAA) directed EPA to list and identify areas of the U.S. with the potential for elevated indoor radon levels. EPA's Map of Radon Zones assigns each of the 3,141 counties in the U.S. to one of three zones based on radon potential:

	Zone 1 counties have a predicted average indoor radon screening level greater than 4 pCi/L (pico curies per liter) (red zones)	Highest Potential
	Zone 2 counties have a predicted average indoor radon screening level between 2 and 4 pCi/L (orange zones)	Moderate Potential
	Zone 3 counties have a predicted average indoor radon screening level less than 2 pCi/L (yellow zones)	Low Potential



IMPORTANT: Consult the EPA Map of Radon Zones document (EPA-402-R-93-071) before using this map. This document contains information on radon potential variations within counties. EPA also recommends that this map be supplemented with any available local data in order to further understand and predict the radon potential of a specific area. If you have questions about radon in water, see www.epa.gov/radon/rnwater.html or contact your State Radon Coordinator.

Land Quality

Environmental Cleanup

Environmental Cleanup Site Information (ECSI) Database
Site Summary Full Report - Details for Site ID 1524, Camp Rilea

This report shows data entered as of March 24, 2010 at 3:15:44 PM

This report contains site details, organized into the following sections: 1) Site Photos (appears only if the site has photos); 2) General Site Information; 3) Site Characteristics; 4) Substance Contamination Information; 5) Investigative, Remedial and Administrative Actions; and 6) Site Environmental Controls (i.e., institutional or engineering controls; appears only if DEQ has applied one or more such controls to the site). A key to certain acronyms and terms used in the report appears at the bottom of the page.

Go to DEQ's Facility Profiler to see a site map as well is information on what other DEQ programs may be active at this site.

Site Photos

Click to View Photo	Picture Date	Caption	Size
View Photo	07/31/2007	Grading former landfill area in preparation for placing asphalt cap material.	885 Kb

General Site Information

Site ID: 1524	Site Name: Camp Rilea	CERCLIS No:	
Address:	33168 Patriot Way Warrenton 97146		
	County: Clatsop	Region: Northwest	
Other location information:			
Investigation Status:	Suspect site requiring further investigation		
	Brownfield Site: No NPL Site: No	Orphan Site: No	Study Area: No
Property:	Twnshp/Range/Sect: 7N , 10W , 4	Tax Lots:	
	Latitude: 46.123 deg. Longitude: -123.9333 deg.	Site Size: 1,850 acres	
Other Site Names:	Oregon National Guard Training Facility		

Site Characteristics

General Site	Camp Rilea is located at 33168 Patriot Way in Warrenton and the entire

Description:	property is 1,850 acres in size. The landscape at Camp Rilea consists of north-south trending sand dunes, interdunal plains, lakes, and streams. The camp is bordered by the Pacific Ocean to the west, U.S. Highway Route 101 to the east, agricultural land and a golf course to the south, and residential property to the north.
Site History:	The large coastal facility was originally established as Camp Clatsop in 1927 and has been used a military training camp ever since.
Contamination Information:	Barracks were heated with WW-II era diesel-burning stoves. Diesel leaked from inverted 5-gallon tanks hung outside each building over a 40-year period, up to the early 1980s. Soil around each barracks building was contaminated to a depth of 5 - 7 feet below ground surface. Data from 3 monitoring wells shows that groundwater has not been affected. The Military Department reported a diesel spill from an unknown source in April 1994, (spill # 94-129), which soaked into soils near the Neacoxie Slough.
Manner and Time of Release:	Leakage of stove oil (diesel) into the ground out of primitive above-ground storage tanks on the outside of each barracks building. Also, in April 1994, a spill of diesel occurred on another portion of the site.
Hazardous Substances/Waste Types:	Diesel was spilled around the barracks area over many years. The metals arsenic and lead were the primary contaminants at the Burn Pit. At the former landfill area VOCs 1,1,2,2-tetrachloroethene, PCE, and TCE are found at low concentrations in groundwater.
Pathways:	
Environmental/Health Threats:	
Status of Investigative or Remedial Action:	Approximately 750 yards of soil have been excavated, and the Oregon Military Dept. plans removal of an additional 250 - 350 yards, along with treatment or removal of contaminated soil to complete cleanup, in 1994. Low priority for DEQ followup. (3/25/94 GMW/SAS) The Military Dept. excavated another 500 yards of soil in the spill area; confirmation samples indicated removal to 100 ppm was successful. Soil is to be treated on-site under permit. (6/6/2005 GEA/ICP) Site has entered the independent cleanup program. (8/11/2005 GEA) Additional groundwater investigation, including 6 temporary well points, is expected to occur in Sept 2005, at both the burn pit and former landfill areas. (10/5/06 RKW): Additional investigation of soil and groundwater was completed at the burn pit and landfill. Arsenic up 1700 mg/kg (hot spot) and lead (up to 1180 mg/kg) was found in soil at the burn pit. Arsenic, trichloroethene, and other solvents were found in groundwater at the landfill. Removal action is planned for the burn pit soil and addtional groundwater monitoring is planned for the landfill. Methane investigation was requested by DEQ at the landfill. In April 2007 deep groundwater sampling was performed at the former landfill site. A push probe boring was advanced in the vicinity of the greatest shallow groundwater VOC detection. Water samples were collected through a push probe sampling screen at 48, 73, and 84 feet below ground surface. No VOCs were detected. Five shallow groundwater monitoring wells were installed in the vicinity of the former landfill for long-term groundwater monitoring. Groundwater flow direction is easterly toward Neacoxie Creek. The

source area well, the two down-gradient wells and one cross gradient well consistently have low concentration detections of PCE and TCE.

(11/12/08 RKW): Excavation of 261 tons of Burn Pit soil and 342 tons of landfill debris from the former landfill was completed in August 2007. Final Burn Pit Area excavation was 60x35 feet and 8-9 feet deep. The Burn Pit material was trucked to Hillsboro Landfill and the landfill debris was trucked to the Warrenton Solid Waste Landfill. Confirmation sampling for lead and arsenic (COCs) indicated all Burn Pit material had been removed. A three-inch asphalt cap was installed on the former landfill.

(12/1/08 RKW): Public comment for Burn Pit Area partial NFA to run from 12/1-12/30. No comments-PNFA for Burn Pit issued 1/27/09.

(12/15/09 RKW): Final groundwater monitoring event at former landfill completed in June 09. After two years of monitoring 1,1,2,2-TCA and PCE were only detected sporadically. TCE was usually detected in all wells except MW-5 and low concentrations are generally steady or declining. Modeling was used to show that TCE would not reach Neacoxie Creek concentrations greater than 1 ppb or below AWQC.

The former landfill was capped with asphalt in August 2007 after monitoring the landfill area for methane gas. Methane was detected at 1% of LEL but below DEQ action levels of 25% LEL.
PNFA proposed for the landfill area; public comment period to run in January 2010.

Data Sources: Site Cleanup Report, Camp Rilea, Warrenton, Oregon by Cascade Earth Sciences, Ltd., February 2, 1994.

Phase 2 Environmental Baseline Study Sampling and Analysis Plan, Camp Rilea, AMEC Earth & Environmental, March 2005.

Phase 2 Environmental Baseline Study, Camp Rilea, AMEC Earth & Environmental, March 2006.

Burn Pit Soil Excavation and Disposal Work Plan, Camp Rilea, AMEC Earth & Environmental, January 2007.

Landfill Capping and Groundwater Monitoring Work Plan, Camp Rilea, Amec Earth and Environmental, January 2007.

Remedial Action and Groundwater Monitoring Report, Former Burn Pit and Landfill Areas, Camp Rilea, Oregon, AMEC Earth & Environmental, January 14, 2008.

Substance Contamination Information

Substance	Media Contaminated	Concentration Level	Date Recorded
ARSENIC	Groundwater	24 ppb	9/20/2005
ARSENIC	Soil	1700 mg/kg	9/20/2005
DIESEL - FUEL OIL	Soil	13,850 ppm	8/13/1993
LEAD	Soil	1180 mg/kg	9/20/2005
METHANE	Other	1.4 ppmV (maximum in soil	7/31/2007

		gas)	
TETRACHLOROETHANE,1,1,2,2-	Groundwater	1.97 ppb	8/24/2007
TETRACHLOROETHYLENE	Groundwater	0.87 ppb	6/18/2008
TRICHLOROETHYLENE	Groundwater	7.48 ppb	9/20/2005
TRICHLOROETHYLENE	Groundwater	6.84 ppb	8/24/2007

Investigative, Remedial and Administrative Actions

Action	Start Date	Compl. Date	Resp. Staff	Lead Pgm
SITE EVALUATION	01/03/1994	03/24/1994	Gil Wistar	SAS
Remedial Action recommended (RA)	03/24/1994	03/24/1994	Gil Wistar	SAS
Site added to database	03/24/1994		Gil Wistar	SAS
Listing Review completed	03/25/1994	03/25/1994	Gil Wistar	SAS
Options Letter For Further Action Sent	03/25/1994	03/25/1994	Gil Wistar	SAS
Place on hold	03/26/1994		Gil Wistar	SAS
VCS Waiting List	04/28/2005	06/06/2005	Dana Bayuk	ICP
Independent Cleanup Program (Primary Action)	06/06/2005		Robert Williams	ICP
REMOVAL	07/30/2007	08/20/2007	Robert Williams	ICP
REMEDIAL ACTION	07/31/2007	08/20/2007	Robert Williams	ICP
Partial No Further Action	01/27/2009	01/27/2009	Robert Williams	ICP

Key to Certain Acronyms and Terms in this Report:

CERCLIS No.: The U.S. EPA's Hazardous Waste Site identification number, shown only if EPA has been involved at the site.

Region: DEQ divides the state into three regions, Eastern, Northwest, and Western; the regional office shown is responsible for site investigation/cleanup.

NPL Site: Is this site on EPA's National Priority List (i.e., a federal Superfund site)? (Y/N).

Orphan Site: Has DEQ's Orphan Program been active at this site? (Y/N). The Orphan Program uses state funds to clean up high-priority sites where owners and operators responsible for the contamination are absent, or are unable or unwilling to use their own resources for cleanup.

Study Area: Is this site a Study Area? (Y/N). Study Areas are groupings of individual ECSI sites that may be contributing to a larger, area-wide problem. ECSI assigns unique Site ID numbers to both individual sites and to Study Areas.

Pathways: A description of human or environmental resources that site contamination could affect.

Lead Pgm: This column refers to the Cleanup Program affiliation of the DEQ employee responsible for the action shown. SAS or SAP = Site Assessment; VCS or VCP = Voluntary Cleanup; ICP = Independent Cleanup; SRS or SRP = Site Response (enforcement cleanup); ORP = Orphan Program.

You may be able to obtain more information about this site by contacting Robert Williams at the Northwest regional office or via email at williams.robert.k@deq.state.or.us. If this does not work, you may contact Gil Wistar at (503) 229-5512, or via email at wistar.gil@deq.state.or.us or contact the Northwest regional office.

[print version]

For more information about **ECSI** call Gil Wistar at 503-229-5512 or email.

For more information about **DEQ's Land Quality Division and its programs**, see the contact page.

Oregon Department of Environmental Quality
Headquarters: 811 Sixth Ave., Portland, OR 97204-1390
Phone: 503-229-5696 or toll free in Oregon 1-800-452-4011
Oregon Telecommunications Relay Service: 1-800-735-2900 FAX: 503-229-6124

The Oregon Department of Environmental Quality is a regulatory agency authorized to protect Oregon's environment by the State of Oregon and the Environmental Protection Agency.

DEQ Web site privacy notice

DEQ Staff Report
Former Landfill Area, Camp Rilea
Warrenton, Oregon
ECSI Site No. 1524
December 10, 2009

1.0 INTRODUCTION

This document presents a summary of the environmental investigation and cleanup work performed at the former landfill area located on the Camp Rilea site in Warrenton, Oregon. The purpose of this Staff Report is to document the Oregon Department of Environmental Quality's (DEQs) recommendation for a No Further Action determination for this area. A partial No Further Action determination for the nearby Burn Pit Area was issued in January 2009. Other areas of the camp that may require further investigation, such as the barracks buildings diesel release area, would not be covered by this determination.

2.0 BACKGROUND

This section summarizes background information, history, and land use at the site. The Oregon Military Department (OMD) signed an Independent Cleanup Program Letter Agreement with DEQ for oversight of the Camp Rilea Armed Forces Training Center Project on July 27, 2006.

2.1 Physical Setting and History

Camp Rilea is located at 33168 Patriot Way in Warrenton and the entire property is 1,850 acres in size. The project site is located within the northern half of Section 4, Township 7 North, Range 10 East of the Willamette Meridian. The landscape at Camp Rilea consists of north-south trending sand dunes, interdunal plains, lakes, and streams. The camp is bordered by the Pacific Ocean to the west, U.S. Highway Route 101 to the east, agricultural land and a golf course to the south, and residential property to the north. Ground surface elevation ranges from sea level to 75 feet above sea level. Natural vegetation at the site includes pine forest and low-lying grasses. The camp includes a barracks area with several buildings, training and firing range areas, a sewage treatment plant, and a spray irrigation area. Camp Rilea has been used as a military training facility since it was originally established as Camp Clatsop in 1927.

The former landfill area is located near the top of a vegetated dune, at the end of NBC Road, immediately east of the Modified Automatic Record Fire (MARF) Range Maintenance Building and southeast of the range (see Figure 1). The landfill reportedly received waste from the general public and Camp Rilea personnel in the 1930s and was closed in the late 1980s but no closure documentation is available. Recent explorations in the landfill encountered wood, metal, glass, tires, clothing, fishing nets, etc. to depths of approximately six feet.

2.2 Geology

The Clatsop Plains developed in the late Quaternery period when sand began accumulating along the shoreline. The Columbia River to the north discharged sands which were distributed north and south of the river mouth in response to seasonal north and south-flowing ocean currents. Sand deposits built the beach seaward over the shallow continental shelf. Previously submerged sandbars grew in size as wind-blown sand was trapped by dune grasses and a series of parallel beach ridges and plains developed. Monitoring well boring logs show fine to medium sand in the landfill area. Groundwater was encountered at between approximately 25-42 feet below ground surface (bgs). Groundwater monitoring at the former landfill suggests that groundwater in the immediate area flows east toward Neacoxie Creek, 500 feet east of the landfill (see Figure 1).

2.3 Beneficial Land and Water Uses

The property is used by OMD for military training and housing purposes and this use can be reasonably anticipated to continue for the foreseeable future.

There is one USGS monitoring well located within the landfill locality of the facility that is used for water level measurement; it is not likely to be used for drinking water. Drinking water for the property is currently supplied by the City of Warrenton municipal supply. Camp Rilea is planning to convert to onsite potable water supply with the installation of three water supply wells located roughly 2,000 feet southwest of the landfill area (See Figure 2). The supply wells would be completed at depths greater than 100 feet and aquifer testing in this location indicates a radius of influence of less than 200 feet. These wells would be well outside the Locality of the Facility for the former landfill.

3.0 ENVIRONMENTAL INVESTIGATIONS

This section summarizes the investigations and remedial actions conducted at the landfill area from 1996 to 2009.

3.1 Early Investigations

Investigation began with the *Site Assessment Survey* No. 38-EH-1332b-01, a study prepared by the U.S. Army Center for Health Promotion and Preventative Medicine (USACHPPM). In 1996 the USACHPPM collected groundwater from six temporary well points in the vicinity of the former landfill. Samples were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), pesticides, dissolved metals, nitrate-nitrogen, and chloride. Trichloroethylene was detected at one well point at a concentration of 6.2 μg/L. Nitrate-nitrogen, chloride, barium, copper, and zinc were also detected but reportedly below drinking water quality standards. SVOCs, PCBs, and pesticides were not detected above detection limits.

Investigation continued in September 2005 when 28 borings and four test pits were advanced in and around the landfill using a push probe rig and a backhoe. All borings were used for landfill area delineation, and some also for soil and groundwater sampling. Selected soil samples were analyzed for total RCRA eight metals, explosives, VOCs, and SVOCs while groundwater samples were analyzed for metals and VOCs.

The extent of landfill debris was determined by visual observation of debris and refuse in the soil. The landfill was found to cover approximately 4,000 square feet in area and the boundary is shown in Figure 1. Metals found in landfill soil included arsenic up to 2.3 mg/Kg, lead up to 766 mg/kg, and mercury up to 0.1 mg/Kg. SVOCs and explosives were not detected in any soil samples. VOCs found included: methylene chloride up to 0.024 mg/Kg, trichloroethene (TCE) at 0.029 mg/Kg, and tetrachloroethylene (PCE) up to 0.024 mg/Kg. Methylene chloride was also found in the lab blank and was attributed to laboratory contamination.

Five borings were advanced to approximately 40 feet bgs for collection of groundwater samples. Arsenic was found at up to 24 μg/L and lead at up to 40.9 μg/L. The VOCs TCE at 7.5 μg/L, PCE at 1.5 μg/L, and 1,1,2,2-tetrachloroethane up to 2.6 μg/L, were also found.

3.2 Deep Groundwater Investigation

In April 2007 a deep groundwater investigation was performed to determine if there was potential for dense non-aqueous phase liquid (DNAPL) migration to deeper groundwater below the landfill. Deep groundwater was sampled at a temporary boring located in the southern part of the landfill footprint near the highest previous detection of VOCs in shallow groundwater. The boring was advanced to a total depth of 86 feet bgs and water samples were collected at 48, 73, and 84 feet bgs. Samples were analyzed for VOCs but they were not detected at any depth and it was concluded that VOC contamination was limited to shallow groundwater.

3.3 Methane Investigation and Long Term Groundwater Investigation

Due to the disposal of wood and organic debris in the landfill the potential for methane gas generation was investigated in July 2007. Five temporary two to three -foot, cased borings were installed and monitored for oxygen, carbon dioxide, and methane. Methane gas was detected at no more than 1 percent of the Lower Explosive Limit (LEL). This is below the 25 percent of LEL action level for methane.

Five permanent groundwater monitoring wells were installed in and around the landfill in August 2007 and quarterly sampling was conducted for two years (see Figure 3) . Groundwater samples were analyzed for VOCs and total RCRA metals. TCE was the only VOC consistently detected. Maximum concentrations included 1,1,2,2-tetrachloroethane at 2 μg/L, PCE at 1 μg/L, and TCE at 7 μg/L. Concentrations of TCE

appear to be declining and other compounds were only detected sporadically. Barium, selenium, and lead (4.5μg/L) were the only metals detected.

4.0 RISK ASSESSMENT SCREENING

This section discusses risk screening, groundwater modeling, and remediation conducted at the site.

4.1 Risk Screening

Concentrations of soil contaminants at the landfill were compared with DEQ risk-based concentrations (RBC). Arsenic concentrations exceeded the RBC but were below the Oregon default background concentration of 7 mg/kg. Concentrations of other metals and VOCs were below RBCs for direct contact and indoor vapor intrusion.

After the initial groundwater sample collection in 2007 concentrations of TCE below the landfill have been at or below the EPA maximum contaminant level for drinking water of 5 μg/L. Other groundwater VOCs were only sporadically detected. Concentrations of metals in groundwater were below DEQ RBCs and MCLs for drinking water. Groundwater is not used for drinking water in the vicinity of the landfill so the drinking water pathway is not considered complete. Concentrations of groundwater VOCs were below RBCs for the vapor intrusion to buildings pathway.

Concentrations of lead in two landfill soil samples exceeded the leaching to groundwater RBC. Since groundwater is not used in the vicinity leaching to groundwater is not considered a complete pathway. Low concentrations for lead from groundwater sampling in monitoring wells suggests that lead is not actively leaching from the landfill.

Concentrations of methane found in the soil gas investigation were below the DEQ action level of 25 percent of LEL.

4.2 Groundwater Modeling and Locality of the Facility

The shallow groundwater system in the vicinity is expected to discharge at Neacoxie Creek, 500 feet east of the landfill. Fate and transport of VOCs in groundwater was estimated using BIOCHLOR and SourceDK analytical groundwater models. Model results predicted a maximum transient concentration of 1μg/L for TCE in groundwater at the creek. This concentration is below Ambient Water Quality Criteria and fish consumption screening levels.

The locality of the facility (LOF) was estimated to be a rectangle originating with the footprint of the landfill and extending east, downslope to the shoreline of Neocoxie Creek. The depth of the LOF was estimated at 48 feet bgs based on the deep groundwater investigation.

4.3 Remedial Action

Although potential risks for contaminant direct contact or leaching to groundwater are considered low for the landfill site the Oregon Military Department elected to install an asphalt cap over the surface of the former landfill. In 2006 a cap consisting of a four-inch aggregate base and a 3-inch asphalt layer was placed over the footprint of the former landfill. The cap now serves as the parking lot for the MARF maintenance building. The cap will eliminate any potential direct contact with buried landfill debris and will limit potential leaching of contaminants from debris.

5.0 CONCLUSION

DEQ concludes that current environmental conditions at the former Camp Rilea former landfill do not pose an unacceptable risk to human health and the environment, and therefore, this portion of the property meets the requirements of the Oregon Environmental Cleanup Laws. Pursuant to ORS 465.320 and OAR 340-122-0100, notice of DEQ's proposal of a Conditional No Further Action determination for the site will be published in the Oregon Secretary of State's Bulletin and a newspaper of local distribution, and a 30-day comment period provided.

REFERENCES

AMEC, 2005. Phase 2 Environmental Baseline Study Sampling and Analysis Plan, March 2005.

AMEC, 2006. Phase II Environmental Baseline Study, Camp Rilea, Warrenton, Oregon, 24 March, 2006.

AMEC, 2007a. Landfill Capping and Groundwater Monitoring Work Plan, Camp Rilea, Warrenton, Oregon, 10 January 2007.

AMEC, 2007b. Deep Groundwater Investigation Results, Camp Rilea Former Landfill, Warrenton, Oregon, 31 May 2007.

AMEC, 2007c. Former Burn Pit Soil Excavation, Former Landfill Capping and Groundwater Monitoring Report, Camp Rilea, Warrenton, Oregon, 19 December 2007.

AMEC, 2008a. Remedial Action and Groundwater Monitoring Report, Camp Rilea, Warrenton, Oregon, 14 January 2008.

AMEC, 2008b. December 2007 Groundwater Monitoring Event, Camp Rilea, Warrenton, Oregon, 25 February 2008.

AMEC, 2008c. March 2008 Groundwater Monitoring Event, Camp Rilea, Warrenton, Oregon, 28 May 2008.

AMEC, 2008d. June 2008 Groundwater Monitoring Event, Camp Rilea, Warrenton, Oregon, 12 August 2008.

AMEC, 2008e. September 2008 Groundwater Monitoring Event, Camp Rilea, Warrenton, Oregon, 24 November 2008.

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AMEC, 2009b. March 2009 Groundwater Monitoring Event, Camp Rilea, Warrenton, Oregon, 14 April 2009.

Cascade Earth Sciences, Ltd., 1994, Site Cleanup Report, Camp Rilea, Warrenton,Oregon, February 2, 1994.

Kennedy/Jenks, 2007. Camp Rilea Training Facility – Water Supply Project, Groundwater Characterization Work Plan, 5 February, 2008.

No warranty is made by the State/Territory/National Guard Bureau as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data. This map is a "living document", in that it is intended to change as new data become available and is incorporated into the Enterprise GIS database.

Aerial photograph from the Oregon Military Department.

CLIENT: OREGON MILITARY DEPARTMENT

AMEC Earth & Environmental
7376 SW Durham Road
Portland, OR, U.S.A. 97224

amec

DWN BY:	BRJ
CHK'D BY:	MK
DATUM:	WGS84
PROJECTION:	UTM ZONE 10N
SCALE:	1 " equals 200 '

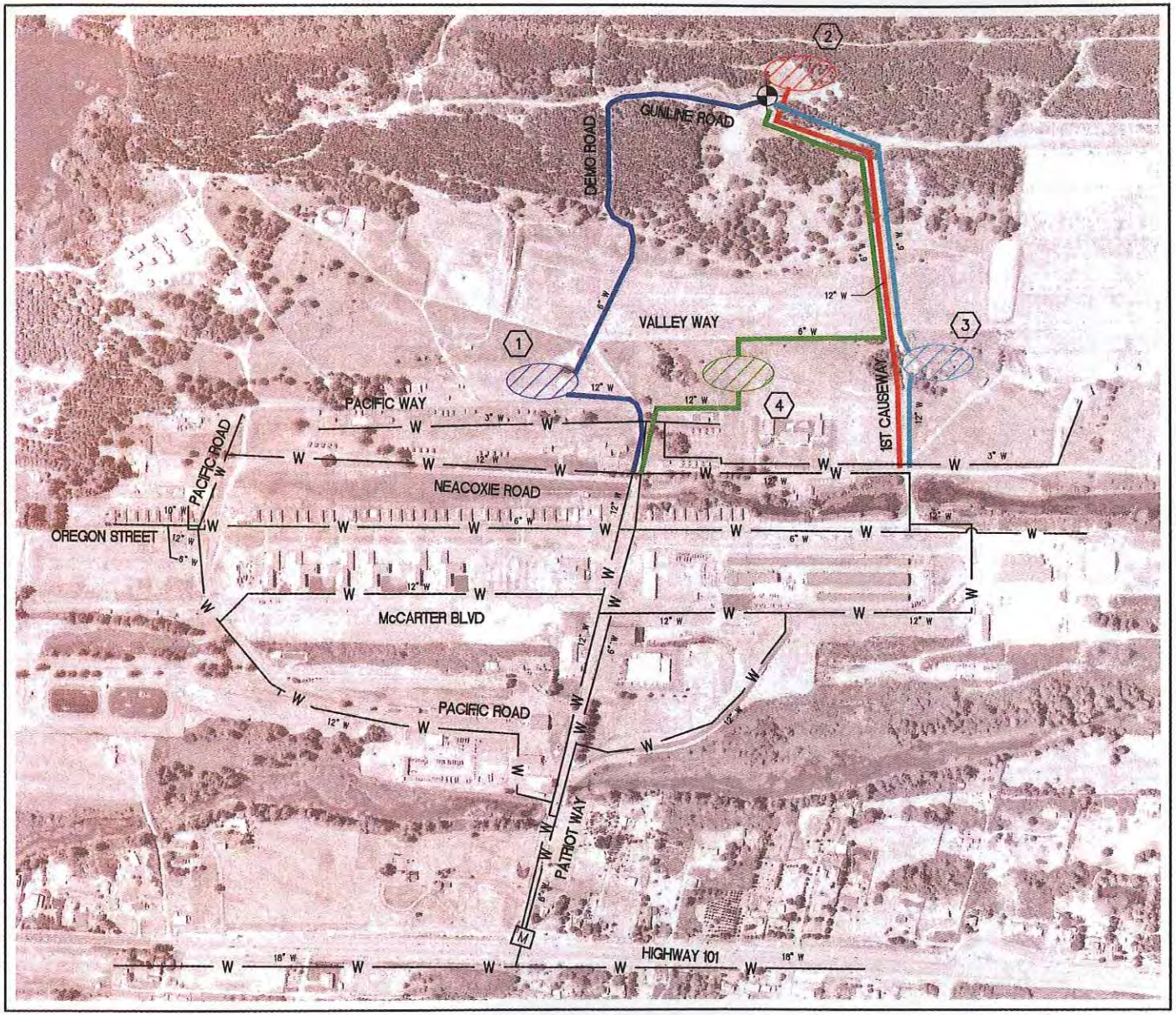
PROJECT: CAMP RILEA
33168 PATRIOT WAY
WARRENTON, OREGON

TITLE: FORMER LANDFILL LOCATION

DATE:	JANUARY 2007
PROJECT NO.:	6-61M-11015-3 P1
REV. NO.:	2
FIGURE NO.:	Figure 1

K:\11000\11000\11015\DWG\arcview\Burn Pit Workplan\Figure 2 Landfill Location.mxd

Camp R/Camm



LEGEND

- EXISTING WATER LINE
- PROPOSED WELL LOCATION
- WARRENTON WATER METER
- WTP-WATER TREATMENT AND STORAGE FACILITY
- SITE 1
- PIPELINE
- SITE 2
- SITE 3
- SITE 4

N

DRAFT

0 250 500

SCALE: 1" = 500'

Kennedy/Jenks Consultants

OREGON MILITARY DEPARTMENT
CAMP RILEA WATER FACILITIES SITE SELECTION

WATER FACILITIES SITING ALTERNATIVES

K/J 0792028.00

Figure 2

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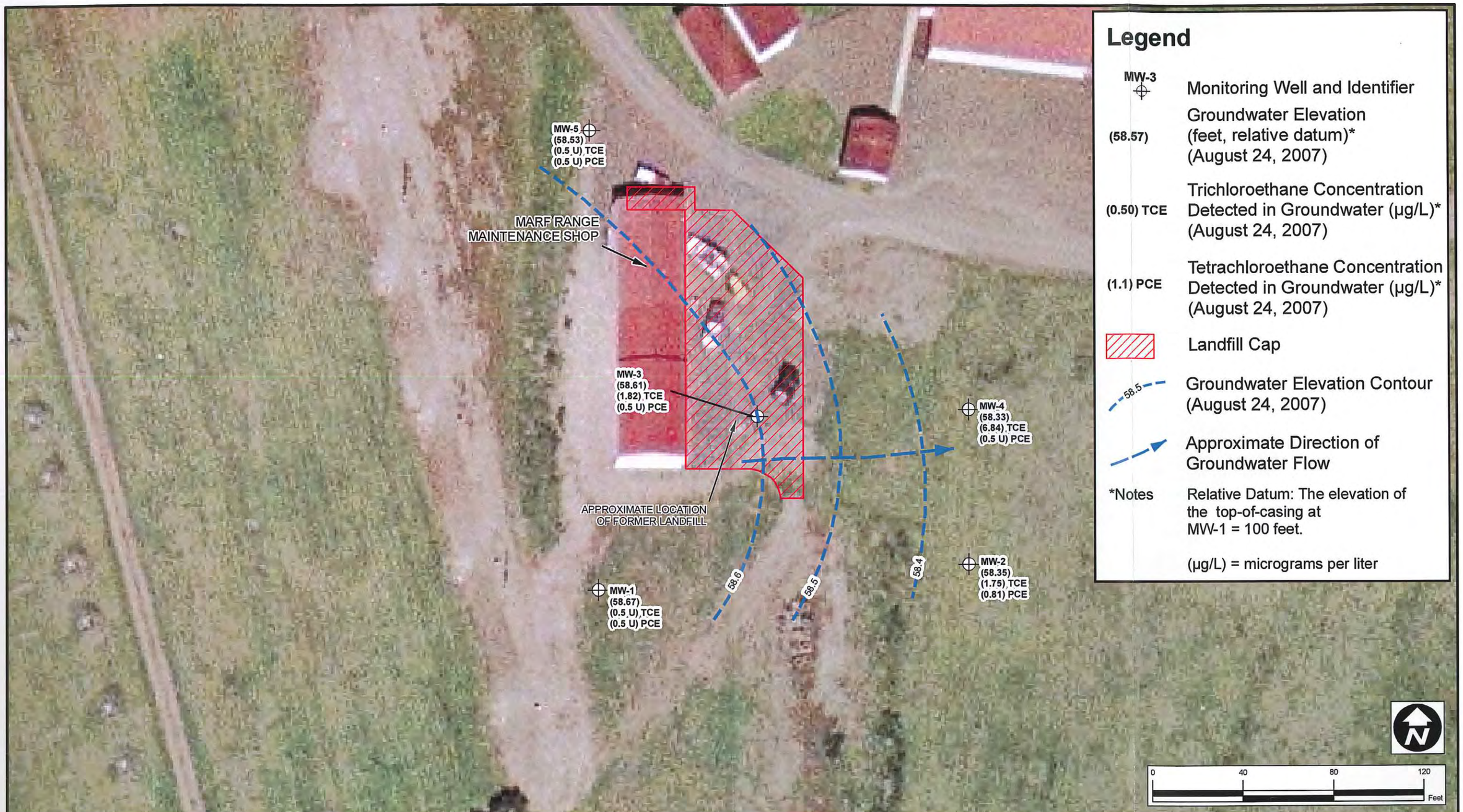

Legend

MW-3	Monitoring Well and Identifier
(58.57)	Groundwater Elevation (feet, relative datum)* (August 24, 2007)
(0.50) TCE	Trichloroethane Concentration Detected in Groundwater (µg/L)* (August 24, 2007)
(1.1) PCE	Tetrachloroethane Concentration Detected in Groundwater (µg/L)* (August 24, 2007)
	Landfill Cap
58.5	Groundwater Elevation Contour (August 24, 2007)
	Approximate Direction of Groundwater Flow
*Notes	Relative Datum: The elevation of the top-of-casing at MW-1 = 100 feet.
	(µg/L) = micrograms per liter

No warranty is made by the State/Territory/National Guard Bureau as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data. This map is a "living document", in that it is intended to change as new data become available and is incorporated into the Enterprise GIS database.

Aerial photograph from the Oregon Military Department.

CLIENT: OREGON MILITARY DEPARTMENT

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7376 SW Durham Road
Portland, OR, U.S.A. 97224

DWN BY: PM/LR
CHK'D BY: DH
DATUM: WGS84
PROJECTION: UTM ZONE 10N
SCALE: 1 " equals 40 '

PROJECT: CAMP RILEA
33168 PATRIOT WAY
WARRENTON, OREGON

TITLE: FORMER LANDFILL GROUNDWATER MONITORING WELL LOCATIONS AND GROUNDWATER CONTOUR ELEVATIONS

DATE: NOVEMBER 2007
PROJECT NO.: 661M110153.06
REV. NO.: -
FIGURE NO.: Figure 3

K:\11000\11000\11015\11015-3\ArcView\Figure 5 Monitoring Wells and Groundwater Contours.mxd

DEQ Staff Report
Burn Pit Area, Camp Rilea
Warrenton, Oregon
ECSI Site No. 1524
November 20, 2008

1.0 INTRODUCTION

This document presents a summary of the environmental investigation and cleanup performed at the burn pit area located on the Camp Rilea site in Warrenton, Oregon. The purpose of this Staff Report is to document the Oregon Department of Environmental Quality's (DEQs) recommendation for a site Partial No Further Action determination for this area. Other areas, such as the former landfill, are still being investigated and would not be covered by this determination.

2.0 BACKGROUND

This section summarizes background information, history, and land use at the site. The Oregon Military Department signed an Independent Cleanup Program Letter Agreement with DEQ for oversight of the Camp Rilea Armed Forces Training Center Project on July 27, 2006.

2.1 Physical Setting and History

Camp Rilea is located at 33168 Patriot Way in Warrenton and the entire property is 1,850 acres in size. The landscape at Camp Rilea consists of north-south trending sand dunes, interdunal plains, lakes, and streams. The camp is bordered by the Pacific Ocean to the west, U.S. Highway Route 101 to the east, agricultural land and a golf course to the south, and residential property to the north. Ground surface elevation ranges from sea level to 75 feet above sea level. Natural vegetation at the site includes pine forest and low-lying grasses. The camp includes a cantonment area with several buildings, training and firing range areas, a sewage treatment plant, and a spray irrigation area. Camp Rilea has been used as a military training facility since it was originally established as Camp Clatsop in 1927.

The Burn Pit area is located on First Causeway Road, approximately 700 feet south of the former camp landfill, near the center of the camp. The Burn Pit was used to reduce the volume of solid waste going to an off-post landfill after the camp landfill was closed in the 1980s. Anecdotal information suggests wood, paper, landscape waste, used oil, and solvents were burned in the pit.

2.2 Geology

The Clatsop Plains developed in the late Quaternery period when sand began accumulating along the shoreline. The Columbia River to the north discharged sands which were distributed north and south of the river mouth in response to seasonal north

and south-flowing ocean currents. Sand deposits built the beach seaward over the shallow continental shelf. Previously submerged sandbars grew in size as wind-blown sand was trapped by dune grasses and a series of parallel beach ridges and plains developed. The Burn Pit was located on a dune ridge. Groundwater monitoring at the nearby former landfill suggests that groundwater in the immediate area flows east toward Neacoxie Creek (see Study Area Location Figure). Burn Pit borings encountered well-sorted fine sand with less than 5% silt. Groundwater was encountered at 26 feet below ground surface (bgs).

2.3 Beneficial Land and Water Uses

The property is used by the Oregon Military Department for military training and cantonment purposes and this use can be reasonably anticipated to continue for the foreseeable future.

Drinking water for the property is currently supplied by the City of Warrenton municipal supply. Camp Rilea is planning to convert to onsite potable water supply with wells located roughly 1,500 feet west of the Burn Pit and landfill areas.

3.0 ENVIRONMENTAL INVESTIGATIONS

This section summarizes the investigations and remedial actions conducted at the Burn Pit area from 2001 to 2007.

3.1 Investigations

Investigation began with the *Site Assessment Survey* No. 38-EH-1332b-01, a study prepared by the U.S. Army Center for Health Promotion and Preventative Medicine (USACHPPM) in 2001. USACHPPM collected eight surface soil samples from the former Burn Pit which were analyzed for VOCs, SVOCs, and metals. Three of the samples were also analyzed for leachable metals with the toxicity characteristic leaching procedure (TCLP) method. None of the samples contained VOCs or SVOCs. Several metals were detected above default background concentrations and leachable lead was found in one sample at concentrations exceeding the hazardous waste level.

Investigation continued in 2005 when ten borings were advanced in and around the Burn Pit using push probe and hand auger techniques. Most soil samples were collected from 0-1 or 1-2 feet below ground surface (bgs). Selected samples were analyzed for petroleum hydrocarbons, metals, VOCs, SVOCs, PCBs, and explosives. The extent of burn pit debris was determined by visual observation of ash, charred wood, metal debris, and refuse in soil samples. The oval-shaped pit dimensions were found to be 25 by 30 feet and three feet in depth. Petroleum, PCBs, VOCs, SVOCs and explosives were not detected in any soil sample. Arsenic was found at concentrations up to 1,700 mg/kg, barium up to 2,380 mg/kg, cadmium up to 4.1 mg/kg, chromium up to 247 mg/kg, and lead up to 1,180 mg/kg.

3.2 Groundwater Investigation

Two borings were advanced to 30 feet bgs for collection of groundwater samples. Unfiltered groundwater samples were analyzed for VOCs, SVOCs, and metals. VOCs and SVOCs were not detected in groundwater. Arsenic was found at up to 12.1 ug/L, barium at up to 81.6 ug/L, total chromium at up to 23 ug/L, and lead up to 8.8 ug/L.

4.0 RISK ASSESSMENT SCREENING

This section discusses risk screening and remediation conducted at the site.

4.1 Risk Screening

Concentrations of lead in Burn Pit soil exceeded the EPA Region 9 Preliminary Remediation Goal (PRG) and DEQ risk-based concentration (RBC) of 800 mg/kg for direct contact in industrial settings. Arsenic concentration exceeded the Oregon default background concentration of 7 mg/kg and the PRG of 1.6 mg/kg. The arsenic concentration of 1,700 mg/kg also exceeded the DEQ highly concentrated Hot Spot concentration of 160 mg/kg. Concentrations of other metals were below RBCs for direct contact.

Groundwater concentrations for barium, chromium, and lead were less than PRGs for tap water as well as EPA's Maximum Contaminant Levels (MCL) for drinking water. Arsenic concentration in groundwater exceeds both the PRG and the MCL. The push probe groundwater sample results for arsenic in the Burn Pit area were comparable to results from the landfill area. Groundwater sampling results for arsenic from monitoring wells installed at the landfill area did not contain arsenic at concentrations greater than MCLs. The elevated total arsenic is therefore attributed to total suspended solids in unfiltered groundwater samples. Soil samples from the landfill contained arsenic at concentrations around 2 mg/kg which is below the default background concentration of 7 mg/kg and suggested that arsenic in groundwater is naturally occurring. Burn Pit soils were analyzed for TCLP metals and arsenic was not detected. Leaching of arsenic from Burn Pit debris to groundwater was not found to be a concern.

4.2 Remedial Action

Burn Pit soils were found to present a direct contact risk and DEQ Hot Spot regulations mandated a preference for treatment. Excavation of the soils was determined to be the appropriate remedy. TCLP sampling indicated that the soils could be disposed of at the Hillsboro subtitle D Landfill. In August 2007 approximately 261 tons of excavated material was trucked to the Hillsboro Landfill. The resulting excavation was 60 by 35 feet and up to nine feet in depth. Five confirmation soil samples were collected and analyzed for arsenic and lead. Sample results for arsenic and lead were at or below Oregon default background concentrations and indicated that all Burn Pit-impacted soil had been removed.

5.0 CONCLUSION

DEQ concludes that current environmental conditions at the former Camp Rilea Burn Pit do not pose an unacceptable risk to human health and the environment, and therefore, this portion of the property meets the requirements of the Oregon Environmental Cleanup Laws. Pursuant to ORS 465.320 and OAR 340-122-0100, notice of DEQ's proposal of a Conditional No Further Action determination for the site will be published in the Oregon Secretary of State's Bulletin and a newspaper of local distribution, and a 30-day comment period provided.

REFERENCES

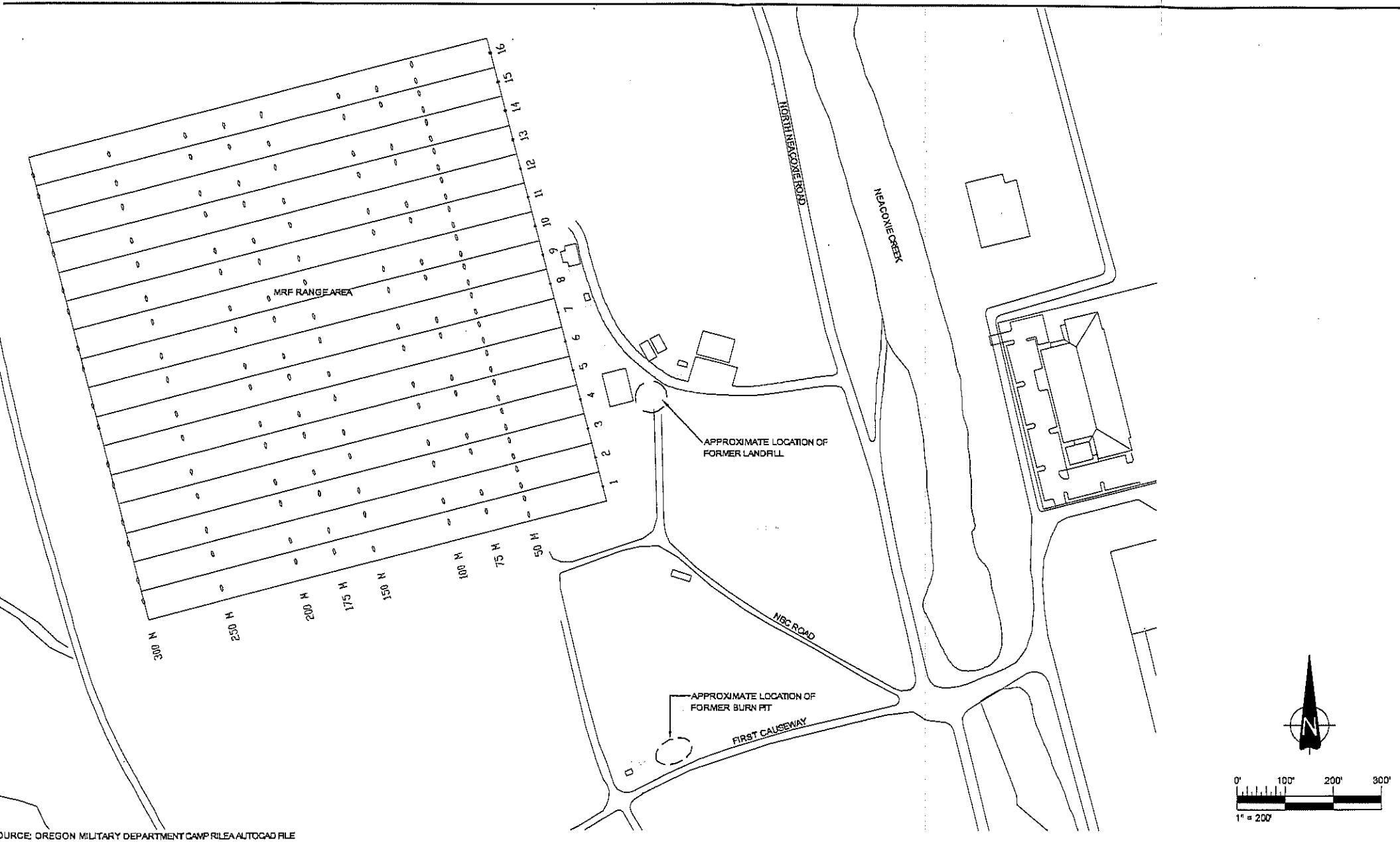
AMEC, 2005, *Phase 2 Environmental Baseline Study Sampling and Analysis Plan*, March 2005.

AMEC, 2006, *Phase II Environmental Baseline Study*, March 2006.

AMEC, 2007, *Burn Pit Soil Excavation and Disposal Work Plan*, January 2007.

AMEC, 2007, *Remedial Action and Groundwater Monitoring Report*, January 2008.

Cascade Earth Sciences, Ltd., 1994, *Site Cleanup Report, Camp Rilea, Warrenton, Oregon*, February 2, 1994.



OURCE: OREGON MILITARY DEPARTMENT CAMP RILEA AUTOCAD FILE

OTE: THIS DRAWING SHOULD BE READ IN CONJUNCTION ITH THE AMEC EARTH & ENVIRONMENTAL REPORT No. _ DATED ___.

CLIENT: CAMP RILEA 33168 PATRIOT WAY WARRENTON, OREGON	DWN BY: DD CHK'D BY: MK DATUM: - PROJECTION: - SCALE: 1" = 200'	PROJECT CAMP RILEA	
AMEC Earth & Environmental 7376 S.W. Durham Road Portland, OR. U.S.A. 97224		TITLE Former Burn Pit and Landfill Locations	

-fs1\ClientData\11000\11000\11015\DWG\110-2 STUDY AREA LOC.dwg - Layout1 - Dec. 18, 2007 1:30pm - dan.Higgins

State of Oregon
Department of
Environmental
Quality

MANAGEMENT APPROVAL FORM
(Preliminary Approval)

Project Name: Camp Rilea
(ECSI #1524)

Date: _12/23/09_____

REPORT/DOCUMENT TYPE:
Remedial Action Completion Staff Report
For Camp Rilea Landfill site CNFA

Proposed CNFA: ___X____
Other:
[Describe]_____

Please review the attached staff recommendation regarding an environmental cleanup activity. ORS 465.320 requires public notification of, and a 30 day comment period for, this recommendation. It is important to receive your concurrence/comments as soon as possible to meet publication deadlines. Please provide comments by [date] or sign below as approval.

PRELIMINARY APPROVAL: (INDICATES CLEARANCE FOR PUBLIC NOTICE AND COMMENT.)

Bruce Gilles, Section Manager

12-22-09
Date

Return completed form to Bob Williams, Project Manager
Section: Cleanup & Emergency Response, NWR

Copy: Project Administrative Record File

Water Quality

Water Quality Wastewater Permits Database

Water Quality Wastewater Permits Database - Facility Details

Active Permits for OREGON MILITARY DEPARTMENT - WQ File Number: 64802

The permits listed below are the currently active permits for this facility. If you wish to see details on the applications that led to these permits click on the application number below.

If you wish to see the details on any pending applications for this facility click here.

Field	Record
Legal Name	OREGON MILITARY DEPARTMENT
Common Name	CAMP RILEA STP
Street Address	91204 RILEA OREGON ROAD
City	WARRENTON
Zip Code	97146
County	CLATSOP
DEQ Region	NWR
Primary SIC Code	9711
Facility Type Description	DEPARTMENT OF DEFENSE
Latitude	46.1157
Longitude	-123.9288
Permit Type	GEN17A
Permit Description	Industrial Wastewater; NPDES wash water
Category	IND
Class	MINOR
Start Date	9/22/1998
Expiration Date	1/31/2003
Active Permit	True
UIC Facility	False
Administrative Agent	NW Region Office
Last Action Date	6/19/2002
Last Action Description	Admin extended
Permit Writer	Rosetta

Compliance Inspector	Rosetta
DMR Reviewer	Rosetta
Permit Application Number	985692
EPA Number	ORG750006
Permit Type	WPCF-DOM-E
Permit Description	Sewage treatment lagoons with no discharge to surface waters
Category	DOM
Class	N/A
Start Date	7/10/2000
Expiration Date	1/31/2011
Active Permit	True
UIC Facility	False
Administrative Agent	NW Region Office
Last Action Date	7/18/2005
Last Action Description	Renewal without eff modified
Permit Writer	Christensen
Compliance Inspector	Christensen
DMR Reviewer	Christensen
Permit Application Number	982295
EPA Number	N/A

[print version]

Oregon Department of Environmental Quality
Headquarters: 811 Sixth Ave., Portland, OR 97204-1390
Phone: 503-229-5696 or toll free in Oregon 1-800-452-4011
Oregon Telecommunications Relay Service: 1-800-735-2900 FAX: 503-229-6124

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Oregon DEQ Hazardous Waste Site Report

[Close Report]

EPA ID:	ORD980988414		*Active*
Common Name:	ORARNG Camp Rilea		
Employee count:	85	**Activity Start:**	5/5/1992
Location:	33168 PATRIOT WAY WARRENTON OR 97146-9711 CLATSOP County		
Latitude:	46.1170 46° 7' 1.5000"	**Longitude:**	-123.9316 -123° 55' 53.8000"
SIC Codes:	9711 - DEPARTMENT OF DEFENSE		

Facility is a Hazardous Waste Generator
Current Status: SQG as of 12/31/2009

Hazardous Waste Generation Reporting History

Report Year	Generator Status	Number of Waste Streams	Tons Generated	Sent Date	Received Date
2009	SQG	12	2.0375755	12/10/2009	02/11/2010

Waste Stream: Weapons Cleaning Rags, Patches, Residue/ D008 **Source:** Leak collection and floor sweeping

Waste Codes: D008 **CAS Codes:**

Form: Metal scale, filings and scrap (including metal drums)

Reported: 281.00 LB = 127.43 KG **Managed Onsite:** 0.00 KG

Shipments:

02/09/2009	004803855JJK	WAD991281767	92.00 LB	Landfill or surface impoundment that will be closed as landfill
06/04/2009	004811440JJK	WAD991281767	141.00 LB	Landfill or surface impoundment that will be closed as landfill
09/03/2009	004814299JJK	WAD991281767	71.00 LB	Landfill or surface impoundment that will be closed as landfill

Waste Stream: BRAKE WASSH CART SLUDGE/D006,D007,D008 **Source:** Cleaning out process equipment

Waste Codes: D006, D007, D010 **CAS Codes:**

Form: Contaminated soil

Reported: 36.00 LB = 16.33 KG **Managed Onsite:** 0.00 KG

Shipments:

09/03/2009	004814299JJK	WAD991281767	36.00 LB	Landfill or surface impoundment that will be closed as landfill
02/19/2009	004814299JJK	WAD991281767	41.00 LB	Landfill or surface impoundment that will be closed as landfill

Waste Stream: JP8 FUEL FILTERS/D001,D018 **Source:** Oil changes and filter or battery replacement

Waste D001, D018 **CAS Codes:**

Codes:

Form: Paint thinner or petroleum distillates

Reported: 259.00 LB = 117.46 KG **Managed Onsite:** 0.00 KG

Shipments:

02/09/2009	004813855JJK	WAD991281767	145.00 LB	Fuel blending prior to energy recovery at another site
06/04/2009	004811440JJK	WAD991281767	97.00 LB	Fuel blending prior to energy recovery at another site
09/03/2009	004814299JJK	WAD991281767	90.00 LB	Fuel blending prior to energy recovery at another site

---

Waste Stream: OVEN CLEANER D001,D002,D003 **Source:** Painting and coating

Waste Codes: D001, D002, D003 **CAS Codes:**

Form: Paint, ink, lacquer, or varnish

Reported: 5.00 LB = 2.27 KG **Managed Onsite:** 0.00 KG

Shipments:

02/09/2009	004813855JJK	WAD991281767	5.00 LB	Energy recovery or fuel blending

---

Waste Stream: OILY SKIMMER SLUDGE (UTES) D006 **Source:** Product and by-product processing

Waste Codes: D006 **CAS Codes:**

Form: Contaminated soil

Reported: 10.00 LB = 4.54 KG **Managed Onsite:** 0.00 KG

Shipments:

02/09/2009	004813855JJK	WAD991281767	15.00 LB	Landfill or surface impoundment that will be closed as landfill
09/03/2009	004814299JJK	WAD991281767	10.00 LB	Landfill or surface impoundment that will be closed as landfill

---

Waste Stream: WASTE PAINT THINNER D001,F003 F005 **Source:** Painting and coating

Waste Codes: D001, F003, F005 **CAS Codes:**

Form: Paint thinner or petroleum distillates

Reported: 53.00 LB = 24.04 KG **Managed Onsite:** 0.00 KG

Shipments:

02/09/2009	004813855JJK	WAD991281767	22.00 LB	Energy recovery or fuel blending
06/04/2009	004811440JJK	WAD991281767	35.00 LB	Energy recovery or fuel blending
09/03/2009	004814299JJK	WAD991281767	13.00 LB	Energy recovery or fuel blending

---

Waste Stream: WASTE PAINTRELATED MATERIAL D001, D018, F003, F005 **Source:** Painting and coating

Waste D001, D018, F003, F005 **CAS Codes:**

Codes:

Form: Paint, ink, lacquer, or varnish

Reported: 15.00 LB = 6.80 KG **Managed Onsite:** 0.00 KG

Shipments:

06/04/2009	004811440JJK	WAD991281767	15.00 LB	Energy recovery or fuel blending

---

Waste Stream: WASH RACK SLUDGE /D006 **Source:** Dip, flush or spray rinsing

Waste Codes: D006 **CAS Codes:**

Form: Oil-water emulsion or mixture

Reported: 3633.00 LB = 1647.57 KG **Managed Onsite:** 0.00 KG

Shipments:

02/12/2009	004813856JJK	WAD991281767	1833.00 LB	Other chemical precipitation with or without pre-treatment
09/03/2009	004814300JJK	WAD991281767	1800.00 LB	Other chemical precipitation with or without pre-treatment

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Waste Stream: WASTE PAINT RELATED MATERIAL/ D001 **Source:** Painting and coating

Waste Codes: D001 **CAS Codes:**

Form: Paint, ink, lacquer, or varnish

Reported: 136.00 LB = 61.68 KG **Managed Onsite:** 0.00 KG

Shipments:

02/09/2009	004813855JJK	WAD991281767	10.00 LB	Energy recovery or fuel blending
06/04/2009	004811440JJK	WAD991281767	28.00 LB	Energy recovery or fuel blending
09/03/2009	004814299JJK	WAD991281767	98.00 LB	Energy recovery or fuel blending

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Waste Stream: PVC CEMENT D001, D035 **Source:** Painting and coating

Waste Codes: D001, D035 **CAS Codes:**

Form: Paint, ink, lacquer, or varnish

Reported: 5.00 LB = 2.27 KG **Managed Onsite:** 0.00 KG

Shipments:

09/03/2009	004814299JJK	WAD991281767	5.00 LB	Energy recovery or fuel blending

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Waste Stream: SILVER NITRATE D011 **Source:** Laboratory analytical wastes (used chemicals)

Waste Codes: D011 **CAS Codes:**

Form: Paint, ink, lacquer, or varnish

Reported: 23.00 LB = 10.43 KG **Managed Onsite:** 0.00 KG

Shipments:

Waste Stream:	SOLIVENT PARTS WASHER D006			**Source:**	Cleaning out process equipment
Waste Codes:	D006			**CAS Codes:**	
Form:	Contaminated soil				
Reported:	37.00 LB = 16.78 KG			**Managed Onsite:**	0.00 KG
Shipments:	09/03/2009	004814299JJK	WAD991281767	37.00 LB	Energy recovery or fuel blending

2008	SQG	10	2.1065075	12/17/2008	02/06/2009

Waste Stream:	Brake Wash Cart Sludge / D006, D007, D008			**Source:**	Cleaning out process equipment
Waste Codes:	D006, D007, D008			**CAS Codes:**	
Form:	Contaminated soil				
Reported:	91.00 LB = 41.27 KG			**Managed Onsite:**	0.00 KG
Shipments:	10/27/2008	004304936JJK	WAD991281767	50.00 LB	Fuel blending prior to energy recovery at another site

Waste Stream:	Waste Paint Related Material/D001			**Source:**	Painting and coating
Waste Codes:	D001			**CAS Codes:**	
Form:	Paint, ink, lacquer, or varnish				
Reported:	18.00 LB = 8.16 KG			**Managed Onsite:**	0.00 KG
Shipments:	08/21/2008	004303920JJK	WAD991281767	10.00 LB	Fuel blending prior to energy recovery at another site
	10/27/2008	004303920JJK	WAD991281767	10.00 LB	Fuel blending prior to energy recovery at another site

Waste Stream:	Wash Rack Sludge / D006			**Source:**	Dip, flush or spray rinsing
Waste Codes:	D006			**CAS Codes:**	
Form:	Oil-water emulsion or mixture				
Reported:	3260.00 LB = 1478.41 KG			**Managed Onsite:**	0.00 KG
Shipments:	08/21/2008	004303921JJK	WAD991281767	1980.00 LB	Stabilization or chemical fixation prior to disposal at another site.
	02/08/2008	001858010JJK	WAD991281767	1280.00 LB	Stabilization or chemical fixation prior to disposal at another site.

Waste					Product and by-product

Stream:	Oily Sludge Skimmer (UTES) / D006	**Source:**	processing
Waste Codes:	D006	**CAS Codes:**	
Form:	Contaminated soil		
Reported:	133.00 LB = 60.32 KG	**Managed Onsite:**	0.00 KG

Shipments:

08/21/2008	004303920JJK	WAD991281767	100.00 LB	Stabilization or chemical fixation prior to disposal at another site.
10/27/2008	004304936JJK	WAD991281767	18.00 LB	Stabilization or chemical fixation prior to disposal at another site.

Waste Stream:	Waste Paint Related Material / D001, D008, D005, D006, D007, D035	**Source:**	Painting and coating
Waste Codes:	D001, D005, D006, D007, D008, D035	**CAS Codes:**	
Form:	Paint, ink, lacquer, or varnish		
Reported:	259.00 LB = 117.46 KG	**Managed Onsite:**	0.00 KG

Shipments:

08/21/2008	004303920JJK	WAD991281767	259.00 LB	Fuel blending prior to energy recovery at another site

Waste Stream:	Waste Paint Thinner (SS) / D001, F003, F005	**Source:**	Painting and coating
Waste Codes:	D001, F003, F005	**CAS Codes:**	
Form:	Paint thinner or petroleum distillates		
Reported:	101.00 LB = 45.80 KG	**Managed Onsite:**	0.00 KG

Shipments:

10/27/2008	004304936JJK	WAD991281767	36.00 LB	Energy recovery or fuel blending
08/21/2008	004303920JJK	WAD991281767	43.00 LB	Energy recovery or fuel blending
02/08/2008	001858050JJK	WAD991281767	275.00 LB	Energy recovery or fuel blending

Waste Stream:	Weapons Cleaning Rags, Patches, Residue / D008	**Source:**	Leak collection and floor sweeping
Waste Codes:	D008	**CAS Codes:**	
Form:	Metal scale, filings and scrap (including metal drums)		
Reported:	289.00 LB = 131.06 KG	**Managed Onsite:**	0.00 KG

Shipments:

02/08/2008	001858050JJK	WAD991281767	130.00 LB	Fuel blending prior to energy recovery at another site
08/21/2008	004303920JJK	WAD991281767	152.00 LB	Stabilization or chemical fixation prior to disposal at another site.
10/27/2008	004304936JJK	WAD991281767	45.00 LB	Stabilization or chemical fixation prior to disposal at another site.

Waste Stream:	Oily Skimmer Sludge (AG) / D006, D008	**Source:**	Product and by-product processing
Waste Codes:	D006, D008	**CAS Codes:**	
Form:	Contaminated soil		
Reported:	15.00 LB = 6.80 KG	**Managed Onsite:**	0.00 KG

Shipments:

02/08/2008	001858050JJK	WAD991281767	30.00 LB	Stabilization or chemical fixation prior to disposal at another site.
10/27/2008	004304936JJK	WAD991281767	15.00 LB	Stabilization or chemical fixation prior to disposal at another site.

Waste Stream:	JP8 FUEL FILTERS / D001, D0018	**Source:**	Oil changes and filter or battery replacement
Waste Codes:	D001, D018	**CAS Codes:**	
Form:	Paint thinner or petroleum distillates		
Reported:	443.00 LB = 200.90 KG	**Managed Onsite:**	0.00 KG

Shipments:

02/08/2008	001858050JJK	WAD991281767	823.00 LB	Fuel blending prior to energy recovery at another site
08/21/2008	004303920JJK	WAD991281767	258.00 LB	Fuel blending prior to energy recovery at another site
10/27/2008	004304936JJK	WAD991281767	90.00 LB	Fuel blending prior to energy recovery at another site

Waste Stream:	Mercury Equipment/Manometer/D009	**Source:**	Discarding off-specification or out-of-date chemicals or products
Waste Codes:	D009	**CAS Codes:**	
Form:	Waste liquid mercury		
Reported:	36.00 LB = 16.33 KG	**Managed Onsite:**	0.00 KG

Shipments:

10/27/2008	004304936JJK	WAD991281767	36.00 LB	Fuel blending prior to energy recovery at another site

2007	SQG	12	2.429853	12/11/2007	02/14/2008

Waste Stream:	Waste Paint Related Material/ D001	**Source:**	Painting and coating
Waste Codes:	D001	**CAS Codes:**	
Form:	Paint, ink, lacquer, or varnish		
Reported:	125.00 LB = 56.69 KG	**Managed Onsite:**	0.00 KG

Shipments:

07/10/2007	002958865JJK	WAD991281767	125.00 LB	Energy recovery or fuel blending

Waste Stream:	Brake Wash Cart Sludge/D006, D007, D008	**Source:**	Cleaning out process equipment

Waste Codes:	D006, D007, D008	**CAS Codes:**	
Form:	Contaminated soil		
Reported:	0.00 LB = 0.00 KG	**Managed Onsite:**	0.00 KG

Shipments:

03/26/2007	001866121jjk	WAD991281767	70.00 LB	Landfill or surface impoundment that will be closed as landfill

Waste Stream:	Oily Skimmer Sludge (UTES) / D006	**Source:**	Product and by-product processing
Waste Codes:	D006	**CAS Codes:**	
Form:	Contaminated soil		
Reported:	70.00 LB = 31.75 KG	**Managed Onsite:**	0.00 KG

Shipments:

03/26/2007	001866121jjk	WAD991281767	30.00 LB	Landfill or surface impoundment that will be closed as landfill
07/10/2007	002958865jjk	WAD991281767	40.00 LB	Landfill or surface impoundment that will be closed as landfill

Waste Stream:	Wash Rack Sludge / D006	**Source:**	Dip, flush or spray rinsing
Waste Codes:	D006	**CAS Codes:**	
Form:	Oil-water emulsion or mixture		
Reported:	1850.00 LB = 838.98 KG	**Managed Onsite:**	0.00 KG

Shipments:

07/10/2007	002958865jjk	WAD991281767	1850.00 LB	Other chemical precipitation with or without pre-treatment

Waste Stream:	Waste Paint Related Material/ D001,D18,D35	**Source:**	Painting and coating
Waste Codes:	D001, D018, D035	**CAS Codes:**	
Form:	Paint, ink, lacquer, or varnish		
Reported:	10.00 LB = 4.54 KG	**Managed Onsite:**	0.00 KG

Shipments:

03/26/2007	001866121jjk	WAD991281767	7.00 LB	Energy recovery or fuel blending
10/02/2007	002961237jjk	WAD991281767	10.00 LB	Energy recovery or fuel blending

Waste Stream:	Waste Paint Thinner (SS) / D001,F003,F005	**Source:**	Painting and coating
Waste Codes:	D001, F003, F005	**CAS Codes:**	
Form:	Paint thinner or petroleum distillates		
Reported:	305.00 LB = 138.32 KG	**Managed Onsite:**	0.00 KG

Shipments:

10/02/2007	002961237jjk	WAD991281767	30.00 LB	Energy recovery or fuel blending

Waste Stream:	Weapons Cleaning Rags, Patches, Residue/ D008	**Source:**	Leak collection and floor sweeping
Waste Codes:	D008	**CAS Codes:**	
Form:	Metal scale, filings and scrap (including metal drums)		
Reported:	540.00 LB = 244.89 KG	**Managed Onsite:**	0.00 KG

Shipments:

07/10/2007	002958865JJK	WAD991281767	400.00 LB	Landfill or surface impoundment that will be closed as landfill
10/02/2007	002961237JJK	WAD991281767	10.00 LB	Landfill or surface impoundment that will be closed as landfill

Waste Stream:	Oily Skimmer Sludge (AG) / D006, D008	**Source:**	Product and by-product processing
Waste Codes:	D006, D008	**CAS Codes:**	
Form:	Contaminated soil		
Reported:	30.00 LB = 13.61 KG	**Managed Onsite:**	0.00 KG
Shipments:			

Waste Stream:	Waste Gasoline/ D001,D018	**Source:**	Oil changes and filter or battery replacement
Waste Codes:	D001, D018	**CAS Codes:**	
Form:	Paint thinner or petroleum distillates		
Reported:	5.00 LB = 2.27 KG	**Managed Onsite:**	0.00 KG

Shipments:

07/10/2007	002958865JJK	WAD991281767	5.00 LB	Fuel blending prior to energy recovery at another site

Waste Stream:	JP8 FUEL FILTERS/ D001,D018	**Source:**	Oil changes and filter or battery replacement
Waste Codes:	D001, D018	**CAS Codes:**	
Form:	Paint thinner or petroleum distillates		
Reported:	2388.00 LB = 1082.96 KG	**Managed Onsite:**	0.00 KG

Shipments:

03/26/2007	001866121JJK	WAD991281767	165.00 LB	Fuel blending prior to energy recovery at another site
07/10/2007	002958865JJK	WAD991281767	1250.00 LB	Fuel blending prior to energy recovery at another site
10/02/2007	002961237JJK	WAD991281767	150.00 LB	Fuel blending prior to energy recovery at another site

Waste Stream:	MASK FILTERS / D007	**Source:**	Discarding off-specification or out-of-date chemicals or products
Waste	D007	**CAS Codes:**	

Codes:

Form: Metal scale, filings and scrap (including metal drums)

Reported: 25.00 LB = 11.34 KG **Managed Onsite:** 0.00 KG

Shipments:

07/10/2007	002958865JJK	WAD991281767	25.00 LB	Other chemical precipitation with or without pre-treatment

Waste Stream: UNPUNCTURED AEROSOL CANS / D001, D003 **Source:** Discarding off-specification or out-of-date chemicals or products

Waste Codes: D001, D003 **CAS Codes:**

Form: Paint, ink, lacquer, or varnish

Reported: 10.00 LB = 4.54 KG **Managed Onsite:** 0.00 KG

Shipments:

10/02/2007	002961237JJK	WAD991281767	10.00 LB	Stabilization or chemical fixation prior to disposal at another site.

2006	SQG	15	1.1632275	12/15/2006	02/23/2007

Waste Stream: Brake Wash Cart Sludge **Source:** Cleaning out process equipment

Waste Codes: D006, D007, D008 **CAS Codes:**

Form: Contaminated soil

Reported: 200.00 LB = 90.70 KG **Managed Onsite:** 0.00 KG

Shipments:

04/20/2006	6110A	WAD991281767	60.00 LB	Landfill or surface impoundment that will be closed as landfill
07/26/2006	6207F	WAD991281767	70.00 LB	Landfill or surface impoundment that will be closed as landfill

Waste Stream: Hot Wash Residue/ D006 **Source:** Product and by-product processing

Waste Codes: D006 **CAS Codes:**

Form: Contaminated soil

Reported: 95.00 LB = 43.08 KG **Managed Onsite:** 0.00 KG

Shipments:

04/20/2006	6110A	WAD991281767	50.00 LB	Landfill or surface impoundment that will be closed as landfill
10/24/2006	000227669JJK	WAD991281767	45.00 LB	Landfill or surface impoundment that will be closed as landfill

Waste Stream: Wash Rack Sludge **Source:** Dip, flush or spray rinsing

Waste Codes: D006 **CAS Codes:**

Form: Oil-water emulsion or mixture

Reported: 860.00 LB = 390.01 KG **Managed Onsite:** 0.00 KG

Shipments:

03/22/2006	6087P	WAD991281767	560.00 LB	Other chemical precipitation with or without pre-treatment
07/26/2006	6207I	WAD991281767	300.00 LB	Other chemical precipitation with or without pre-treatment

Waste Stream: Waste Paint Related Material/ D001,18,35 **Source:** Painting and coating

Waste Codes: D001, D018, D035 **CAS Codes:**

Form: Paint, ink, lacquer, or varnish

Reported: 33.00 LB = 14.97 KG **Managed Onsite:** 0.00 KG

Shipments:

04/20/2006	6110A	WAD991281767	8.00 LB	Energy recovery or fuel blending
07/26/2006	6207F	WAD991281767	8.00 LB	Energy recovery or fuel blending
10/24/2006	000227669JJK	WAD991281767	10.00 LB	Energy recovery or fuel blending

Waste Stream: JP 8 Waste/ D001,D018 **Source:** Oil changes and filter or battery replacement

Waste Codes: D001, D018 **CAS Codes:**

Form: Filters, solid adsorbents, ion exchange resins and spent carbon

Reported: 679.00 LB = 307.93 KG **Managed Onsite:** 0.00 KG

Shipments:

04/20/2006	6110A	WAD991281767	220.00 LB	Incineration - thermal destruction other than use as a fuel
07/26/2006	6207F	WAD991281767	200.00 LB	Incineration - thermal destruction other than use as a fuel
10/24/2006	000227669JJK	WAD991281767	220.00 LB	Incineration - thermal destruction other than use as a fuel

Waste Stream: Waste Paint Related Material/ D001,5,7,8,35 **Source:** Painting and coating

Waste Codes: D001, D005, D007, D008, D035 **CAS Codes:**

Form: Paint, ink, lacquer, or varnish

Reported: 12.00 LB = 5.44 KG **Managed Onsite:** 0.00 KG

Shipments:

07/26/2006	6207F	WAD991281767	12.00 LB	Energy recovery or fuel blending

Waste Stream: Waste Paint Related Material/ D001,F003,F005 **Source:** Painting and coating

Waste Codes: D001, F003, F005 **CAS Codes:**

Form: Paint thinner or petroleum distillates

Reported:	220.00 LB = 99.77 KG	**Managed Onsite:**	0.00 KG

Shipments:

04/20/2006	6110A	WAD991281767	220.00 LB	Energy recovery or fuel blending

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Waste Stream:	Rags,Thinner Soaked/ D001,F005	**Source:**	Stripping and acid or caustic cleaning
Waste Codes:	D001, F005	**CAS Codes:**	
Form:	Paint or ink sludges, still bottoms in sludge form		
Reported:	12.00 LB = 5.44 KG	**Managed Onsite:**	0.00 KG

Shipments:

07/26/2006	6207F	WAD991281767	12.00 LB	Incineration - thermal destruction other than use as a fuel

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Waste Stream:	Weapons Cleaning Rags, Patches, Residue/ D008	**Source:**	Leak collection and floor sweeping
Waste Codes:	D008	**CAS Codes:**	
Form:	Metal scale, filings and scrap (including metal drums)		
Reported:	240.00 LB = 108.84 KG	**Managed Onsite:**	0.00 KG

Shipments:

07/26/2006	6207F	WAD991281767	140.00 LB	Landfill or surface impoundment that will be closed as landfill
10/24/2006	000227669JJK	WAD991281767	100.00 LB	Landfill or surface impoundment that will be closed as landfill

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Waste Stream:	Waste Solvent Parts Washer/ D006	**Source:**	Cleaning out process equipment
Waste Codes:	D006	**CAS Codes:**	
Form:	Paint, ink, lacquer, or varnish		
Reported:	60.00 LB = 27.21 KG	**Managed Onsite:**	0.00 KG

Shipments:

10/24/2006	000227669JJK	WAD991281767	60.00 LB	Landfill or surface impoundment that will be closed as landfill

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Waste Stream:	Waste Gasoline/ D001,D018	**Source:**	Oil changes and filter or battery replacement
Waste Codes:	D001, D018	**CAS Codes:**	
Form:	Paint thinner or petroleum distillates		
Reported:	70.00 LB = 31.75 KG	**Managed Onsite:**	0.00 KG

Shipments:

07/26/2006	6207F	WAD991281767	70.00 LB	Fuel blending prior to energy recovery at another site

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Waste Stream:	Waste Paint Related Material/ D001,D008	**Source:**	Discarding off-specification or out-of-date chemicals or products

Waste Codes:	D001, D008	**CAS Codes:**	
Form:	Paint, ink, lacquer, or varnish		
Reported:	20.00 LB = 9.07 KG	**Managed Onsite:**	0.00 KG

Shipments:

07/26/2006	6207F	WAD991281767	20.00 LB	Fuel blending prior to energy recovery at another site

Waste Stream:	Coating Compound Battery Box/ D001	**Source:**	Discarding off-specification or out-of-date chemicals or products
Waste Codes:	D001	**CAS Codes:**	
Form:	Lab packs with no acute hazardous waste		
Reported:	40.00 LB = 18.14 KG	**Managed Onsite:**	0.00 KG

Shipments:

04/20/2006	6110A	WAD991281767	40.00 LB	Fuel blending prior to energy recovery at another site

Waste Stream:	Calcium Hypochlorite (HYDRATED)/ D001,D003	**Source:**	Discarding off-specification or out-of-date chemicals or products
Waste Codes:	D001, D003	**CAS Codes:**	
Form:	Other inorganic solids (specify in comments)		
Reported:	8.00 LB = 3.63 KG	**Managed Onsite:**	0.00 KG

Shipments:

04/20/2006	6110A	WAD991281767	8.00 LB	Landfill or surface impoundment that will be closed as landfill

Waste Stream:	Aerosol Undercoat/ D001,D003	**Source:**	Discarding off-specification or out-of-date chemicals or products
Waste Codes:	D001, D003	**CAS Codes:**	
Form:	Paint thinner or petroleum distillates		
Reported:	16.00 LB = 7.26 KG	**Managed Onsite:**	0.00 KG

Shipments:

07/26/2006	6207F	WAD991281767	8.00 LB	Fuel blending prior to energy recovery at another site
10/24/2006	000227669JJF	WAD991281767	8.00 LB	Fuel blending prior to energy recovery at another site

2005	SQG	27	2.5037735	12/21/2005	02/09/2006

Waste Stream:	Brake Wash Cart Sludge	**Source:**	Cleaning out process equipment
Waste Codes:	D006, D007, D008	**CAS Codes:**	
Form:	Contaminated soil		
Reported:	90.00 LB = 40.81 KG	**Managed Onsite:**	0.00 KG

Shipments:

08/09/2005	5221A-	WAD991281767	90.00	Landfill or surface impoundment that

	2E		LB	will be closed as landfill

Waste Stream: Non Flammable, Aerosol **Source:** Discarding off-specification or out-of-date chemicals or products

Waste Codes: D003 **CAS Codes:**

Form: Reactive or polymerizable organic liquids and adhesives

Reported: 9.00 LB = 4.08 KG **Managed Onsite:** 0.00 KG

Shipments:

08/09/2005	5221A-1A	WAD991281767	5.00 LB	Incineration - thermal destruction other than use as a fuel
06/03/2005	5154A-1B	WAD991281767	4.00 LB	Incineration - thermal destruction other than use as a fuel

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Waste Stream: Contaminated Oil **Source:** Oil changes and filter or battery replacement

Waste Codes: D005, D035 **CAS Codes:**

Form: Waste oil

Reported: 2140.00 LB = 970.49 KG **Managed Onsite:** 0.00 KG

Shipments:

05/12/2005	5132B-1A	WAD020257945	2140.00 LB	Energy recovery or fuel blending

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Waste Stream: Floor Sealer **Source:** Discarding off-specification or out-of-date chemicals or products

Waste Codes: D035 **CAS Codes:**

Form: Metal salts or chemicals not containing cyanides

Reported: 0.00 LB = 0.00 KG **Managed Onsite:** 0.00 KG

Shipments:

02/11/2005	5042A-2E	WAD991281767	25.00 LB	Incineration - thermal destruction other than use as a fuel

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Waste Stream: Hot Wash Residue **Source:** Product and by-product processing

Waste Codes: D006 **CAS Codes:**

Form: Contaminated soil

Reported: 6.00 LB = 2.72 KG **Managed Onsite:** 0.00 KG

Shipments:

06/03/2005	5154A-3C	WAD991281767	6.00 LB	Landfill or surface impoundment that will be closed as landfill

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Waste Stream: JP-8 Waste Fuel/Filters/D001 **Source:** Oil changes and filter or battery replacement

Waste Codes: D001 **CAS Codes:**

Form: Filters, solid adsorbents, ion exchange resins and spent carbon

Reported:	190.00 LB = 86.17 KG	**Managed Onsite:**	0.00 KG

Shipments:

02/11/2005	5042A-2A	WAD991281767	50.00 LB	Incineration - thermal destruction other than use as a fuel
06/03/2005	5154A-2B	WAD991281767	50.00 LB	Incineration - thermal destruction other than use as a fuel
06/03/2005	5154A-2C	WAD991281767	120.00 LB	Incineration - thermal destruction other than use as a fuel

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Waste Stream:	JP-8 Asorbent Pads/D018	**Source:**	Cleanup of spill residues (Not part of an ongoing remediation project)
Waste Codes:	D018	**CAS Codes:**	
Form:	Filters, solid adsorbents, ion exchange resins and spent carbon		
Reported:	30.00 LB = 13.61 KG	**Managed Onsite:**	0.00 KG

Shipments:

08/09/2005	5221A-2B	WAD991281767	30.00 LB	Incineration - thermal destruction other than use as a fuel

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Waste Stream:	Industrial Cleaner	**Source:**	Discarding off-specification or out-of-date chemicals or products
Waste Codes:	D002	**CAS Codes:**	
Form:	Other organic liquid (specify in comments)		
Reported:	0.00 LB = 0.00 KG	**Managed Onsite:**	0.00 KG

Shipments:

02/11/2005	5042A-2D	WAD991281767	50.00 LB	Incineration - thermal destruction other than use as a fuel

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Waste Stream:	Insect Repellent	**Source:**	Discarding off-specification or out-of-date chemicals or products
Waste Codes:	D001	**CAS Codes:**	
Form:	Lab packs with no acute hazardous waste		
Reported:	15.00 LB = 6.80 KG	**Managed Onsite:**	0.00 KG

Shipments:

06/03/2005	5154A-2D	WAD991281767	15.00 LB	Energy recovery or fuel blending

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Waste Stream:	Lead Tire Weight	**Source:**	Other production or service-related processes (specify in comments)
Waste Codes:	D008	**CAS Codes:**	
Form:	Metal scale, filings and scrap (including metal drums)		
Reported:	100.00 LB = 45.35 KG	**Managed Onsite:**	0.00 KG

Shipments:

06/03/2005	5154A-3D	WAD991281767	100.00 LB	Macro-encapsulation prior to disposal at another site.

Waste Stream:	Lubricating Fluid Dimethsyl	**Source:**	Discarding off-specification or out-of-date chemicals or products
Waste Codes:	D001, D003	**CAS Codes:**	
Form:	Paint thinner or petroleum distillates		
Reported:	7.00 LB = 3.17 KG	**Managed Onsite:**	0.00 KG

Shipments:

11/28/2005	5332A-1A	WAD991281767	7.00 LB	Incineration - thermal destruction other than use as a fuel

Waste Stream:	Old FRH	**Source:**	Discarding off-specification or out-of-date chemicals or products
Waste Codes:	D005	**CAS Codes:**	
Form:	Waste oil		
Reported:	200.00 LB = 90.70 KG	**Managed Onsite:**	0.00 KG

Shipments:

08/09/2005	5221A-2D	WAD991281767	200.00 LB	Landfill or surface impoundment that will be closed as landfill

Waste Stream:	Oven Cleaner	**Source:**	Discarding off-specification or out-of-date chemicals or products
Waste Codes:	D002, D003	**CAS Codes:**	
Form:	Other organic liquid (specify in comments)		
Reported:	0.00 LB = 0.00 KG	**Managed Onsite:**	0.00 KG

Shipments:

02/11/2005	5042A-1A	WAD991281767	2.00 LB	Incineration - thermal destruction other than use as a fuel

Waste Stream:	Plastic Polish	**Source:**	Discarding off-specification or out-of-date chemicals or products
Waste Codes:	D001	**CAS Codes:**	
Form:	Lab packs with no acute hazardous waste		
Reported:	11.00 LB = 4.99 KG	**Managed Onsite:**	0.00 KG

Shipments:

02/11/2005	5042A-2B	WAD991281767	1.00 LB	Energy recovery or fuel blending
06/03/2005	5154A-2D	WAD991281767	11.00 LB	Energy recovery or fuel blending

Waste Stream:	Rapid Clean Tube Solvent	**Source:**	Discarding off-specification or out-of-date chemicals or products
Waste Codes:	D039	**CAS Codes:**	
Form:	Concentrated halogenated (e.g., chlorinated) solvent		
Reported:	0.00 LB = 0.00 KG	**Managed Onsite:**	0.00 KG

Shipments:

02/11/2005	5042A-	WAD991281767	1.00	Incineration - thermal destruction other

	2C		LB	than use as a fuel

Waste Stream:	Rust Converter	**Source:**	Discarding off-specification or out-of-date chemicals or products
Waste Codes:	D002	**CAS Codes:**	
Form:	Lab packs with no acute hazardous waste		
Reported:	6.00 LB = 2.72 KG	**Managed Onsite:**	0.00 KG

Shipments:

06/03/2005	5154A-3B	WAD991281767	6.00 LB	Neutralization only

Waste Stream:	Sodium Hydroxide	**Source:**	Discarding off-specification or out-of-date chemicals or products
Waste Codes:	D002	**CAS Codes:**	
Form:	Caustic aqueous waste without cyanides		
Reported:	20.00 LB = 9.07 KG	**Managed Onsite:**	0.00 KG

Shipments:

06/03/2005	5154A-3A	WAD991281767	20.00 LB	Landfill or surface impoundment that will be closed as landfill

Waste Stream:	Sun Block, Alpha	**Source:**	Discarding off-specification or out-of-date chemicals or products
Waste Codes:	D001	**CAS Codes:**	
Form:	Lab packs with no acute hazardous waste		
Reported:	0.00 LB = 0.00 KG	**Managed Onsite:**	0.00 KG

Shipments:

02/11/2005	5042A-2B	WAD991281767	1.00 LB	Energy recovery or fuel blending

Waste Stream:	Tire Adhesive	**Source:**	Discarding off-specification or out-of-date chemicals or products
Waste Codes:	D001, D005, D007, D008, D035	**CAS Codes:**	
Form:	Lab packs with no acute hazardous waste		
Reported:	0.00 LB = 0.00 KG	**Managed Onsite:**	0.00 KG

Shipments:

02/11/2005	5042A-2B	WAD991281767	1.00 LB	Energy recovery or fuel blending

Waste Stream:	Wash Rack Sludge	**Source:**	Dip, flush or spray rinsing
Waste Codes:	D006	**CAS Codes:**	
Form:	Oil-water emulsion or mixture		
Reported:	1320.00 LB = 598.62 KG	**Managed Onsite:**	0.00 KG

Shipments:

	4042A-	1000.00	Other chemical precipitation with or

02/11/2005	1A	WAD991281767	LB	without pre-treatment
08/09/2005	5221D-1A	WAD991281767	320.00 LB	Other chemical precipitation with or without pre-treatment

Waste Stream: Waste Mercury, Spill **Source:** Cleanup of spill residues (Not part of an ongoing remediation project)

Waste Codes: D009 **CAS Codes:**

Form: Waste liquid mercury

Reported: 3.00 LB = 1.36 KG **Managed Onsite:** 0.00 KG

Shipments:

08/09/2005	5221A-2C	WAD991281767	3.00 LB	Metals recovery including retorting, smelting, chemical, etc.

Waste Stream: Waste Paint Related Material/D001,18 **Source:** Painting and coating

Waste Codes: D001, D018 **CAS Codes:**

Form: Paint, ink, lacquer, or varnish

Reported: 9.00 LB = 4.08 KG **Managed Onsite:** 0.00 KG

Shipments:

06/03/2005	5154A-1C	WAD991281767	9.00 LB	Energy recovery or fuel blending

Waste Stream: Waste Paint Related Material/D001,35 **Source:** Painting and coating

Waste Codes: D001, D035 **CAS Codes:**

Form: Paint, ink, lacquer, or varnish

Reported: 330.00 LB = 149.66 KG **Managed Onsite:** 0.00 KG

Shipments:

02/11/2005	5042A-1C	WAD991281767	100.00 LB	Energy recovery or fuel blending
06/03/2005	5154A-1D	WAD991281767	280.00 LB	Energy recovery or fuel blending

Waste Stream: Waste Paint Related Material/D001,18,35 **Source:** Painting and coating

Waste Codes: D001, D018, D035 **CAS Codes:**

Form: Paint, ink, lacquer, or varnish

Reported: 42.00 LB = 19.05 KG **Managed Onsite:** 0.00 KG

Shipments:

02/11/2005	5042A-1B	WAD991281767	33.00 LB	Energy recovery or fuel blending
08/03/2005	5221A-1B	WAD991281767	7.00 LB	Energy recovery or fuel blending
11/28/2005	5332A-1C	WAD991281767	25.00 LB	Energy recovery or fuel blending

Waste Stream: JP-8 Waste Fuel/ Filters/ D001,D018 **Source:** Oil changes and filter or battery replacement

Waste D001, D018 **CAS Codes:**

Codes:

Form: Filters, solid adsorbents, ion exchange resins and spent carbon

Reported: 430.00 LB = 195.00 KG **Managed Onsite:** 0.00 KG

Shipments:

08/09/2005	5221A-2A	WAD991281767	100.00 LB	Incineration - thermal destruction other than use as a fuel
08/09/2005	5221A-1D	WAD991281767	190.00 LB	Incineration - thermal destruction other than use as a fuel
08/09/2005	5221A-1C	WAD991281767	40.00 LB	Incineration - thermal destruction other than use as a fuel
11/28/2005	5332A-1D	WAD991281767	100.00 LB	Incineration - thermal destruction other than use as a fuel

Waste Stream: Waste Paint Related Material/D001,5,7,8,35 **Source:** Painting and coating

Waste Codes: D001, D005, D007, D008, D035 **CAS Codes:**

Form: Paint, ink, lacquer, or varnish

Reported: 353.00 LB = 160.09 KG **Managed Onsite:** 0.00 KG

Shipments:

02/11/2005	5042A-1D	WAD991281767	205.00 LB	Energy recovery or fuel blending
06/03/2005	5154A-2A	WAD991281767	288.00 LB	Energy recovery or fuel blending
11/28/2005	5332A-1B	WAD991281767	60.00 LB	Energy recovery or fuel blending

Waste Stream: Spent Paint Thinner D001,F005 **Source:** Painting and coating

Waste Codes: D001, F005 **CAS Codes:**

Form: Paint thinner or petroleum distillates

Reported: 210.00 LB = 95.23 KG **Managed Onsite:** 0.00 KG

Shipments:

2004	SQG	25	1.470247	12/29/2004	02/14/2005

Waste Stream: TONER DISPERSANT **Source:** Discarding off-specification or out-of-date chemicals or products

Waste Codes: D001 **CAS Codes:**

Form: Paint thinner or petroleum distillates

Reported: 0.00 LB = 0.00 KG **Managed Onsite:** 0.00 KG

Shipments:

01/14/2004	4009C	WAD991281767	95.00 LB	Energy recovery or fuel blending

Waste Stream: JP-8 FUEL FILTERS **Source:** Oil changes and filter or battery replacement

Waste Codes: D001, D018 **CAS Codes:**

Form: Filters, solid adsorbents, ion exchange resins and spent carbon

Reported: 0.00 LB = 0.00 KG **Managed** 0.00 KG

				Onsite:	
Shipments:	01/14/2004	4009C	WAD991281767	200.00 LB	Incineration - thermal destruction other than use as a fuel

Waste Stream:	WASTE PAINT RELATED MATERIAL	**Source:**	Discarding off-specification or out-of-date chemicals or products
Waste Codes:	D001, D005, D007, D008, D035	**CAS Codes:**	
Form:	Paint, ink, lacquer, or varnish		
Reported:	386.00 LB = 175.05 KG	**Managed Onsite:**	0.00 KG

Shipments:	01/14/2004	4009C	WAD991281767	500.00 LB	Energy recovery or fuel blending
	05/27/2004	4148A	WAD991281767	20.00 LB	Energy recovery or fuel blending
	09/30/2004	4274A	WAD991281767	250.00 LB	Energy recovery or fuel blending

Waste Stream:	CONTAMINATED SOIL WITH JP-8	**Source:**	Cleanup of spill residues (Not part of an ongoing remediation project)
Waste Codes:	D018	**CAS Codes:**	
Form:	Contaminated soil		
Reported:	0.00 LB = 0.00 KG	**Managed Onsite:**	0.00 KG

Shipments:	01/14/2004	4009C	WAD991281767	100.00 LB	Incineration - thermal destruction other than use as a fuel

Waste Stream:	FLOOR POLISH REMOVER, OLD	**Source:**	Discarding off-specification or out-of-date chemicals or products
Waste Codes:	D002	**CAS Codes:**	
Form:	Acidic aqueous wastes less than 5% acid		
Reported:	0.00 LB = 0.00 KG	**Managed Onsite:**	0.00 KG

Shipments:	01/14/2004	4009C	WAD991281767	20.00 LB	Neutralization only

Waste Stream:	WASTE PAINT PUNCTURERED AEROSOL	**Source:**	Discarding off-specification or out-of-date chemicals or products
Waste Codes:	D001, D018	**CAS Codes:**	
Form:	Paint, ink, lacquer, or varnish		
Reported:	23.00 LB = 10.43 KG	**Managed Onsite:**	0.00 KG
Shipments:			

Waste Stream:	ACETONE, OLD PRODUCT	**Source:**	Discarding off-specification or out-of-date chemicals or products
Waste Codes:	D001, U002	**CAS Codes:**	
Form:	Concentrated non-halogenated (e.g., non-chlorinated) solvent		

Reported:	10.00 LB = 4.54 KG	**Managed Onsite:**	0.00 KG

Shipments:					
	09/30/2004	4274A	WAD991281767	10.00 LB	Energy recovery or fuel blending

Waste Stream:	METHANOL TECHNICAL, OLD PRODUCT	**Source:**	Discarding off-specification or out-of-date chemicals or products
Waste Codes:	D001, U154	**CAS Codes:**	
Form:	Concentrated non-halogenated (e.g., non-chlorinated) solvent		
Reported:	50.00 LB = 22.68 KG	**Managed Onsite:**	0.00 KG

Shipments:					
	09/30/2004	4274A	WAD991281767	50.00 LB	Energy recovery or fuel blending

Waste Stream:	WEAPON CLEANING TANK FILTERS	**Source:**	Other production or service-related processes (specify in comments)
Waste Codes:	D001, D008	**CAS Codes:**	
Form:	Filters, solid adsorbents, ion exchange resins and spent carbon		
Reported:	35.00 LB = 15.87 KG	**Managed Onsite:**	0.00 KG

Shipments:					
	09/30/2004	4274A	WAD991281767	35.00 LB	Incineration - thermal destruction other than use as a fuel

Waste Stream:	JP-8 ABSORBENT PADS	**Source:**	Cleanup of spill residues (Not part of an ongoing remediation project)
Waste Codes:	D001, D018	**CAS Codes:**	
Form:	Other organic solids (specify in comments)		
Reported:	200.00 LB = 90.70 KG	**Managed Onsite:**	0.00 KG

Shipments:					
	05/27/2004	4148A	WAD991281767	200.00 LB	Incineration - thermal destruction other than use as a fuel

Waste Stream:	FIRING RANGE DEBRIS	**Source:**	Product and by-product processing
Waste Codes:	D008	**CAS Codes:**	
Form:	Contaminated soil		
Reported:	162.00 LB = 73.47 KG	**Managed Onsite:**	0.00 KG

Shipments:					
	09/30/2004	4274A	WAD991281767	162.00 LB	Landfill or surface impoundment that will be closed as landfill

Waste Stream:	WASHRACK SLUDGE	**Source:**	Dip, flush or spray rinsing
Waste Codes:	D006	**CAS Codes:**	
Form:	Oil-water emulsion or mixture		

Reported:	1355.00 LB = 614.49 KG	**Managed Onsite:**	0.00 KG

Shipments:

04/26/2004	4117A	WAD991281767	1355.00 LB	Other chemical precipitation with or without pre-treatment

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Waste Stream:	WASHRACK OIL ABSORBENT PILLOW	**Source:**	Dip, flush or spray rinsing
Waste Codes:	D005, D006	**CAS Codes:**	
Form:	Lab packs with no acute hazardous waste		
Reported:	35.00 LB = 15.87 KG	**Managed Onsite:**	0.00 KG

Shipments:

05/27/2004	4148A	WAD991281767	35.00 LB	Landfill or surface impoundment that will be closed as landfill

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Waste Stream:	BRAKE WASH CART RESIDUE	**Source:**	Other production or service-related processes (specify in comments)
Waste Codes:	D006, D007, D008	**CAS Codes:**	
Form:	Metal bearing sludges (including plating sludge) not containing cyanides		
Reported:	120.00 LB = 54.42 KG	**Managed Onsite:**	0.00 KG

Shipments:

05/27/2004	4148A	WAD991281767	120.00 LB	Landfill or surface impoundment that will be closed as landfill

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Waste Stream:	WASTE PAINT MIXED WITH SOLVENT	**Source:**	Painting and coating
Waste Codes:	D001, D035	**CAS Codes:**	
Form:	Paint, ink, lacquer, or varnish		
Reported:	50.00 LB = 22.68 KG	**Managed Onsite:**	0.00 KG

Shipments:

Waste Stream:	OVEN CLEANER AEROSOL, OLD PRODUCT	**Source:**	Discarding off-specification or out-of-date chemicals or products
Waste Codes:	D002, D003	**CAS Codes:**	
Form:	Contaminated debris: paper, rags, wood, empty containers, etc.		
Reported:	2.00 LB = 0.91 KG	**Managed Onsite:**	0.00 KG

Shipments:

Waste Stream:	TIRE TUBE REPAIR CLEANER	**Source:**	Discarding off-specification or out-of-date chemicals or products
Waste Codes:	D039	**CAS Codes:**	
Form:	Paint thinner or petroleum distillates		

Reported:	1.00 LB = 0.45 KG	**Managed Onsite:**	0.00 KG
Shipments:			

Waste Stream:	TIRE BONDING ADHESIVE	**Source:**	Discarding off-specification or out-of-date chemicals or products
Waste Codes:	D001, D005, D007, D008, D035	**CAS Codes:**	
Form:	Other organic liquid (specify in comments)		
Reported:	1.00 LB = 0.45 KG	**Managed Onsite:**	0.00 KG
Shipments:			

Waste Stream:	PLASTIC POLISH	**Source:**	Discarding off-specification or out-of-date chemicals or products
Waste Codes:	D001	**CAS Codes:**	
Form:	Other organic liquid (specify in comments)		
Reported:	1.00 LB = 0.45 KG	**Managed Onsite:**	0.00 KG
Shipments:			

Waste Stream:	SUN SCREEN ALPHA BLOCK	**Source:**	Discarding off-specification or out-of-date chemicals or products
Waste Codes:	D001	**CAS Codes:**	
Form:	Other organic liquid (specify in comments)		
Reported:	1.00 LB = 0.45 KG	**Managed Onsite:**	0.00 KG
Shipments:			

Waste Stream:	FLOOR SEALER	**Source:**	Discarding off-specification or out-of-date chemicals or products
Waste Codes:	D035	**CAS Codes:**	
Form:	Other inorganic liquid (specify in comments)		
Reported:	25.00 LB = 11.34 KG	**Managed Onsite:**	0.00 KG
Shipments:			

Waste Stream:	INDUSTRIAL CLEANER	**Source:**	Discarding off-specification or out-of-date chemicals or products
Waste Codes:	D002	**CAS Codes:**	
Form:	Other inorganic liquid (specify in comments)		
Reported:	50.00 LB = 22.68 KG	**Managed Onsite:**	0.00 KG
Shipments:			

Waste Stream: JP-8 FUEL FILTERS 2 **Source:** Oil changes and filter or battery replacement

Waste Codes: D001 **CAS Codes:**

Form: Paint thinner or petroleum distillates

Reported: 205.00 LB = 92.97 KG **Managed Onsite:** 0.00 KG

Shipments:

05/27/2004	4148A	WAD991281767	125.00 LB	Incineration - thermal destruction other than use as a fuel
09/30/2004	4274A	WAD991281767	60.00 LB	Incineration - thermal destruction other than use as a fuel

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Waste Stream: JP-8 Absorbent Pads 2 **Source:** Cleanup of spill residues (Not part of an ongoing remediation project)

Waste Codes: D001 **CAS Codes:**

Form: Other organic solids (specify in comments)

Reported: 140.00 LB = 63.49 KG **Managed Onsite:** 0.00 KG

Shipments:

09/30/2004	4274A	WAD991281767	140.00 LB	Incineration - thermal destruction other than use as a fuel

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Waste Stream: WASTE PAINT THINNER **Source:** Painting and coating

Waste Codes: D001, D035, F005 **CAS Codes:**

Form: Paint, ink, lacquer, or varnish

Reported: 390.00 LB = 176.87 KG **Managed Onsite:** 0.00 KG

Shipments:

05/27/2004	4148a	WAD991281767	390.00 LB	Energy recovery or fuel blending

2003	LQG	13	3.9867185	12/30/2003	03/26/2004

Waste Stream: BUFFING FLUID **Source:** Stripping and acid or caustic cleaning

Waste Codes: D009 **CAS Codes:**

Form: Paint thinner or petroleum distillates

Reported: 2.00 LB = 0.91 KG **Managed Onsite:** 0.00 KG

Shipments:

02/28/2003	3059C-03	WAD991281767	1.00 LB	Energy recovery or fuel blending
09/30/2003	3273C-03	WAD991281767	1.00 LB	Energy recovery or fuel blending

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Waste Stream: CONTAMINATED SOIL WITH JP-8 **Source:** Cleanup of spill residues (Not part of an ongoing remediation project)

Waste Codes: D018 **CAS Codes:**

Form: Contaminated soil

Reported: 100.00 LB = 45.35 KG **Managed Onsite:** 0.00 KG

Shipments:

Waste Stream:	CYLINDERS, OXYGEN	**Source:**	Other production or service-related processes (specify in comments)
Waste Codes:	D001	**CAS Codes:**	
Form:	Compressed gases		
Reported:	10.00 LB = 4.54 KG	**Managed Onsite:**	0.00 KG

Shipments:

02/26/2003	00007	TXD982290140	10.00 LB	Metals recovery including retorting, smelting, chemical, etc.

Waste Stream:	FLOOR POLISH REMOVER, OID	**Source:**	Discarding off-specification or out-of-date chemicals or products
Waste Codes:	D002	**CAS Codes:**	
Form:	Caustic aqueous waste without cyanides		
Reported:	20.00 LB = 9.07 KG	**Managed Onsite:**	0.00 KG

Shipments:

Waste Stream:	WASTE, GASOLINE	**Source:**	Discarding off-specification or out-of-date chemicals or products
Waste Codes:	D001, D018	**CAS Codes:**	
Form:	Paint thinner or petroleum distillates		
Reported:	300.00 LB = 136.05 KG	**Managed Onsite:**	0.00 KG

Shipments:

02/28/2003	3059C-03	WAD991281767	300.00 LB	Energy recovery or fuel blending

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Waste Stream:	JP-8 FUEL FILTERS	**Source:**	Oil changes and filter or battery replacement
Waste Codes:	D001, D018	**CAS Codes:**	
Form:	Paint thinner or petroleum distillates		
Reported:	775.00 LB = 351.46 KG	**Managed Onsite:**	0.00 KG

Shipments:

02/28/2003	3059C-03	WAD991281767	200.00 LB	Incineration - thermal destruction other than use as a fuel
09/30/2003	3273C-03	WAD991281767	375.00 LB	Incineration - thermal destruction other than use as a fuel

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Waste Stream:	JP-8 ABSORBENT MATS	**Source:**	Cleanup of spill residues (Not part of an ongoing remediation project)
Waste Codes:	D001, D018	**CAS Codes:**	
Form:	Other organic solids (specify in comments)		
Reported:	600.00 LB = 272.10 KG	**Managed Onsite:**	0.00 KG

Shipments:

09/30/2003	3273-03	WAD991281767	400.00 LB	Incineration - thermal destruction other than use as a fuel
02/28/2003	3059C-03	WAD991281767	200.00 LB	Incineration - thermal destruction other than use as a fuel

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Waste Stream: WASTE PAINT (AEOSOL) (PUNCTURE) **Source:** Discarding off-specification or out-of-date chemicals or products

Waste Codes: D001 **CAS Codes:**

Form: Paint, ink, lacquer, or varnish

Reported: 30.00 LB = 13.61 KG **Managed Onsite:** 0.00 KG

Shipments:

09/30/2003	3273C-03	WAD991281767	30.00 LB	Energy recovery or fuel blending

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Waste Stream: WASTE PAINT RELATED MATERIAL **Source:** Painting and coating

Waste Codes: D001, D005, D007, D008, D035 **CAS Codes:**

Form: Paint, ink, lacquer, or varnish

Reported: 1490.00 LB = 675.72 KG **Managed Onsite:** 0.00 KG

Shipments:

09/30/2003	3273C-03	WAD991281767	990.00 LB	Energy recovery or fuel blending

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Waste Stream: NON LATEX PAINT AND ADHESIVES **Source:** Discarding off-specification or out-of-date chemicals or products

Waste Codes: D001, D005, D007, D008, D035 **CAS Codes:**

Form: Paint, ink, lacquer, or varnish

Reported: 84.00 LB = 38.09 KG **Managed Onsite:** 0.00 KG

Shipments:

02/28/2003	3059C-03	WAD991281767	84.00 LB	Energy recovery or fuel blending

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Waste Stream: PROTECTIVE MASKS FILTERS **Source:** Other production or service-related processes (specify in comments)

Waste Codes: D007 **CAS Codes:**

Form: Filters, solid adsorbents, ion exchange resins and spent carbon

Reported: 10.00 LB = 4.54 KG **Managed Onsite:** 0.00 KG

Shipments:

09/30/2003	3273C-03	WAD991281767	10.00 LB	Incineration - thermal destruction other than use as a fuel

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Waste Stream: WASHRACK SLUDGE **Source:** Cleaning out process equipment

Waste Codes: D006 **CAS Codes:**

Form: Other sludges from wastewater treatment or air pollution control

Managed

Reported: 5270.00 LB = 2389.95 KG **Onsite:** 0.00 KG

Shipments:

06/17/2003	3168A-03	WAD991281767	3580.00 LB	Land treatment or application
09/30/2003	3273C-03	WAD991281767	600.00 LB	Landfill or surface impoundment that will be closed as landfill
02/14/2003	5427	OKD981588791	1090.00 LB	Land treatment or application

Waste Stream: WASTE, FLAMMABLE LIQUID **Source:** Other production or service-related processes (specify in comments)

Waste Codes: D001 **CAS Codes:**

Form: Paint thinner or petroleum distillates

Reported: 100.00 LB = 45.35 KG **Managed Onsite:** 0.00 KG

Shipments:

02/28/2003	3059C-03	WAD991281767	100.00 LB	Energy recovery or fuel blending

2002	SQG	9	1.160053	12/24/2002	02/28/2003

Waste Stream: Waste corrosive liquid **Source:** Caustic (alkali) cleaning

Waste Codes: D002 **CAS Codes:**

Form: Spent caustic

Reported: 8.00 LB = 3.63 KG **Managed Onsite:** 0.00 KG

Shipments:

05/07/2002	2127	WAD991281767	8.00 LB	Neutralization only

Waste Stream: Waste aerosols **Source:** Painting

Waste Codes: D001 **CAS Codes:**

Form: Organic paint, ink, lacquer, or varnish

Reported: 31.00 LB = 14.06 KG **Managed Onsite:** 0.00 KG

Shipments:

05/07/2002	2127	WAD991281767	30.00 LB	Landfill
10/08/2002	2281	WAD991281767	1.00 LB	Landfill

Waste Stream: Waste paint related material **Source:** Painting

Waste Codes: D001, D005, D007, D008 **CAS Codes:**

Form: Halogenated/nonhalogenated solvent mixture

Reported: 260.00 LB = 117.91 KG **Managed Onsite:** 0.00 KG

Shipments:

05/07/2002	2127	WAD991281767	100.00 LB	Energy recovery-liquids
10/08/2002	2281	WAD991281767	160.00 LB	Energy recovery-liquids

Waste Waste gasoline **Source:** Discontinue use of process

Stream:			equipment
Waste Codes:	D001, D018	**CAS Codes:**	
Form:	Paint thinner or petroleum distillates		
Reported:	260.00 LB = 117.91 KG	**Managed Onsite:**	0.00 KG

Shipments:

05/07/2002	2127	WAD991281767	60.00 LB	Energy recovery-liquids
10/08/2002	2281	WAD991281767	200.00 LB	Incineration-solids

Waste Stream:	Waste flammable liquid stoddard solvent	**Source:**	Flush rinsing
Waste Codes:	D001, D039, F001	**CAS Codes:**	
Form:	Concentrated solvent-water solution		
Reported:	110.00 LB = 49.89 KG	**Managed Onsite:**	0.00 KG

Shipments:

05/07/2002	2127	WAD991281767	40.00 LB	Energy recovery-liquids
10/01/2002	2281	WAD991281767	70.00 LB	Incineration-liquids

Waste Stream:	Waste solids containing flammable liquid	**Source:**	Cleanup of spill residues
Waste Codes:	D001, D018	**CAS Codes:**	
Form:	Soil contaminated with organics		
Reported:	500.00 LB = 226.75 KG	**Managed Onsite:**	0.00 KG

Shipments:

05/07/2002	2127	WAD991281676	200.00 LB	Incineration-solids
10/08/2002	2287	WAD991281676	300.00 LB	Incineration-solids

Waste Stream:	Waste battery fluid acid	**Source:**	Discarding out-of-date products or chemicals
Waste Codes:	D002	**CAS Codes:**	
Form:	Spent acid without metals		
Reported:	275.00 LB = 124.71 KG	**Managed Onsite:**	0.00 KG

Shipments:

05/07/2002	2127	WAD991281767	200.00 LB	Landfill
10/08/2002	2281	WAD991281767	75.00 LB	Landfill

Waste Stream:	Waste compressed gas	**Source:**	Discarding off-specification material
Waste Codes:	D001	**CAS Codes:**	
Form:	Organic gases		
Reported:	12.00 LB = 5.44 KG	**Managed Onsite:**	0.00 KG

Shipments:

11/21/2002	886567	TXD055135388	12.00 LB	Fuel blending

Waste Stream: Hazardous wastes solids **Source:** Cleanup of spill residues

Waste Codes: D018 **CAS Codes:**

Form: Soil contaminated with organics

Reported: 1102.00 LB = 499.76 KG **Managed Onsite:** 0.00 KG

Shipments:

05/07/2002	2127	WAD991281767	2.00 LB	Landfill
10/08/2002	2281	WAD991281767	1100.00 LB	Incineration-solids

2001	SQG	25	2.497907	12/26/2001	02/19/2002

Waste Stream: Waste paint related material **Source:** Painting

Waste Codes: D001, D005, D007, D008 **CAS Codes:**

Form: Halogenated/nonhalogenated solvent mixture

Reported: 430.00 LB = 195.00 KG **Managed Onsite:** 0.00 KG

Shipments:

09/11/2001	1254C	WAD991281767	250.00 LB	Energy recovery-liquids
09/11/2001	1254C	WAD991281767	180.00 LB	Energy recovery-liquids

Waste Stream: Polish **Source:** Painting

Waste Codes: D001, D005, D007, D008 **CAS Codes:**

Form: Halogenated/nonhalogenated solvent mixture

Reported: 80.00 LB = 36.00 KG **Managed Onsite:** 0.00 KG

Shipments:

09/11/2001	1254C	WAD991281767	80.00 LB	Energy recovery-liquids

Waste Stream: Mask filters **Source:** Filtering/screening

Waste Codes: D007 **CAS Codes:**

Form: Spent solid filters or adsorbents

Reported: 52.00 LB = 24.00 KG **Managed Onsite:** 0.00 KG

Shipments:

02/15/2001	1039C	WAD991281767	25.00 LB	Landfill
09/11/2001	1254C	WAD991281767	27.00 LB	Landfill

Waste Stream: Waste gasoline **Source:** Other cleaning and degreasing

Waste Codes: D001, D018 **CAS Codes:**

Form: Paint thinner or petroleum distillates

Reported: 295.00 LB = 134.00 KG **Managed Onsite:** 0.00 KG

Shipments:	09/11/2001	1254C	WAD991281767	295.00 LB	Energy recovery-liquids

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Waste Stream: Oven cleaner **Source:** Caustic (alkali) cleaning

Waste Codes: D002 **CAS Codes:**

Form: Caustic aqueous waste

Reported: 1.00 LB = 0.45 KG **Managed Onsite:** 0.00 KG

Shipments:	09/11/2001	1254C	WAD991281767	1.00 LB	Incineration-gases

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Waste Stream: Waste flammable liquid **Source:** Painting

Waste Codes: D001, D005, D007, D008 **CAS Codes:**

Form: Halogenated/nonhalogenated solvent mixture

Reported: 362.00 LB = 164.00 KG **Managed Onsite:** 0.00 KG

Shipments:	09/11/2001	1254C	WAD991281767	208.00 LB	Energy recovery-liquids
	09/11/2001	1254C	WAD991281767	154.00 LB	Energy recovery-liquids

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Waste Stream: Expired paint **Source:** Painting

Waste Codes: D001, D007, D035, F005 **CAS Codes:**

Form: Halogenated/nonhalogenated solvent mixture

Reported: 1252.00 LB = 568.00 KG **Managed Onsite:** 0.00 KG

Shipments:	02/15/2001	1039C	WAD991281767	1000.00 LB	Energy recovery-liquids
	02/15/2001	1039C	WAD991281767	250.00 LB	Energy recovery-liquids
	02/15/2001	1039C	WAD991281767	2.00 LB	Energy recovery-liquids

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Waste Stream: Expired adhesive **Source:** Discarding out-of-date products or chemicals

Waste Codes: D001, D005, D007, D008 **CAS Codes:**

Form: Adhesives or epoxies

Reported: 500.00 LB = 227.00 KG **Managed Onsite:** 0.00 KG

Shipments:	02/15/2001	1039C	WAD991281767	500.00 LB	Energy recovery-liquids

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Waste Stream: Expired undercoat **Source:** Discarding out-of-date products or chemicals

Waste Codes: D001 **CAS Codes:**

Form: Resins, tars, or tarry sludge

Managed

Reported:	69.00 LB = 31.00 KG	**Onsite:**	0.00 KG
Shipments:	02/15/2001 1039C WAD991281767 69.00 LB Energy recovery-liquids		

Waste Stream:	Expired copy machine chemicals	**Source:**	Discarding out-of-date products or chemicals
Waste Codes:	D001	**CAS Codes:**	
Form:	Paint thinner or petroleum distillates		
Reported:	122.00 LB = 55.00 KG	**Managed Onsite:**	0.00 KG
Shipments:	02/15/2001 1039C WAD991281767 122.00 LB Energy recovery-liquids		

Waste Stream:	Expired Amyl Acetate	**Source:**	Discarding out-of-date products or chemicals
Waste Codes:	D001	**CAS Codes:**	
Form:	Halogenated/nonhalogenated solvent mixture		
Reported:	10.00 LB = 5.00 KG	**Managed Onsite:**	0.00 KG
Shipments:	02/15/2001 1039C WAD991281767 10.00 LB Energy recovery-liquids		

Waste Stream:	Expired polish	**Source:**	Discarding out-of-date products or chemicals
Waste Codes:	D001	**CAS Codes:**	
Form:	Paint thinner or petroleum distillates		
Reported:	2.00 LB = 1.00 KG	**Managed Onsite:**	0.00 KG
Shipments:	02/15/2001 1039C WAD991281767 2.00 LB Energy recovery-liquids		

Waste Stream:	Expired alcohol	**Source:**	Discarding out-of-date products or chemicals
Waste Codes:	D001	**CAS Codes:**	
Form:	Halogenated/nonhalogenated solvent mixture		
Reported:	2.00 LB = 1.00 KG	**Managed Onsite:**	0.00 KG
Shipments:	02/15/2001 1039C WAD991281767 2.00 LB Incineration-solids		

Waste Stream:	Expired methanol	**Source:**	Discarding out-of-date products or chemicals
Waste Codes:	D001, U154	**CAS Codes:**	
Form:	Halogenated/nonhalogenated solvent mixture		
Reported:	48.00 LB = 22.00 KG	**Managed Onsite:**	0.00 KG
Shipments:			

	02/15/2001	1039C	WAD991281767	48.00 LB	Energy recovery-liquids

Waste Stream:	Excess MEK	**Source:**	Discarding out-of-date products or chemicals
Waste Codes:	D001, U159	**CAS Codes:**	
Form:	Halogenated/nonhalogenated solvent mixture		
Reported:	48.00 LB = 22.00 KG	**Managed Onsite:**	0.00 KG

Shipments:	02/15/2001	1039C	WAD991281767	48.00 LB	Energy recovery-liquids

Waste Stream:	Expired chlorination kit	**Source:**	Discarding out-of-date products or chemicals
Waste Codes:	D001, D003	**CAS Codes:**	
Form:	Halogenated solvent		
Reported:	10.00 LB = 5.00 KG	**Managed Onsite:**	0.00 KG

Shipments:	02/15/2001	1039C	WAD991281767	10.00 LB	Landfill

Waste Stream:	Excess penetrating fluid	**Source:**	Discarding out-of-date products or chemicals
Waste Codes:	D001	**CAS Codes:**	
Form:	Halogenated/nonhalogenated solvent mixture		
Reported:	5.00 LB = 2.00 KG	**Managed Onsite:**	0.00 KG

Shipments:	02/15/2001	1039C	WAD991281767	5.00 LB	Incineration-gases

Waste Stream:	Solvent paint brush	**Source:**	Painting
Waste Codes:	D001, D007, D035, F005	**CAS Codes:**	
Form:	Paint thinner or petroleum distillates		
Reported:	1840.00 LB = 834.00 KG	**Managed Onsite:**	0.00 KG

Shipments:	02/15/2001	1039C	WAD991281767	1840.00 LB	Energy recovery-liquids

Waste Stream:	Gasoline contaminated soil d	**Source:**	Cleanup of spill residues
Waste Codes:	D018	**CAS Codes:**	
Form:	Soil contaminated with organics		
Reported:	50.00 LB = 23.00 KG	**Managed Onsite:**	0.00 KG

Shipments:	02/15/2001	1039C	WAD991281767	50.00 LB	Incineration-solids

Waste Stream:	Expired M256 detector kit	**Source:**	Discarding out-of-date products or chemicals
Waste Codes:	D001, D009	**CAS Codes:**	
Form:	Caustic aqueous waste		
Reported:	30.00 LB = 14.00 KG	**Managed Onsite:**	0.00 KG

Shipments:

02/15/2001	1039C	WAD991281767	30.00 LB	Incineration-solids

Waste Stream:	Expired M229 refill kits	**Source:**	Discarding out-of-date products or chemicals
Waste Codes:	D001, D002, D011, U088	**CAS Codes:**	
Form:	Caustic aqueous waste		
Reported:	34.00 LB = 15.00 KG	**Managed Onsite:**	0.00 KG

Shipments:

02/15/2001	1039C	WAD991281767	34.00 LB	Incineration-solids

Waste Stream:	Expired M58 skin decon	**Source:**	Discarding out-of-date products or chemicals
Waste Codes:	D001	**CAS Codes:**	
Form:	Paint thinner or petroleum distillates		
Reported:	1.00 LB = 0.45 KG	**Managed Onsite:**	0.00 KG

Shipments:

02/15/2001	1039C	WAD991281767	1.00 LB	Incineration-solids

Waste Stream:	Expired M258A1 TNG kit	**Source:**	Discarding out-of-date products or chemicals
Waste Codes:	D001	**CAS Codes:**	
Form:	Paint thinner or petroleum distillates		
Reported:	48.00 LB = 22.00 KG	**Managed Onsite:**	0.00 KG

Shipments:

02/15/2001	1039C	WAD991281767	48.00 LB	Incineration-solids

Waste Stream:	Expired charge fire extinguisher	**Source:**	Discarding out-of-date products or chemicals
Waste Codes:	D007	**CAS Codes:**	
Form:	Other waste inorganic solids		
Reported:	150.00 LB = 68.00 KG	**Managed Onsite:**	0.00 KG

Shipments:

02/15/2001	1039C	WAD991281767	150.00 LB	Landfill

Waste			Discarding out-of-date products or

Stream: Excess pipe cleaner **Source:** chemicals

Waste Codes: D002 **CAS Codes:**

Form: Acidic aqueous waste

Reported: 64.00 LB = 29.00 KG **Managed Onsite:** 0.00 KG

Shipments:

02/15/2001	1039C6	WAD991281767	64.00 LB	Neutralization only

2000	SQG	6	0.20084	01/05/2001	04/03/2001

Waste Stream: Waste paint / cleaning solvent. **Source:** Painting

Waste Codes: D008 **CAS Codes:**

Form: Halogenated/nonhalogenated solvent mixture

Reported: 8.00 LB = 4.00 KG **Managed Onsite:** 0.00 KG

Shipments:

01/24/2000	0031	WAD991281767	8.00 LB	Fuel blending

Waste Stream: Waste paint. **Source:** Painting

Waste Codes: D001, D005, D007, D008 **CAS Codes:**

Form: Halogenated/nonhalogenated solvent mixture

Reported: 240.00 LB = 108.84 KG **Managed Onsite:** 0.00 KG

Shipments:

01/24/2000	0031C	WAD991281767	240.00 LB	Fuel blending

Waste Stream: Waste denatured alcohol 3 **Source:** Stripping

Waste Codes: D001 **CAS Codes:**

Form: Concentrated solvent-water solution

Reported: 10.00 LB = 5.00 KG **Managed Onsite:** 0.00 KG

Shipments:

01/26/2000	0031Z	WAD991281767	10.00 LB	Fuel blending

Waste Stream: Waste sodium nitrite. **Source:** Other surface coating/preparation

Waste Codes: D001 **CAS Codes:**

Form: Other inorganic liquids

Reported: 106.00 LB = 48.00 KG **Managed Onsite:** 0.00 KG

Shipments:

01/24/2000	0031C	WAD991281767	106.00 LB	Neutralization only

Waste Stream: Waste flammable liquid. **Source:** Heat treating

Waste Codes: D001 **CAS Codes:**

Form: Oil-water emulsion or mixture

Reported: 36.00 LB = 16.00 KG **Managed** 0.00 KG

Onsite:

Shipments:	01/26/2000	0031Z	WAD991281767	36.00 LB	Fuel blending

Waste Stream: Excess M72AS scait kits. **Source:** Clothing and personal protective equipment

Waste Codes: D002, U103 **CAS Codes:**

Form: Other organic liquids

Reported: 42.00 LB = 19.00 KG **Managed Onsite:** 0.00 KG

Shipments:	01/24/2000	0031C	WAD991281767	42.00 LB	Neutralization only

1999	SQG	9	0.543	01/06/2000	03/09/2000

Waste Stream: Waste toxic liquids Dimethyl sulfate, Glacial Acetic acid **Source:** Discarding out-of-date products or chemicals

Waste Codes: D002, U103 **CAS Codes:**

Form: Reactive organic solid

Reported: 42.00 LB = 19.00 KG **Managed Onsite:** 0.00 KG

Shipments:

Waste Stream: Waste flammable liquid (Mineral Spirits) **Source:** Dip rinsing

Waste Codes: D001 **CAS Codes:**

Form: Halogenated/nonhalogenated solvent mixture

Reported: 36.00 LB = 16.00 KG **Managed Onsite:** 0.00 KG

Shipments:

Waste Stream: Waste paint **Source:** Painting

Waste Codes: D001, D005, D007, D008 **CAS Codes:**

Form: Halogenated/nonhalogenated solvent mixture

Reported: 240.00 LB = 109.00 KG **Managed Onsite:** 0.00 KG

Shipments:

Waste Stream: Waste Turpentine **Source:** Dip rinsing

Waste Codes: D001 **CAS Codes:**

Form: Halogenated/nonhalogenated solvent mixture

Reported: 8.00 LB = 4.00 KG **Managed Onsite:** 0.00 KG

Shipments:

Waste Stream:	Waste denatured alcohol	**Source:**	Discarding out-of-date products or chemicals
Waste Codes:	D001	**CAS Codes:**	
Form:	Paint thinner or petroleum distillates		
Reported:	10.00 LB = 5.00 KG	**Managed Onsite:**	0.00 KG
Shipments:			

Waste Stream:	Waste sodium nitrite	**Source:**	Flush rinsing
Waste Codes:	D001	**CAS Codes:**	
Form:	Caustic aqueous waste		
Reported:	106.00 LB = 48.00 KG	**Managed Onsite:**	0.00 KG
Shipments:			

Waste Stream:	Hazardous waste solid (mercury)	**Source:**	Metals recovery
Waste Codes:	D009	**CAS Codes:**	
Form:	Waste liquid mercury		
Reported:	412.00 LB = 187.00 KG	**Managed Onsite:**	0.00 KG

Shipments:

10/28/1999	9301B	WAD991281767	412.00 LB	Other solvent recovery

Waste Stream:	Hazardous waste solid (chromium silver)	**Source:**	Clothing and personal protective equipment
Waste Codes:	D007, D011	**CAS Codes:**	
Form:	Spent solid filters or adsorbents		
Reported:	207.00 LB = 94.00 KG	**Managed Onsite:**	0.00 KG

Shipments:

10/28/1999	9301A	WAD991281767	207.00 LB	Other solvent recovery

Waste Stream:	Waste combustible liquid Petroleum Naphtha	**Source:**	Other cleaning and degreasing
Waste Codes:	D001, D006, D008, D018	**CAS Codes:**	
Form:	Halogenated/nonhalogenated solvent mixture		
Reported:	16.00 GAL = 61.00 KG	**Managed Onsite:**	0.00 KG

Shipments:

01/13/1999	02007	ORD981766124	9.00 GAL	Other solvent recovery
06/30/1999	63322	ORD981766124	7.00 GAL	Other solvent recovery

1998	SQG	4	0.352	01/15/1999	03/01/1999

Waste Stream:	Hazardous waste solid (chromium silver)	**Source:**	Clothing and personal protective equipment

Waste Codes:	D007, D011	**CAS Codes:**	
Form:	Spent solid filters or adsorbents		
Reported:	290.00 LB = 132.00 KG	**Managed Onsite:**	0.00 KG

Shipments:

02/23/1998	8057A	WAD991281767	290.00 LB	Other solvent recovery

Waste Stream:	Waste flammable liquids, corrosive (ethanol sodium hydroxide)	**Source:**	Other
Waste Codes:	D001	**CAS Codes:**	
Form:	Aqueous waste with low solvents		
Reported:	3.00 LB = 1.00 KG	**Managed Onsite:**	0.00 KG

Shipments:

02/23/1998	8057A	WAD991281767	3.00 LB	Other solvent recovery

Waste Stream:	Waste combustible liquid (petroleum naphtha)	**Source:**	Other cleaning and degreasing
Waste Codes:	D001, D006, D008, D018	**CAS Codes:**	
Form:	Halogenated/nonhalogenated solvent mixture		
Reported:	40.00 GAL = 151.00 KG	**Managed Onsite:**	0.00 KG

Shipments:

03/11/1998	44390	ORD981766124	4.00 GAL	Other solvent recovery
06/03/1998	77421	ORD981766124	8.00 GAL	Other solvent recovery
06/03/1998	43060	ORD981766124	4.00 GAL	Other solvent recovery
07/30/1998	07267	ORD981766124	8.00 GAL	Other solvent recovery
09/23/1998	09747	ORD981766124	8.00 GAL	Other solvent recovery
11/18/1998	86125	ORD981766124	8.00 GAL	Other solvent recovery

Waste Stream:	Waste paint related material	**Source:**	Other cleaning and degreasing
Waste Codes:	D001, D008, F003, F005	**CAS Codes:**	
Form:	Halogenated/nonhalogenated solvent mixture		
Reported:	149.00 LB = 68.00 KG	**Managed Onsite:**	0.00 KG

Shipments:

01/05/1998	8007F	WAD991281767	149.00 LB	Other solvent recovery

1997	SQG	9	0.423	01/06/1998	01/23/1998

Waste Stream:	Waste flammable liquids (xylene).	**Source:**	Other
Waste Codes:	D001	**CAS Codes:**	
Form:	Aqueous waste with low solvents		
Reported:	45.00 LB = 20.00 KG	**Managed Onsite:**	0.00 KG

Shipments:

10/20/1997	07295D	WAD991281767	45.00 LB	Other solvent recovery

Waste Stream:	Hazardous waste, liquid (tricloroethylene tetrachloroethylene)	**Source:**	Other
Waste Codes:	D039, D040	**CAS Codes:**	
Form:	Aqueous waste with low solvents		
Reported:	67.00 LB = 30.00 KG	**Managed Onsite:**	0.00 KG

Shipments:

10/20/1997	07295D	WAD991281767	67.00 LB	Other solvent recovery

Waste Stream:	Waste corrosive liquid, basic, organic (diethylenetriamine, sodium hydroxid	**Source:**	Other
Waste Codes:	D002	**CAS Codes:**	
Form:	Aqueous waste with low solvents		
Reported:	105.00 LB = 48.00 KG	**Managed Onsite:**	0.00 KG

Shipments:

10/20/1997	07295D	WAD991281767	105.00 LB	Other solvent recovery

Waste Stream:	Waste paint related material.	**Source:**	Other cleaning and degreasing
Waste Codes:	D001, D008, F003, F005	**CAS Codes:**	
Form:	Halogenated/nonhalogenated solvent mixture		
Reported:	68.00 LB = 31.00 KG	**Managed Onsite:**	0.00 KG

Shipments:

01/15/1997	091626	ORD981766124	18.00 LB	Other solvent recovery
05/08/1997	054013	ORD981766124	50.00 LB	Other solvent recovery

Waste Stream:	Waste paint related material.	**Source:**	Other cleaning and degreasing
Waste Codes:	D001	**CAS Codes:**	
Form:	Halogenated/nonhalogenated solvent mixture		
Reported:	310.00 LB = 141.00 KG	**Managed Onsite:**	0.00 KG

Shipments:

10/20/1997	00729D	WAD991281767	310.00 LB	Other solvent recovery

Waste Stream:	Waste paint related material.	**Source:**	Other cleaning and degreasing
Waste Codes:	D001, F005	**CAS Codes:**	
Form:	Halogenated/nonhalogenated solvent mixture		
Reported:	275.00 LB = 125.00 KG	**Managed Onsite:**	0.00 KG

Shipments:

10/20/1997	07295D	WAD991281767	275.00 LB	Other solvent recovery

Waste Stream: Waste, ethylmethyl keytone. **Source:** Other

Waste Codes: D001, U159 **CAS Codes:**

Form: Aqueous waste with low solvents

Reported: 25.00 LB = 11.00 KG **Managed Onsite:** 0.00 KG

Shipments:

10/20/1997	07295D	WAD991281767	25.00 LB	Other solvent recovery

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Waste Stream: Waste flammable liquids (methanol mercuric cyanide). **Source:** Other

Waste Codes: D001, D009 **CAS Codes:**

Form: Aqueous waste with low solvents

Reported: 5.00 LB = 2.00 KG **Managed Onsite:** 0.00 KG

Shipments:

10/20/1997	07295D	WAD991281767	5.00 LB	Other solvent recovery

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Waste Stream: Waste flammable liquids, corrosive (ethanol sodium hydroxide). **Source:** Other

Waste Codes: D001 **CAS Codes:**

Form: Aqueous waste with low solvents

Reported: 34.00 LB = 15.00 KG **Managed Onsite:** 0.00 KG

Shipments:

10/20/1997	07295D	WAD991281767	34.00 LB	Other solvent recovery

1996	SQG	3	0.946	12/30/1996	02/28/1997

Waste Stream: Waste paint related material **Source:** Other cleaning and degreasing

Waste Codes: D001, D008, F003 **CAS Codes:**

Form: Halogenated/nonhalogenated solvent mixture

Reported: 162.00 GAL = 613.00 KG **Managed Onsite:** 0.00 KG

Shipments:

04/11/1996	055360	ORD981766124	18.00 GAL	Other solvent recovery
06/05/1996	048349	ORD981766124	18.00 GAL	Other solvent recovery
09/25/1996	060604	ORD981766124	36.00 GAL	Other solvent recovery
11/20/1996	064704	ORD981766124	36.00 GAL	Other solvent recovery
02/05/1996	64140	ORD981766124	18.00 GAL	Other solvent recovery
07/31/1996	68866	ORD981766124	36.00 GAL	Other solvent recovery

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Waste Stream: Waste petroleum naphtha **Source:** Other cleaning and degreasing

Waste Codes: D001, D006, D018, D039 **CAS Codes:**

Form: Halogenated/nonhalogenated solvent mixture

Reported: 64.00 GAL = 242.00 KG **Managed Onsite:** 0.00 KG

Shipments:

05/07/1996	077619	ORD981766124	32.00 GAL	Other solvent recovery
02/16/1996	73591	ORD981766124	19.00 GAL	Other solvent recovery
03/14/1996	65823	ORD981766124	13.00 GAL	Other solvent recovery

Waste Stream: Waste paint related material **Source:** Other cleaning and degreasing
Waste Codes: D001, D007, F003, F005 **CAS Codes:**
Form: Halogenated/nonhalogenated solvent mixture
Reported: 200.00 LB = 91.00 KG **Managed Onsite:** 0.00 KG
Shipments:

04/11/1996	55360	ORD981766124	100.00 LB	Other solvent recovery
07/31/1996	68866	ORD981766124	100.00 LB	Other solvent recovery

1995	SQG	4	1.349	12/27/1995	01/26/1996

Waste Stream: Waste petroleum naphtha **Source:** Other cleaning and degreasing
Waste Codes: D001, D018, D039 **CAS Codes:**
Form: Halogenated/nonhalogenated solvent mixture
Reported: 178.00 GAL = 675.00 KG **Managed Onsite:** 0.00 KG
Shipments:

10/25/1995	75179	ORD981766124	110.00 GAL	Fractionation/distillation
11/22/1995	89716	ORD981766124	35.00 GAL	Fractionation/distillation
10/25/1995	92831	ORD981766124	33.00 GAL	Fractionation/distillation

Waste Stream: Hazardous waste solid (chromium) **Source:** Physical scraping and removal
Waste Codes: D005, D007 **CAS Codes:**
Form: Batteries or battery parts, casings, cores
Reported: 648.00 LB = 295.00 KG **Managed Onsite:** 0.00 KG
Shipments:

09/04/1995	00001	WA9214053465	648.00 LB	Stabilization/chemical fixation using cementitious and /or pozzolanic

Waste Stream: Waste lithium battery, solid cathode **Source:** Physical scraping and removal
Waste Codes: D001, D003 **CAS Codes:**
Form: Batteries or battery parts, casings, cores
Reported: 810.00 LB = 368.00 KG **Managed Onsite:** 0.00 KG
Shipments:

09/04/1995	00001	WA9214053465	810.00 LB	Secondary smelting

Waste Stream: Hazardous waste solid (Mercury) **Source:** Physical scraping and removal
Waste Codes: D009 **CAS Codes:**
Form: Batteries or battery parts, casings, cores
Reported: 24.00 LB = 11.00 KG **Managed Onsite:** 0.00 KG
Shipments:

09/04/1995	00001	WA9214053465	24.00 LB	Retorting

1994	SQG	6	1.528	12/30/1994	02/23/1995

Waste Stream: Hazardous waste solid (mercury) **Source:** Physical scraping and removal

Waste Codes: D009 **CAS Codes:**

Form: Batteries or battery parts, casings, cores

Reported: 9.00 LB = 4.00 KG **Managed Onsite:** 0.00 KG

Shipments:

01/12/1994	00001	WA9214053465	9.00 LB	Other metals recovery for reuse

---

Waste Stream: Waste lithium battery, solid cathode **Source:** Physical scraping and removal

Waste Codes: D001, D003 **CAS Codes:**

Form: Batteries or battery parts, casings, cores

Reported: 282.00 LB = 128.00 KG **Managed Onsite:** 0.00 KG

Shipments:

01/12/1994	00001	WA9214053465	282.00 LB	Other metals recovery for reuse

---

Waste Stream: Hazardous waste solid (chromium) **Source:** Physical scraping and removal

Waste Codes: D005, D007 **CAS Codes:**

Form: Batteries or battery parts, casings, cores

Reported: 592.00 LB = 269.00 KG **Managed Onsite:** 0.00 KG

Shipments:

01/12/1994	00001	WA9214053465	592.00 LB	Other metals recovery for reuse
07/06/1994	00002	WA9214053465	165.00 LB	Other metals recovery for reuse

---

Waste Stream: Waste flammable liquid NOS (gasoline) **Source:** Discarding off-specification material

Waste Codes: D001, D008 **CAS Codes:**

Form: Paint thinner or petroleum distillates

Reported: 50.00 GAL = 190.00 KG **Managed Onsite:** 0.00 KG

Shipments:

07/06/1994	00002	WA9214053465	50.00 GAL	Other solvent recovery

---

Waste Stream: Waste petroleum naptha **Source:** Other cleaning and degreasing

Waste Codes: D001, D018, D039 **CAS Codes:**

Form: Halogenated/nonhalogenated solvent mixture

Reported: 197.00 GAL = 747.00 KG **Managed Onsite:** 0.00 KG

Shipments:

01/21/1994	25432	ORD981766124	16.00 GAL	Other solvent recovery
02/17/1994	38426	ORD981766124	16.00 GAL	Other solvent recovery
03/17/1994	48908	ORD981766124	34.00 GAL	Other solvent recovery
03/17/1994	48798	ORD981766124	16.00 GAL	Other solvent recovery
04/14/1994	58964	ORD981766124	24.00 GAL	Other solvent recovery
06/08/1994	69112	ORD981766124	26.00 GAL	Other solvent recovery
08/04/1994	70524	ORD981766124	32.00 GAL	Other solvent recovery
10/25/1994	92831	ORD981766124	33.00 GAL	Other solvent recovery

Waste Stream: Waste paint related material **Source:** Painting

Waste Codes: D001, D008 **CAS Codes:**

Form: Paint thinner or petroleum distillates

Reported: 50.00 GAL = 190.00 KG **Managed Onsite:** 0.00 KG

Shipments:

1993	SQG	1	0.758	12/30/1993	02/24/1994

Waste Stream: Waste Petroleum Naptha Combustible Liquid **Source:** Painting

Waste Codes: D001, D018, D039 **CAS Codes:**

Form: Paint thinner or petroleum distillates

Reported: 200.00 GAL = 758.00 KG **Managed Onsite:** 0.00 KG

Shipments:

11/24/1993	79048	ORD981766124	16.00 GAL	Fractionation/distillation
10/27/1993	55138	ORD981766124	12.00 GAL	Fractionation/distillation
09/30/1993	28958	ORD981766124	20.00 GAL	Fractionation/distillation
09/01/1993	16823	ORD981766124	24.00 GAL	Fractionation/distillation
07/08/1993	48039	ORD981766124	18.00 GAL	Fractionation/distillation
06/10/1993	20357	ORD981766124	14.00 GAL	Fractionation/distillation
05/12/1993	91076	ORD981766124	42.00 GAL	Fractionation/distillation
04/15/1993	62994	ORD981766124	10.00 GAL	Fractionation/distillation
03/19/1993	33428	ORD981766124	17.00 GAL	Fractionation/distillation
01/21/1993	72985	ORD981766124	16.00 GAL	Fractionation/distillation
12/22/1993	20410	ORD981766124	11.00 GAL	Fractionation/distillation

1992	SQG	0		12/29/1992	04/16/1993
1991	SQG	1	1.6638915	11/01/1991	05/05/1992

Waste Stream: WASTE PETROLEUM, NAPHTHA, COMBUSTIBLE LIQUID, AND WASTE BATTERIES, CORROSIV **Source:** Painting

Waste Codes: D001, D002, D006, D039 **CAS Codes:**

Form:

Reported: 3669.00 LB = 1663.89 KG **Managed Onsite:** 0.00 KG

Shipments:

12/20/1991	27526	ORD092895481	189.00 LB	Fractionation/distillation
10/31/1991	91693	ORD092895481	189.00 LB	Fractionation/distillation
10/02/1991	37431	ORD092895481	244.00 LB	Fractionation/distillation
10/02/1991	37591	ORD092895481	172.00 LB	Fractionation/distillation
09/10/1991	83593	ORD092895481	189.00 LB	Fractionation/distillation
08/07/1991	33996	ORD092895481	172.00 LB	Fractionation/distillation
08/07/1991	33711	ORD092895481	189.00 LB	Fractionation/distillation
07/11/1991	81422	ORD092895481	189.00 LB	Fractionation/distillation
06/11/1991	30451	ORD092895481	189.00 LB	Fractionation/distillation
05/16/1991	81739	ORD092895481	90.00 LB	Fractionation/distillation
04/17/1991	38153	ORD092895481	144.00 LB	Fractionation/distillation
03/21/1991	90855	ORD092895481	189.00 LB	Fractionation/distillation
02/21/1991	45334	ORD092895481	189.00 LB	Fractionation/distillation

01/24/1991	98139	ORD092895481	135.00 LB	Fractionation/distillation
08/25/1991	0001	WA9214053465	1200.00 LB	Solvents recovery - type unknown

Oregon Department of Environmental Quality

Oregon DEQ: Notice of NonCompliance Database Search Results

No Notice of NonCompliance records for 1998 to present match your search criteria. Check the table of historical Notice of NonCompliance records (prior to 1998).

The following historical records match your search criteria for Notice of NonCompliance records issued prior to 1998.

Notices of NonCompliance Issued Prior to 1998

Program/Region	Source Name	Staff Initials	Violation Date	NON Date	County	Location	Description	NON Class	Permit #
WASTE MGMT NORTHWEST REGION	CAMP RILEA	GET	2/2/1995	2/8/1995	CLATSOP COUNTY		FAILURE TO COVER PCS, NO REPORTS		
WATER QUALITY NORTHWEST REGION	CAMP RILEA	LWC	9/15/1994	11/14/1994	CLATSOP CO.		HIGH COLIFORM COUNT		
WASTE MGMT NORTHWEST REGION	ORARNG-CAMP RILEA	PDC	9/10/1997	9/22/1997	CLATSOP CO.		FAILURE TO PERFORM HW DETER	Class 1	

Total Records: 3

Search Again

Appendix F

Environmental Regulatory Agency Database Report

Camp Rilea
33168 Patriot Way
Warrenton, OR 97146

Inquiry Number: 2713719.5
March 10, 2010

The EDR Aerial Photo Decade Package

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDRs professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

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Date EDR Searched Historical Sources:

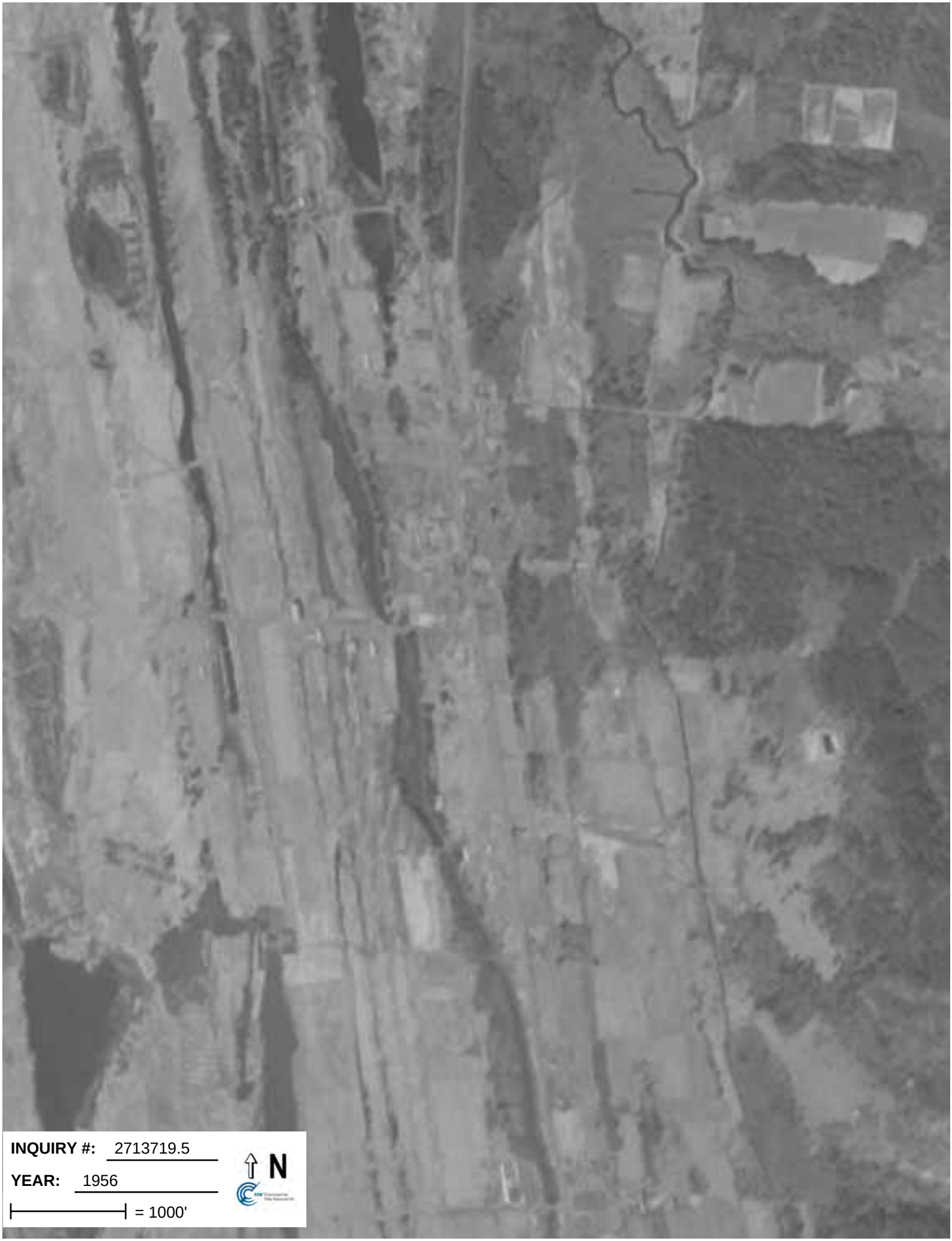
Aerial Photography March 10, 2010

Target Property:

33168 Patriot Way

Warrenton, OR 97146

Year	***Scale***	***Details***	***Source***
1956	Aerial Photograph. Scale: 1"=1000'	Panel #: 2446123-A8/Flight Date: April 09, 1956	EDR
1977	Aerial Photograph. Scale: 1"=1000'	Panel #: 2446123-A8/Flight Date: July 01, 1977	EDR
1981	Aerial Photograph. Scale: 1"=1000'	Panel #: 2446123-A8/Flight Date: August 06, 1981	EDR
1990	Aerial Photograph. Scale: 1"=750'	Panel #: 2446123-A8/Flight Date: September 04, 1990	EDR
2000	Aerial Photograph. Scale: 1"=750'	Panel #: 2446123-A8/Flight Date: July 30, 2000	EDR
2005	Aerial Photograph. 1" = 604'	Flight Year: 2005	EDR


INQUIRY #: 2713719.5
YEAR: 1956
= 1000'
N

INQUIRY #: 2713719.5
YEAR: 1977
= 1000'
N

INQUIRY #: 2713719.5
YEAR: 1981
= 1000'
N

INQUIRY #: 2713719.5
YEAR: 1990
= 750'
N

INQUIRY #: 2713719.5
YEAR: 2000
= 750'
N

INQUIRY #: 2713719.5
YEAR: 2005
= 604'
N

Camp Rilea
33168 Patriot Way
Warrenton, OR 97146

Inquiry Number: 2713719.4
March 09, 2010

The EDR Historical Topographic Map Report

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

EDR Historical Topographic Map Report

Environmental Data Resources, Inc.s (EDR) Historical Topographic Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topographic Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the early 1900s.

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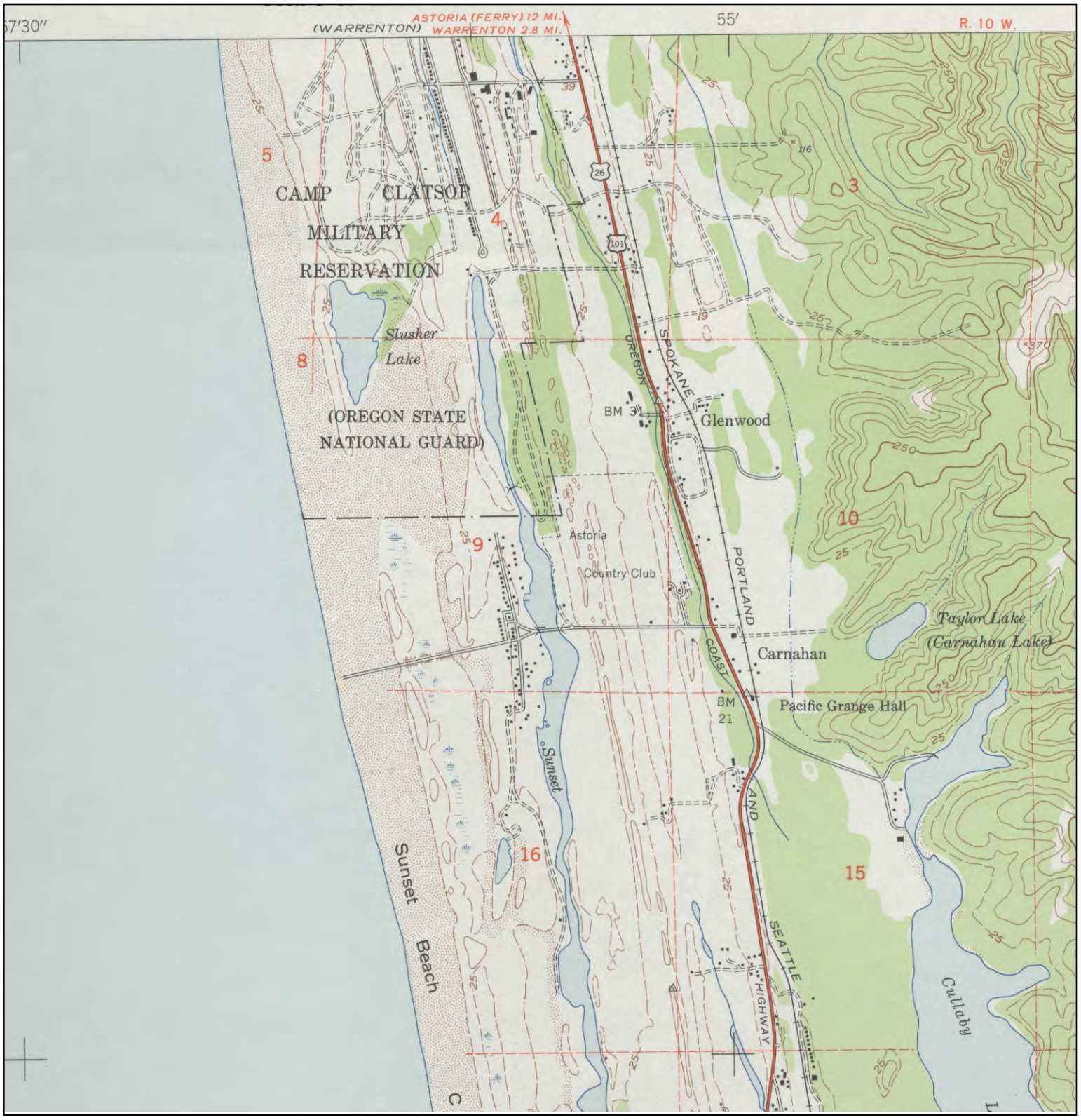
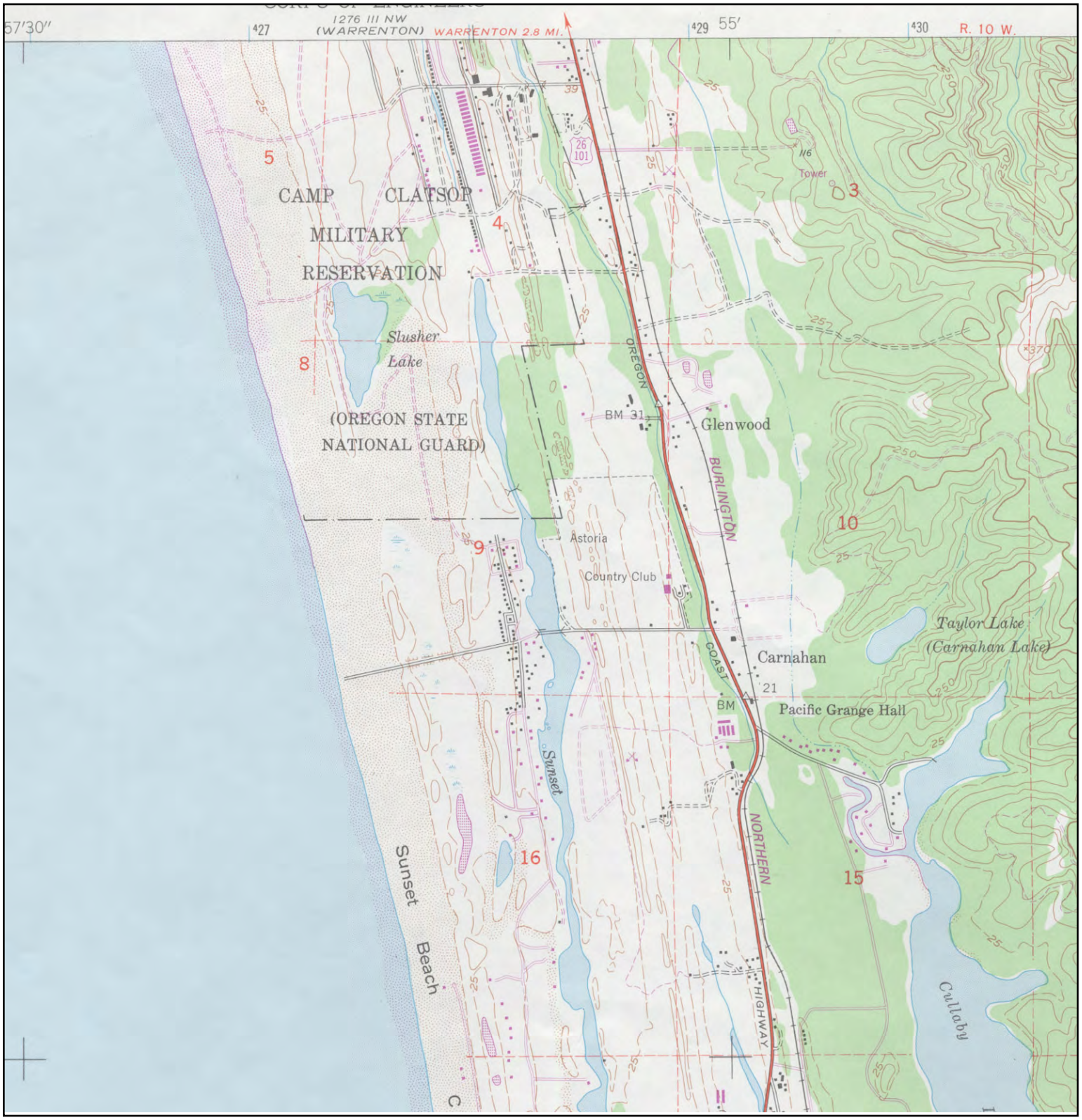
Historical Topographic Map



N	TARGET QUAD NAME: Gearhart, OR MAP YEAR: 1949 SERIES: 7.5 SCALE: 1:24,000	SITE NAME: Camp Rilea ADDRESS: 33168 Patriot Way Warrenton, OR 97146 LAT/LONG: 46.1229 / 123.9292	CLIENT: Shaw Environmental & Infrastructure CONTACT: Audrey Turpening INQUIRY#: 2713719.4 RESEARCH DATE: 03/09/2010

Historical Topographic Map

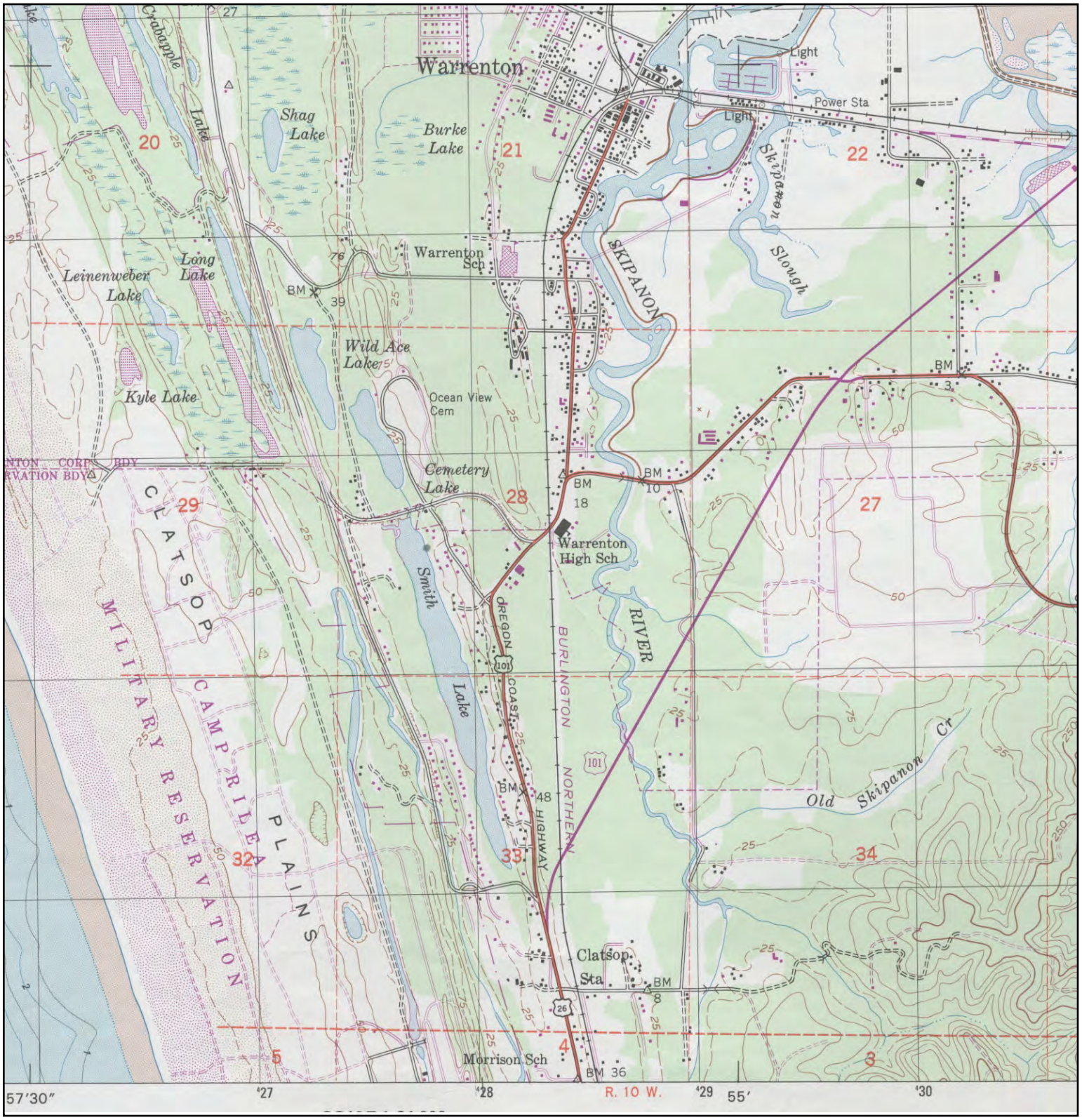


N	TARGET QUAD NAME: Gearhart, OR MAP YEAR: 1973 PHOTOREVISED FROM:1949 SERIES: 7.5 SCALE: 1:24,000	SITE NAME: Camp Rilea ADDRESS: 33168 Patriot Way Warrenton, OR 97146 LAT/LONG: 46.1229 / 123.9292	CLIENT: Shaw Environmental & Infrastructure CONTACT: Audrey Turpening INQUIRY#: 2713719.4 RESEARCH DATE: 03/09/2010

Historical Topographic Map

N	ADJOINING QUAD NAME: Warrenton, OR MAP YEAR: 1953 SERIES: 7.5 SCALE: 1:24,000	SITE NAME: Camp Rilea ADDRESS: 33168 Patriot Way Warrenton, OR 97146 LAT/LONG: 46.1229 / 123.9292	CLIENT: Shaw Environmental & Infrastructure CONTACT: Audrey Turpening INQUIRY#: 2713719.4 RESEARCH DATE: 03/09/2010

Historical Topographic Map



N	ADJOINING QUAD NAME: Warrenton, OR MAP YEAR: 1996 SERIES: 7.5 SCALE: 1:24,000	SITE NAME: Camp Rilea ADDRESS: 33168 Patriot Way Warrenton, OR 97146 LAT/LONG: 46.1229 / 123.9292	CLIENT: Shaw Environmental & Infrastructure CONTACT: Audrey Turpening INQUIRY#: 2713719.4 RESEARCH DATE: 03/09/2010

Camp Rilea
33168 Patriot Way
Warrenton, OR 97146

Inquiry Number: 2713719.6
March 08, 2010

The EDR-City Directory Abstract

Environmental Data Resources Inc

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2009 Enhancements to EDR City Directory Abstract

New for 2009, the EDR City Directory Abstract has been enhanced with additional information and features. These enhancements will make your city directory research process more efficient, flexible, and insightful than ever before. The enhancements will improve the options for selecting adjoining properties, and will speed up your review of the report.

City Directory Report. Three important enhancements have been made to the EDR City Directory Abstract:

1. *Executive Summary.* The report begins with an Executive Summary that lists the sources consulted in the preparation of the report. Where available, a parcel map is also provided within the report, showing the locations of properties researched.

2. *Page Images.* Where available, the actual page source images will be included in the Appendix, so that you can review them for information that may provide additional insight. EDR has copyright permission to include these images.

3. *Findings Listed by Location.* Another useful enhancement is that findings are now grouped by address. This will significantly reduce the time you need to review your abstracts. Findings are provided under each property address, listed in reverse chronological order and referencing the source for each entry.

Options for Selecting Adjoining Properties. Ensuring that the right adjoining property addresses are searched is one of the biggest challenges that environmental professionals face when conducting city directory historical research. EDR's new enhancements make it easier for you to meet this challenge. Now, when you place an order for the EDR City Directory Abstract, you have the following choices for determining which addresses should be researched.

1. *You Select Addresses and EDR Selects Addresses.* Use the "Add Another Address" feature to specify the addresses you want researched. Your selections will be supplemented by addresses selected by EDR researchers using our established research methods. Where available, a digital map will be shown, indicating property lines overlaid on a color aerial photo and their corresponding addresses. Simply use the address list below the map to check off which properties shown on the map you want to include. You may also select other addresses using the "Add Another Address" feature at the bottom of the list.

2. *EDR Selects Addresses.* Choose this method if you want EDR's researchers to select the addresses to be researched for you, using our established research methods.

3. *You Select Addresses.* Use this method for research based solely on the addresses you select or enter into the system.

4. *Hold City Directory Research Option.* If you choose to select your own adjoining addresses, you may pause production of your EDR City Directory Abstract report until you have had a chance to look at your other EDR reports and sources. Sources for property addresses include: your Certified Sanborn Map Report may show you the location of property addresses; the new EDR Property Tax Map Report may show the location of property addresses; and your field research can supplement these sources with additional address information. To use this capability, simply click "Hold City Directory research" box under "Other Options" at the bottom of the page. Once you have determined what addresses you want researched, go to your EDR Order Status page, select the EDR City Directory Abstract, and enter the addresses and submit for production.

Questions? Contact your EDR representative at 800-352-0050. For more information about all of EDR's 2009 report and service enhancements, visit www.edrnet.com/2009enhancements

EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Abstract is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Abstract includes a search and abstract of available city directory data. For each address, the directory lists the name of the corresponding occupant at five year intervals.

RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. An "X" indicates where information was identified in the source and provided in this report.

Year	Source	TP	Adjoining	Text Abstract	Source Image
2000	Polk's City Directory	-	X	X	-
1996	Polk's City Directory	-	-	-	-
1989	Polk's City Directory	-	-	-	-
1984	Polk's City Directory	-	-	-	-
1978	Polk's City Directory	-	-	-	-
1972	Polk's City Directory	-	-	-	-
1966	Polk's City Directory	-	-	-	-

FINDINGS

TARGET PROPERTY INFORMATION

ADDRESS

33168 Patriot Way
Warrenton, OR 97146

FINDINGS DETAIL

Target Property research detail.

No Addresses Found

FINDINGS

ADJOINING PROPERTY DETAIL

The following Adjoining Property addresses were researched for this report. Detailed findings are provided for each address.

Patriot Way

Patriot Way

Year	Uses	Source
2000	No other addresses listed on street	Polk's City Directory

33218 Patriot Way

Year	Uses	Source
2000	Residential	Polk's City Directory

33322 Patriot Way

Year	Uses	Source
2000	Residential	Polk's City Directory

33325 Patriot Way

Year	Uses	Source
2000	Not Verified	Polk's City Directory

FINDINGS

STREET NOT LISTED IN RESEARCH SOURCE

The following Streets were researched for this report, and the Streets were not listed in the research source.

Street Researched	Street Not Listed in Research Source
Patriot Way	1996, 1989, 1984, 1978, 1972, 1966

TARGET PROPERTY: ADDRESS NOT LISTED IN RESEARCH SOURCE

The following Target Property addresses were researched for this report, and the addresses were not listed in the research source.

Address Researched	Address Not Listed in Research Source
33168 Patriot Way	2000

Camp Rilea
33168 Patriot Way
Warrenton, OR 97146

Inquiry Number: 2713719.3
March 05, 2010

Certified Sanborn® Map Report

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www.edrnet.com

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3/05/10

Site Name:
Camp Rilea
33168 Patriot Way
Warrenton, OR 97146

EDR Inquiry # 2713719.3

Client Name:
Shaw Environmental &
10300 SW Nimbus Avenue
Portland, OR 97223

Contact: Audrey Turpening

EDR® Environmental Data Resources Inc

The complete Sanborn Library collection has been searched by EDR, and fire insurance maps covering the target property location provided by Shaw Environmental & Infrastructure were identified for the years listed below. The certified Sanborn Library search results in this report can be authenticated by visiting www.edrnet.com/sanborn and entering the certification number. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by Sanborn Library LLC, the copyright holder for the collection.

Certified Sanborn Results:

Site Name: Camp Rilea
Address: 33168 Patriot Way
City, State, Zip: Warrenton, OR 97146
Cross Street:
P.O. # NA
Project: NA
Certification # 4821-49D1-A809

Sanborn® Library search results
Certification # 4821-49D1-A809

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

The Sanborn Library includes more than 1.2 million Sanborn fire insurance maps, which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ✔ Library of Congress
- ✔ University Publications of America
- ✔ EDR Private Collection

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Camp Rilea
33168 Patriot Way
Warrenton, OR 97146

Inquiry Number: 2713719.2s
March 05, 2010

The EDR Radius Map™ Report with GeoCheck®

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
Toll Free: 800.352.0050
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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-05) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

33168 PATRIOT WAY
WARRENTON, OR 97146

COORDINATES

Latitude (North):	46.122900 - 46˚ 7' 22.4''
Longitude (West):	123.929200 - 123˚ 55' 45.1''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	428207.3
UTM Y (Meters):	5107904.5
Elevation:	29 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	46123-B8 WARRENTON, OR
Most Recent Revision:	1999
South Map:	46123-A8 GEARHART, OR
Most Recent Revision:	1973

AERIAL PHOTOGRAPHY IN THIS REPORT

Photo Year:	2005
Source:	USDA

TARGET PROPERTY SEARCH RESULTS

The target property was identified in the following records. For more information on this property see page 7 of the attached EDR Radius Map report:

Site	Database(s)	EPA ID
U.S. ARMY NATIONAL GUARD CAMP RIL 33168 PATRIOT WAY WARRENTON, OR 97146	TRIS	9714WCMPRL91
NATIONAL GUARD TRAINING CENTER 33168 PATRIOT WAY WARRENTON, OR 97146	RCRA-SQG PADS FINDS MANIFEST	ORD980988414
U.S. ARMY NATIONAL GUARD CAMP RIL 33168 PATRIOT WAY WARRENTON, OR 97146	FINDS	N/A

EXECUTIVE SUMMARY

ORARNG 33168 PATRIOT WY WARRENTON, OR 97146	AST HSIS	N/A
CAMP RILEA 33168 PATRIOT WAY WARRENTON, OR 97146	ECSI VCP	N/A
OREGON MILITARY DEPARTMENT - CAMP 33168 PATRIOT WAY WARRENTON, OR	UIC	N/A

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL ..... National Priority List
Proposed NPL ..... Proposed National Priority List Sites
NPL LIENS ..... Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ..... National Priority List Deletions

Federal CERCLIS list

CERCLIS ..... Comprehensive Environmental Response, Compensation, and Liability Information System
FEDERAL FACILITY ..... Federal Facility Site Information listing

Federal CERCLIS NFRAP site List

CERC-NFRAP ..... CERCLIS No Further Remedial Action Planned

Federal RCRA CORRACTS facilities list

CORRACTS ..... Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ..... RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG ..... RCRA - Large Quantity Generators

RCRA-CESQG..... RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

US ENG CONTROLS..... Engineering Controls Sites List
US INST CONTROL..... Sites with Institutional Controls

Federal ERNS list

ERNS..... Emergency Response Notification System

State- and tribal - equivalent NPL

AOCONCERN..... Columbia Slough

State- and tribal - equivalent CERCLIS

OR CRL..... Confirmed Release List and Inventory

State and tribal landfill and/or solid waste disposal site lists

SWF/LF..... Solid Waste Facilities List

State and tribal leaking storage tank lists

INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

UST..... Underground Storage Tank Database
INDIAN UST..... Underground Storage Tanks on Indian Land
FEMA UST..... Underground Storage Tank Listing

State and tribal institutional control / engineering control registries

ENG CONTROLS..... Engineering Controls Recorded at ESCI Sites
INST CONTROL..... Institutional Controls Recorded at ESCI Sites

State and tribal voluntary cleanup sites

INDIAN VCP..... Voluntary Cleanup Priority Listing

State and tribal Brownfields sites

BROWNFIELDS..... Brownfields Projects

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

DEBRIS REGION 9..... Torres Martinez Reservation Illegal Dump Site Locations

ODI ..... Open Dump Inventory
HIST LF ..... Old Closed SW Disposal Sites
INDIAN ODI ..... Report on the Status of Open Dumps on Indian Lands

Local Lists of Hazardous waste / Contaminated Sites

US CDL ..... Clandestine Drug Labs
OR CRL ..... Confirmed Release List and Inventory
AOCONCERN ..... Columbia Slough
CDL ..... Uninhabitable Drug Lab Properties
US HIST CDL ..... National Clandestine Laboratory Register

Local Land Records

LIENS 2 ..... CERCLA Lien Information
LUCIS ..... Land Use Control Information System

Records of Emergency Release Reports

HMIRS ..... Hazardous Materials Information Reporting System
SPILLS ..... Spill Database

Other Ascertainable Records

RCRA-NonGen ..... RCRA - Non Generators
DOT OPS ..... Incident and Accident Data
FUDS ..... Formerly Used Defense Sites
CONSENT ..... Superfund (CERCLA) Consent Decrees
ROD ..... Records Of Decision
UMTRA ..... Uranium Mill Tailings Sites
MINES ..... Mines Master Index File
TSCA ..... Toxic Substances Control Act
FTTS ..... FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
HIST FTTS ..... FIFRA/TSCA Tracking System Administrative Case Listing
SSTS ..... Section 7 Tracking Systems
ICIS ..... Integrated Compliance Information System
MLTS ..... Material Licensing Tracking System
RADINFO ..... Radiation Information Database
RAATS ..... RCRA Administrative Action Tracking System
OR HAZMAT ..... Hazmat/Incidents
DRYCLEANERS ..... Drycleaning Facilities
NPDES ..... Wastewater Permits Database
AIRS ..... Oregon Title V Facility Listing
INDIAN RESERV ..... Indian Reservations
SCRD DRYCLEANERS ..... State Coalition for Remediation of Drycleaners Listing
COAL ASH DOE ..... Sleam-Electric Plan Operation Data
COAL ASH EPA ..... Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER ..... PCB Transformer Registration Database

EDR PROPRIETARY RECORDS

EDR Proprietary Records

Manufactured Gas Plants ..... EDR Proprietary Manufactured Gas Plants

EXECUTIVE SUMMARY

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

State- and tribal - equivalent NPL

ECSI: The Environmental Cleanup Site Information System records information about sites in Oregon that may be of environmental interest. The data come from the Department of Environmental Quality.

A review of the ECSI list, as provided by EDR, and dated 01/01/2010 has revealed that there is 1 ECSI site within approximately 1 mile of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
TAGG PIONEER FARM	***91146 PIONEER FARM RD.***	***SE 1/2 - 1 (0.568 mi.)***	***8***	***36***

State and tribal leaking storage tank lists

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the Department of Environmental Quality's LUST Database List.

A review of the LUST list, as provided by EDR, and dated 11/23/2009 has revealed that there is 1 LUST site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
WILLIAMS, LINDA Cleanup Complete: 3/18/2002	***33325 PATRIOT WAY***	***W 1/4 - 1/2 (0.271 mi.)***	***7***	***36***

ADDITIONAL ENVIRONMENTAL RECORDS

Other Ascertainable Records

DOD: Consists of federally owned or administered lands, administered by the Department of

EXECUTIVE SUMMARY

Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

A review of the DOD list, as provided by EDR, and dated 12/31/2005 has revealed that there is 1 DOD site within approximately 1 mile of the target property.

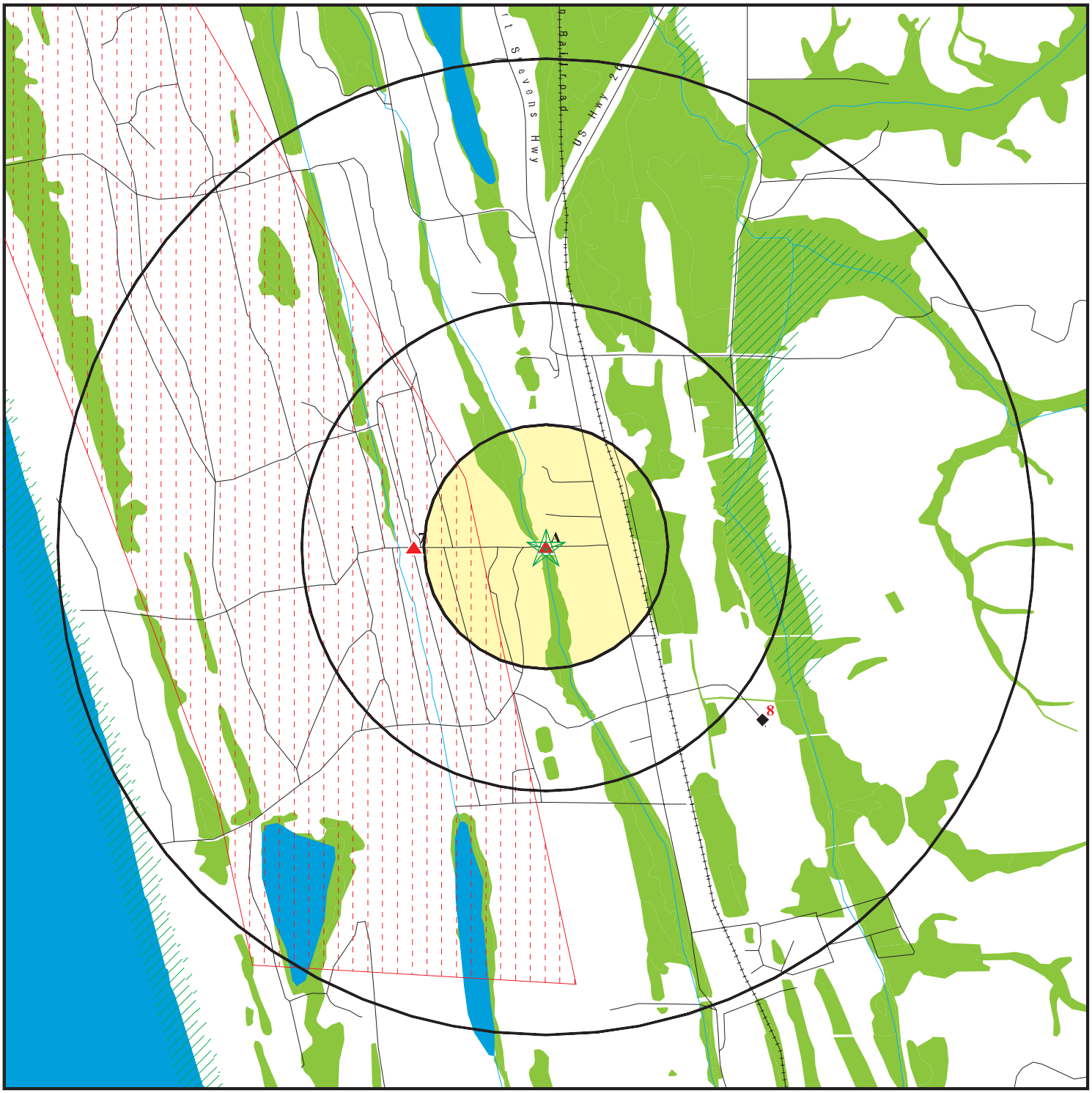
Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
CAMP RILEY MILITARY RESERVATIO		WSW 1/8 - 1/4 (0.131 mi.)	0	35

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped:

Site Name	Database(s)
CHRIS BECKMAN	MANIFEST
695 HWY 101	RCRA-NonGen, FINDS, MANIFEST
10TH & NW MARION	FINDS, ECSI
HWY 202	FINDS, ECSI
BATY PROPERTY	ECSI
SEASIDE BP/MARITIME FUEL	ECSI
CURS SEASIDE AHOT	ECSI
SEASIDE LLC	ECSI, VCP
COLUMBIA BEACH MILITARY RESERVATIO	ECSI
ASTORIA AIRPORT INDUSTRIAL PARK	ECSI
WARRENTON BOAT YARD	ECSI, VCP
FORT CLATSOP - RIVER DAY USE SITE	ECSI, VCP
L.O.G. WRECKING	CERCLIS
TEEVIN FISCHER QUARRY	AST
JEWELL SCHOOL(OWNER:JEWELL SCHOOL	UIC, AST, HSIS
HAMLET QUICK STOP	AST, HSIS
TYLER PERRIGO HEAVY	AST
VERIZON WIRELESS	AST, HSIS
LAURELWOOD FARM COMPOSTING FACILIT	SWF/LF, AST, HSIS
ODFW	AST, HSIS
KEITH BORDERS TRUCKING CO	AST, HSIS
LEWIS AND CLARK LOG YARD LANDFILL	SWF/LF
NORTH AND SOUTH SECONDARY, AND DIV	SWF/LF
LEWIS & N CLARK RD TS	FINDS, SWF/LF
TEEVIN AND FISCHER QUARRY	SWF/LF
TRAILS END RECOVERY	SWF/LF, LUST
MAIZE, RICHARD	LUST, UST
WARRENTON HIGH SCHOOL	LUST
MORGAN MART,INC., DBA BAKERS GEN S	UST
COLBY, W A	UST
CAMP RILEA	UST
FRED MEYER FUEL STOP #218	UST
WARRENTON HIGH SCHOOL	UST
2793 HWY 101 N	RCRA-NonGen, FINDS
CHRIS BECKMAN	RCRA-NonGen
OP&R - BRADLEY STATE PARK(OWNER:OR	UIC
ELDERBERRY INN, INC.(OWNER:ELDERBE	UIC
ODOT HUMBUG MAINT. STATION(OWNER:O	UIC
CAMP RILEA STP	NPDES

OVERVIEW MAP - 2713719.2s



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites

0 1/4 1/2 1 Miles

- Indian Reservations BIA
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands
- Areas of Concern

N

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Camp Rilea	CLIENT: Shaw Environmental & Infrastructure
ADDRESS: 33168 Patriot Way Warrenton OR 97146	CONTACT: Audrey Turpening
LAT/LONG: 46.1229 / 123.9292	INQUIRY #: 2713719.2s
	DATE: March 05, 2010 12:38 pm

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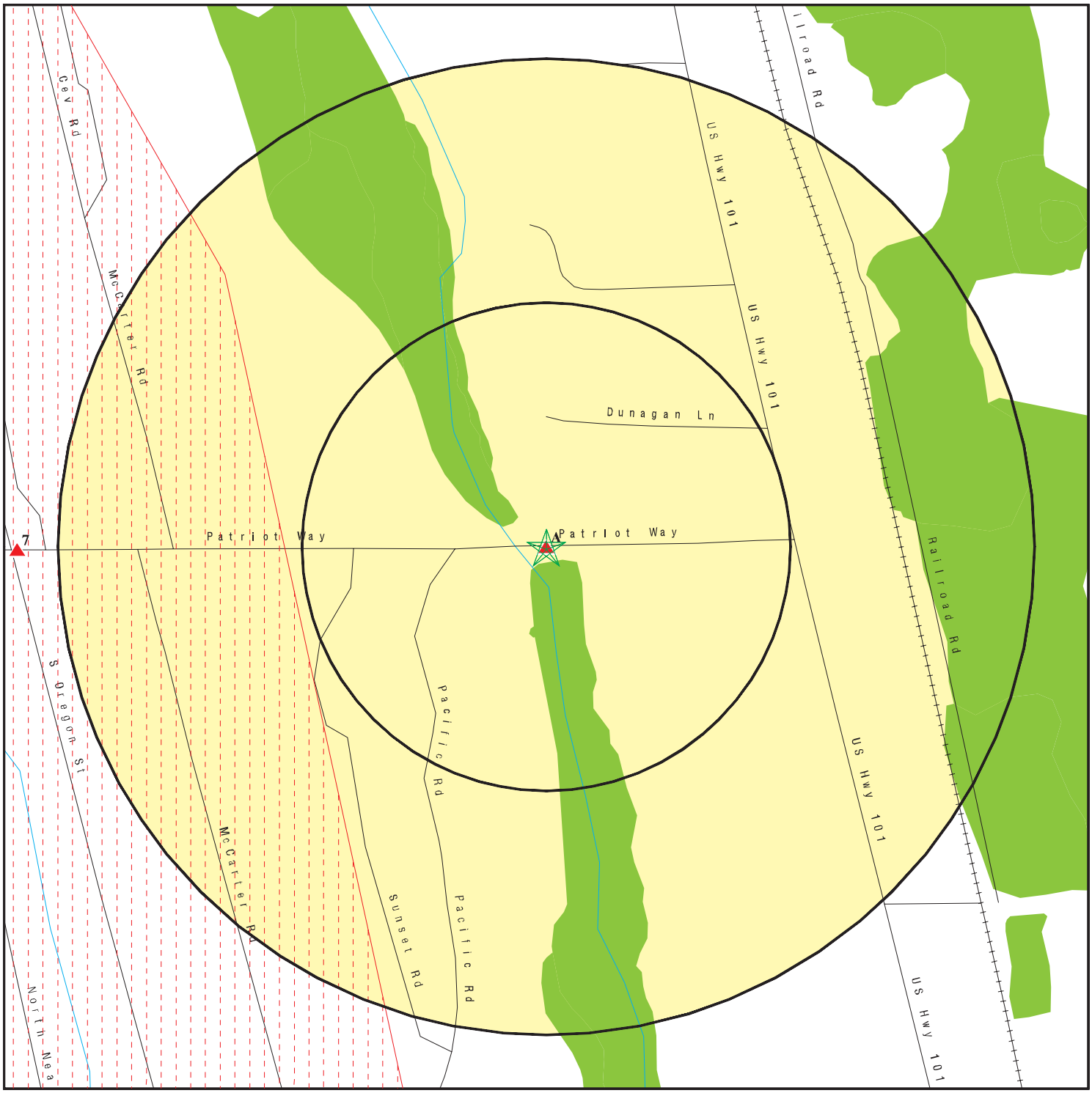
DETAIL MAP - 2713719.2s



0 1/16 1/8 1/4 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands
- Areas of Concern

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LAT/LONG: 46.1229 / 123.9292	INQUIRY #: 2713719.2s
	DATE: March 05, 2010 12:38 pm

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MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL		1.000	0	0	0	0	NR	0
Proposed NPL		1.000	0	0	0	0	NR	0
NPL LIENS		TP	NR	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL		1.000	0	0	0	0	NR	0
Federal CERCLIS list								
CERCLIS		0.500	0	0	0	NR	NR	0
FEDERAL FACILITY		1.000	0	0	0	0	NR	0
Federal CERCLIS NFRAP site List								
CERC-NFRAP		0.500	0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS		1.000	0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF		0.500	0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG		0.250	0	0	NR	NR	NR	0
RCRA-SQG	X	0.250	0	0	NR	NR	NR	0
RCRA-CESQG		0.250	0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
US ENG CONTROLS		0.500	0	0	0	NR	NR	0
US INST CONTROL		0.500	0	0	0	NR	NR	0
Federal ERNS list								
ERNS		TP	NR	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
ECSI	X	1.000	0	0	0	1	NR	1
AOCONCERN		1.000	0	0	0	0	NR	0
State- and tribal - equivalent CERCLIS								
OR CRL		1.000	0	0	0	0	NR	0
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF		0.500	0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST		0.500	0	0	1	NR	NR	1

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST		0.500	0	0	0	NR	NR	0
State and tribal registered storage tank lists								
UST		0.250	0	0	NR	NR	NR	0
AST	X	0.250	0	0	NR	NR	NR	0
INDIAN UST		0.250	0	0	NR	NR	NR	0
FEMA UST		0.250	0	0	NR	NR	NR	0
State and tribal institutional control / engineering control registries								
ENG CONTROLS		0.500	0	0	0	NR	NR	0
INST CONTROL		0.500	0	0	0	NR	NR	0
State and tribal voluntary cleanup sites								
VCP	X	0.500	0	0	0	NR	NR	0
INDIAN VCP		0.500	0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS		0.500	0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS		0.500	0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
DEBRIS REGION 9		0.500	0	0	0	NR	NR	0
ODI		0.500	0	0	0	NR	NR	0
HIST LF		0.500	0	0	0	NR	NR	0
INDIAN ODI		0.500	0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US CDL		TP	NR	NR	NR	NR	NR	0
OR CRL		1.000	0	0	0	0	NR	0
AOCONCERN		1.000	0	0	0	0	NR	0
CDL		TP	NR	NR	NR	NR	NR	0
US HIST CDL		TP	NR	NR	NR	NR	NR	0
Local Land Records								
LIENS 2		TP	NR	NR	NR	NR	NR	0
LUCIS		0.500	0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS		TP	NR	NR	NR	NR	NR	0
SPILLS		TP	NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA-NonGen		0.250	0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
DOT OPS		TP	NR	NR	NR	NR	NR	0
DOD		1.000	0	1	0	0	NR	1
FUDS		1.000	0	0	0	0	NR	0
CONSENT		1.000	0	0	0	0	NR	0
ROD		1.000	0	0	0	0	NR	0
UMTRA		0.500	0	0	0	NR	NR	0
MINES		0.250	0	0	NR	NR	NR	0
TRIS	X	TP	NR	NR	NR	NR	NR	0
TSCA		TP	NR	NR	NR	NR	NR	0
FTTS		TP	NR	NR	NR	NR	NR	0
HIST FTTS		TP	NR	NR	NR	NR	NR	0
SSTS		TP	NR	NR	NR	NR	NR	0
ICIS		TP	NR	NR	NR	NR	NR	0
PADS	X	TP	NR	NR	NR	NR	NR	0
MLTS		TP	NR	NR	NR	NR	NR	0
RADINFO		TP	NR	NR	NR	NR	NR	0
FINDS	X	TP	NR	NR	NR	NR	NR	0
RAATS		TP	NR	NR	NR	NR	NR	0
UIC	X	0.250	0	0	NR	NR	NR	0
MANIFEST	X	0.250	0	0	NR	NR	NR	0
OR HAZMAT		TP	NR	NR	NR	NR	NR	0
DRYCLEANERS		0.250	0	0	NR	NR	NR	0
NPDES		TP	NR	NR	NR	NR	NR	0
AIRS		TP	NR	NR	NR	NR	NR	0
HSIS	X	TP	NR	NR	NR	NR	NR	0
INDIAN RESERV		1.000	0	0	0	0	NR	0
SCRD DRYCLEANERS		0.500	0	0	0	NR	NR	0
COAL ASH DOE		TP	NR	NR	NR	NR	NR	0
COAL ASH EPA		0.500	0	0	0	NR	NR	0
PCB TRANSFORMER		TP	NR	NR	NR	NR	NR	0
EDR PROPRIETARY RECORDS								
EDR Proprietary Records								
Manufactured Gas Plants		1.000	0	0	0	0	NR	0

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

A1 Target Property — **U.S. ARMY NATIONAL GUARD CAMP RILEA RANGES**
33168 PATRIOT WAY
WARRENTON, OR 97146

TRIS — **1012208967**
9714WCMPRL91

Site 1 of 6 in cluster A

Actual: 29 ft.

A2 Target Property — **NATIONAL GUARD TRAINING CENTER**
33168 PATRIOT WAY
WARRENTON, OR 97146

RCRA-SQG, PADS, FINDS, MANIFEST — **1000344666**
ORD980988414

Site 2 of 6 in cluster A

Actual: 29 ft.

RCRA-SQG:

Date form received by agency:	12/31/2008
Facility name:	ORARNG CAMP RILEA
Facility address:	33168 PATRIOT WAY WARRENTON, OR 97146
EPA ID:	ORD980988414
Mailing address:	PO BOX 14350 SALEM, OR 97309
Contact:	RON KINSLEY FACILITY MANAGE
Contact address:	33168 PATRIOT WAY WARRENTON, OR 97146
Contact country:	US
Contact telephone:	(503) 861-4007
Contact email:	Not reported
EPA Region:	10
Land type:	State
Classification:	Small Small Quantity Generator
Description:	Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:

Owner/operator name:	OREGON MILITARY DEPARTMENT
Owner/operator address:	PO BOX 14350 SALEM, OR 97309
Owner/operator country:	US
Owner/operator telephone:	503 584-3914
Legal status:	State
Owner/Operator Type:	Owner
Owner/Op start date:	12/31/2008
Owner/Op end date:	Not reported

Owner/operator name:	OREGON MILITARY DEPARTMENT
Owner/operator address:	PO BOX 14350 SALEM, OR 97309
Owner/operator country:	US
Owner/operator telephone:	503 584-3914
Legal status:	Federal
Owner/Operator Type:	Operator
Owner/Op start date:	12/31/2008
Owner/Op end date:	Not reported

NATIONAL GUARD TRAINING CENTER (Continued) **1000344666**

Handler Activities Summary:

U.S. importer of hazardous waste:	No
Mixed waste (haz. and radioactive):	No
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	No
Furnace exemption:	No
Used oil fuel burner:	No
Used oil processor:	No
User oil refiner:	No
Used oil fuel marketer to burner:	No
Used oil Specification marketer:	No
Used oil transfer facility:	No
Used oil transporter:	No
Off-site waste receiver:	Commercial status unknown

Historical Generators:

Date form received by agency: 12/31/2007
Facility name: ORARNG CAMP RILEA
Classification: Small Quantity Generator

Date form received by agency: 12/31/2006
Facility name: ORARNG CAMP RILEA
Classification: Small Quantity Generator

Date form received by agency: 12/31/2005
Facility name: ORARNG CAMP RILEA
Classification: Small Quantity Generator

Date form received by agency: 12/31/2004
Facility name: ORARNG CAMP RILEA
Classification: Small Quantity Generator

Date form received by agency: 01/01/2004
Facility name: ORARNG CAMP RILEA
Classification: Large Quantity Generator

Date form received by agency: 12/31/2003
Facility name: ORARNG CAMP RILEA
Classification: Large Quantity Generator

Date form received by agency: 02/28/2003
Facility name: ORARNG CAMP RILEA
Classification: Small Quantity Generator

Date form received by agency: 02/19/2002
Facility name: ORARNG CAMP RILEA
Classification: Small Quantity Generator

Date form received by agency: 04/03/2001
Facility name: ORARNG CAMP RILEA
Classification: Small Quantity Generator

Date form received by agency: 03/09/2000

NATIONAL GUARD TRAINING CENTER (Continued) **1000344666**

Facility name: ORARNG CAMP RILEA
Classification: Small Quantity Generator

Date form received by agency: 03/01/1999
Facility name: ORARNG CAMP RILEA
Classification: Small Quantity Generator

Date form received by agency: 01/23/1998
Facility name: ORARNG CAMP RILEA
Classification: Small Quantity Generator

Date form received by agency: 02/28/1997
Facility name: ORARNG CAMP RILEA
Classification: Small Quantity Generator

Date form received by agency: 01/26/1996
Facility name: ORARNG CAMP RILEA
Classification: Small Quantity Generator

Date form received by agency: 02/23/1995
Facility name: ORARNG CAMP RILEA
Classification: Small Quantity Generator

Date form received by agency: 02/24/1994
Facility name: ORARNG CAMP RILEA
Classification: Small Quantity Generator

Date form received by agency: 04/16/1993
Facility name: ORARNG CAMP RILEA
Classification: Small Quantity Generator

Date form received by agency: 05/05/1992
Facility name: ORARNG CAMP RILEA
Classification: Small Quantity Generator

Facility Has Received Notices of Violations:
Regulation violated: Not reported
Area of violation: Generators - Pre-transport
Date violation determined: 04/27/2006
Date achieved compliance: 05/16/2006
Violation lead agency: State
Enforcement action: NOTICE OF NONCOMPLIANCE
Enforcement action date: 05/18/2006
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: Generators - Pre-transport
Date violation determined: 04/27/2006
Date achieved compliance: 05/03/2006
Violation lead agency: State
Enforcement action: NOTICE OF NONCOMPLIANCE
Enforcement action date: 05/18/2006

NATIONAL GUARD TRAINING CENTER (Continued) **1000344666**

Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: Generators - General
Date violation determined: 09/10/1997
Date achieved compliance: 10/28/1997
Violation lead agency: State
Enforcement action: NOTICE OF NONCOMPLIANCE
Enforcement action date: 09/22/1997
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: Generators - Records/Reporting
Date violation determined: 09/10/1997
Date achieved compliance: 10/28/1997
Violation lead agency: State
Enforcement action: NOTICE OF NONCOMPLIANCE
Enforcement action date: 09/22/1997
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: TSD - Container Use and Management
Date violation determined: 09/10/1997
Date achieved compliance: 10/28/1997
Violation lead agency: State
Enforcement action: NOTICE OF NONCOMPLIANCE
Enforcement action date: 09/22/1997
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: Generators - Manifest
Date violation determined: 09/10/1997
Date achieved compliance: 10/28/1997
Violation lead agency: State
Enforcement action: NOTICE OF NONCOMPLIANCE
Enforcement action date: 09/22/1997
Enf. disposition status: Not reported

NATIONAL GUARD TRAINING CENTER (Continued) **1000344666**

Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Evaluation Action Summary:

Evaluation date: 04/27/2006
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - Pre-transport
Date achieved compliance: 05/03/2006
Evaluation lead agency: State

Evaluation date: 04/27/2006
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - Pre-transport
Date achieved compliance: 05/16/2006
Evaluation lead agency: State

Evaluation date: 09/10/1997
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - Records/Reporting
Date achieved compliance: 10/28/1997
Evaluation lead agency: State

Evaluation date: 09/10/1997
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - Manifest
Date achieved compliance: 10/28/1997
Evaluation lead agency: State

Evaluation date: 09/10/1997
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - Container Use and Management
Date achieved compliance: 10/28/1997
Evaluation lead agency: State

Evaluation date: 09/10/1997
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 10/28/1997
Evaluation lead agency: State

FINDS:

Registry ID: 110014227265

Environmental Interest/Information System

OR-DEQ (Oregon - Department Of Environmental Quality) is a regulatory agency whose job is to protect the quality of Oregon's Environment. DEQ uses a combination of technical assistance, inspections and permitting to help public and private facilities and citizens understand and comply with state and federal environmental regulations.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of

NATIONAL GUARD TRAINING CENTER (Continued) **1000344666**

events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

OR MANIFEST:

Manifest Year:	Manifest Year - 2008
Epa Id:	ORD980988414
Inactive Status:	Not reported
Year:	2008
Facility Status:	SQG
Organization Name:	Not reported
Contact First Name:	Ron Kinsley
Contact Last Name:	Facility Manager
Contact Telephone Number:	Not reported
Mailing Address:	33168 Patriot Way
Mailing City:	Warrenton
Mailing State:	OR
Mailing Zip:	97146-9711

RCRA Id :	ORD980988414
Inactive :	Not reported
Year :	2006
Status :	SQG
Manifest :	6207F
Ship Date :	7/26/2006
TSD :	WAD991281767
WS Num:	Not reported
Transporter :	WAR000001743
Ship Qty :	8
Rpt Unit :	LB
Off Mng :	H061
EPA Waste Codes:	D001 D003
Waste Description:	Aerosol Undercoat/ D001,D003

Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported
Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported

RCRA Id :	ORD980988414
Inactive :	Not reported
Year :	2006
Status :	SQG
Manifest :	000227669JJK
Ship Date :	10/24/2006
TSD :	WAD991281767
WS Num:	Not reported
Transporter :	WAR000001743
Ship Qty :	45
Rpt Unit :	LB
Off Mng :	H132
EPA Waste Codes:	D006
Waste Description:	Hot Wash Residue/ D006

Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported
Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported

RCRA Id :	ORD980988414
Inactive :	Not reported

NATIONAL GUARD TRAINING CENTER (Continued) **1000344666**

Year : 2006
Status : SQG
Manifest : 6207F
Ship Date : 7/26/2006
TSD : WAD991281767
WS Num: Not reported
Transporter : WAR000001743
Ship Qty : 70
Rpt Unit : LB
Off Mng : H132
EPA Waste Codes: D006 D007 D008
Waste Description: Brake Wash Cart Sludge
Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported
Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported

RCRA Id : ORD980988414
Inactive : Not reported
Year : 2006
Status : SQG
Manifest : 6207I
Ship Date : 7/26/2006
TSD : WAD991281767
WS Num: Not reported
Transporter : WAR000001743
Ship Qty : 300
Rpt Unit : LB
Off Mng : H077
EPA Waste Codes: D006
Waste Description: Wash Rack Sludge
Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported
Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported

RCRA Id : ORD980988414
Inactive : Not reported
Year : 2006
Status : SQG
Manifest : 6110A
Ship Date : 4/20/2006
TSD : WAD991281767
WS Num: Not reported
Transporter : WAR000001743
Ship Qty : 60
Rpt Unit : LB
Off Mng : H132
EPA Waste Codes: D006 D007 D008
Waste Description: Brake Wash Cart Sludge
Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported
Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported

RCRA Id : ORD980988414
Inactive : Not reported
Year : 2006
Status : SQG
Manifest : 6207F
Ship Date : 7/26/2006

NATIONAL GUARD TRAINING CENTER (Continued) **1000344666**

TSD : WAD991281767
WS Num: Not reported
Transporter : WAR000001743
Ship Qty : 8
Rpt Unit : LB
Off Mng : H061
EPA Waste Codes: D001 D003
Waste Description: Aerosol Undercoat/ D001,D003
Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported
Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported

RCRA Id : ORD980988414
Inactive : Not reported
Year : 2006
Status : SQG
Manifest : 000227669JJK
Ship Date : 10/24/2006
TSD : WAD991281767
WS Num: Not reported
Transporter : WAR000001743
Ship Qty : 45
Rpt Unit : LB
Off Mng : H132
EPA Waste Codes: D006
Waste Description: Hot Wash Residue/ D006
Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported
Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported

RCRA Id : ORD980988414
Inactive : Not reported
Year : 2006
Status : SQG
Manifest : 6207F
Ship Date : 7/26/2006
TSD : WAD991281767
WS Num: Not reported
Transporter : WAR000001743
Ship Qty : 70
Rpt Unit : LB
Off Mng : H132
EPA Waste Codes: D006 D007 D008
Waste Description: Brake Wash Cart Sludge
Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported
Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported

RCRA Id : ORD980988414
Inactive : Not reported
Year : 2006
Status : SQG
Manifest : 6207I
Ship Date : 7/26/2006
TSD : WAD991281767
WS Num: Not reported
Transporter : WAR000001743
Ship Qty : 300
Rpt Unit : LB
Off Mng : H077

NATIONAL GUARD TRAINING CENTER (Continued) **1000344666**

EPA Waste Codes: D006
Waste Description: Wash Rack Sludge
Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported
Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported

RCRA Id : ORD980988414
Inactive : Not reported
Year : 2006
Status : SQG
Manifest : 6110A
Ship Date : 4/20/2006
TSD : WAD991281767
WS Num: Not reported
Transporter : WAR000001743
Ship Qty : 60
Rpt Unit : LB
Off Mng : H132
EPA Waste Codes: D006 D007 D008
Waste Description: Brake Wash Cart Sludge
Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported
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RCRA Id : ORD980988414
Inactive : Not reported
Year : 2006
Status : SQG
Manifest : 6207F
Ship Date : 7/26/2006
TSD : WAD991281767
WS Num: Not reported
Transporter : WAR000001743
Ship Qty : 8
Rpt Unit : LB
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RCRA Id : ORD980988414
Inactive : Not reported
Year : 2006
Status : SQG
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Ship Date : 10/24/2006
TSD : WAD991281767
WS Num: Not reported
Transporter : WAR000001743
Ship Qty : 45
Rpt Unit : LB
Off Mng : H132
EPA Waste Codes: D006
Waste Description: Hot Wash Residue/ D006
Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported
Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported

NATIONAL GUARD TRAINING CENTER (Continued) **1000344666**

RCRA Id : ORD980988414
Inactive : Not reported
Year : 2006
Status : SQG
Manifest : 6207F
Ship Date : 7/26/2006
TSD : WAD991281767
WS Num: Not reported
Transporter : WAR000001743
Ship Qty : 70
Rpt Unit : LB
Off Mng : H132
EPA Waste Codes: D006 D007 D008
Waste Description: Brake Wash Cart Sludge
Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported
Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported

RCRA Id : ORD980988414
Inactive : Not reported
Year : 2006
Status : SQG
Manifest : 6207I
Ship Date : 7/26/2006
TSD : WAD991281767
WS Num: Not reported
Transporter : WAR000001743
Ship Qty : 300
Rpt Unit : LB
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Waste Description: Wash Rack Sludge
Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported
Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported

RCRA Id : ORD980988414
Inactive : Not reported
Year : 2006
Status : SQG
Manifest : 6110A
Ship Date : 4/20/2006
TSD : WAD991281767
WS Num: Not reported
Transporter : WAR000001743
Ship Qty : 60
Rpt Unit : LB
Off Mng : H132
EPA Waste Codes: D006 D007 D008
Waste Description: Brake Wash Cart Sludge
Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported
Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported

RCRA Id : ORD980988414
Inactive : Not reported
Year : 2006
Status : SQG

NATIONAL GUARD TRAINING CENTER (Continued) **1000344666**

Manifest : 6207F
Ship Date : 7/26/2006
TSD : WAD991281767
WS Num: Not reported
Transporter : WAR000001743
Ship Qty : 8
Rpt Unit : LB
Off Mng : H061
EPA Waste Codes: D001 D003
Waste Description: Aerosol Undercoat/ D001,D003
Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported
Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported

RCRA Id : ORD980988414
Inactive : Not reported
Year : 2006
Status : SQG
Manifest : 000227669JJK
Ship Date : 10/24/2006
TSD : WAD991281767
WS Num: Not reported
Transporter : WAR000001743
Ship Qty : 45
Rpt Unit : LB
Off Mng : H132
EPA Waste Codes: D006
Waste Description: Hot Wash Residue/ D006
Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported
Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported

RCRA Id : ORD980988414
Inactive : Not reported
Year : 2006
Status : SQG
Manifest : 6207F
Ship Date : 7/26/2006
TSD : WAD991281767
WS Num: Not reported
Transporter : WAR000001743
Ship Qty : 70
Rpt Unit : LB
Off Mng : H132
EPA Waste Codes: D006 D007 D008
Waste Description: Brake Wash Cart Sludge
Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported
Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported

RCRA Id : ORD980988414
Inactive : Not reported
Year : 2006
Status : SQG
Manifest : 6207I
Ship Date : 7/26/2006
TSD : WAD991281767
WS Num: Not reported
Transporter : WAR000001743
Ship Qty : 300

NATIONAL GUARD TRAINING CENTER (Continued) **1000344666**

Rpt Unit : LB
Off Mng : H077
EPA Waste Codes: D006
Waste Description: Wash Rack Sludge
Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported
Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported

RCRA Id : ORD980988414
Inactive : Not reported
Year : 2006
Status : SQG
Manifest : 6110A
Ship Date : 4/20/2006
TSD : WAD991281767
WS Num: Not reported
Transporter : WAR000001743
Ship Qty : 60
Rpt Unit : LB
Off Mng : H132
EPA Waste Codes: D006 D007 D008
Waste Description: Brake Wash Cart Sludge
Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported
Tot Amt Of Waste Stream Generated in Reporting Yr:Not reported

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A3 Target Property | **U.S. ARMY NATIONAL GUARD CAMP RILEA RANGES** | **FINDS** | **1012104949**
33168 PATRIOT WAY | **N/A**
WARRENTON, OR 97146

Site 3 of 6 in cluster A

Actual: 29 ft.

FINDS:

Registry ID: 110039018951

Environmental Interest/Information System
US EPA TRIS (Toxics Release Inventory System) contains information from facilities on the amounts of over 300 listed toxic chemicals that these facilities release directly to air, water, land, or that are transported off-site.

A4 Target Property | **ORARNG** | **AST** | **S104899331**
33168 PATRIOT WY | **HSIS** | **N/A**
WARRENTON, OR 97146

Site 4 of 6 in cluster A

Actual: 29 ft.

AST:
Facility Id: 016410
Hazardous Substance: GASOLINE
Reporting Quantities: 500-999
Quantity Units: GALLONS
Physical State: LIQUID
Storage 1: ABOVEGROUND TANK

ORARNG (Continued) **S104899331**

HSIS:

Facility Id:	016410
Physical State Of The Substance:	2
Physical State:	LIQUID
Average Amount Possessed During The Year Code:	03
Maximum Amount Possessed During The Year Code:	03
Chemical Trade Name:	GARLON 3A
Applicable Unit Of Measure Code:	2
Description Of The Unit Of Measure:	GALLONS
Type Code:	R
Description:	OTHER
Type Code:	Not reported
Temperature Description:	Not reported
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Pressure of Code:	Not reported
Pressure Description:	Not reported
Temperature Description:	4
Temperature of The Hazardous Substance Code:	N
Temperature Description:	Not reported
Temperature of The Hazardous Substance Code:	Not reported
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	20-49
Description Of The Avg Qnty Code:	20-49
Most Hazardous Ingridient:	TRICLOPYR SALT OF TRIETHYLAMINE
United Nations/north America 4 Digit Class Number:	0000
Hazard Rank:	2
Chemical Abstract Service Identifier Number:	57213691
Is Substance Pure Or Mixture:	Mixture
Chemical Is Extremely Hazardous Substance (EHS):	Not reported
First Hazardous Class Code For Chemical:	3.3
Second Hazardous Class Code For Chemical:	6.5
Third Hazardous Class Code For Chemical:	6.3
Hazard Class 1 Of The Chemical:	Flammable Liq. (73F<FP<141F)
Hazard Class 2 Of The Chemical:	Pesticide
Hazard Class 3 Of The Chemical:	Acute Health Hazard
Chemical Is A Toxic 313 Chemical:	No
EPA Pesticide Registration Number:	62719-37
Department Or Division Of Company:	CAMP RILEA
Facility Has Written Emergency Plan:	Yes
Does The Chemical Contain A 112r Chemical:	No
Contains 112R:	No
Contains EHS:	No
Fertilizer:	No
Pesticide:	Yes
Contains 313:	Yes
NAICS Code 1:	928110
NAICS Desc 1:	NATIONAL SECURITY
NAICS Code 2:	000000
NAICS Desc 2:	Not reported
Company Name:	ORARNG
Manager Name:	RAYMOND F REES MG
Business Phone:	5038614000
Mailing Address:	PO BOX 14350
Mailing City,St,Zip:	SALEM, OR 973095047
No. of Employees:	90

ORARNG (Continued) **S104899331**

Day Phone:	5038614007
Placard:	Yes
Fire Dept Code:	0398
Sprinkler System:	Yes
Emergency Contact:	RONALD D KINSLEY
Emergency Procedure:	UTES HAZMAT OFFICE
Business Type:	NATIONAL GUARD TRAINING SITE

Facility Id:	016410
Physical State Of The Substance:	2
Physical State:	LIQUID
Average Amount Possessed During The Year Code:	11
Maximum Amount Possessed During The Year Code:	11
Chemical Trade Name:	GASOLINE
Applicable Unit Of Measure Code:	2
Description Of The Unit Of Measure:	GALLONS
Type Code:	A
Description:	ABOVEGROUND TANK
Type Code:	Not reported
Temperature Description:	Not reported
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Pressure of Code:	Not reported
Pressure Description:	Not reported
Temperature Description:	4
Temperature of The Hazardous Substance Code:	N
Temperature Description:	Not reported
Temperature of The Hazardous Substance Code:	Not reported
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	500-999
Description Of The Avg Qnty Code:	500-999
Most Hazardous Ingridient:	PETROLEUM DISTILLATES
United Nations/north America 4 Digit Class Number:	1203
Hazard Rank:	2
Chemical Abstract Service Identifier Number:	8006619
Is Substance Pure Or Mixture:	Mixture
Chemical Is Extremely Hazardous Substance (EHS):	Not reported
First Hazardous Class Code For Chemical:	3.1
Second Hazardous Class Code For Chemical:	6.3
Third Hazardous Class Code For Chemical:	6.4
Hazard Class 1 Of The Chemical:	Flammable Liq.(FP<0F)
Hazard Class 2 Of The Chemical:	Acute Health Hazard
Hazard Class 3 Of The Chemical:	Chronic Health Hazard
Chemical Is A Toxic 313 Chemical:	No
EPA Pesticide Registration Number:	Not reported
Department Or Division Of Company:	CAMP RILEA
Facility Has Written Emergency Plan:	Yes
Does The Chemical Contain A 112r Chemical:	No
Contains 112R:	No
Contains EHS:	No
Fertilizer:	No
Pesticide:	No
Contains 313:	Yes
NAICS Code 1:	928110
NAICS Desc 1:	NATIONAL SECURITY
NAICS Code 2:	000000

ORARNG (Continued) **S104899331**

NAICS Desc 2:	Not reported
Company Name:	ORARNG
Manager Name:	RAYMOND F REES MG
Business Phone:	5038614000
Mailing Address:	PO BOX 14350
Mailing City,St,Zip:	SALEM, OR 973095047
No. of Employees:	90
Day Phone:	5038614007
Placard:	Yes
Fire Dept Code:	0398
Sprinkler System:	Yes
Emergency Contact:	RONALD D KINSLEY
Emergency Procedure:	UTES HAZMAT OFFICE
Business Type:	NATIONAL GUARD TRAINING SITE

A5 Target Property **CAMP RILEA** **ECSI S105613940**
33168 PATRIOT WAY **VCP N/A**
WARRENTON, OR 97146

Site 5 of 6 in cluster A

Actual: 29 ft.

OR ECSI:

State ID Number:	1524	Brown ID:	0
Study Area:	False	Region ID:	2
Legislatve ID:	832	Investigation ID:	208
FACA ID:	40191	Further Action:	0
Lat/Long (dms):	46 7 23.04 / -123 56 .06	County Code:	4.00
Score Value:	Not reported	Cerclis ID:	Not reported
Township Coord.:	7.00	Township Zone:	N
Range Coord:	10.00	Range Zone:	W
Section Coord:	4	Qtr Section:	Not reported
Tax Lots:	Not reported	Size:	1,850 acres
NPL:	False	Orphan:	False
Updated By:	GWISTAR	Update Date:	9/28/2009
Alias Name:	Oregon National Guard Training Facility		

OR ECSI HAZARDOUS RELEASE:

Substance ID.:	121982
Haz Release ID:	384203
Qty Released:	unknown
Date Released:	1940 - 1980
Update Date:	1994-02-02 00:00:00
Update By:	Not reported
Substance Code:	ECD169
Substance Name:	DIESEL - FUEL OIL
Substance Abbrev.:	Not reported
Substance Category ID:	8529
Substance Category:	Petroleum Related Releases for OSPIRG Report
Category Level:	Not reported
Created By:	Not reported
Created Date:	2002-12-17 08:50:34.283000000
Substance Category ID:	8529
Substance Category:	Petroleum Related Releases for OSPIRG Report
Category Level:	Not reported
Created By:	Not reported
Created Date:	2002-12-17 08:50:34.283000000
Substance Alias ID:	Not reported
Sub Alias Name:	Not reported

CAMP RILEA (Continued) **S105613940**

Comment ID: Not reported
Release Code: Not reported
Release Comments: Not reported
Sampling Result ID: 344549
Feature Id: Not reported
Hazard Release Id: 384203
Medium: 703
Substance Abbrev.: Not reported
Unit Code: Not reported
Observation: False
Owner Operator: False
Lab Data: True
Sample Depth: Not reported
Start Date: 1993-08-13 00:00:00
End Date: Not reported
Min Concentration: Not reported
Max Concentration: Not reported
Sample Comment: 13,850 ppm
Last Update By: CONV
Update Date: 1994-09-13 00:00:00

Substance ID.: 121011
Haz Release ID: 387216
Qty Released: unknown
Date Released: unknown
Update Date: 2008-12-01 15:38:03.707000000
Update By: RWILLIA
Substance Code: 127-18-4
Substance Name: TETRACHLOROETHYLENE
Substance Abbrev.: Not reported
Substance Category ID: 8519
Substance Category: Volatiles
Category Level: Not reported
Created By: Not reported
Created Date: 2002-12-17 08:50:34.283000000
Substance Category ID: 8551
Substance Category: Solvents of interest to Milwaukie Area GW study
Category Level: Not reported
Created By: Not reported
Created Date: 2002-12-17 08:50:34.283000000
Substance Category ID: 8519
Substance Category: Volatiles
Category Level: Not reported
Created By: Not reported
Created Date: 2002-12-17 08:50:34.283000000
Substance Category ID: 8551
Substance Category: Solvents of interest to Milwaukie Area GW study
Category Level: Not reported
Created By: Not reported
Created Date: 2002-12-17 08:50:34.283000000
Substance Alias ID: 316912
Sub Alias Name: ETHENE,TETRACHLORO-
Substance Alias ID: 316913
Sub Alias Name: ETHYLENE TETRACHLORIDE
Substance Alias ID: 316914
Sub Alias Name: PERCHLOROETHYLENE
Substance Alias ID: 316915

CAMP RILEA (Continued) **S105613940**

Sub Alias Name: PERCLENE
Substance Alias ID: 316916
Sub Alias Name: TETRACHLOROETHENE
Substance Alias ID: 316917
Sub Alias Name: TETRACHLOROETHENE,1,1,2,2-
Substance Alias ID: 316918
Sub Alias Name: TETRACHLOROETHYLENE,1,1,2,2-
Comment ID: Not reported
Release Code: Not reported
Release Comments: Not reported
Sampling Result ID: 349441
Feature Id: 0
Hazard Release Id: 387216
Medium: 698
Substance Abbrev.: 0
Unit Code: Not reported
Observation: False
Owner Operator: False
Lab Data: True
Sample Depth: Not reported
Start Date: 2008-06-18 00:00:00
End Date: Not reported
Min Concentration: Not reported
Max Concentration: Not reported
Sample Comment: 0.87 ppb
Last Update By: RWILLIA
Update Date: 2008-12-01 15:49:39.690000000

Substance ID.: 121790
Haz Release ID: 387217
Qty Released: unknown
Date Released: unknown
Update Date: 2008-12-01 15:45:58.877000000
Update By: RWILLIA
Substance Code: 79-34-5
Substance Name: TETRACHLOROETHANE,1,1,2,2-
Substance Abbrev.: Not reported
Substance Category ID: Not reported
Substance Category: Not reported
Category Level: Not reported
Created By: Not reported
Created Date: Not reported
Substance Category ID: Not reported
Substance Category: Not reported
Category Level: Not reported
Created By: Not reported
Created Date: Not reported
Substance Alias ID: 317538
Sub Alias Name: ACETYLENE TETRACHLORIDE
Substance Alias ID: 317539
Sub Alias Name: BONOFORM
Substance Alias ID: 317540
Sub Alias Name: CELLON
Substance Alias ID: 317541
Sub Alias Name: ETHANE,1,1,2,2-TETRACHLORO-
Substance Alias ID: 317542
Sub Alias Name: TETRACHLOROETHANE

CAMP RILEA (Continued) **S105613940**

Substance Alias ID: 317543
Sub Alias Name: TETRACHLOROETHANE,sym-
Comment ID: Not reported
Release Code: Not reported
Release Comments: Not reported
Sampling Result ID: 349440
Feature Id: 0
Hazard Release Id: 387217
Medium: 698
Substance Abbrev.: 0
Unit Code: Not reported
Observation: False
Owner Operator: False
Lab Data: True
Sample Depth: Not reported
Start Date: 2007-08-24 00:00:00
End Date: Not reported
Min Concentration: Not reported
Max Concentration: Not reported
Sample Comment: 1.97 ppb
Last Update By: RWILLIA
Update Date: 2008-12-01 15:47:47.970000000

Substance ID.: 121664
Haz Release ID: 386912
Qty Released: unknown
Date Released: unknown
Update Date: 2006-10-05 09:26:34.227000000
Update By: RWILLIA
Substance Code: 7440-38-2
Substance Name: ARSENIC
Substance Abbrev.: Not reported
Substance Category ID: 8439
Substance Category: Inorganics
Category Level: Not reported
Created By: Not reported
Created Date: 2002-12-17 08:50:34.283000000
Substance Category ID: 8439
Substance Category: Inorganics
Category Level: Not reported
Created By: Not reported
Created Date: 2002-12-17 08:50:34.283000000
Substance Alias ID: 319286
Sub Alias Name: AS
Comment ID: Not reported
Release Code: Not reported
Release Comments: Not reported
Sampling Result ID: 348940
Feature Id: 0
Hazard Release Id: 386912
Medium: 698
Substance Abbrev.: 0
Unit Code: Not reported
Observation: False
Owner Operator: False
Lab Data: True
Sample Depth: Not reported

CAMP RILEA (Continued) **S105613940**

Start Date: 2005-09-20 00:00:00
End Date: Not reported
Min Concentration: Not reported
Max Concentration: Not reported
Sample Comment: 24 ppb
Last Update By: RWILLIA
Update Date: 2006-10-05 16:06:37.083000000
Sampling Result ID: 348937
Feature Id: 0
Hazard Release Id: 386912
Medium: 703
Substance Abbrev.: 0
Unit Code: Not reported
Observation: False
Owner Operator: False
Lab Data: True
Sample Depth: Not reported
Start Date: 2005-09-20 00:00:00
End Date: Not reported
Min Concentration: Not reported
Max Concentration: Not reported
Sample Comment: 1700 mg/kg
Last Update By: RWILLIA
Update Date: 2006-10-05 09:31:32.997000000

Substance ID.: 121639
Haz Release ID: 386913
Qty Released: unknown
Date Released: unknown
Update Date: 2006-10-05 09:32:50.183000000
Update By: RWILLIA
Substance Code: 7439-92-1
Substance Name: LEAD
Substance Abbrev.: Not reported
Substance Category ID: 8466
Substance Category: Inorganics
Category Level: Not reported
Created By: Not reported
Created Date: 2002-12-17 08:50:34.283000000
Substance Category ID: 8466
Substance Category: Inorganics
Category Level: Not reported
Created By: Not reported
Created Date: 2002-12-17 08:50:34.283000000
Substance Alias ID: 319256
Sub Alias Name: PB
Comment ID: Not reported
Release Code: Not reported
Release Comments: Not reported
Sampling Result ID: 348938
Feature Id: 0
Hazard Release Id: 386913
Medium: 703
Substance Abbrev.: 0
Unit Code: Not reported
Observation: False
Owner Operator: False

CAMP RILEA (Continued) **S105613940**

Lab Data: True
Sample Depth: Not reported
Start Date: 2005-09-20 00:00:00
End Date: Not reported
Min Concentration: Not reported
Max Concentration: Not reported
Sample Comment: 1180 mg/kg
Last Update By: RWILLIA
Update Date: 2006-10-05 09:34:17.437000000

Substance ID.: 121781
Haz Release ID: 386914
Qty Released: unknown
Date Released: unknown
Update Date: 2006-10-05 16:01:40.750000000
Update By: RWILLIA
Substance Code: 79-01-6
Substance Name: TRICHLOROETHYLENE
Substance Abbrev.: Not reported
Substance Category ID: 8523
Substance Category: Volatiles
Category Level: Not reported
Created By: Not reported
Created Date: 2002-12-17 08:50:34.283000000
Substance Category ID: 8545
Substance Category: Solvents of interest to Milwaukie Area GW study
Category Level: Not reported
Created By: Not reported
Created Date: 2002-12-17 08:50:34.283000000
Substance Category ID: 8523
Substance Category: Volatiles
Category Level: Not reported
Created By: Not reported
Created Date: 2002-12-17 08:50:34.283000000
Substance Category ID: 8545
Substance Category: Solvents of interest to Milwaukie Area GW study
Category Level: Not reported
Created By: Not reported
Created Date: 2002-12-17 08:50:34.283000000
Substance Alias ID: 317517
Sub Alias Name: ETHINYL TRICHLORIDE
Substance Alias ID: 317518
Sub Alias Name: ETHYLENE TRICHLORIDE
Substance Alias ID: 317519
Sub Alias Name: TCE
Substance Alias ID: 317520
Sub Alias Name: TRI-CLENE
Substance Alias ID: 317521
Sub Alias Name: TRICHLOROETHENE
Comment ID: Not reported
Release Code: Not reported
Release Comments: Not reported
Sampling Result ID: 349439
Feature Id: 0
Hazard Release Id: 386914
Medium: 698
Substance Abbrev.: 0

CAMP RILEA (Continued) **S105613940**

Unit Code: Not reported
Observation: False
Owner Operator: False
Lab Data: True
Sample Depth: Not reported
Start Date: 2007-08-24 00:00:00
End Date: Not reported
Min Concentration: Not reported
Max Concentration: Not reported
Sample Comment: 6.84 ppb
Last Update By: RWILLIA
Update Date: 2008-12-01 15:48:04.830000000
Sampling Result ID: 348939
Feature Id: 0
Hazard Release Id: 386914
Medium: 698
Substance Abbrev.: 0
Unit Code: Not reported
Observation: False
Owner Operator: False
Lab Data: True
Sample Depth: Not reported
Start Date: 2005-09-20 00:00:00
End Date: Not reported
Min Concentration: Not reported
Max Concentration: Not reported
Sample Comment: 7.48 ppb
Last Update By: RWILLIA
Update Date: 2006-10-05 16:05:36.720000000

OR ECSI NARR:
NARR Code: Not reported
Created By: Not reported
Created Date: Not reported
Updated By: Not reported
Updated Date: Not reported
NARR Comments:Not reported

OR ECSI ECWQ:
Owner Site Num: 132854
FACA ID: 40191
Site Name: Camp Rilea
Owner Name: Camp Rilea
Owner City,St,Zip: Warrenton 97146
Owner County Code: 4.00
Lat/Long: 46.1230 / -123.9333
Owner Code: Place on hold

Owner Site Num: 132854
FACA ID: 40191
Site Name: Camp Rilea
Owner Name: Camp Rilea
Owner City,St,Zip: Warrenton 97146
Owner County Code: 4.00
Lat/Long: 46.1230 / -123.9333
Owner Code: Options Letter For Further Action Sent

Owner Site Num: 132854

CAMP RILEA (Continued) **S105613940**

FACA ID: 40191
Site Name: Camp Rilea
Owner Name: Camp Rilea
Owner City,St,Zip: Warrenton 97146
Owner County Code: 4.00
Lat/Long: 46.1230 / -123.9333
Owner Code: Independent Cleanup Program

Owner Site Num: 132854
FACA ID: 40191
Site Name: Camp Rilea
Owner Name: Camp Rilea
Owner City,St,Zip: Warrenton 97146
Owner County Code: 4.00
Lat/Long: 46.1230 / -123.9333
Owner Code: Listing Review completed

Owner Site Num: 132854
FACA ID: 40191
Site Name: Camp Rilea
Owner Name: Camp Rilea
Owner City,St,Zip: Warrenton 97146
Owner County Code: 4.00
Lat/Long: 46.1230 / -123.9333
Owner Code: Partial No Further Action

Owner Site Num: 132854
FACA ID: 40191
Site Name: Camp Rilea
Owner Name: Camp Rilea
Owner City,St,Zip: Warrenton 97146
Owner County Code: 4.00
Lat/Long: 46.1230 / -123.9333
Owner Code: REMOVAL

Owner Site Num: 132854
FACA ID: 40191
Site Name: Camp Rilea
Owner Name: Camp Rilea
Owner City,St,Zip: Warrenton 97146
Owner County Code: 4.00
Lat/Long: 46.1230 / -123.9333
Owner Code: SITE EVALUATION

Owner Site Num: 132854
FACA ID: 40191
Site Name: Camp Rilea
Owner Name: Camp Rilea
Owner City,St,Zip: Warrenton 97146
Owner County Code: 4.00
Lat/Long: 46.1230 / -123.9333
Owner Code: Remedial Action recommended (RA)

Owner Site Num: 132854
FACA ID: 40191
Site Name: Camp Rilea
Owner Name: Camp Rilea

CAMP RILEA (Continued) **S105613940**

Owner City,St,Zip: Warrenton 97146
Owner County Code: 4.00
Lat/Long: 46.1230 / -123.9333
Owner Code: VCS Waiting List

Owner Site Num: 132854
FACA ID: 40191
Site Name: Camp Rilea
Owner Name: Camp Rilea
Owner City,St,Zip: Warrenton 97146
Owner County Code: 4.00
Lat/Long: 46.1230 / -123.9333
Owner Code: Site added to database

OR ECSI SITE CONTROL:
Site Control #: Not reported
Control Number: Not reported
Begin Date: Not reported
End Date: Not reported
Frequency Of Review: Not reported
Last Reviewed By: Not reported
Last Reviewed Date: Not reported
Last Update By: Not reported
Last Updated Date: Not reported
Site Comment: Not reported

OR ECSI PERMIT:
Permit Agency: Not reported
Permit Number: Not reported
Permit Type: Not reported
Comments: Not reported

OR ECSI Administrative Action:

Admin ID:	720487	Action ID:	9431
Agency:	Dept Of Environmental Quality	Region:	Not reported
Start Date:	1994-03-26 00:00:00	Complete Date:	Not reported
Substance Code:	SAS	Rank Value:	0
Employee Id:	767	Cleanup Flag:	False
Created By:	Not reported	Created Date:	2002-12-17 08:50:22.237000000
Action Code:	HOLD	Category:	Listing Action
Action Flag:	True	Action Code Flag:	False
Action:	Place on hold		
Further Action:	Not reported		
Comments:	Postpone listing decision until remedial action is completed.		

Admin ID:	720026	Action ID:	9501
Agency:	Dept Of Environmental Quality	Region:	Not reported
Start Date:	1994-03-24 00:00:00	Complete Date:	1994-03-24 00:00:00
Substance Code:	SAS	Rank Value:	0
Employee Id:	767	Cleanup Flag:	False
Created By:	Not reported	Created Date:	2002-12-17 08:50:22.237000000
Action Code:	RRA	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	Remedial Action recommended (RA)		
Further Action:	Low		
Comments:	Additional remedial action, initiated by Oregon Military Department, expected to occur at site		

Admin ID:	720025	Action ID:	9425

CAMP RILEA (Continued) **S105613940**

Agency:	Dept Of Environmental Quality	Region:	Northwestern Region
Start Date:	1994-01-03 00:00:00	Complete Date:	1994-03-24 00:00:00
Substance Code:	SAS	Rank Value:	0
Employee Id:	767	Cleanup Flag:	False
Created By:	Not reported	Created Date:	2002-12-17 08:50:22.237000000
Action Code:	EV	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	SITE EVALUATION		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	720488	Action ID:	9437
Agency:	Dept Of Environmental Quality	Region:	Not reported
Start Date:	1994-03-25 00:00:00	Complete Date:	1994-03-25 00:00:00
Substance Code:	SAS	Rank Value:	0
Employee Id:	767	Cleanup Flag:	False
Created By:	Not reported	Created Date:	2002-12-17 08:50:22.237000000
Action Code:	LRC	Category:	Listing Action
Action Flag:	True	Action Code Flag:	False
Action:	Listing Review completed		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	716653	Action ID:	9424
Agency:	Dept Of Environmental Quality	Region:	Northwestern Region
Start Date:	1994-03-24 00:00:00	Complete Date:	Not reported
Substance Code:	SAS	Rank Value:	0
Employee Id:	767	Cleanup Flag:	False
Created By:	Not reported	Created Date:	2002-12-17 08:50:22.237000000
Action Code:	ENTRY	Category:	Administrative Action
Action Flag:	True	Action Code Flag:	False
Action:	Site added to database		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	735937	Action ID:	9491
Agency:	Dept Of Environmental Quality	Region:	Northwestern Region
Start Date:	2007-07-30 00:00:00	Complete Date:	2007-08-20 00:00:00
Substance Code:	ICP	Rank Value:	Not reported
Employee Id:	2081	Cleanup Flag:	True
Created By:	RWILLIA	Created Date:	2008-12-01 13:40:01.663000000
Action Code:	RM	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	REMOVAL		
Further Action:	0		
Comments:	Burn Pit soil removed to Hillsboro Landfill		

Admin ID:	736118	Action ID:	9463
Agency:	Dept Of Environmental Quality	Region:	Northwestern Region
Start Date:	2009-01-27 00:00:00	Complete Date:	2009-01-27 11:07:07
Substance Code:	SRS	Rank Value:	Not reported
Employee Id:	2081	Cleanup Flag:	True
Created By:	RWILLIA	Created Date:	2009-01-27 11:08:37.990000000
Action Code:	PNFA	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	Partial No Further Action		
Further Action:	0		

CAMP RILEA (Continued) **S105613940**

Comments: Burn Pit cleaned up

Admin ID:	726305	Action ID:	9521
Agency:	Dept Of Environmental Quality	Region:	Northwestern Region
Start Date:	1994-03-25 00:00:00	Complete Date:	1994-03-25 00:00:00
Substance Code:	SAS	Rank Value:	Not reported
Employee Id:	767	Cleanup Flag:	False
Created By:	GWISTAR	Created Date:	2003-05-22 12:15:15.387000000
Action Code:	OPTN	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	OPTN		
Further Action:	0		
Comments:	Not reported		

Admin ID:	730480	Action ID:	9519
Agency:	Dept Of Environmental Quality	Region:	Northwestern Region
Start Date:	2005-04-28 00:00:00	Complete Date:	2005-06-06 00:00:00
Substance Code:	ICP	Rank Value:	Not reported
Employee Id:	2670	Cleanup Flag:	False
Created By:	MENGLIS	Created Date:	2005-06-16 15:45:48.900000000
Action Code:	VWL	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	VCS Waiting List		
Further Action:	0		
Comments:	Not reported		

Admin ID:	730481	Action ID:	9435
Agency:	Dept Of Environmental Quality	Region:	Northwestern Region
Start Date:	2005-06-06 00:00:00	Complete Date:	Not reported
Substance Code:	ICP	Rank Value:	Not reported
Employee Id:	2081	Cleanup Flag:	False
Created By:	MENGLIS	Created Date:	2005-06-16 15:46:07.790000000
Action Code:	ICP	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	Independent Cleanup Program		
Further Action:	0		
Comments:	Not reported		

OR ECSI DISPOSAL:

Disposal ID:	Not reported	Medium:	Not reported
Start Date:	Not reported	End Date:	Not reported
Unit Code:	Not reported	Disposal Flag:	Not reported
Disposal Qty:	Not reported		
Depth:	Not reported		
Monitor:	Not reported		
Manifest Num:	Not reported		
Treatment:	Not reported		
Disposal Method:	Not reported		
Removed By:	Not reported		
Comments:	Not reported		

OR ECSI FEATURE:

Feature Id:	Not reported	Feature:	Not reported
Haz Release Id:	Not reported	Relative Position:	Not reported
Region ID:	Not reported	Refrence Id:	Not reported
Township:	Not reported	Township Zone:	Not reported
Range:	Not reported	Range Zone:	Not reported
Section:	Not reported	1/4 Section:	Not reported

CAMP RILEA (Continued) **S105613940**

Lat Long Method: Not reported
Lat Long Source: Not reported
Lat/Long: Not reported
Lat/Long (dms): Not reported
Feature Size: Not reported
Est Accuracy: Not reported
Address: Not reported
City,St,Zip: Not reported
County Code: Not reported
Comment: Not reported

OR ECSI WELL:
Well ID: Not reported
Water Resource Code: Not reported
Effective Date: Not reported
Aquifer Code: Not reported
Ground Station Key: Not reported

OR ECSI OPERATIONS:
Operation Id: 132854
Operation Status: Active
Common Name: Camp Rilea
Yrs of Operation: 1940 -1993
Comments: 45 barracks buildings (demolished in 1993)
Updated Date: 1994-09-13 00:00:00

OR ECSI Amin Action:
Admin ID: 735937
Agency: DEQ
Region: NWR
Start Date: 2007-07-30 00:00:00
Complete Date: 2007-08-20 00:00:00
Substance Code: ICP
Rank Value: Not reported
Primary Act: False
Employee Id: 2081
Cleanup Flag: True
Updated By: 2008-12-01 15:50:36.300000000
Created By: RWILLIA
Created Date: 2008-12-01 13:40:01.663000000
Further Action: Not reported
Comments: Burn Pit soil removed to Hillsboro Landfill

Admin ID: 736118
Agency: DEQ
Region: NWR
Start Date: 2009-01-27 00:00:00
Complete Date: 2009-01-27 11:07:07
Substance Code: SRS
Rank Value: Not reported
Primary Act: False
Employee Id: 2081
Cleanup Flag: True
Updated By: 2009-01-27 11:08:52.037000000
Created By: RWILLIA
Created Date: 2009-01-27 11:08:37.990000000
Further Action: Not reported
Comments: Burn Pit cleaned up

Admin ID: 716653
Agency: DEQ
Region: NWR

CAMP RILEA (Continued) **S105613940**

Start Date: 1994-03-24 00:00:00
Complete Date: Not reported
Substance Code: SAS
Rank Value: 0
Primary Act: False
Employee Id: 767
Cleanup Flag: False
Updated By: 1995-12-20 00:00:00
Created By: Not reported
Created Date: 2002-12-17 08:50:22.237000000
Further Action: Not reported
Comments: Not reported

Admin ID: 720025
Agency: DEQ
Region: NWR
Start Date: 1994-01-03 00:00:00
Complete Date: 1994-03-24 00:00:00
Substance Code: SAS
Rank Value: 0
Primary Act: False
Employee Id: 767
Cleanup Flag: False
Updated By: 1995-11-27 00:00:00
Created By: Not reported
Created Date: 2002-12-17 08:50:22.237000000
Further Action: Not reported
Comments: Not reported

Admin ID: 720487
Agency: DEQ
Region: Not reported
Start Date: 1994-03-26 00:00:00
Complete Date: Not reported
Substance Code: SAS
Rank Value: 0
Primary Act: False
Employee Id: 767
Cleanup Flag: False
Updated By: 1994-09-13 00:00:00
Created By: Not reported
Created Date: 2002-12-17 08:50:22.237000000
Further Action: Not reported
Comments: Postpone listing decision until remedial action is completed.

Admin ID: 720488
Agency: DEQ
Region: Not reported
Start Date: 1994-03-25 00:00:00
Complete Date: 1994-03-25 00:00:00
Substance Code: SAS
Rank Value: 0
Primary Act: False
Employee Id: 767
Cleanup Flag: False
Updated By: 1994-09-13 00:00:00
Created By: Not reported

CAMP RILEA (Continued) **S105613940**

Created Date: 2002-12-17 08:50:22.237000000
Further Action: Not reported
Comments: Not reported

Admin ID: 720026
Agency: DEQ
Region: Not reported
Start Date: 1994-03-24 00:00:00
Complete Date: 1994-03-24 00:00:00
Substance Code: SAS
Rank Value: 0
Primary Act: False
Employee Id: 767
Cleanup Flag: False
Updated By: 1997-10-06 00:00:00
Created By: Not reported
Created Date: 2002-12-17 08:50:22.237000000
Further Action: LOW
Comments: Additional remedial action, initiated by Oregon Military Department, expected to occur at site

Admin ID: 726305
Agency: DEQ
Region: NWR
Start Date: 1994-03-25 00:00:00
Complete Date: 1994-03-25 00:00:00
Substance Code: SAS
Rank Value: Not reported
Primary Act: False
Employee Id: 767
Cleanup Flag: False
Updated By: 2003-05-22 12:15:15.387000000
Created By: GWISTAR
Created Date: 2003-05-22 12:15:15.387000000
Further Action: Not reported
Comments: Not reported

Admin ID: 730480
Agency: DEQ
Region: NWR
Start Date: 2005-04-28 00:00:00
Complete Date: 2005-06-06 00:00:00
Substance Code: ICP
Rank Value: Not reported
Primary Act: False
Employee Id: 2670
Cleanup Flag: False
Updated By: 2005-06-16 15:45:48.900000000
Created By: MENGLIS
Created Date: 2005-06-16 15:45:48.900000000
Further Action: Not reported
Comments: Not reported

Admin ID: 730481
Agency: DEQ
Region: NWR
Start Date: 2005-06-06 00:00:00

CAMP RILEA (Continued) **S105613940**

Complete Date: Not reported
Substance Code: ICP
Rank Value: Not reported
Primary Act: True
Employee Id: 2081
Cleanup Flag: False
Updated By: 2006-02-22 11:47:25.137000000
Created By: MENGLIS
Created Date: 2005-06-16 15:46:07.790000000
Further Action: Not reported
Comments: Not reported

VCS:
ECS Site ID: 1524
CRL: SUS
Facility Size: 1,850 acres
Action: Independent Cleanup Program
Start Date: 6/6/2005
End Date: Not reported
Project Manager Name: Robert Williams
Program: ICP

A6 Target Property | **OREGON MILITARY DEPARTMENT - CAMP RILEA UNIT TRAIN** | **UIC** | **S106771551**
33168 PATRIOT WAY | **N/A**
WARRENTON, OR

Site 6 of 6 in cluster A

Actual: 29 ft.

OR UIC:
# of UIC Wells: 8
Type: 5D2
Type Description: Storm Water Drainage
Status: Formal Closure
UIC Number: 10607
Facility Status: UICs Closed
Lat/Long: 46.15333 / -123.9442
DEQ Permit: permit type: NPDES permit number: 1700A

DOD Region WSW 1/8-1/4 693 ft. | **CAMP RILEY MILITARY RESERVATION** | **DOD** | **CUSA102703**
N/A

CAMP RILEY MILITARY RESER (County), OR

DOD:
Feature 1: Army DOD
Feature 2: Not reported
Feature 3: Not reported
URL: Not reported
Name 1: Camp Riley Military Reservation
Name 2: Not reported
Name 3: Not reported
State: OR
DOD Site: Yes
Tile name: ORCLATSOP

7
West
1/4-1/2
0.271 mi.
1431 ft.

WILLIAMS, LINDA
33325 PATRIOT WAY
WARRENTON, OR 97146

FINDS **1006866556**
LUST **N/A**

Relative:
Higher

Actual:
39 ft.

FINDS:

Registry ID: 110014294753

Environmental Interest/Information System
OR-DEQ (Oregon - Department Of Environmental Quality) is a regulatory agency whose job is to protect the quality of Oregon's Environment. DEQ uses a combination of technical assistance, inspections and permitting to help public and private facilities and citizens understand and comply with state and federal environmental regulations.

LUST:

Region:	North Western Region
Facility ID:	04-02-5196
Cleanup Received Date:	2/4/2002
Cleanup Start Date:	2/4/2002
Cleanup Complete Date:	**3/18/2002**

8
SE
1/2-1
0.568 mi.
3000 ft.

TAGG PIONEER FARM
91146 PIONEER FARM RD.
WARRENTON, OR 97146

ECSI **S106497272**
VCP **N/A**

Relative:
Lower

Actual:
28 ft.

OR ECSI:

State ID Number:	4186	Brown ID:	0
Study Area:	False	Region ID:	2
Legislatve ID:	831	Investigation ID:	206
FACA ID:	80621	Further Action:	0
Lat/Long (dms):	46 6 55.80 / -123 55 23.50	County Code:	4.00
Score Value:	Not reported	Cerclis ID:	Not reported
Township Coord.:	7.00	Township Zone:	N
Range Coord:	10.00	Range Zone:	W
Section Coord:	4	Qtr Section:	Not reported
Tax Lots:	Not reported	Size:	365 acres
NPL:	False	Orphan:	False
Updated By:	GWISTAR	Update Date:	2/26/2009
Alias Name:	Not reported		

OR ECSI HAZARDOUS RELEASE:

Substance ID.:	Not reported
Haz Release ID:	Not reported
Qty Released:	Not reported
Date Released:	Not reported
Update Date:	Not reported
Update By:	Not reported
Substance Code:	Not reported
Substance Name:	Not reported
Substance Abbrev.:	Not reported
Substance Category ID:	Not reported
Substance Category:	Not reported
Category Level:	Not reported

TAGG PIONEER FARM (Continued) **S106497272**

Created By: Not reported
Created Date: Not reported
Substance Category ID: Not reported
Substance Category: Not reported
Category Level: Not reported
Created By: Not reported
Created Date: Not reported
Substance Alias ID: Not reported
Sub Alias Name: Not reported
Comment ID: Not reported
Release Code: Not reported
Release Comments: Not reported
Sampling Result ID: Not reported
Feature Id: Not reported
Hazard Release Id: Not reported
Medium: Not reported
Substance Abbrev.: Not reported
Unit Code: Not reported
Observation: Not reported
Owner Operator: Not reported
Lab Data: Not reported
Sample Depth: Not reported
Start Date: Not reported
End Date: Not reported
Min Concentration: Not reported
Max Concentration: Not reported
Sample Comment: Not reported
Last Update By: Not reported
Update Date: Not reported

OR ECSI NARR:
NARR Code: Not reported
Created By: Not reported
Created Date: Not reported
Updated By: Not reported
Updated Date: Not reported
NARR Comments: Not reported

OR ECSI ECWQ:
Owner Site Num: Not reported
FACA ID: 80621
Site Name: Tagg Pioneer Farm
Owner Name: Not reported
Owner City,St,Zip: Warrenton 97146
Owner County Code: 4.00
Lat/Long: 46.1155 / -123.9232
Owner Code: NEGOTIATIONS

Owner Site Num: Not reported
FACA ID: 80621
Site Name: Tagg Pioneer Farm
Owner Name: Not reported
Owner City,St,Zip: Warrenton 97146
Owner County Code: 4.00
Lat/Long: 46.1155 / -123.9232
Owner Code: INDEPENDENT CLEANUP

Owner Site Num: Not reported

TAGG PIONEER FARM (Continued) **S106497272**

FACA ID: 80621
Site Name: Tagg Pioneer Farm
Owner Name: Not reported
Owner City,St,Zip: Warrenton 97146
Owner County Code: 4.00
Lat/Long: 46.1155 / -123.9232
Owner Code: NO FURTHER STATE ACTION REQUIRED

Owner Site Num: Not reported
FACA ID: 80621
Site Name: Tagg Pioneer Farm
Owner Name: Not reported
Owner City,St,Zip: Warrenton 97146
Owner County Code: 4.00
Lat/Long: 46.1155 / -123.9232
Owner Code: Ecological Risk Assessment

Owner Site Num: Not reported
FACA ID: 80621
Site Name: Tagg Pioneer Farm
Owner Name: Not reported
Owner City,St,Zip: Warrenton 97146
Owner County Code: 4.00
Lat/Long: 46.1155 / -123.9232
Owner Code: Site added to database

Owner Site Num: Not reported
FACA ID: 80621
Site Name: Tagg Pioneer Farm
Owner Name: Not reported
Owner City,St,Zip: Warrenton 97146
Owner County Code: 4.00
Lat/Long: 46.1155 / -123.9232
Owner Code: RISK ASSESSMENT

OR ECSI SITE CONTROL:
Site Control #: Not reported
Control Number: Not reported
Begin Date: Not reported
End Date: Not reported
Frequency Of Review: Not reported
Last Reviewed By: Not reported
Last Reviewed Date: Not reported
Last Update By: Not reported
Last Updated Date: Not reported
Site Comment: Not reported

OR ECSI PERMIT:
Permit Agency: Not reported
Permit Number: Not reported
Permit Type: Not reported
Comments: Not reported

OR ECSI Administrative Action:

Admin ID:	728739	Action ID:	9424
Agency:	Dept Of Environmental Quality	Region:	Not reported
Start Date:	2004-07-27 00:00:00	Complete Date:	2004-07-27 00:00:00
Substance Code:	Not reported	Rank Value:	Not reported
Employee Id:	293	Cleanup Flag:	False

TAGG PIONEER FARM (Continued) **S106497272**

Created By:	DCROUSE	Created Date:	2004-07-27 15:12:23.873000000
Action Code:	ENTRY	Category:	Administrative Action
Action Flag:	True	Action Code Flag:	False
Action:	Site added to database		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	728740	Action ID:	9442
Agency:	Dept Of Environmental Quality	Region:	Eastern Region
Start Date:	2004-05-25 00:00:00	Complete Date:	2005-03-30 15:24:20
Substance Code:	ICP	Rank Value:	Not reported
Employee Id:	664	Cleanup Flag:	False
Created By:	DCROUSE	Created Date:	2004-07-27 15:12:24.063000000
Action Code:	NEG	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	NEGOTIATIONS		
Further Action:	0		
Comments:	PM from Brian McClure 2/1/05		

Admin ID:	730739	Action ID:	9443
Agency:	Dept Of Environmental Quality	Region:	Northwestern Region
Start Date:	2005-07-19 00:00:00	Complete Date:	2005-07-19 00:00:00
Substance Code:	ICP	Rank Value:	Not reported
Employee Id:	664	Cleanup Flag:	False
Created By:	JWAGGY	Created Date:	2005-08-01 08:38:40.087000000
Action Code:	NFA	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	NO FURTHER STATE ACTION REQUIRED		
Further Action:	0		
Comments:	Not reported		

Admin ID:	730239	Action ID:	9486
Agency:	Dept Of Environmental Quality	Region:	Eastern Region
Start Date:	2004-04-01 00:00:00	Complete Date:	2005-03-30 00:00:00
Substance Code:	ICP	Rank Value:	Not reported
Employee Id:	664	Cleanup Flag:	False
Created By:	JWAGGY	Created Date:	2005-04-29 15:42:08.383000000
Action Code:	RISK	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	RISK ASSESSMENT		
Further Action:	0		
Comments:	Not reported		

Admin ID:	730240	Action ID:	9423
Agency:	Dept Of Environmental Quality	Region:	Eastern Region
Start Date:	2004-04-01 00:00:00	Complete Date:	2005-03-30 00:00:00
Substance Code:	ICP	Rank Value:	Not reported
Employee Id:	664	Cleanup Flag:	False
Created By:	JWAGGY	Created Date:	2005-04-29 15:43:49.540000000
Action Code:	ECORA	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	Ecological Risk Assessment		
Further Action:	0		
Comments:	Not reported		

Admin ID:	729484	Action ID:	9433
Agency:	Dept Of Environmental Quality	Region:	Eastern Region

TAGG PIONEER FARM (Continued) **S106497272**

Start Date:	2004-03-12 00:00:00	Complete Date:	2005-07-19 08:37:16
Substance Code:	ICP	Rank Value:	Not reported
Employee Id:	664	Cleanup Flag:	False
Created By:	DCROUSE	Created Date:	2004-12-03 17:15:57.917000000
Action Code:	IC	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	INDEPENDENT CLEANUP		
Further Action:	0		
Comments:	PM from Brian McClure 2/1/05		

OR ECSI DISPOSAL:

Disposal ID:	Not reported	Medium:	Not reported
Start Date:	Not reported	End Date:	Not reported
Unit Code:	Not reported	Disposal Flag:	Not reported
Disposal Qty:	Not reported		
Depth:	Not reported		
Monitor:	Not reported		
Manifest Num:	Not reported		
Treatment:	Not reported		
Disposal Method:	Not reported		
Removed By:	Not reported		
Comments:	Not reported		

OR ECSI FEATURE:

Feature Id:	Not reported	Feature:	Not reported
Haz Release Id:	Not reported	Relative Position:	Not reported
Region ID:	Not reported	Refrence Id:	Not reported
Township:	Not reported	Township Zone:	Not reported
Range:	Not reported	Range Zone:	Not reported
Section:	Not reported	1/4 Section:	Not reported
Lat Long Method:	Not reported	Lat Long Source:	Not reported
Lat/Long:	Not reported	Lat/Long (dms):	Not reported
Feature Size:	Not reported	Est Accuracy:	Not reported
Address:	Not reported		
City,St,Zip:	Not reported		
County Code:	Not reported		
Comment:	Not reported		

OR ECSI WELL:

Well ID:	Not reported
Water Resource Code:	Not reported
Effective Date:	Not reported
Aquifer Code:	Not reported
Ground Station Key:	Not reported

OR ECSI OPERATIONS:

Operation Id:	Not reported
Operation Status:	Not reported
Common Name:	Not reported
Yrs of Operation:	Not reported
Comments:	Not reported
Updated Date:	Not reported

OR ECSI Amin Action:

Admin ID:	728740
Agency:	DEQ
Region:	ER
Start Date:	2004-05-25 00:00:00
Complete Date:	2005-03-30 15:24:20
Substance Code:	ICP

TAGG PIONEER FARM (Continued) **S106497272**

Rank Value: Not reported
Primary Act: False
Employee Id: 664
Cleanup Flag: False
Updated By: 2005-04-29 15:42:24.350000000
Created By: DCROUSE
Created Date: 2004-07-27 15:12:24.063000000
Further Action: Not reported
Comments: PM from Brian McClure 2/1/05

Admin ID: 728739
Agency: DEQ
Region: Not reported
Start Date: 2004-07-27 00:00:00
Complete Date: 2004-07-27 00:00:00
Substance Code: Not reported
Rank Value: Not reported
Primary Act: False
Employee Id: 293
Cleanup Flag: False
Updated By: 2004-07-27 15:12:23.873000000
Created By: DCROUSE
Created Date: 2004-07-27 15:12:23.873000000
Further Action: Not reported
Comments: Not reported

Admin ID: 729484
Agency: DEQ
Region: ER
Start Date: 2004-03-12 00:00:00
Complete Date: 2005-07-19 08:37:16
Substance Code: ICP
Rank Value: Not reported
Primary Act: False
Employee Id: 664
Cleanup Flag: False
Updated By: 2005-08-01 08:37:47.460000000
Created By: DCROUSE
Created Date: 2004-12-03 17:15:57.917000000
Further Action: Not reported
Comments: PM from Brian McClure 2/1/05

Admin ID: 730239
Agency: DEQ
Region: ER
Start Date: 2004-04-01 00:00:00
Complete Date: 2005-03-30 00:00:00
Substance Code: ICP
Rank Value: Not reported
Primary Act: False
Employee Id: 664
Cleanup Flag: False
Updated By: 2005-04-29 15:42:43.850000000
Created By: JWAGGY
Created Date: 2005-04-29 15:42:08.383000000
Further Action: Not reported
Comments: Not reported

TAGG PIONEER FARM (Continued) **S106497272**

Admin ID:	730240
Agency:	DEQ
Region:	ER
Start Date:	2004-04-01 00:00:00
Complete Date:	2005-03-30 00:00:00
Substance Code:	ICP
Rank Value:	Not reported
Primary Act:	False
Employee Id:	664
Cleanup Flag:	False
Updated By:	2005-04-29 15:43:49.540000000
Created By:	JWAGGY
Created Date:	2005-04-29 15:43:49.540000000
Further Action:	Not reported
Comments:	Not reported

Admin ID:	730739
Agency:	DEQ
Region:	NWR
Start Date:	2005-07-19 00:00:00
Complete Date:	2005-07-19 00:00:00
Substance Code:	ICP
Rank Value:	Not reported
Primary Act:	True
Employee Id:	664
Cleanup Flag:	False
Updated By:	2005-08-01 08:38:40.087000000
Created By:	JWAGGY
Created Date:	2005-08-01 08:38:40.087000000
Further Action:	Not reported
Comments:	Not reported

VCS:

ECS Site ID:	4186
CRL:	NFA
Facility Size:	365 acres
Action:	NO FURTHER STATE ACTION REQUIRED
Start Date:	7/19/2005
End Date:	7/19/2005
Project Manager Name:	Bob Schwarz
Program:	ICP

City	EDR ID	Site Name	Site Address	Zip	Database(s)
CLATSOP COUNTY	S109155138	OP&R - BRADLEY STATE PARK(OWNER:OR	US 30 22MI E OF ASTORIA		UIC
CLATSOP COUNTY	S107134707	LEWIS AND CLARK LOG YARD LANDFILL	SEC12,T07N,R10W		SWF/LF
CLATSOP COUNTY	S106918831	NORTH AND SOUTH SECONDARY, AND DIV	SEC21-26,T08N,R06W		SWF/LF
GEARHART	1006854651		10TH & NW MARION	97138	FINDS, ECSI
JEWELL	1006857651		HWY 202	97138	FINDS, ECSI
SEASIDE	1000151500		2793 HWY 101 N	97138	RCRA-NonGen, FINDS
SEASIDE	A100304381	TEEVIN FISCHER QUARRY	85029 HWY 101	97138	AST
SEASIDE	S105746039	JEWELL SCHOOL(OWNER:JEWELL SCHOOL	83874 HWY 103	97138	UIC, AST, HSIS
SEASIDE	S107151600	ELDERBERRY INN, INC.(OWNER:ELDERBE	44601 HWY 26	97138	UIC
SEASIDE	S104329302	HAMLET QUICK STOP	38012 HWY 26	97138	AST, HSIS
SEASIDE	S106771615	ODOT HUMBUG MAINT. STATION(OWNER:O	36455 HWY 26	97138	UIC
SEASIDE	A100304390	TYLER PERRIGO HEAVY	36452 HWY 26	97138	AST
SEASIDE	S108524869	CHRIS BECKMAN	36596 HWY 26	97138	MANIFEST
SEASIDE	U004014968	MORGAN MART,INC., DBA BAKERS GEN S	44573 HWY 26	97138	UST
SEASIDE	1010330033	CHRIS BECKMAN	36596 HWY 26	97138	RCRA-NonGen
SEASIDE	S108246563	VERIZON WIRELESS	HWY 26 MP 27	97138	AST, HSIS
SEASIDE	S106402132	BATY PROPERTY	720 AVENUE H	97138	ECSI
SEASIDE	S105225742	LAURELWOOD FARM COMPOSTING FACILIT	HAMLET	97138	SWF/LF, AST, HSIS
SEASIDE	S106249740	SEASIDE BP/MARITIME FUEL	2323 S HOLLADAY	97138	ECSI
SEASIDE	1006855585		LEWIS & N CLARK RD TS	97138	FINDS, SWF/LF
SEASIDE	S108010609	CURS SEASIDE AHOT	1750 LEWIS AND CLARK RD	97138	ECSI
SEASIDE	S106074690	ODFW	79878 NEHALEM HWY	97138	AST, HSIS
SEASIDE	S109114659	KEITH BORDERS TRUCKING CO	79448 NEHALEM HWY	97138	AST, HSIS
SEASIDE	S108246131	TEEVIN AND FISCHER QUARRY	NW OF INTERSECTION RIPPET RD &	97138	SWF/LF
SEASIDE	1011845366	L.O.G. WRECKING	5 R10W SEC4D	97138	CERCLIS
SEASIDE	S105614033	SEASIDE LLC	HIGHWAY ST	97138	ECSI, VCP
WARRENTON	U000432030	MAIZE, RICHARD	RT 1	97146	LUST, UST
WARRENTON	U004014996	COLBY, W A	RT 1	97146	UST
WARRENTON	S107692389	COLUMBIA BEACH MILITARY RESERVATIO	HWY 101	97146	ECSI
WARRENTON	1004771558		695 HWY 101	97146	RCRA-NonGen, FINDS, MANIFEST
WARRENTON	S107134706	TRAILS END RECOVERY	34661 AIRPORT LN	97146	SWF/LF, LUST
WARRENTON	S107692396	ASTORIA AIRPORT INDUSTRIAL PARK	SE AIRPORT RD	97146	ECSI
WARRENTON	S106497184	WARRENTON BOAT YARD	NE BAY AND HARBOR PL & 101ST N	97146	ECSI, VCP
WARRENTON	U004014995	CAMP RILEA	CAMP RILEA	97146	UST
WARRENTON	U004051469	FRED MEYER FUEL STOP #218	695 S HWY 101	97146	UST
WARRENTON	S106778138	FORT CLATSOP - RIVER DAY USE SITE	LEWIS & CLARK ROAD NEAR MILEPO	97146	ECSI, VCP
WARRENTON	S100496983	WARRENTON HIGH SCHOOL	OLD HIGHWAY 101	97146	LUST
WARRENTON	U000432036	WARRENTON HIGH SCHOOL	OLD HIGHWAY 101	97146	UST
WARRENTON	S108658849	CAMP RILEA STP	91204 RILEA OREGON RD	97146	NPDES

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 12/01/2009
Date Data Arrived at EDR: 01/14/2010
Date Made Active in Reports: 02/18/2010
Number of Days to Update: 35

Source: EPA
Telephone: N/A
Last EDR Contact: 03/03/2010
Next Scheduled EDR Contact: 04/26/2010
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 12/01/2009
Date Data Arrived at EDR: 01/14/2010
Date Made Active in Reports: 02/18/2010
Number of Days to Update: 35

Source: EPA
Telephone: N/A
Last EDR Contact: 03/03/2010
Next Scheduled EDR Contact: 04/26/2010
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 03/01/2010
Next Scheduled EDR Contact: 05/31/2010
Data Release Frequency: No Update Planned

Federal Delisted NPL site list

DELISTED NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 12/01/2009	Source: EPA
Date Data Arrived at EDR: 01/14/2010	Telephone: N/A
Date Made Active in Reports: 02/18/2010	Last EDR Contact: 03/03/2010
Number of Days to Update: 35	Next Scheduled EDR Contact: 04/26/2010
	Data Release Frequency: Quarterly

Federal CERCLIS list

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 06/30/2009	Source: EPA
Date Data Arrived at EDR: 08/11/2009	Telephone: 703-412-9810
Date Made Active in Reports: 09/21/2009	Last EDR Contact: 02/09/2010
Number of Days to Update: 41	Next Scheduled EDR Contact: 04/12/2010
	Data Release Frequency: Quarterly

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of NPL and Base Realighnment & Closure sites found in the CERCLIS database where FERRO is involved in cleanup projects.

Date of Government Version: 06/23/2009	Source: Environmental Protection Agency
Date Data Arrived at EDR: 01/15/2010	Telephone: 703-603-8704
Date Made Active in Reports: 02/10/2010	Last EDR Contact: 01/15/2010
Number of Days to Update: 26	Next Scheduled EDR Contact: 04/26/2010
	Data Release Frequency: Varies

Federal CERCLIS NFRAP site List

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 06/23/2009	Source: EPA
Date Data Arrived at EDR: 09/02/2009	Telephone: 703-412-9810
Date Made Active in Reports: 09/21/2009	Last EDR Contact: 02/23/2010
Number of Days to Update: 19	Next Scheduled EDR Contact: 06/14/2010
	Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 12/11/2009	Source: EPA
Date Data Arrived at EDR: 12/29/2009	Telephone: 800-424-9346
Date Made Active in Reports: 02/10/2010	Last EDR Contact: 02/15/2010
Number of Days to Update: 43	Next Scheduled EDR Contact: 05/31/2010
	Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 01/13/2010
Date Data Arrived at EDR: 01/15/2010
Date Made Active in Reports: 02/18/2010
Number of Days to Update: 34

Source: Environmental Protection Agency
Telephone: (206) 553-1200
Last EDR Contact: 02/19/2010
Next Scheduled EDR Contact: 04/19/2010
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 01/13/2010
Date Data Arrived at EDR: 01/15/2010
Date Made Active in Reports: 02/18/2010
Number of Days to Update: 34

Source: Environmental Protection Agency
Telephone: (206) 553-1200
Last EDR Contact: 02/19/2010
Next Scheduled EDR Contact: 04/19/2010
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 01/13/2010
Date Data Arrived at EDR: 01/15/2010
Date Made Active in Reports: 02/18/2010
Number of Days to Update: 34

Source: Environmental Protection Agency
Telephone: (206) 553-1200
Last EDR Contact: 02/19/2010
Next Scheduled EDR Contact: 04/19/2010
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 01/13/2010
Date Data Arrived at EDR: 01/15/2010
Date Made Active in Reports: 02/18/2010
Number of Days to Update: 34

Source: Environmental Protection Agency
Telephone: (206) 553-1200
Last EDR Contact: 02/19/2010
Next Scheduled EDR Contact: 04/19/2010
Data Release Frequency: Varies

Federal institutional controls / engineering controls registries

US ENG CONTROLS: Engineering Controls Sites List
A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 10/01/2009
Date Data Arrived at EDR: 10/09/2009
Date Made Active in Reports: 11/09/2009
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 12/10/2009
Next Scheduled EDR Contact: 03/29/2010
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls
A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 10/01/2009
Date Data Arrived at EDR: 10/09/2009
Date Made Active in Reports: 11/09/2009
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 12/10/2009
Next Scheduled EDR Contact: 03/29/2010
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System
Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 01/22/2010
Date Made Active in Reports: 02/11/2010
Number of Days to Update: 20

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 01/15/2010
Next Scheduled EDR Contact: 04/19/2010
Data Release Frequency: Annually

State- and tribal - equivalent NPL

ECSI: Environmental Cleanup Site Information System
Sites that are or may be contaminated and may require cleanup.

Date of Government Version: 01/01/2010
Date Data Arrived at EDR: 01/29/2010
Date Made Active in Reports: 02/16/2010
Number of Days to Update: 18

Source: Department of Environmental Quality
Telephone: 503-229-6629
Last EDR Contact: 01/29/2010
Next Scheduled EDR Contact: 05/10/2010
Data Release Frequency: Quarterly

AOC COL: Columbia Slough
Columbia Slough waterway boundaries.

Date of Government Version: 08/10/2005
Date Data Arrived at EDR: 05/17/2006
Date Made Active in Reports: 06/16/2006
Number of Days to Update: 30

Source: City of Portland Environmental Services
Telephone: 503-823-5310
Last EDR Contact: 03/13/2007
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

AOC MU: East Multnomah County Area
Approximate extent of TSA VOC plume February , 2002

Date of Government Version: N/A
Date Data Arrived at EDR: 10/07/2002
Date Made Active in Reports: 10/22/2002
Number of Days to Update: 15

Source: City of Portland Environmental Services
Telephone: 503-823-5310
Last EDR Contact: 03/13/2007
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

State- and tribal - equivalent CERCLIS

CRL: Confirmed Release List and Inventory
All facilities with a confirmed release.

Date of Government Version: 11/23/2009
Date Data Arrived at EDR: 11/23/2009
Date Made Active in Reports: 12/02/2009
Number of Days to Update: 9

Source: Department of Environmental Quality
Telephone: 503-229-6170
Last EDR Contact: 02/24/2010
Next Scheduled EDR Contact: 06/07/2010
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF: Solid Waste Facilities List
Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 11/30/2009
Date Data Arrived at EDR: 11/30/2009
Date Made Active in Reports: 12/02/2009
Number of Days to Update: 2

Source: Department of Environmental Quality
Telephone: 503-229-6299
Last EDR Contact: 03/01/2010
Next Scheduled EDR Contact: 06/14/2010
Data Release Frequency: Semi-Annually

State and tribal leaking storage tank lists

LUST: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 11/23/2009
Date Data Arrived at EDR: 11/23/2009
Date Made Active in Reports: 12/14/2009
Number of Days to Update: 21

Source: Department of Environmental Quality
Telephone: 503-229-5790
Last EDR Contact: 02/24/2010
Next Scheduled EDR Contact: 06/07/2010
Data Release Frequency: Quarterly

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 02/02/2010
Date Data Arrived at EDR: 02/03/2010
Date Made Active in Reports: 02/18/2010
Number of Days to Update: 15

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 02/01/2010
Next Scheduled EDR Contact: 05/17/2010
Data Release Frequency: Quarterly

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 12/07/2009
Date Data Arrived at EDR: 12/09/2009
Date Made Active in Reports: 12/16/2009
Number of Days to Update: 7

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 02/01/2010
Next Scheduled EDR Contact: 05/17/2010
Data Release Frequency: Semi-Annually

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 03/24/2009
Date Data Arrived at EDR: 05/20/2009
Date Made Active in Reports: 06/17/2009
Number of Days to Update: 28

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 02/01/2010
Next Scheduled EDR Contact: 05/17/2010
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 11/24/2009
Date Data Arrived at EDR: 11/25/2009
Date Made Active in Reports: 12/16/2009
Number of Days to Update: 21

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 02/01/2010
Next Scheduled EDR Contact: 05/17/2010
Data Release Frequency: Quarterly

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 12/01/2009
Date Data Arrived at EDR: 12/01/2009
Date Made Active in Reports: 12/16/2009
Number of Days to Update: 15

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 02/01/2010
Next Scheduled EDR Contact: 05/17/2010
Data Release Frequency: Quarterly

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 02/19/2009
Date Data Arrived at EDR: 02/19/2009
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 25

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 03/01/2010
Next Scheduled EDR Contact: 05/17/2010
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 11/12/2009
Date Data Arrived at EDR: 11/12/2009
Date Made Active in Reports: 12/16/2009
Number of Days to Update: 34

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 02/01/2010
Next Scheduled EDR Contact: 05/17/2010
Data Release Frequency: Varies

State and tribal registered storage tank lists

UST: Underground Storage Tank Database
Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 10/01/2009
Date Data Arrived at EDR: 11/23/2009
Date Made Active in Reports: 12/10/2009
Number of Days to Update: 17

Source: Department of Environmental Quality
Telephone: 503-229-5815
Last EDR Contact: 02/24/2010
Next Scheduled EDR Contact: 06/07/2010
Data Release Frequency: Quarterly

AST: Aboveground Storage Tanks
Aboveground storage tank locations reported to the Office of State Fire Marshal.

Date of Government Version: 10/20/2009
Date Data Arrived at EDR: 11/20/2009
Date Made Active in Reports: 12/08/2009
Number of Days to Update: 18

Source: Office of State Fire Marshal
Telephone: 503-378-3473
Last EDR Contact: 02/11/2010
Next Scheduled EDR Contact: 05/24/2010
Data Release Frequency: Semi-Annually

INDIAN UST R10: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 02/02/2010
Date Data Arrived at EDR: 02/03/2010
Date Made Active in Reports: 02/18/2010
Number of Days to Update: 15

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 02/17/2010
Next Scheduled EDR Contact: 05/17/2010
Data Release Frequency: Quarterly

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 04/01/2008
Date Data Arrived at EDR: 12/30/2008
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 76

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 02/01/2010
Next Scheduled EDR Contact: 05/17/2010
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 12/01/2009
Date Data Arrived at EDR: 12/01/2009
Date Made Active in Reports: 12/16/2009
Number of Days to Update: 15

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 02/01/2010
Next Scheduled EDR Contact: 05/17/2010
Data Release Frequency: Quarterly

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 11/12/2009
Date Data Arrived at EDR: 11/20/2009
Date Made Active in Reports: 12/16/2009
Number of Days to Update: 26

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 02/01/2010
Next Scheduled EDR Contact: 05/17/2010
Data Release Frequency: Quarterly

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 12/07/2009
Date Data Arrived at EDR: 12/09/2009
Date Made Active in Reports: 12/16/2009
Number of Days to Update: 7

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 02/01/2010
Next Scheduled EDR Contact: 05/17/2010
Data Release Frequency: Semi-Annually

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 11/05/2009
Date Data Arrived at EDR: 11/05/2009
Date Made Active in Reports: 12/16/2009
Number of Days to Update: 41

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 02/01/2010
Next Scheduled EDR Contact: 05/17/2010
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 02/08/2010
Date Data Arrived at EDR: 02/09/2010
Date Made Active in Reports: 02/18/2010
Number of Days to Update: 9

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 02/01/2010
Next Scheduled EDR Contact: 05/17/2010
Data Release Frequency: Semi-Annually

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 02/19/2009
Date Data Arrived at EDR: 02/19/2009
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 25

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 03/01/2010
Next Scheduled EDR Contact: 05/17/2010
Data Release Frequency: Varies

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 10/01/2009
Date Data Arrived at EDR: 10/29/2009
Date Made Active in Reports: 12/16/2009
Number of Days to Update: 48

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 01/18/2010
Next Scheduled EDR Contact: 05/03/2010
Data Release Frequency: Varies

State and tribal institutional control / engineering control registries

ENG CONTROLS: Engineering Controls Recorded at ESCI Sites

Engineering controls are physical measures selected or approved by the Director for the purpose of preventing or minimizing exposure to hazardous substances. Engineering controls may include, but are not limited to, fencing, capping, horizontal or vertical barriers, hydraulic controls, and alternative water supplies.

Date of Government Version: 01/01/2010
Date Data Arrived at EDR: 01/29/2010
Date Made Active in Reports: 02/16/2010
Number of Days to Update: 18

Source: Department of Environmental Quality
Telephone: 503-229-5193
Last EDR Contact: 01/29/2010
Next Scheduled EDR Contact: 05/10/2010
Data Release Frequency: Quarterly

INST CONTROL: Institutional Controls Recorded at ESCI Sites

An institutional control is a legal or administrative tool or action taken to reduce the potential for exposure to hazardous substances. Institutional controls may include, but are not limited to, use restrictions, environmental monitoring requirements, and site access and security measures.

Date of Government Version: 01/01/2010
Date Data Arrived at EDR: 01/29/2010
Date Made Active in Reports: 02/16/2010
Number of Days to Update: 18

Source: Department of Environmental Quality
Telephone: 503-229-5193
Last EDR Contact: 01/29/2010
Next Scheduled EDR Contact: 05/10/2010
Data Release Frequency: Quarterly

State and tribal voluntary cleanup sites

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 04/02/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 01/05/2010
Next Scheduled EDR Contact: 04/19/2010
Data Release Frequency: Varies

VCS: Voluntary Cleanup Program Sites
Responsible parties have entered into an agreement with DEQ to voluntarily address contamination associated with their property.

Date of Government Version: 02/03/2010
Date Data Arrived at EDR: 02/04/2010
Date Made Active in Reports: 02/16/2010
Number of Days to Update: 12

Source: DEQ
Telephone: 503-229-5256
Last EDR Contact: 01/11/2010
Next Scheduled EDR Contact: 04/26/2010
Data Release Frequency: Quarterly

State and tribal Brownfields sites

BROWNFIELDS: Brownfields Projects
Brownfields investigations and/or cleanups that have been conducted in Oregon.

Date of Government Version: 11/23/2009
Date Data Arrived at EDR: 11/24/2009
Date Made Active in Reports: 12/02/2009
Number of Days to Update: 8

Source: Department of Environmental Quality
Telephone: 503-229-6801
Last EDR Contact: 02/24/2010
Next Scheduled EDR Contact: 06/07/2010
Data Release Frequency: Semi-Annually

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Included in the listing are brownfields properties addresses by Cooperative Agreement Recipients and brownfields properties addressed by Targeted Brownfields Assessments. Targeted Brownfields Assessments-EPA's Targeted Brownfields Assessments (TBA) program is designed to help states, tribes, and municipalities--especially those without EPA Brownfields Assessment Demonstration Pilots--minimize the uncertainties of contamination often associated with brownfields. Under the TBA program, EPA provides funding and/or technical assistance for environmental assessments at brownfields sites throughout the country. Targeted Brownfields Assessments supplement and work with other efforts under EPA's Brownfields Initiative to promote cleanup and redevelopment of brownfields. Cooperative Agreement Recipients-States, political subdivisions, territories, and Indian tribes become Brownfields Cleanup Revolving Loan Fund (BCRLF) cooperative agreement recipients when they enter into BCRLF cooperative agreements with the U.S. EPA. EPA selects BCRLF cooperative agreement recipients based on a proposal and application process. BCRLF cooperative agreement recipients must use EPA funds provided through BCRLF cooperative agreement for specified brownfields-related cleanup activities.

Date of Government Version: 10/01/2009
Date Data Arrived at EDR: 11/04/2009
Date Made Active in Reports: 12/16/2009
Number of Days to Update: 42

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 01/07/2010
Next Scheduled EDR Contact: 04/12/2010
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-972-3336
Last EDR Contact: 01/07/2010
Next Scheduled EDR Contact: 03/22/2010
Data Release Frequency: Varies

ODI: Open Dump Inventory
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HIST LF: Old Closed SW Disposal Sites
A list of solid waste disposal sites that have been closed for a long while.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 07/08/2003
Date Made Active in Reports: 07/18/2003
Number of Days to Update: 10

Source: Department of Environmental Quality
Telephone: 503-229-5409
Last EDR Contact: 07/08/2003
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 02/08/2010
Next Scheduled EDR Contact: 05/24/2010
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US CDL: Clandestine Drug Labs
A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 08/19/2009
Date Data Arrived at EDR: 12/29/2009
Date Made Active in Reports: 02/10/2010
Number of Days to Update: 43

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 12/14/2009
Next Scheduled EDR Contact: 03/22/2010
Data Release Frequency: Quarterly

CRL: Confirmed Release List and Inventory
All facilities with a confirmed release.

Date of Government Version: 11/23/2009
Date Data Arrived at EDR: 11/23/2009
Date Made Active in Reports: 12/02/2009
Number of Days to Update: 9

Source: Department of Environmental Quality
Telephone: 503-229-6170
Last EDR Contact: 02/24/2010
Next Scheduled EDR Contact: 06/07/2010
Data Release Frequency: Quarterly

AOC COL: Columbia Slough
Columbia Slough waterway boundaries.

Date of Government Version: 08/10/2005
Date Data Arrived at EDR: 05/17/2006
Date Made Active in Reports: 06/16/2006
Number of Days to Update: 30

Source: City of Portland Environmental Services
Telephone: 503-823-5310
Last EDR Contact: 03/13/2007
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

AOC MU: East Multnomah County Area
Approximate extent of TSA VOC plume February , 2002

Date of Government Version: N/A
Date Data Arrived at EDR: 10/07/2002
Date Made Active in Reports: 10/22/2002
Number of Days to Update: 15

Source: City of Portland Environmental Services
Telephone: 503-823-5310
Last EDR Contact: 03/13/2007
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CDL 2: Clandestine Drug Lab Site Listing
A listing of clandestine drug lab site locations included in the Incident database.

Date of Government Version: 11/20/2009
Date Data Arrived at EDR: 12/01/2009
Date Made Active in Reports: 12/14/2009
Number of Days to Update: 13

Source: Oregon State Police
Telephone: 503-373-1540
Last EDR Contact: 02/01/2010
Next Scheduled EDR Contact: 05/17/2010
Data Release Frequency: Varies

CDL: Uninhabitable Drug Lab Properties
The properties listed on these county pages have been declared by a law enforcement agency to be unfit for use due to meth lab and/or storage activities. The properties are considered uninhabitable until cleaned up by a state certified decontamination contractor and a certificate of fitness is issued by the Oregon Health Division.

Date of Government Version: 11/04/2009
Date Data Arrived at EDR: 11/30/2009
Date Made Active in Reports: 12/02/2009
Number of Days to Update: 2

Source: Department of Consumer & Business Services
Telephone: 503-378-4133
Last EDR Contact: 02/25/2010
Next Scheduled EDR Contact: 06/07/2010
Data Release Frequency: Varies

US HIST CDL: National Clandestine Laboratory Register
A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 09/01/2007
Date Data Arrived at EDR: 11/19/2008
Date Made Active in Reports: 03/30/2009
Number of Days to Update: 131

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

Local Land Records

LIENS 2: CERCLA Lien Information
A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 11/03/2009
Date Data Arrived at EDR: 11/05/2009
Date Made Active in Reports: 12/16/2009
Number of Days to Update: 41

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 02/01/2010
Next Scheduled EDR Contact: 05/17/2010
Data Release Frequency: Varies

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 12/09/2005
Date Data Arrived at EDR: 12/11/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 31

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 02/23/2010
Next Scheduled EDR Contact: 06/07/2010
Data Release Frequency: Varies

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 01/06/2010
Date Made Active in Reports: 02/10/2010
Number of Days to Update: 35

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 01/06/2010
Next Scheduled EDR Contact: 04/12/2010
Data Release Frequency: Annually

SPILLS: Spill Data

Oil and hazardous material spills reported to the Environmental Response Program.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 01/05/2010
Date Made Active in Reports: 01/19/2010
Number of Days to Update: 14

Source: Department of Environmental Quality
Telephone: 503-229-5815
Last EDR Contact: 01/05/2010
Next Scheduled EDR Contact: 01/04/2010
Data Release Frequency: Semi-Annually

Other Ascertainable Records

RCRA-NonGen: RCRA - Non Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 01/13/2010
Date Data Arrived at EDR: 01/15/2010
Date Made Active in Reports: 02/18/2010
Number of Days to Update: 34

Source: Environmental Protection Agency
Telephone: (206) 553-1200
Last EDR Contact: 02/19/2010
Next Scheduled EDR Contact: 04/19/2010
Data Release Frequency: Varies

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 10/13/2009
Date Data Arrived at EDR: 11/10/2009
Date Made Active in Reports: 12/16/2009
Number of Days to Update: 36

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 02/09/2010
Next Scheduled EDR Contact: 05/24/2010
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 703-692-8801
Last EDR Contact: 01/19/2010
Next Scheduled EDR Contact: 05/03/2010
Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 12/31/2008
Date Data Arrived at EDR: 09/30/2009
Date Made Active in Reports: 12/01/2009
Number of Days to Update: 62

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 12/18/2009
Next Scheduled EDR Contact: 03/29/2010
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 08/03/2009
Date Data Arrived at EDR: 10/27/2009
Date Made Active in Reports: 11/09/2009
Number of Days to Update: 13

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 01/05/2010
Next Scheduled EDR Contact: 04/19/2010
Data Release Frequency: Varies

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 12/01/2009
Date Data Arrived at EDR: 12/15/2009
Date Made Active in Reports: 01/19/2010
Number of Days to Update: 35

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 12/15/2009
Next Scheduled EDR Contact: 03/29/2010
Data Release Frequency: Annually

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 01/05/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 05/08/2009
Number of Days to Update: 1

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 01/21/2010
Next Scheduled EDR Contact: 06/14/2010
Data Release Frequency: Varies

MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 11/17/2009
Date Data Arrived at EDR: 12/08/2009
Date Made Active in Reports: 01/19/2010
Number of Days to Update: 42

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 12/08/2009
Next Scheduled EDR Contact: 03/22/2010
Data Release Frequency: Semi-Annually

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2008	Source: EPA
Date Data Arrived at EDR: 01/13/2010	Telephone: 202-566-0250
Date Made Active in Reports: 02/18/2010	Last EDR Contact: 03/02/2010
Number of Days to Update: 36	Next Scheduled EDR Contact: 06/14/2010
	Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2002	Source: EPA
Date Data Arrived at EDR: 04/14/2006	Telephone: 202-260-5521
Date Made Active in Reports: 05/30/2006	Last EDR Contact: 01/20/2010
Number of Days to Update: 46	Next Scheduled EDR Contact: 04/12/2010
	Data Release Frequency: Every 4 Years

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009	Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Date Data Arrived at EDR: 04/16/2009	Telephone: 202-566-1667
Date Made Active in Reports: 05/11/2009	Last EDR Contact: 03/01/2010
Number of Days to Update: 25	Next Scheduled EDR Contact: 06/14/2010
	Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009	Source: EPA
Date Data Arrived at EDR: 04/16/2009	Telephone: 202-566-1667
Date Made Active in Reports: 05/11/2009	Last EDR Contact: 03/01/2010
Number of Days to Update: 25	Next Scheduled EDR Contact: 06/14/2010
	Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/01/2007	Telephone: 202-564-2501
Date Made Active in Reports: 04/10/2007	Last EDR Contact: 12/17/2007
Number of Days to Update: 40	Next Scheduled EDR Contact: 03/17/2008
	Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2008
Date Data Arrived at EDR: 01/06/2010
Date Made Active in Reports: 02/10/2010
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 02/01/2010
Next Scheduled EDR Contact: 05/17/2010
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/10/2009
Date Data Arrived at EDR: 11/18/2009
Date Made Active in Reports: 01/19/2010
Number of Days to Update: 62

Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 12/23/2009
Next Scheduled EDR Contact: 04/12/2010
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 09/01/2009
Date Data Arrived at EDR: 10/21/2009
Date Made Active in Reports: 12/01/2009
Number of Days to Update: 41

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 02/16/2010
Next Scheduled EDR Contact: 05/03/2010
Data Release Frequency: Annually

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 12/24/2009
Date Data Arrived at EDR: 12/31/2009
Date Made Active in Reports: 02/10/2010
Number of Days to Update: 41

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 12/14/2009
Next Scheduled EDR Contact: 03/29/2010
Data Release Frequency: Quarterly

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 01/12/2010
Date Data Arrived at EDR: 01/13/2010
Date Made Active in Reports: 02/10/2010
Number of Days to Update: 28

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 01/13/2010
Next Scheduled EDR Contact: 04/26/2010
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 10/19/2009
Date Data Arrived at EDR: 10/22/2009
Date Made Active in Reports: 12/01/2009
Number of Days to Update: 40

Source: EPA
Telephone: (206) 553-1200
Last EDR Contact: 12/10/2009
Next Scheduled EDR Contact: 03/29/2010
Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2007
Date Data Arrived at EDR: 02/19/2009
Date Made Active in Reports: 05/22/2009
Number of Days to Update: 92

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 02/25/2010
Next Scheduled EDR Contact: 06/07/2010
Data Release Frequency: Biennially

UIC: Underground Injection Control Program Database

DEQ's Underground Injection Control Program is authorized by the Environmental Protection Agency (EPA) to regulate all underground injection in Oregon to protect groundwater resources.

Date of Government Version: 01/25/2010
Date Data Arrived at EDR: 01/25/2010
Date Made Active in Reports: 02/16/2010
Number of Days to Update: 22

Source: Department of Environmental Quality
Telephone: 503-229-5945
Last EDR Contact: 01/18/2010
Next Scheduled EDR Contact: 04/19/2010
Data Release Frequency: Varies

OR MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2008
Date Data Arrived at EDR: 07/14/2009
Date Made Active in Reports: 07/29/2009
Number of Days to Update: 15

Source: Department of Environmental Quality
Telephone: N/A
Last EDR Contact: 02/15/2010
Next Scheduled EDR Contact: 05/31/2010
Data Release Frequency: Annually

HAZMAT: Hazmat/Incidents

Hazardous material incidents reported to the State Fire Marshal by emergency responders. The hazardous material may or may not have been released.

Date of Government Version: 11/20/2009
Date Data Arrived at EDR: 12/01/2009
Date Made Active in Reports: 12/14/2009
Number of Days to Update: 13

Source: State Fire Marshal's Office
Telephone: 503-373-1540
Last EDR Contact: 02/01/2010
Next Scheduled EDR Contact: 05/17/2010
Data Release Frequency: Semi-Annually

DRYCLEANERS: Drycleaning Facilities
A listing of registered drycleaning facilities in Oregon.

Date of Government Version: 01/31/2010
Date Data Arrived at EDR: 02/11/2010
Date Made Active in Reports: 02/16/2010
Number of Days to Update: 5

Source: Department of Environmental Quality
Telephone: 503-229-6783
Last EDR Contact: 02/08/2010
Next Scheduled EDR Contact: 05/24/2010
Data Release Frequency: Varies

NPDES: Wastewater Permits Database
A listing of permitted wastewater facilities.

Date of Government Version: 02/10/2010
Date Data Arrived at EDR: 02/11/2010
Date Made Active in Reports: 02/16/2010
Number of Days to Update: 5

Source: Department of Environmental Quality
Telephone: 503-229-5657
Last EDR Contact: 02/01/2010
Next Scheduled EDR Contact: 05/17/2010
Data Release Frequency: Quarterly

AIRS: Oregon Title V Facility Listing
A listing of Title V facility source and emissions information.

Date of Government Version: 12/31/2007
Date Data Arrived at EDR: 12/28/2009
Date Made Active in Reports: 01/19/2010
Number of Days to Update: 22

Source: Department of Environmental Quality
Telephone: 503-229-6459
Last EDR Contact: 12/21/2009
Next Scheduled EDR Contact: 03/22/2010
Data Release Frequency: Varies

HSIS: Hazardous Substance Information Survey
Companies in Oregon submitting the Hazardous Substance Information Survey and either reporting or not reporting hazardous substances.

Date of Government Version: 10/20/2009
Date Data Arrived at EDR: 11/20/2009
Date Made Active in Reports: 12/02/2009
Number of Days to Update: 12

Source: State Fire Marshal's Office
Telephone: 503-373-1540
Last EDR Contact: 02/11/2010
Next Scheduled EDR Contact: 05/24/2010
Data Release Frequency: Semi-Annually

INDIAN RESERV: Indian Reservations
This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 12/08/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 34

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 01/19/2010
Next Scheduled EDR Contact: 05/03/2010
Data Release Frequency: Semi-Annually

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing
The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 11/16/2009
Date Data Arrived at EDR: 11/16/2009
Date Made Active in Reports: 01/19/2010
Number of Days to Update: 64

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 02/08/2010
Next Scheduled EDR Contact: 05/10/2010
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 01/01/2008
Date Data Arrived at EDR: 02/18/2009
Date Made Active in Reports: 05/29/2009
Number of Days to Update: 100

Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 02/24/2010
Next Scheduled EDR Contact: 05/17/2010
Data Release Frequency: Varies

COAL ASH DOE: Sleam-Electric Plan Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 01/27/2010
Next Scheduled EDR Contact: 05/03/2010
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 11/09/2009
Date Data Arrived at EDR: 12/18/2009
Date Made Active in Reports: 02/10/2010
Number of Days to Update: 54

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 12/15/2009
Next Scheduled EDR Contact: 03/29/2010
Data Release Frequency: Varies

FEDLAND: Federal and Indian Lands
Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 01/19/2010
Next Scheduled EDR Contact: 05/03/2010
Data Release Frequency: N/A

EDR PROPRIETARY RECORDS

EDR Proprietary Records

Manufactured Gas Plants: EDR Proprietary Manufactured Gas Plants
The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 10/27/2009
Date Data Arrived at EDR: 11/10/2009
Date Made Active in Reports: 12/09/2009
Number of Days to Update: 29

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 02/11/2010
Next Scheduled EDR Contact: 05/24/2010
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2008
Date Data Arrived at EDR: 07/17/2009
Date Made Active in Reports: 08/10/2009
Number of Days to Update: 24

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 12/21/2009
Next Scheduled EDR Contact: 04/05/2010
Data Release Frequency: Annually

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Electric Power Transmission Line Data
Source: PennWell Corporation
Telephone: (800) 823-6277
This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.
Daycare Centers: Child Care Listings
Source: Employment Department
Telephone: 503-947-1420

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2009 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetlands Inventory Data
Source: Oregon Geospatial Enterprise Office
Telephone: 503-378-2166

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

CAMP RILEA
33168 PATRIOT WAY
WARRENTON, OR 97146

TARGET PROPERTY COORDINATES

Latitude (North):	46.12290 - 46˚ 7' 22.4''
Longitude (West):	123.9292 - 123˚ 55' 45.1''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	428207.3
UTM Y (Meters):	5107904.5
Elevation:	29 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	46123-B8 WARRENTON, OR
Most Recent Revision:	1999
South Map:	46123-A8 GEARHART, OR
Most Recent Revision:	1973

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

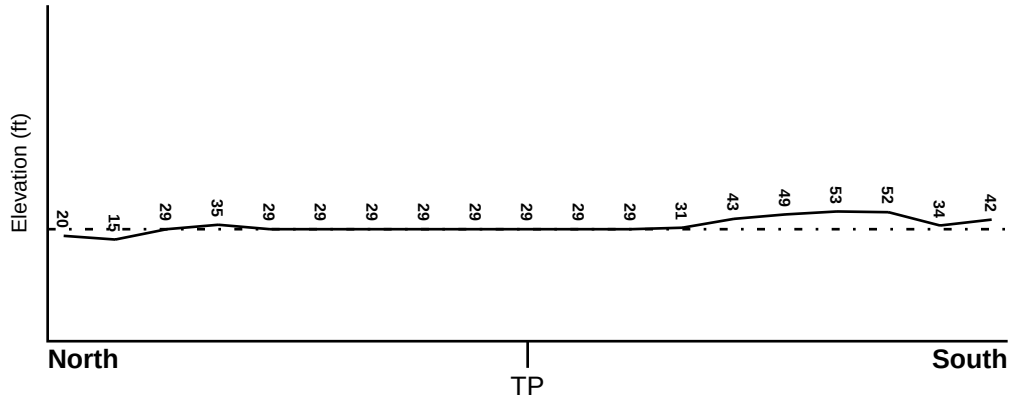
TOPOGRAPHIC INFORMATION

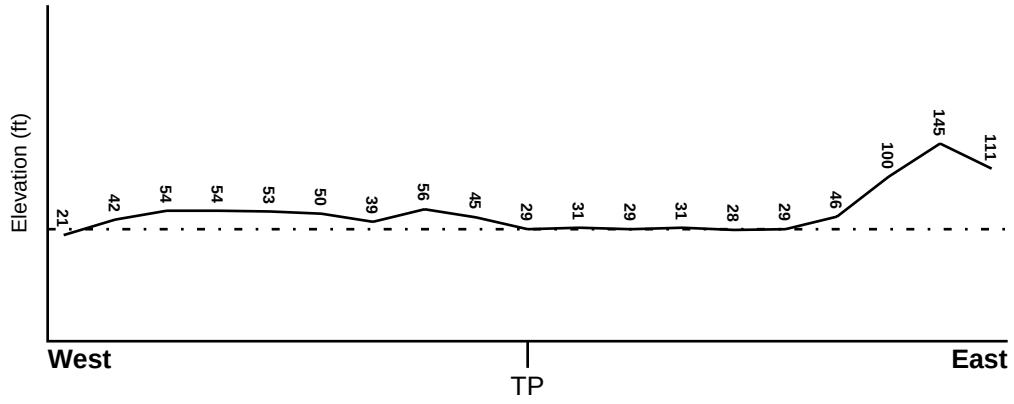
Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General East

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES





Target Property Elevation: 29 ft.

0 1/2 1 Miles

Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
CLATSOP, OR	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property: 4100270020A - FEMA Q3 Flood data

Additional Panels in search area: Not Reported

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
GEARHART	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

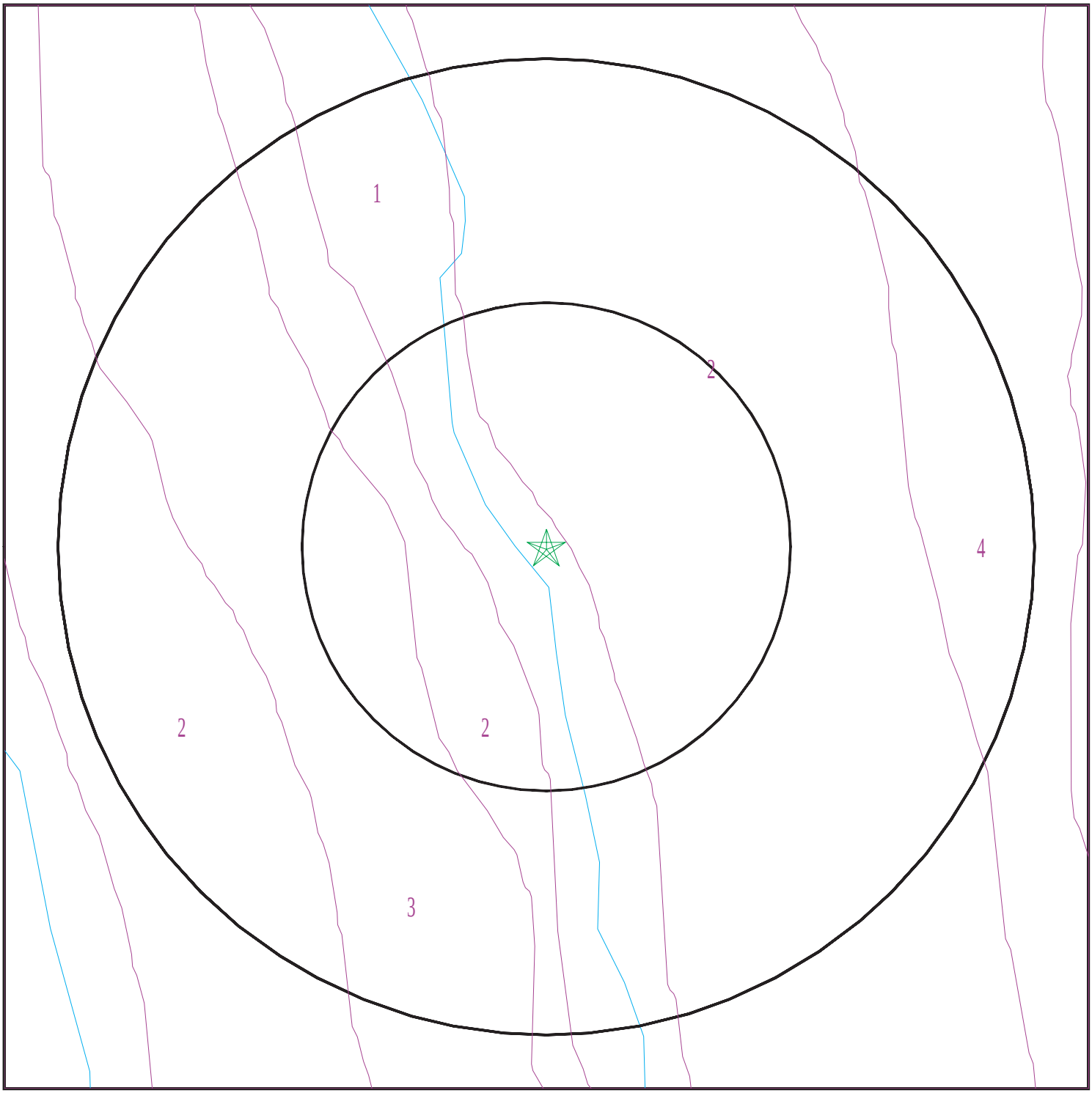
Era:	Cenozoic
System:	Tertiary
Series:	Oligocene
Code:	To *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratified Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 2713719.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME: Camp Rilea ADDRESS: 33168 Patriot Way Warrenton OR 97146 LAT/LONG: 46.1229 / 123.9292	CLIENT: Shaw Environmental & Infrastructure CONTACT: Audrey Turpening INQUIRY #: 2713719.2s DATE: March 05, 2010 12:38 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Warrenton

Soil Surface Texture: loamy fine sand

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Very poorly drained

Hydric Status: All hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 30 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	11 inches	loamy fine sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 5 Min: 3.6
2	11 inches	59 inches	fine sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 5 Min: 3.6

Soil Map ID: 2

Soil Component Name: Gearhart

Soil Surface Texture: fine sandy loam

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class: Somewhat excessively drained

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	11 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 705 Min: 141	Max: 5.5 Min: 4.5
2	11 inches	16 inches	loamy fine sand	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 705 Min: 141	Max: 5.5 Min: 4.5
3	16 inches	59 inches	fine sand	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 705 Min: 141	Max: 5.5 Min: 4.5

Soil Map ID: 3

Soil Component Name: Gearhart

Soil Surface Texture: fine sandy loam

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class: Somewhat excessively drained

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	11 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 705 Min: 141	Max: 5.5 Min: 4.5
2	11 inches	16 inches	loamy fine sand	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 705 Min: 141	Max: 5.5 Min: 4.5
3	16 inches	59 inches	fine sand	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 705 Min: 141	Max: 5.5 Min: 4.5

Soil Map ID: 4

Soil Component Name: Brallier

Soil Surface Texture: mucky peat

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Very poorly drained

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: All hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 8 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	59 inches	mucky peat	A-8	Highly organic soils, Peat.	Max: 14 Min: 4	Max: 5.5 Min: 4.5

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
2	USGS3250816	1/2 - 1 Mile West
3	USGS3250817	1/2 - 1 Mile NW
4	USGS3250813	1/2 - 1 Mile SE
5	USGS3250815	1/2 - 1 Mile West
6	USGS3250814	1/2 - 1 Mile SW

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

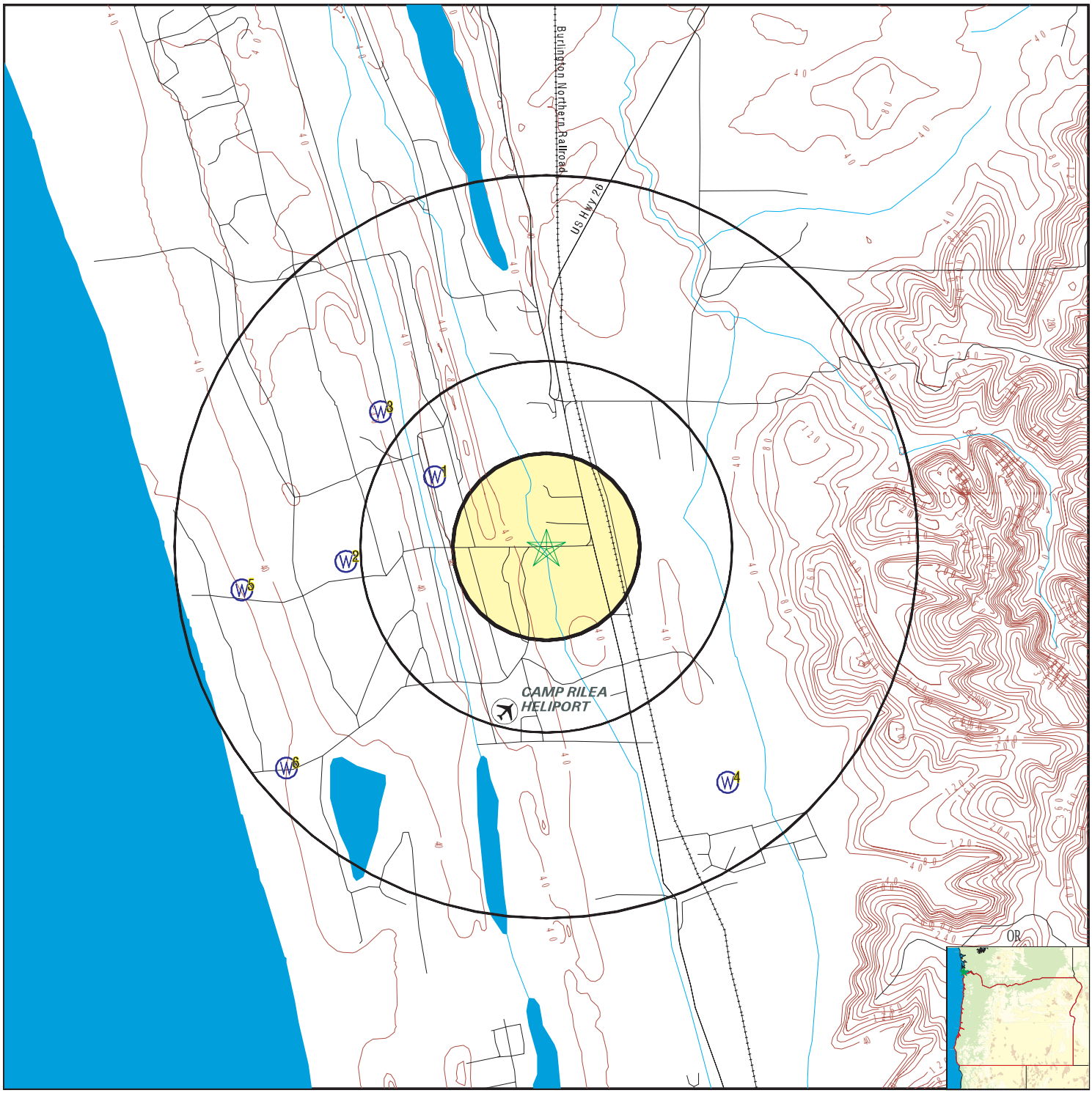
Note: PWS System location is not always the same as well location.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	ORW300000012225	1/4 - 1/2 Mile WNW

PHYSICAL SETTING SOURCE MAP - 2713719.2s



County Boundary
Major Roads
Contour Lines
Airports
Earthquake epicenter, Richter 5 or greater
Water Wells
Public Water Supply Wells
Cluster of Multiple Icons

0 1/4 1/2 1 Miles

Groundwater Flow Direction
GI Indeterminate Groundwater Flow at Location
GV Groundwater Flow Varies at Location

N

SITE NAME: Camp Rilea ADDRESS: 33168 Patriot Way Warrenton OR 97146 LAT/LONG: 46.1229 / 123.9292	CLIENT: Shaw Environmental & Infrastructure CONTACT: Audrey Turpening INQUIRY #: 2713719.2s DATE: March 05, 2010 12:38 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation	Database	EDR ID Number
1 **WNW** **1/4 - 1/2 Mile** **Higher**	**OR WELLS**	**ORW300000012225**

Logid:	CLAT 50230	Lstupdate:	Not Reported
Establby:	UNKNOWN	Xysource:	UNKNOWN
Horizerr:	9999	Sourceorg:	OWRD
Sourceowrd:	OLD SOW COVERAGE		
Welltag:	0		
Sownum:	71	Obswell:	C
Recwell:	N	Obsflagall:	SC
Lsdelev:	38	Site id:	ORW300000012225

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2 **West** **1/2 - 1 Mile** **Higher**	**FED USGS**	**USGS3250816**

Agency cd:	USGS	Site no:	460721123562101
Site name:	07N/10W-04BCB		
Latitude:	460721	EDR Site id:	USGS3250816
Longitude:	1235621	Dec lat:	46.12232762
Dec lon:	-123.9404213	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	41
State:	41	County:	007
Country:	US	Land net:	NWSWNWS04 T07N R10W
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	37.00		
Altitude method:	Level or other surveying method		
Altitude accuracy:	.5		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Lower Columbia. Oregon, Washington. Area = 672 sq.mi.		
Topographic:	Dunes		
Site type:	Ground-water other than Spring	Date construction:	19660101
Date inventoried:	Not Reported	Mean greenwich time offset:	PST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	21.0	Hole depth:	Not Reported
Source of depth data:	Not Reported		
Project number:	Not Reported		
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1966-08-01	Ground water data end date:	1966-08-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1966-08-01	16.00	

3
NW
1/2 - 1 Mile
Higher

FED USGS **USGS3250817**

Agency cd:	USGS	Site no:	460733123560301
Site name:	08N/10W-33CCC1		
Latitude:	460742	EDR Site id:	USGS3250817
Longitude:	1235614	Dec lat:	46.12816087
Dec lon:	-123.93847701	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	41
State:	41	County:	007
Country:	US	Land net:	SWSWSWS33T08NR10WW
Location map:	WARRENTON	Map scale:	24000
Altitude:	34.13		
Altitude method:	Level or other surveying method		
Altitude accuracy:	0.1		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Lower Columbia. Oregon, Washington. Area = 672 sq.mi.		
Topographic:	Dunes		
Site type:	Ground-water other than Spring	Date construction:	19670228
Date inventoried:	Not Reported	Mean greenwich time offset:	PST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	88	Hole depth:	135
Source of depth data:	driller		
Project number:	4741-00200		
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1967-03-21	Ground water data end date:	2002-10-03
Ground water data count:	577		

Ground-water levels, Number of Measurements: 577

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
2002-10-03	14.7		2002-08-01	14.0	
2002-05-09	12.8		2002-01-16	14.1	
2001-10-04	14.5		2001-06-20	13.6	
2001-04-24	14.7		2000-12-21	14.3	
2000-10-19	15.1		2000-07-26	14.0	
2000-04-01	12.1		1999-12-07	13.9	
1999-09-24	14.2		1999-06-09	13.8	
1999-04-05	11.5		1999-01-05	15.1	
1998-12-09	14.4		1998-09-15	14.4	
1998-08-14	13.1		1998-05-08	14.2	
1998-01-21	14.2		1997-10-14	14.6	

Ground-water levels, continued.

Date	Feet below Surface	Feet to Sealevel
1997-08-06	14.8	
1997-01-09	11.8	
1996-08-13	14.8	
1996-03-11	11.9	
1995-07-12	14.2	
1995-03-02	13.2	
1994-08-17	14.8	
1994-01-21	15.8	
1993-06-28	14.6	
1993-01-28	15.6	
1992-08-13	15.2	
1991-03-26	13.6	
1991-01-24	13.8	
1990-11-27	14.4	
1990-09-25	15.2	
1990-07-25	14.3	
1990-05-29	14.0	
1990-03-27	13.0	
1990-01-30	13.8	
1989-11-27	15.4	
1989-05-23	14.2	
1989-03-22	14.0	
1989-01-30	14.1	
1988-10-24	15.9	
1988-08-30	15.4	
1988-06-21	15.0	
1988-05-03	14.8	
1988-02-01	15.4	
1987-11-30	15.8	
1987-09-23	15.3	
1987-07-21	14.6	
1987-06-02	14.4	
1987-03-31	13.3	
1987-01-27	14.4	
1986-11-25	14.7	
1986-08-25	15.0	
1986-06-17	14.7	
1986-04-14	13.9	
1986-01-27	14.4	
1985-12-16	14.7	
1985-09-30	15.2	
1985-09-23	15.2	
1985-09-15	15.2	
1985-09-05	15.3	
1985-08-25	15.2	
1985-08-19	15.0	
1985-08-10	15.0	
1985-07-31	15.0	
1985-07-22	14.8	
1985-07-15	14.8	
1985-07-05	14.8	
1985-06-26	14.8	
1985-06-20	14.8	
1985-06-13	14.7	
1985-06-05	14.7	

Date	Feet below Surface	Feet to Sealevel
1997-06-05	12.6	
1996-10-16	15.4	
1996-04-17	13.3	
1995-10-02	17.0	
1995-06-02	14.3	
1994-09-30	14.5	
1994-05-19	13.8	
1993-11-08	15.6	
1993-06-01	14.6	
1992-10-16	14.5	
1991-04-24	13.0	
1991-02-26	13.3	
1990-12-18	13.8	
1990-10-26	15.2	
1990-08-28	14.8	
1990-06-26	14.2	
1990-04-25	13.5	
1990-02-28	12.6	
1990-01-03	14.8	
1989-10-25	15.4	
1989-04-25	13.9	
1989-02-22	14.1	
1988-11-29	15.4	
1988-10-10	15.8	
1988-07-27	15.1	
1988-05-25	14.9	
1988-02-24	15.4	
1987-12-30	15.7	
1987-10-27	15.7	
1987-08-25	15.1	
1987-06-29	14.6	
1987-04-28	13.8	
1987-03-02	13.8	
1986-12-16	14.0	
1986-09-25	15.4	
1986-07-24	14.7	
1986-05-16	14.3	
1986-03-14	13.7	
1986-01-17	14.9	
1985-10-23	15.2	
1985-09-25	15.2	
1985-09-20	15.2	
1985-09-10	15.3	
1985-08-31	15.2	
1985-08-20	15.0	
1985-08-15	15.0	
1985-08-05	15.0	
1985-07-25	14.8	
1985-07-20	14.8	
1985-07-10	14.7	
1985-06-30	14.8	
1985-06-25	14.8	
1985-06-15	14.7	
1985-06-10	14.7	
1985-05-31	12.6	

Ground-water levels, continued.

Date	Feet below Surface	Feet to Sealevel
1985-05-25	14.7	
1985-05-15	14.7	
1985-05-05	14.5	
1985-04-25	14.5	
1985-04-20	14.4	
1985-04-10	14.5	
1985-03-31	14.6	
1985-03-20	14.6	
1985-03-10	14.7	
1985-02-28	14.5	
1985-02-22	14.5	
1985-02-15	14.5	
1985-02-05	14.4	
1985-01-25	14.2	
1985-01-20	14.2	
1985-01-10	14.0	
1985-01-03	13.9	
1984-10-25	15.1	
1984-10-15	14.9	
1984-10-05	14.7	
1984-09-20	13.9	
1984-09-05	13.1	
1984-08-25	12.9	
1984-08-20	12.8	
1984-08-10	12.7	
1984-07-31	12.6	
1984-06-28	12.5	
1984-06-15	12.5	
1984-05-31	12.6	
1984-05-21	12.8	
1984-04-30	12.9	
1984-04-23	13.1	
1984-04-15	13.0	
1984-04-05	13.2	
1984-03-26	13.4	
1984-03-10	13.3	
1984-02-29	13.3	
1984-02-23	13.5	
1984-02-15	13.6	
1984-02-05	13.7	
1984-01-25	13.6	
1984-01-20	13.8	
1984-01-10	13.7	
1983-12-31	13.7	
1983-12-20	13.6	
1983-12-10	13.5	
1983-11-30	13.3	
1983-11-22	13.6	
1983-11-15	13.9	
1983-11-05	14.2	
1983-10-26	14.4	
1983-10-20	14.3	
1983-10-10	14.2	
1983-09-28	14.1	
1983-08-24	13.8	

Date	Feet below Surface	Feet to Sealevel
1985-05-20	14.7	
1985-05-10	14.5	
1985-04-30	14.5	
1985-04-22	14.5	
1985-04-15	14.4	
1985-04-05	14.5	
1985-03-25	14.7	
1985-03-15	14.7	
1985-03-05	14.6	
1985-02-25	14.5	
1985-02-20	14.5	
1985-02-10	14.5	
1985-01-31	14.3	
1985-01-22	14.2	
1985-01-15	14.1	
1985-01-05	13.8	
1984-12-28	14.0	
1984-10-20	15.0	
1984-10-10	14.8	
1984-09-24	14.2	
1984-09-10	13.2	
1984-08-31	13.0	
1984-08-23	12.9	
1984-08-15	12.7	
1984-08-05	12.6	
1984-07-26	12.6	
1984-06-20	12.6	
1984-06-05	12.6	
1984-05-25	12.7	
1984-05-05	12.8	
1984-04-25	13.0	
1984-04-20	13.0	
1984-04-10	13.2	
1984-03-31	13.4	
1984-03-15	13.3	
1984-03-05	13.3	
1984-02-25	13.4	
1984-02-20	13.6	
1984-02-10	13.8	
1984-01-31	13.7	
1984-01-24	13.8	
1984-01-15	13.7	
1984-01-05	13.6	
1983-12-25	13.7	
1983-12-15	13.5	
1983-12-05	13.4	
1983-11-25	13.3	
1983-11-20	13.6	
1983-11-10	14.1	
1983-10-31	14.4	
1983-10-25	14.3	
1983-10-15	14.3	
1983-10-05	14.2	
1983-09-15	13.9	
1983-08-15	13.7	

Ground-water levels, continued.

Date	Feet below Surface	Feet to Sealevel
1983-07-25	13.4	
1983-06-27	13.5	
1983-05-23	13.3	
1983-04-25	12.7	
1983-03-28	12.0	
1983-02-24	11.7	
1983-01-27	11.3	
1983-01-05	13.8	
1982-12-15	12.7	
1982-11-15	13.5	
1982-10-15	13.9	
1982-09-15	13.7	
1982-08-15	13.5	
1982-07-15	13.3	
1982-06-15	13.3	
1982-05-16	12.4	
1982-04-15	11.6	
1982-03-15	10.7	
1982-01-27	11.4	
1981-12-21	12.8	
1981-11-24	14.3	
1981-10-26	14.8	
1981-09-30	14.9	
1981-09-22	14.9	
1981-09-15	14.8	
1981-09-05	14.7	
1981-08-25	14.6	
1981-08-15	14.4	
1981-08-05	14.3	
1981-07-29	14.2	
1981-07-20	14.2	
1981-07-10	14.1	
1981-06-30	14.1	
1981-06-25	14.1	
1981-06-15	14.1	
1981-06-05	14.2	
1981-05-26	14.3	
1981-05-20	14.3	
1981-05-10	14.3	
1981-04-30	14.2	
1981-04-25	14.2	
1981-04-15	14.3	
1981-04-05	14.4	
1981-03-27	14.4	
1981-03-20	14.4	
1981-03-10	14.2	
1981-03-03	14.1	
1981-02-25	14.2	
1981-02-15	14.8	
1981-02-05	14.8	
1981-01-28	14.6	
1981-01-20	14.5	
1981-01-10	14.5	
1980-12-31	14.8	
1980-12-20	15.3	

Date	Feet below Surface	Feet to Sealevel
1983-07-15	13.4	
1983-06-15	13.5	
1983-05-15	13.1	
1983-04-15	12.4	
1983-03-15	12.0	
1983-02-15	11.6	
1983-01-15	11.3	
1982-12-30	12.5	
1982-11-24	13.3	
1982-10-27	13.9	
1982-09-28	13.7	
1982-08-27	13.6	
1982-07-26	13.3	
1982-06-23	13.2	
1982-05-20	12.6	
1982-04-22	11.7	
1982-03-24	11.1	
1982-02-24	10.5	
1982-01-15	13.1	
1981-12-15	12.9	
1981-11-15	14.7	
1981-10-15	14.7	
1981-09-25	14.9	
1981-09-20	14.9	
1981-09-10	14.8	
1981-08-31	14.7	
1981-08-20	14.5	
1981-08-10	14.4	
1981-07-31	14.2	
1981-07-25	14.2	
1981-07-15	14.1	
1981-07-05	14.1	
1981-06-26	14.1	
1981-06-20	14.1	
1981-06-10	14.2	
1981-05-31	14.3	
1981-05-25	14.3	
1981-05-15	14.3	
1981-05-05	14.2	
1981-04-27	14.3	
1981-04-20	14.3	
1981-04-10	14.3	
1981-03-31	14.4	
1981-03-25	14.4	
1981-03-15	14.3	
1981-03-05	14.1	
1981-02-28	14.1	
1981-02-20	14.3	
1981-02-10	14.8	
1981-01-31	14.7	
1981-01-25	14.6	
1981-01-15	14.5	
1981-01-05	14.6	
1980-12-25	15.2	
1980-12-15	15.3	

Ground-water levels, continued.

Date	Feet below Surface	Feet to Sealevel
1980-12-10	15.3	
1980-11-30	15.6	
1980-11-20	15.8	
1980-11-10	15.6	
1980-10-31	15.7	
1980-10-25	15.7	
1980-10-15	15.5	
1980-10-05	15.3	
1980-09-25	15.2	
1980-09-15	15.1	
1980-09-05	15.0	
1980-08-26	14.9	
1980-08-20	14.9	
1980-08-13	14.8	
1980-08-05	14.7	
1980-07-25	14.6	
1980-07-15	14.5	
1980-07-05	14.4	
1980-06-25	14.4	
1980-06-20	14.4	
1980-06-10	14.3	
1980-05-31	14.3	
1980-05-22	14.2	
1980-05-15	14.1	
1980-05-05	14.0	
1980-04-29	13.8	
1980-04-20	13.8	
1980-04-10	13.8	
1980-03-31	13.8	
1980-03-20	13.6	
1980-03-10	13.6	
1980-02-29	13.7	
1980-02-25	13.9	
1980-02-15	13.9	
1980-02-05	13.8	
1980-01-28	13.9	
1980-01-20	13.9	
1980-01-10	14.1	
1979-12-31	14.2	
1979-12-20	14.5	
1979-12-10	15.0	
1979-12-03	15.1	
1979-11-25	15.3	
1979-11-15	15.4	
1979-11-05	15.4	
1979-10-20	15.6	
1979-10-10	15.6	
1979-09-30	15.5	
1979-09-20	15.4	
1979-09-10	15.3	
1979-08-31	15.2	
1979-08-10	14.7	
1979-07-30	14.3	
1979-07-20	14.2	
1979-07-10	14.2	

Date	Feet below Surface	Feet to Sealevel
1980-12-05	15.4	
1980-11-25	15.6	
1980-11-15	15.7	
1980-11-05	15.7	
1980-10-27	15.7	
1980-10-20	15.6	
1980-10-10	15.4	
1980-09-30	15.2	
1980-09-20	15.2	
1980-09-10	15.1	
1980-08-31	14.9	
1980-08-25	14.9	
1980-08-15	14.8	
1980-08-10	14.7	
1980-07-31	14.7	
1980-07-20	14.6	
1980-07-10	14.5	
1980-06-30	14.5	
1980-06-24	14.4	
1980-06-15	14.4	
1980-06-05	14.3	
1980-05-25	14.3	
1980-05-20	14.2	
1980-05-10	14.0	
1980-04-30	13.8	
1980-04-25	13.8	
1980-04-15	13.8	
1980-04-05	13.8	
1980-03-25	13.6	
1980-03-15	13.6	
1980-03-05	13.6	
1980-02-27	13.7	
1980-02-20	13.9	
1980-02-10	13.8	
1980-01-31	13.9	
1980-01-25	13.9	
1980-01-15	14.0	
1980-01-05	14.1	
1979-12-25	14.3	
1979-12-15	14.9	
1979-12-05	15.0	
1979-11-30	15.3	
1979-11-20	15.5	
1979-11-10	15.3	
1979-10-31	15.5	
1979-10-15	15.7	
1979-10-05	15.5	
1979-09-25	15.4	
1979-09-15	15.3	
1979-09-05	15.2	
1979-08-15	14.9	
1979-08-05	14.5	
1979-07-25	14.2	
1979-07-15	14.2	
1979-07-05	14.3	

Ground-water levels, continued.

Date	Feet below Surface	Feet to Sealevel
1979-06-30	14.3	
1979-06-20	14.2	
1979-06-10	14.2	
1979-05-31	14.1	
1979-05-20	14.1	
1979-05-10	13.7	
1979-04-30	13.6	
1979-04-20	13.6	
1979-04-10	13.7	
1979-03-31	13.6	
1979-03-20	13.5	
1979-03-10	13.7	
1979-02-28	14.1	
1979-02-20	14.4	
1979-02-10	14.9	
1979-01-31	15.2	
1978-09-05	14.9	
1978-08-25	14.9	
1978-08-15	14.8	
1978-06-05	14.3	
1978-05-25	14.2	
1978-05-15	14.0	
1978-04-30	14.1	
1978-04-20	14.1	
1978-04-10	14.1	
1978-02-28	13.9	
1978-02-20	13.9	
1978-02-10	13.8	
1978-01-31	13.8	
1978-01-20	13.8	
1977-12-31	13.5	
1977-12-20	14.4	
1977-12-10	14.6	
1977-11-30	15.2	
1977-11-20	15.5	
1977-11-10	15.9	
1977-09-30	16.0	
1977-09-20	16.0	
1977-08-25	16.0	
1977-08-15	16.0	
1977-08-05	16.0	
1977-01-21	15.9	
1976-07-30	14.7	
1967-11-30	16.1	
1967-11-20	16.1	
1967-11-10	16.3	
1967-10-31	16.2	
1967-10-20	16.3	
1967-10-10	16.2	
1967-09-10	16.1	
1967-08-30	15.9	
1967-08-20	15.8	
1967-08-10	15.6	
1967-07-31	15.4	
1967-07-20	15.1	

Date	Feet below Surface	Feet to Sealevel
1979-06-25	14.2	
1979-06-15	14.2	
1979-06-05	14.1	
1979-05-25	14.1	
1979-05-15	14.0	
1979-05-05	13.5	
1979-04-25	13.6	
1979-04-15	13.6	
1979-04-05	13.6	
1979-03-25	13.5	
1979-03-15	13.7	
1979-03-05	13.9	
1979-02-25	14.2	
1979-02-15	14.7	
1979-02-05	15.2	
1979-01-25	15.1	
1978-08-31	14.9	
1978-08-20	14.8	
1978-08-10	14.8	
1978-05-30	14.2	
1978-05-20	14.1	
1978-05-10	14.1	
1978-04-25	14.1	
1978-04-15	14.1	
1978-04-05	14.1	
1978-02-25	13.9	
1978-02-15	13.9	
1978-02-05	13.8	
1978-01-25	13.8	
1978-01-15	13.8	
1977-12-25	13.4	
1977-12-15	14.0	
1977-12-05	14.9	
1977-11-25	15.4	
1977-11-15	15.7	
1977-10-31	16.1	
1977-09-25	16.0	
1977-08-31	16.0	
1977-08-20	16.1	
1977-08-10	16.0	
1977-04-22	15.4	
1976-10-15	15.3	
1967-12-05	15.7	
1967-11-25	16.1	
1967-11-15	16.1	
1967-11-05	16.2	
1967-10-25	16.3	
1967-10-15	16.2	
1967-09-15	16.1	
1967-09-05	16.0	
1967-08-25	15.9	
1967-08-15	15.7	
1967-08-05	15.5	
1967-07-25	15.3	
1967-07-15	15.0	

Ground-water levels, continued.

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1967-07-10	14.8		1967-07-05	14.8	
1967-06-30	14.7		1967-05-26	14.5	
1967-03-21	13				

4
SE
1/2 - 1 Mile
Higher

FED USGS **USGS3250813**

Agency cd:	USGS	Site no:	460650123550401
Site name:	07N/10W-03CCC		
Latitude:	460650	EDR Site id:	USGS3250813
Longitude:	1235504	Dec lat:	46.11371709
Dec lon:	-123.91903144	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	41
State:	41	County:	007
Country:	US	Land net:	SWSWSWS03 T07N R10W
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	18.00		
Altitude method:	Level or other surveying method		
Altitude accuracy:	.5		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Lower Columbia. Oregon, Washington. Area = 672 sq.mi.		
Topographic:	Dunes		
Site type:	Ground-water other than Spring	Date construction:	19660101
Date inventoried:	Not Reported	Mean greenwich time offset:	PST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	9.0	Hole depth:	Not Reported
Source of depth data:	Not Reported		
Project number:	Not Reported		
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1966-08-01	Ground water data end date:	1966-08-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1966-08-01	6.00	

5
West
1/2 - 1 Mile
Lower

FED USGS **USGS3250815**

Agency cd:	USGS	Site no:	460717123564201
Site name:	07N/10W-05ADC		
Latitude:	460717	EDR Site id:	USGS3250815
Longitude:	1235642	Dec lat:	46.12121643
Dec lon:	-123.94625477	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	41
State:	41	County:	007
Country:	US	Land net:	SWSENES05 T07N R10W
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	20.00		
Altitude method:	Level or other surveying method		
Altitude accuracy:	.5		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Necanicum. Oregon. Area = 129 sq.mi.		
Topographic:	Dunes		
Site type:	Ground-water other than Spring	Date construction:	19660101
Date inventoried:	Not Reported	Mean greenwich time offset:	PST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	9.0	Hole depth:	Not Reported
Source of depth data:	Not Reported		
Project number:	Not Reported		
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1966-09-01	Ground water data end date:	1966-09-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1966-09-01	4.00	

6
SW
1/2 - 1 Mile
Lower

FED USGS **USGS3250814**

Agency cd:	USGS	Site no:	460652123563301
Site name:	07N/10W-05DDD		
Latitude:	460652	EDR Site id:	USGS3250814
Longitude:	1235633	Dec lat:	46.11427217
Dec lon:	-123.94375444	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	41
State:	41	County:	007
Country:	US	Land net:	SESESES05 T07N R10W
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	18.00		
Altitude method:	Level or other surveying method		
Altitude accuracy:	.5		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Necanicum. Oregon. Area = 129 sq.mi.		
Topographic:	Dunes		
Site type:	Ground-water other than Spring	Date construction:	19660101
Date inventoried:	Not Reported	Mean greenwich time offset:	PST

Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	9.0	Hole depth:	Not Reported
Source of depth data:	Not Reported		
Project number:	Not Reported		
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1966-08-01	Ground water data end date:	1966-08-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1966-08-01	3.00	

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: OR Radon

Radon Test Results

Zip	Total Sites	Min pCi/L	Max pCi/L	Avg pCi/L	>4 pCi/L
97146	5	0.1	1.0	0.4	0

Federal EPA Radon Zone for CLATSOP County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for CLATSOP COUNTY, OR

Number of sites tested: 17

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area	1.200 pCi/L	94%	6%	0%
Basement	3.350 pCi/L	50%	50%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2009 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetlands Inventory Data
Source: Oregon Geospatial Enterprise Office
Telephone: 503-378-2166

HYDROGEOLOGIC INFORMATION

AQUIFLOW[R] Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Services, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Well Data
Source: Department of Water Resources
Telephone: 503-986-0843

OTHER STATE DATABASE INFORMATION

RADON

State Database: OR Radon
Source: Oregon Health Services
Telephone: 503-731-4272
Radon Levels in Orgeon

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STREET AND ADDRESS INFORMATION

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20 October 2009

6-61M-110153

Mr. Jim Arnold
Restoration Manager
Oregon Military Department
1776 Militia Way SE
Salem, Oregon 97309

Dear Mr. Arnold:

Re: Final Groundwater Monitoring Report
Former Landfill Area
Camp Rilea, Warrenton, Oregon

AMEC Earth & Environmental, Inc. (AMEC) is pleased to submit this Final Groundwater Monitoring Report (Report) for the former landfill area at Camp Rilea, located in Warrenton, Oregon. This report summarizes the results from eight quarters of groundwater monitoring, including results from the June 2009 event. In addition, this report presents the results of a beneficial water and land use determination to support a no-further-action determination. The monitoring was conducted in accordance with the scope of work associated with Oregon Personal/Standard Professional Services Contract Additional, contract number W912JV06C3004 dated 4 October 2006.

AMEC recommends a no-further-action determination is appropriate for the former landfill area because: 1) the concentrations of detected constituents, including the volatile organic compounds (VOCs) 1,1,2,2 tetrachloroethane (1,1,2,2-PCA), tetrachloroethene (PCE), and trichloroethene (TCE), at the five monitoring wells are below applicable Oregon Department of Environmental Quality (DEQ) and United States Environmental Protection Agency (EPA) screening criteria, and 2) groundwater modeling indicates the maximum VOC concentrations in groundwater are below applicable ecological screening criteria at the interface with Neacoxie Creek, located approximately 460 feet (ft) east of the most down gradient well in the former landfill area. Accordingly, site conditions do not present a risk to human or ecological receptors and further investigation is not necessary under Oregon Administrative Rule 340-122-0205 through 340-122-0360.

JUNE 2009 GROUNDWATER MONITORING EVENT

The groundwater monitoring activities were completed on 4 June 2009, consistent with the Landfill Capping and Groundwater Monitoring Work Plan (AMEC, 2007a). The groundwater monitoring plan was approved by DEQ in a 17 April 2007 letter. The groundwater monitoring event included collection of groundwater samples for laboratory analysis of VOCs from five monitoring wells (MW-01, MW-02, MW-03, MW-04, and MW-05) located in the former landfill area near the Modified Automatic Record Fire (MARF) Range Maintenance Building (see Figure 1). Prior to collecting groundwater samples, the depth to groundwater was measured

from the top of casing at each of the monitoring wells. The depth to water was measured to the nearest 0.01 ft using an electronic groundwater level probe and recorded on a field water level data form (see Attachment 1). The depth to groundwater measurements were used to calculate relative groundwater elevations, provided in Table 1, and were used to estimate groundwater flow direction, presented on Figure 1.

Groundwater samples were collected from the monitoring wells using a decontaminated portable submersible pump attached to the top of a disposable bailer. The pump was attached to the top of the bailer such that water flowed in through the check-valve at the bottom of the bailer, up through the bailer and into the pump. The pump discharge was routed to the ground surface and through a flow-through cell for measuring water quality parameters (temperature, pH, conductivity, turbidity, dissolved oxygen [DO], and oxidation-reduction potential [ORP]). The flow-through cell discharge was collected in a bucket and transferred to a steel drum located near the MARF building. The drum is labeled as investigation-derived waste (IDW). The field-measured water quality parameter measurements were recorded on field sampling data sheets (see Attachment 1) and the results are summarized in Table 2. A groundwater sample was collected from the bailer when the water quality parameters stabilized to the following criteria (Temperature: +/-3%, Conductance: +/- 3%, pH: +/- 0.1 pH units, DO: 10% [or measurement <1 milligram per liter], ORP: +/- 10 millivolts). Field quality assurance/quality control procedures included collecting a field duplicate sample at MW-04.

Groundwater samples were collected in new laboratory-supplied containers, packed on ice immediately following collection, and transported to Apex Laboratory in Tigard, Oregon under chain-of-custody procedures. The groundwater samples were analyzed for VOCs by EPA method 8260B. The laboratory testing report is presented in Attachment 2.

Groundwater elevations are provided in Table 1, and the groundwater elevations, with the direction of groundwater flow, are shown on Figure 1. The groundwater elevation measurements indicate the groundwater flow direction was generally eastward. The flow direction has been relatively consistent during all groundwater monitoring events. The hydraulic gradient was 0.0027 as compared to 0.003 in the March 2009 event (AMEC, 2009b).

The VOC analytical results are presented in Attachment 2, and VOC detections are summarized in Table 3 with the appropriate screening criteria, including the maximum contaminant levels (MCLs) and DEQ Risk Based Concentrations (RBCs). The MCLs and EPA Region 9 Preliminary Remedial Goals (PRGs) are provided as qualitative screening criteria for the groundwater analytical results and should not be considered cleanup goals.

Only TCE was detected at monitoring wells MW-01 and MW-03. The analytical results indicate VOC concentrations have generally declined since sampling began in August 2007. The TCE detections exceeded the DEQ RBC for tap water occupational ingestion and inhalation, but were below their respective EPA MCLs or DEQ RBCs for vapor intrusion into buildings (Table 3).

BENEFICIAL WATER AND LAND USE DETERMINATION

AMEC completed a Beneficial Water Use Determination (BWUD) and Land Use Determination for the Camp Rilea former landfill consistent with DEQ guidance (DEQ, 1998a; DEQ, 1998b) to evaluate potential exposure pathways to human health and ecological receptors from residual VOC concentrations associated with the former landfill. The results from eight quarters of groundwater monitoring, an analytical fate and transport groundwater model, and an evaluation of potential exposure routes in the locality of the facility were used to assess human health and ecological risk scenarios. The potential routes of exposure are inhalation of indoor air and ingestion of groundwater.

Site Description and Background

Camp Rilea is located at 33168 Patriot Way in Warrenton, Oregon, and encompasses approximately 1,850 acres. The installation includes a cantonment area with several buildings and structures, training and range areas, and a sewage treatment plant and spray irrigation area. Camp Rilea has been used as a military training facility since its original establishment as Camp Clatsop in 1927. The camp is bordered by the Pacific Ocean to the west, U.S. Route 101 to the east, agricultural land and the Astoria Country Club and Golf Course to the south, and residential properties to the north (AMEC, 2008).

Camp Rilea is in the Oregon coast climate zone and receives an average of 86 inches of precipitation each year, with the majority occurring during the winter months. The landscape at Camp Rilea consists of north-south trending sand dunes and lakes. Ground surface elevations range from sea level to 75 ft above sea level, and the dunes are covered with vegetation, including shore pine forest and low-lying grasses (AMEC, 2006).

The former landfill is located near the top of a sand dune, west of the obstacle course at the end of NBC Road, in the vicinity of the MARF Range Maintenance Building. The landfill has an areal extent of approximately 4,000 square ft and reaches a maximum depth of approximately 6 ft. The landfill reportedly received waste from the general public and Camp Rilea personnel and was closed in the late 1980s (AMEC 2006). The monitoring well boring logs indicate fine to medium sand is present at the former land fill area (AMEC, 2007c). Groundwater elevation measurements collected during the eight monitoring events indicate that groundwater flows generally east, with a hydraulic gradient ranging from 0.0005 ft/ft to 0.0036 ft/ft.

Potential risks associated with the former landfill were mitigated by installing an asphalt cap over the former landfill, installing five monitoring wells, and conducting eight quarterly groundwater monitoring events. Analytical results from groundwater samples collected during the eight monitoring events indicate the presence of trichloroethene (TCE) at concentrations generally below the EPA maximum contaminant level (MCL) of 5 milligrams per liter (µg/L), as well as the periodic presence of 1,1,2,2 Tetrachloroethane (1,1,2,2-PCA) and tetrachloroethene (PCE) near the analytical detection limit of 0.5 µg/L. The VOC concentrations have generally declined since monitoring began in August 2007.

Locality of the Facility

The locality of facility (LOF) is limited laterally to a rectangular area, oriented in the direction of groundwater flow, which includes the MARF Range Maintenance Shop and former landfill, and extends to the edge of Neacoxie Creek, at a width of approximately 200 ft. The vertical limit of the LOF was determined by a Deep Groundwater Investigation (DGI), which was documented in a letter report dated 31 May 2007. The LOF is limited to shallow groundwater above 48 ft bgs as the DGI showed VOCs were not detected at 48 ft bgs or deeper. The DGI included three groundwater samples collected from three discrete depths at a boring advanced near the location of the highest previously detected groundwater TCE concentration. VOCs were not detected in the groundwater samples collected at 48, 73, and 84 feet bgs. Additionally, water quality parameters measured at the shallow depth were significantly distinct from the parameters measured at the lower depths, indicating that the shallow groundwater is poorly connected to the deeper groundwater (AMEC, 2007b). Because the LOF is contained within the Camp Rilea property boundary, a survey of neighboring properties was not conducted.

The shallow groundwater system is suspected to discharge towards Neacoxie Creek, located about 500 feet east of the former landfill area. The potential VOC fate and transport down gradient from the former landfill was estimated using BIOCHLOR (version 2.2) and SourceDK (version 1.0) analytical models. The model length was defined as the approximate distance from monitoring well MW-4 to Neacoxie Creek, 460 ft. A hydraulic gradient of 0.0036 ft/ft was used, which was the maximum gradient between monitoring wells MW-1 and MW-4 reported since August 2007. A source concentration of 6.84 micrograms per liter (µg/L) was used, which was the greatest groundwater TCE concentration reported since August 2007, at monitoring well MW-4. The longitudinal dispersion coefficient was estimated at 25 ft. The source area width was estimated at 140 ft, the approximate width of the former landfill. A saturated source thickness of 20 ft was estimated based on the results of the DGI: the approximate depth to water is 30 ft, and VOCs were not detected at 48 ft or deeper (AMEC, 2007b).

Two types of decay are possible with the BIOCHLOR software: first-order decay and source decay. For first-order decay, a TCE half-life of 4.5 years was used, which is an upper-range, conservative value for TCE in groundwater (Howard, 1991). With the 4.5-year half-life, BIOCHLOR calculated the first-order decay coefficient (λ) at 0.154/year. Because the quarterly groundwater monitoring results indicate TCE concentrations are decreasing, SourceDK was used to estimate the source decay constant, k_s. The SourceDK linear fit of TCE concentrations at MW-4 resulted in a source decay constant of 0.659. All other BIOCHLOR input parameters were software default values or estimated typical values for fine to medium sand, as indicated by monitoring well boring logs (AMEC, 2007c). The BIOCHLOR input parameters and results of centerline calculations are presented in Attachment 3.

The analytical model results indicate the predicted maximum TCE concentration for groundwater at the Neacoxie Creek interface is 1 µg/L, which is below the DEQ Table 33A TCE criterion of 2.5 µg/L, for human health for consumption of water and organisms (OAR 340-041-0033-2). In addition, the BIOCHLOR model results predict that the groundwater TCE concentrations in the LOF and at the creek interface would reduce to below detection limits in less than ten years, as the residual VOCs in the LOF continue to decay. Furthermore,

residual VOC concentrations at the groundwater-creek interface will be diminished through degradation and attenuation processes at the interface. Because the estimated maximum groundwater TCE concentration at the creek boundary is below the most conservative ecological risk screening criterion, Neacoxie Creek was determined to be outside the LOF, and beneficial uses of surface water were not considered in the BWUD.

Current and Reasonably Likely Future Beneficial Water Uses

There are no current beneficial uses of groundwater in the LOF. One USGS monitoring well, only used for static ground water level measurements, is located in the LOF, and it is not reasonably likely to be used as a water source. The OMD is proposing to install three water supply wells approximately 1000 to 1500 ft southwest of the former landfill, outside the LOF. The water supply wells will be completed at depths greater than 100 ft, and an aquifer test at a test well indicated that the radius of influence of the wells will be less than 200ft (Kennedy/Jenks, 2008). Therefore, the proposed water supply wells are outside the LOF. Any future additional water supply wells at Camp Rilea will likely be located in proximity to the existing conveyance system, with a radius of influence outside the LOF. Drinking water is not a reasonably likely future water use in the LOF, and the potential ingestion of groundwater exposure route for VOCs is incomplete.

Current and Reasonably Likely Future Land Uses

The LOF is within the property boundary of Camp Rilea, which historically functioned and currently functions as a training facility. Three buildings are located inside or partially inside the LOF, including the MARF Range Maintenance Shop, located adjacent to the former landfill (Figure 2). The analytical results from eight quarters of groundwater monitoring demonstrate VOC concentrations are less than the DEQ RBC for vapor intrusion into buildings, 110 µg/L (see Table 3). The vapor intrusion into building exposure pathway is potentially complete, but the concentrations of VOCs are below applicable occupational risk screening criteria. The groundwater quarterly monitoring analytical results demonstrate there are no current or reasonably likely future land uses in the LOF that would pose a risk to human or ecological receptors.

CONCLUSIONS AND RECOMMENDATIONS

The last of eight scheduled quarterly groundwater monitoring events at the former landfill area at Camp Rilea was completed on 4 June 2009. Groundwater analytical results from samples collected during the eight monitoring events indicate the presence of select volatile organic compounds (VOCs) at concentrations generally below the EPA maximum contaminant levels (MCLs), and often below the analytical detection limits. VOC concentrations have generally declined since monitoring began in August 2007.

AMEC completed a Beneficial Water and Land Use evaluation for the Camp Rilea former landfill area. The results demonstrate that there are no current or reasonably likely future beneficial water uses or land uses within the locality of the facility that would pose a risk to human health

or ecological receptors. For these reasons a no-further-action determination is appropriate for the former landfill site.

We appreciate the opportunity to work with the Oregon Military Department on this important project. If you have any questions regarding this report, please contact either of the undersigned at (503) 639-3400.

Sincerely,

AMEC Earth & Environmental, Inc.

Scott Kranz, RG
Senior Hydrogeologist

Charles T. Esler, CHMM
Senior Associate

Attachments:

Tables:	Table 1	Former Landfill Groundwater Elevation Measurements
	Table 2	Former Landfill Field-Measured Water Quality Parameters
	Table 3	Former Landfill Area Volatile Organic Compound Detections in Groundwater
Figure:	Figure 1	Former Landfill Groundwater Monitoring Well Locations and Groundwater Contour Elevations

Attachment 1: Field-Collected Data
Attachment 2: June 2009 Analytical Results
Attachment 3: BIOCHLOR Model Input Parameters and Results

SK/cw

c: Robert Williams, Oregon Department of Environmental Quality

Limitations

This Report was prepared exclusively for the Oregon Military Department by AMEC Earth & Environmental, Inc. (AMEC). The quality of information, conclusions, and estimates contained herein is consistent with the level of effort involved in AMEC services and based on:
i) information available at the time of preparation, ii) data supplied by outside sources, and iii) the assumptions, conditions and qualifications set forth in this report. This Final Groundwater Monitoring Report is intended to be used by the Oregon Military Department for Camp Rilea, Warrenton, Oregon only, subject to the terms and conditions of its contract with AMEC. Any other use of, or reliance on, this report by any third party is at that party's sole risk.

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TABLES

TABLE 1
Former Landfill
Groundwater Elevation Measurements

Well ID	Measurement Date	Top of Casing (feet[1])	Depth to Water (feet, btoc)	Water Level Elevation (feet[1])
MW-1	24-Aug-07	100.0	41.33	58.67
	21-Dec-07	100.0	41.55	58.45
	6-Mar-08	100.0	40.20	59.80
	18-Jun-08	100.0	40.77	59.23
	19-Sep-08	100.0	41.91	58.09
	30-Dec-08	100.0	41.98	58.02
	12-Mar-08	100.0	40.49	59.51
	4-Jun-09	100.0	40.92	59.08
MW-2	24-Aug-07	85.3	26.92	58.35
	21-Dec-07	85.3	27.01	58.26
	6-Mar-08	85.3	26.00	59.27
	18-Jun-08	85.3	26.44	58.83
	19-Sep-08	85.3	27.43	57.84
	30-Dec-08	85.3	27.34	57.93
	12-Mar-08	85.3	26.30	58.97
	4-Jun-09	85.3	26.65	58.62
MW-3	24-Aug-07	89.3	30.71	58.61
	21-Dec-07	89.3	30.90	58.42
	6-Mar-08	89.3	29.72	59.60
	18-Jun-08	89.3	30.21	59.11
	19-Sep-08	89.3	31.28	58.04
	30-Dec-08	89.3	31.25	58.07
	12-Mar-08	89.3	29.99	59.33
	4-Jun-09	89.3	30.40	58.92
MW-4	24-Aug-07	84.2	25.83	58.33
	21-Dec-07	84.2	25.92	58.24
	6-Mar-08	84.2	24.95	59.21
	18-Jun-08	84.2	25.37	58.79
	19-Sep-08	84.2	26.36	57.80
	30-Dec-08	84.2	26.22	57.94
	12-Mar-08	84.2	25.21	58.95
	4-Jun-09	84.2	25.59	58.57
MW-5	24-Aug-07	91.0	32.49	58.53
	21-Dec-07	91.0	32.67	58.35
	6-Mar-08	91.0	31.41	59.61
	18-Jun-08	91.0	31.95	59.07
	19-Sep-08	91.0	33.05	57.97
	30-Dec-08	91.0	33.02	58.00
	12-Mar-08	91.0	31.70	59.32
	4-Jun-09	91.0	32.11	58.91

Notes:

btoc = below top-of-casing

1 = Elevation relative to local datum. Local datum set such that the top-of-casing at MW-1 is 100 feet elevation.

TABLE 2
Former Landfill
Field-Measured Water Quality Parameters

Well ID	Measurement Date	Water Temperature (^oC)	pH (SU)	Specific Conductivity (µS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)
MW-1	24-Aug-07	13.51	6.49	251	39.6	8.27	112.7
	21-Dec-07	11.78	6.57	152	12.4	8.86	78.2
	6-Mar-08	12.09	6.11	120	35.9	10.75	191.9
	18-Jun-08	14.85	6.69	145	14.6	11.86	90.1
	19-Sep-08	12.50	8.43[1]	224	19.7	8.40	-81.6[1]
	30-Dec-08	11.84	6.57	180	12.0	8.10	107.4
	12-Mar-09	12.20	6.50	198	7.2	8.13	110.1
	4-Jun-09	13.61	5.88	320	7.7	3.94 [2]	43.8
MW-2	24-Aug-07	13.50	6.21	155	22.8	8.07	168.3
	21-Dec-07	12.17	6.59	184	14.2	7.98	66.4
	6-Mar-08	11.79	6.11	110	31.6	9.79	202.0
	18-Jun-08	12.03	6.05	150	10.7	10.95	143.3
	19-Sep-08	12.76	8.28[1]	160	12.5	8.73	-64.8[1]
	30-Dec-08	11.88	6.17	147	7.7	6.81	128.4
	12-Mar-09	11.74	6.40	175	2.9	8.14	139.3
	4-Jun-09	13.76	6.45	122	13.2	5.16	118.6
MW-3	24-Aug-07	18.47	6.54	369	11.0	7.71	157.1
	21-Dec-07	12.32	6.72	294	7.4	6.79	116.5
	6-Mar-08	12.80	6.49	286	15.1	9.08	182.6
	18-Jun-08	13.01	6.54	269	8.7	9.48	99.3
	19-Sep-08	13.40	8.43[1]	193	27.0	8.39	-75.6[1]
	30-Dec-08	12.17	6.67	310	27.1	9.07	131.2
	12-Mar-09	12.24	6.75	273	18.7	8.41	122.9
	4-Jun-09	13.93	6.15	190	7.3	9.14	135.4
MW-4	24-Aug-07	13.44	6.37	350	3.6	8.11	140.7
	21-Dec-07	12.07	6.55	226	9.0	7.95	81.0
	6-Mar-08	11.80	6.29	152	8.6	10.04	194.4
	18-Jun-08	11.83	6.41	243	7.5	10.44	130.8
	19-Sep-08	13.64	8.56[1]	168	NM	8.52	-76.5[1]
	30-Dec-08	11.29	6.57	189	7.0	9.91	155.2
	12-Mar-09	11.36	6.41	196	5.9	9.57	132.6
	4-Jun-09	13.55	6.07	131	6.3	8.69	137.1
MW-5	24-Aug-07	17.71	6.22	148	33.2	6.39	122.6
	21-Dec-07	10.89	6.35	125	10.1	8.47	51.2
	6-Mar-08	12.63	6.07	134	18.0	9.37	199.6
	18-Jun-08	12.90	6.15	145	9.8	10.02	123.9
	19-Sep-08	13.60	9.01[1]	129	11.0	8.92	-81.6[1]
	30-Dec-08	11.90	6.37	140	5.0	8.01	95.0
	12-Mar-09	11.92	6.28	136	3.1	8.04	81.7
	4-Jun-09	13.31	5.57	166	6.5	8.98	156.6

Notes:

^oC = degrees Celsius
SU = standard pH units
µS/cm = microsiemens per centimeter
NTU = nephelometric turbidity units
mg/L = milligrams per liter
mV = millivolts
NM = not measured
[1] = 19 Sept. 2008 results indicating ORP and pH results are likely due to malfunctioning probes and do not represent actual field conditions. Representive ORP and pH will be verified in the Dec. 2008 monitoring event.

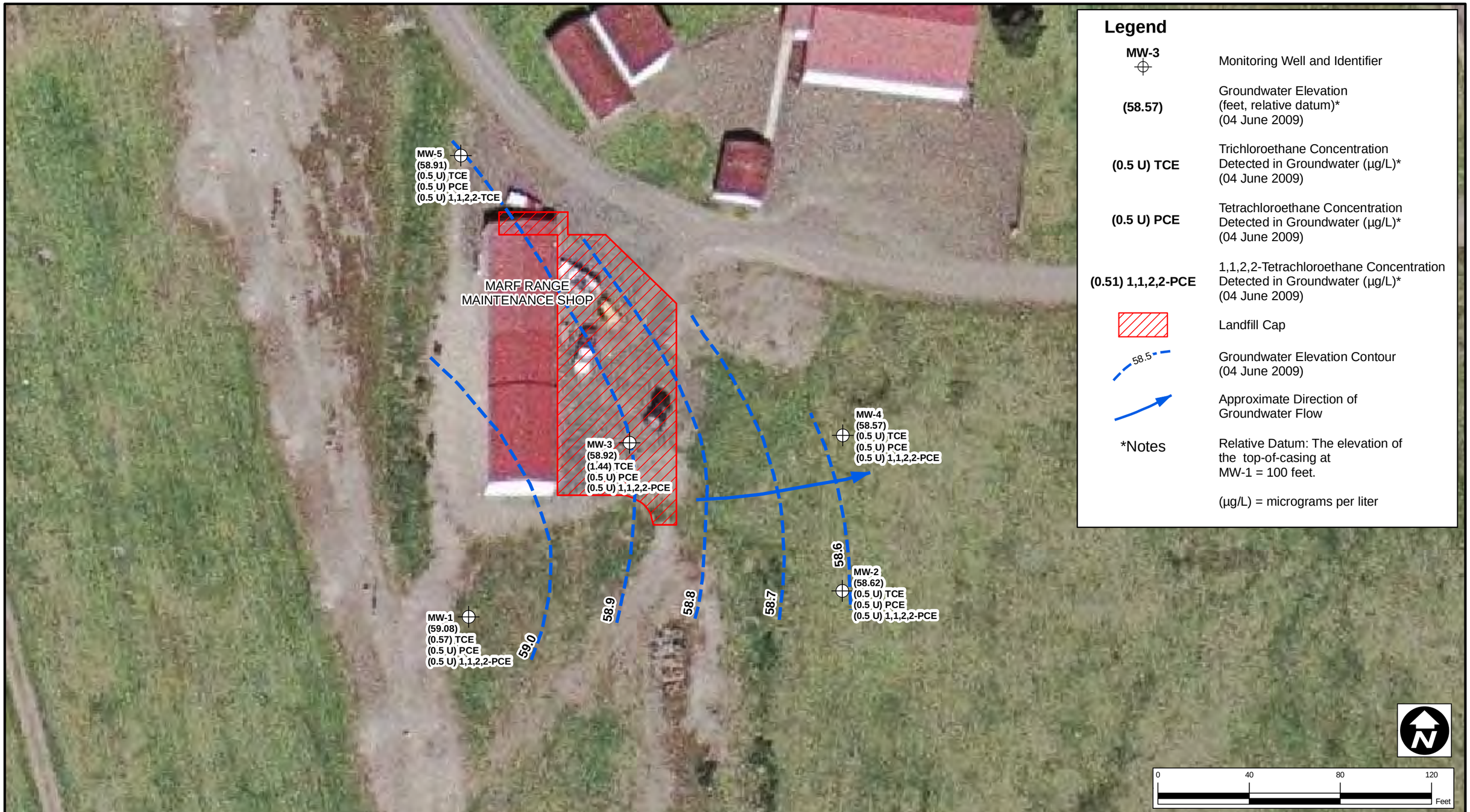
TABLE 3
Former Landfill Area Volatile Organic Compound Detections in Groundwater

Sample Location	Sample Date	VOCs		
		1,1,2,2-	Tetrachloroethene	Trichloroethene
		(µg/L)	(µg/L)	(µg/L)
MW-01	24-Aug-07	0.5 U	0.5 U	0.5 U
	21-Dec-07	0.5 U	0.5 U	**0.50**
	6-Mar-08	0.5 U	0.5 U	**0.80**
	18-Jun-08	0.5 U	0.5 U	**0.52**
	19-Sep-08	0.5 U	0.5 U	0.5 U
	30-Dec-08	0.5 U	0.5 U	0.5 U
	12-Mar-09	0.5 U	**0.62**	**0.77**
	4-Jun-09	0.5 U	0.5 U	**0.57**
MW-02	24-Aug-07	**0.66**	**0.81**	**1.75**
	21-Dec-07	0.5 U	0.5 U	**0.62**
	6-Mar-08	0.5 U	**0.58**	**1.05**
	18-Jun-08	0.5 U	**0.87**	**1.00**
	19-Sep-08	0.5 U	**0.78**	**1.13**
	30-Dec-08	0.5 U	0.5 U	**0.51**
	12-Mar-09	0.5 U	0.5 U	0.5 U
	4-Jun-09	0.5 U	0.5 U	0.5 U
MW-03	24-Aug-07	0.5 U	0.5 U	**1.82**
	21-Dec-07	0.5 U	0.5 U	**1.23**
	6-Mar-08	0.5 U	0.5 U	**1.64**
	18-Jun-08	0.5 U	0.5 U	**1.52**
	19-Sep-08	0.5 U	0.5 U	**1.56**
	30-Dec-08	0.5 U	0.5 U	**1.13**
	12-Mar-09	0.5 U	0.5 U	**1.33**
	4-Jun-09	0.5 U	0.5 U	**1.44**
MW-04	24-Aug-07	**1.97**	0.5 U	**6.84**
	21-Dec-07	0.5 U	0.5 U	0.5 U
	6-Mar-08	**0.96**	0.5 U	**4.87**
	18-Jun-08	**0.61**	0.5 U	**3.80**
	19-Sep-08	0.5 U	0.5 U	**3.48**
	30-Dec-08	**0.74**	**0.56**	**5.13**
	12-Mar-09	0.5 U	0.5 U	**1.60**
	4-Jun-09	0.5 U	0.5 U	0.5 U
MW-05	24-Aug-07	0.5 U	0.5 U	0.5 U
	21-Dec-07	0.5 U	0.5 U	0.5 U
	6-Mar-08	0.5 U	0.5 U	0.5 U
	18-Jun-08	0.5 U	0.5 U	0.5 U
	19-Sep-08	0.5 U	0.5 U	0.5 U
	30-Dec-08	0.5 U	0.5 U	0.5 U
	12-Mar-09	0.5 U	0.5 U	0.5 U
	4-Jun-09	0.5 U	0.5 U	0.5 U
EPA MCL		NL	5	5
DEQ RBC Tapwater		NL	0.63	0.17
DEQ RBC Vapor Intrusion into Buildings (Occupational)		NL	1300	110

Notes:

BOLD = detection
µg/L = micrograms per liter
dup = field duplicate
EPA MCL = Federal Environmental Protection Agency Maximum Concentration Level
DEQ RBC = Oregon Department of Environmental Quality Risk-based Concentration Limit
NL = no limit

FIGURE



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Aerial photograph from the Oregon Military Department.

OREGON NATIONAL GUARD

CLIENT: OREGON MILITARY DEPARTMENT

AMEC Earth & Environmental
7376 SW Durham Road
Portland, OR, U.S.A. 97224

amec

DWN BY:	PM/MH
CHK'D BY:	DH
DATUM:	WGS84
PROJECTION:	UTM ZONE 10N
SCALE:	1 " = 40 '

PROJECT: CAMP RILEA
33168 PATRIOT WAY
WARRENTON, OREGON

TITLE: FORMER LANDFILL GROUNDWATER MONITORING WELL LOCATIONS AND GROUNDWATER CONTOUR ELEVATIONS

DATE:	JULY 2009
PROJECT NO.:	661M110153.03
REV. NO.:	-
FIGURE NO.:	1

K:\11000\11000\11015\11015-3\PHASE 03 LANDFILL GW MONITORING\2008 09 (sept) GW Event\ArcView\Figure 1 Monitoring Wells and Groundwater Contours.mxd

ATTACHMENT 1

Field-Collected Data

amec

AMEC Earth & Environmental, Inc.
GROUNDWATER SAMPLING FIELD FORM

Date: 6/4/09 **AMEC Job #:** 661M10153.03

Field Personnel: JG **Monitoring Well ID:** MW1
Start Time: 1200 **Weather Conditions:** ~~rainy~~ OC. **Approx. Air Temp (F):** ~68

INITIAL WELL DATA & WELL PURGING INFORMATION

Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (µS/cm)	Turbidity (NTUs)	Dissolved Oxygen ug/L mg/L	ORP (mV)	Water Level (feet bgs)	Time (0:00 - 23:59)	Volume Purged (liters)
13.65	5.94	322	clear	3.65	+138.7	40.92	1200	0
13.63	5.87	320		3.91	+140.2	—	1220	4
13.61	5.89	320		3.90	+146.3	—	1225	5
13.61	5.88	320	7.65	3.94	+43.8	—	1230	6

Results of Field Ferrous Iron Kit (mg/L):

0.5 inch tubing: 0.020 gallons/linear foot 2" well casing: 0.17 gal/linear foot **Total Purged =** 6L

Purge Pumping Rate (approx. L/m): .2 L/M
Approx. Pump/Intake Depth: Screen
Well Yield: High / Moderate / Low
Decontamination Method: na: Alconox wash w/ DI and MeOH rinse

WELL CONDITION

Casing Size and Type: 2"
Casing Condition: OK / NA / Needs Repairs/Repaired Lock Condition: OK / NA / Needs Repairs/Repaired
Cap Condition: OK / NA / Needs Repairs/Repaired Monument Condition: OK / NA / Needs Repairs/Repaired

NOTES:

SAMPLING INFORMATION / DATA

QA/QC Sample (circle one): Duplicate Lab QA/QC NONE DC ELECTRIC PUMP w/ ATTACHED BAILER
Sampling Method (circle one): dedicated Dual Valve Pump peristaltic pump

Analytical Parameters	Destination Laboratory	Preservative	Bottle size	Number of bottles	Sample ID	Time Sampled
VOCs	APRX	HCL	VOA	2	MW1-060409	1230

Method of Transportation of samples:
All samples were immediately placed into a cooler and packed with ice or "Blue Ice" YES / NO

Field Observations/Notes of Sampling Event:

Signature of Field Personnel:

amec

AMEC Earth & Environmental, Inc.
GROUNDWATER SAMPLING FIELD FORM

AMEC Job #: 66/M110153.03

Date: 6/4/09

Field Personnel: JG
Monitoring Well ID: MW2
Start Time: 1420
Weather Conditions: ~~rainy~~ OC
Approx. Air Temp (F): ~68°F

INITIAL WELL DATA & WELL PURGING INFORMATION

Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (µS/cm)	Turbidity (NTUs)	Dissolved Oxygen ug/L mg/L	ORP (mV)	Water Level (feet bgs)	Time (0:00 - 23:59)	Volume Purged (liters)
13.74	6.32	119	29.4	7.09	+98.6	26.65	1420	0
13.76	6.39	126	–	5.23	+114.2	NA	1440	4
13.76	6.41	125	–	5.06	+110.6	↓	1445	5
13.76	6.45	122	13.2	5.16	+118.6	↓	1450	6

Results of Field Ferrous Iron Kit (mg/L):

0.5 inch tubing: 0.020 gallons/linear foot
2" well casing: 0.17 gal/linear foot
Total Purged = 6L

Purge Pumping Rate (approx. L/m): .2 L/M
Approx. Pump/Intake Depth: Screen
Well Yield: High / Moderate / Low
Decontamination Method: ~~na~~ ALCONOX WASH W/ DI AND DI RINSE

WELL CONDITION

Casing Size and Type: 2" PVC

Casing Condition:	OK / NA / Needs Repairs/Repaired	Lock Condition:	OK / NA / Needs Repairs/Repaired
Cap Condition:	OK / NA / Needs Repairs/Repaired	Monument Condition:	OK / NA / Needs Repairs/Repaired

NOTES:

SAMPLING INFORMATION / DATA

QA/QC Sample (circle one): Duplicate Lab QA/QC NONE DC ELECTRIC PUMP W/ ATTACHED BAILER

Sampling Method (circle one): dedicated Dual Valve Pump peristaltic pump

Analytical Parameters	Destination Laboratory	Preservative	Bottle size	Number of bottles	Sample ID	Time Sampled
VOCs	APEX	HCL	2	VOA	MW2-060409	1450

Method of Transportation of samples:
All samples were immediately placed into a cooler and packed with ice or "Blue Ice" YES / NO

Field Observations/Notes of Sampling Event:

Signature of Field Personnel:

amec

AMEC Earth & Environmental, Inc.
GROUNDWATER
SAMPLING FIELD FORM

AMEC Job #: 66IM110153.03

Date: 6/4/09

Field Personnel: JG **Monitoring Well ID:** MW3

Start Time: 1510 **Weather Conditions:** ~~rainy~~ O.C. **Approx. Air Temp (F):** ~68°F

INITIAL WELL DATA & WELL PURGING INFORMATION

Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (µS/cm)	Turbidity (NTUs)	Dissolved Oxygen ug/L mg/L	ORP (mV)	Water Level (feet bgs)	Time (0:00 - 23:59)	Volume Purged (liters)
14.07	6.18	194	14.6	9.38	+132.2	1510	30.40	0
13.93	6.16	190	—	9.08	+138.6	1530		4
13.93	6.16	190	—	9.11	+136.7	1535		5
13.93	6.15	190	7.33	9.14	+135.4	1540		6

Results of Field Ferrous Iron Kit (mg/L):

0.5 inch tubing: 0.020 gallons/linear foot 2" well casing: 0.17 gal/linear foot **Total Purged =** 6L

Purge Pumping Rate (approx. L/m): .2 L/m

Approx. Pump/Intake Depth: Screen

Well Yield: High / Moderate / (Low)

Decontamination Method: ~~na~~ Alconox wash w/ DI Rinse

WELL CONDITION

Casing Size and Type: 2" PVC

Casing Condition: (OK) / NA / Needs Repairs/Repaired | Lock Condition: (OK) / NA / Needs Repairs/Repaired

Cap Condition: (OK) / NA / Needs Repairs/Repaired | Monument Condition: (OK) / NA / Needs Repairs/Repaired

NOTES:

SAMPLING INFORMATION / DATA

QA/QC Sample (circle one): Duplicate Lab QA/QC NONE

Sampling Method (circle one): dedicated Dual Valve Pump (DC Electric Pump w/ Attached Bailer) peristaltic pump

Analytical Parameters	Destination Laboratory	Preservative	Bottle size	Number of bottles	Sample ID	Time Sampled
VOC's	APSX	HCL	VOA	2	MW3-060408	1540

Method of Transportation of samples:

All samples were immediately placed into a cooler and packed with ice or "Blue Ice" (YES) / NO

Field Observations/Notes of Sampling Event:

Signature of Field Personnel:

amec

AMEC Earth & Environmental, Inc.
GROUNDWATER SAMPLING FIELD FORM

AMEC Job #: 661M110153.03

Date: 6/4/09

Field Personnel: JG **Monitoring Well ID:** MW4

Start Time: 1335 **Weather Conditions:** ~~rainy~~ O.C. **Approx. Air Temp (F):** ~68

INITIAL WELL DATA & WELL PURGING INFORMATION

Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (µS/cm)	Turbidity (NTUs)	Dissolved Oxygen ug/L mg/L	ORP (mV)	Water Level (feet bgs)	Time (0:00 - 23:59)	Volume Purged (liters)
13.47	6.13	130	10.7	9.56	+141.7	25.59	1335	0
13.51	6.04	133	—	8.63	+139.4	—	1355	4
13.56	6.05	133	—	8.60	+136.5	—	1400	5
13.55	6.07	131	6.27	8.69	+137.1	—	1405	6

Results of Field Ferrous Iron Kit (mg/L):

0.5 inch tubing: 0.020 gallons/linear foot 2" well casing: 0.17 gal/linear foot **Total Purged =** 6L

Purge Pumping Rate (approx. L/m): .2 L/M

Approx. Pump/Intake Depth: Screen

Well Yield: High / Moderate / Low

Decontamination Method: Alconox wash w/ DI and meth rinse.

WELL CONDITION

Casing Size and Type: 2" PVC

Casing Condition: OK / NA / Needs Repairs/Repaired Lock Condition: OK / NA / Needs Repairs/Repaired

Cap Condition: OK / NA / Needs Repairs/Repaired Monument Condition: OK / NA / Needs Repairs/Repaired

NOTES:

SAMPLING INFORMATION / DATA

QA/QC Sample (circle one): Duplicate Lab QA/QC NONE Dielectric pump w/ attached sample bailer

Sampling Method (circle one): dedicated Dual Valve Pump peristaltic pump

Analytical Parameters	Destination Laboratory	Preservative	Bottle size	Number of bottles	Sample ID	Time Sampled
~~SB26~~ VOC's	APEX	HCL	VOA	2	MW4-060409	1405
		"	"	1	DUP-060409	NA

Method of Transportation of samples:

All samples were immediately placed into a cooler and packed with ice or "Blue Ice" YES / NO

Field Observations/Notes of Sampling Event:

Signature of Field Personnel:

amec

AMEC Earth & Environmental, Inc.
GROUNDWATER SAMPLING FIELD FORM

AMEC Job #: 661M10153.03

Date: 6/4/09

Field Personnel: JG **Monitoring Well ID:** MW5

Start Time: 1250 **Weather Conditions:** ~~rainy~~ OC **Approx. Air Temp (F):** ~68

INITIAL WELL DATA & WELL PURGING INFORMATION

Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (µS/cm)	Turbidity (NTUs)	Dissolved Oxygen ug/L mg/L	ORP (mV)	Water Level (feet bgs)	Time (0:00 - 23:59)	Volume Purged (liters)
13.34	5.48	166	11.48	9.08	+153.6	32.11	1250	0
13.31	5.60	167	—	8.99	+155.4	NA	1310	4
13.31	5.58	167	—	8.96	+156.1		1315	5
13.31	5.57	166	6.58	8.98	+156.6		1320	6

Results of Field Ferrous Iron Kit (mg/L):

0.5 inch tubing: 0.020 gallons/linear foot 2" well casing: 0.17 gal/linear foot **Total Purged =** 6L

Purge Pumping Rate (approx. L/m): 1.2L/M

Approx. Pump/Intake Depth: Screen

Well Yield: High / Moderate / Low

Decontamination Method: ~~na~~ Alconox wash w/DI Meth Rinse

WELL CONDITION

Casing Size and Type: 2" PVC

Casing Condition:	OK / NA / Needs Repairs/Repaired	Lock Condition:	OK / NA / Needs Repairs/Repaired
Cap Condition:	OK / NA / Needs Repairs/Repaired	Monument Condition:	OK / NA / Needs Repairs/Repaired

NOTES:

SAMPLING INFORMATION / DATA

QA/QC Sample (circle one): Duplicate Lab QA/QC NONE DC ELECTRIC PUMP w/ATTACHED BAILER

Sampling Method (circle one): dedicated Dual Valve Pump peristaltic pump

Analytical Parameters	Destination Laboratory	Preservative	Bottle size	Number of bottles	Sample ID	Time Sampled
VOC's	APEL	HCL	VOA	2	MW5-060409	1320

Method of Transportation of samples:

All samples were immediately placed into a cooler and packed with ice or "Blue Ice" YES / NO

Field Observations/Notes of Sampling Event:

Signature of Field Personnel:

amec

Groundwater Monitoring

Date: 6/4/09

Field Staff: JS

Monitoring Location	Measurement Time	Depth to Water (feet)	TOC (feet)	Water-Level Elev.(feet)	Comments
MW-01	1047	40.92			
MW-02	1056	26.65			
MW-03	1108	30.40			
MW-04	1059	25.59			
MW-05	1051	32.11			

APEX LABS

CHAIN OF CUSTODY

COC 1 of 1

Lab # _____

12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333

Company: AMEC | Project Mgr: Scott Kranz | Project Name: CAMP Riley | Project # 661M110153.03

Address: 7376 SW Durham Rd. | Phone: | Fax: | Email:

Sampled by: JASON GARDNER

Site Location: (OR) WA

Other: _____

ANALYSIS REQUEST

SAMPLE ID	LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	NWTPH-HCID	NWTPH-Dx	NWTPH-Gx	BTEX	8260 RBDM VOCs	8260 Halo VOCs	8260 VOCs	8270 SIM PAHs	8082 PCBs	8081 Chlor. Pest	RCRA Metals (8)	Priority Metals (13)	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Hg, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Tl, V, Zn	TCLP Metals (8)	1200-COLS	1200-Z	VOCs						
MW1 - 060409		6/4/9	1230	W	2																	X						
MW2 - 060409			1450																			X						
MW3 - 060409			1540																			X						
MW4 - 060409			1605																			X						
MW5 - 060409			1320																			X						
DUP - 060409			NA		1																	X						

Normal Turn Around Time (TAT) = 5-10 Business Days

TAT Requested (circle): 24 HR 48 HR 72 HR 4 DAY 5 DAY Other: STD

SAMPLES ARE HELD FOR 30 DAYS

SPECIAL INSTRUCTIONS:

RELINQUISHED BY:		RECEIVED BY:	RELINQUISHED BY:		RECEIVED BY:
Signature:	Date: 6/5/09	Signature:	Signature:	Date:	Signature:
Printed Name: JASON GARDNER	Time: 1000	Printed Name:	Printed Name:	Time:	Printed Name:
Company: AMEC		Company:	Company:		Company:

ATTACHMENT 2

June 2009 Analytical Results

Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Thursday, July 2, 2009

Scott Kranz
Amec Earth and Environmental, Inc
7376 SW Durham Road
Portland, OR 97224

RE: Camp Rilea / 661M 110153-03

Enclosed are the results of analyses for work order A906050, which was received by the laboratory on 6/5/2009 at 3:00:00PM.

Thank you for using Apex Labs. We appreciate your business and strive to provide the highest quality services to the environmental industry.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: pnerenberg@apex-labs.com, or by phone at 503-718-2323.

Apex Laboratories

Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

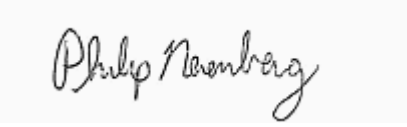
Amec Earth and Environmental, Inc	Project: **Camp Rilea**	
7376 SW Durham Road	Project Number: 661M 110153-03	**Reported:**
Portland, OR 97224	Project Manager: Scott Kranz	07/02/09 16:30

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW1-060409	A906050-01	Water	06/04/09 12:30	06/05/09 15:00
MW2-060409	A906050-02	Water	06/04/09 14:50	06/05/09 15:00
MW3-060409	A906050-03	Water	06/04/09 15:40	06/05/09 15:00
MW4-060409	A906050-04	Water	06/04/09 14:05	06/05/09 15:00
MW5-060409	A906050-05	Water	06/04/09 13:20	06/05/09 15:00
Dup-060409	A906050-06	Water	06/04/09 00:00	06/05/09 15:00

Apex Laboratories



Philip Nerenberg, Lab Director

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Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Amec Earth and Environmental, Inc	Project: **Camp Rilea**	
7376 SW Durham Road	Project Number: 661M 110153-03	**Reported:**
Portland, OR 97224	Project Manager: Scott Kranz	07/02/09 16:30

ANALYTICAL CASE NARRATIVE

Work Order: A906050

8260B Volatiles:

The daily Continuing Calibration Verification standard (CCV) failed low for Vinyl Chloride, a method specified Continuing Calibration Compound (CCC). EPA Method 8260B states that recoveries for all 6 CCC compounds must be within 20% of the true value in order for the analysis to be considered valid. Vinyl Chloride is the first eluting of the CCC compounds, followed closely by 1,1-Dichloroethene. 1,1-Dichloroethene and all subsequent CCC componds passed the method specified criteria. The only other analyte to fail low in the calibration verification standard was Chloroethane, which elutes just before Vinyl Chloride in the chromatogram, indicating a low bias for the 6 gasses (Dichlordifluoromethane, Chloroethane, Vinyl Chloride, Bromomethane and Trichlorotrifluoromethane), but acceptable results for the remaining analytes.

All Volatiles samples are reported as Estimated Values.

David Jack
Technical Director
Apex Laboratories
July 2, 2009

Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Amec Earth and Environmental, Inc	Project: **Camp Rilea**	
7376 SW Durham Road	Project Number: 661M 110153-03	**Reported:**
Portland, OR 97224	Project Manager: Scott Kranz	07/02/09 16:30

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW1-060409 (A906050-01RE1)			**Matrix: Water**					**EST, X**
Acetone	ND	---	20.0	ug/L	1	06/11/09 01:51	EPA 8260B	
Benzene	ND	---	0.250	"	"	"	"	
Bromobenzene	ND	---	0.500	"	"	"	"	
Bromochloromethane	ND	---	0.500	"	"	"	"	
Bromodichloromethane	ND	---	0.500	"	"	"	"	
Bromoform	ND	---	1.00	"	"	"	"	
Bromomethane	ND	---	5.00	"	"	"	"	
2-Butanone (MEK)	ND	---	10.0	"	"	"	"	
n-Butylbenzene	ND	---	1.00	"	"	"	"	
sec-Butylbenzene	ND	---	1.00	"	"	"	"	
tert-Butylbenzene	ND	---	0.500	"	"	"	"	
Carbon tetrachloride	ND	---	0.500	"	"	"	"	
Chlorobenzene	ND	---	0.500	"	"	"	"	
Chloroethane	ND	---	2.00	"	"	"	"	
Chloroform	ND	---	2.00	"	"	"	"	
Chloromethane	ND	---	5.00	"	"	"	"	
2-Chlorotoluene	ND	---	0.500	"	"	"	"	
4-Chlorotoluene	ND	---	0.500	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	5.00	"	"	"	"	
Dibromochloromethane	ND	---	0.500	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	"	"	
Dibromomethane	ND	---	0.500	"	"	"	"	
1,2-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	---	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	---	1.00	"	"	"	"	
1,1-Dichloroethane	ND	---	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	"	"	
1,1-Dichloroethene	ND	---	0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
1,2-Dichloropropane	ND	---	0.500	"	"	"	"	
1,3-Dichloropropane	ND	---	0.500	"	"	"	"	
2,2-Dichloropropane	ND	---	0.500	"	"	"	"	
1,1-Dichloropropene	ND	---	0.500	"	"	"	"	

Apex Laboratories

Philip Nerenberg, Lab Director

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Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Amec Earth and Environmental, Inc	Project: **Camp Rilea**	
7376 SW Durham Road	Project Number: 661M 110153-03	**Reported:**
Portland, OR 97224	Project Manager: Scott Kranz	07/02/09 16:30

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW1-060409 (A906050-01RE1)			**Matrix: Water**					**EST, X**
cis-1,3-Dichloropropene	ND	---	1.00	ug/L	1	"	EPA 8260B	
trans-1,3-Dichloropropene	ND	---	0.500	"	"	"	"	
Ethylbenzene	ND	---	0.500	"	"	"	"	
Hexachlorobutadiene	ND	---	5.00	"	"	"	"	
2-Hexanone	ND	---	10.0	"	"	"	"	
Isopropylbenzene	ND	---	0.500	"	"	"	"	
4-Isopropyltoluene	ND	---	1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	"	"	"	"	
Methylene chloride	ND	---	5.00	"	"	"	"	
Naphthalene	ND	---	5.00	"	"	"	"	
n-Propylbenzene	ND	---	0.500	"	"	"	"	
Styrene	ND	---	0.500	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	0.500	"	"	"	"	
Toluene	ND	---	1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	5.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	5.00	"	"	"	"	
1,1,1-Trichloroethane	ND	---	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	---	0.500	"	"	"	"	
Trichloroethene (TCE)	**0.570**	---	0.500	"	"	"	"	
Trichlorofluoromethane	ND	---	1.00	"	"	"	"	
1,2,3-Trichloropropane	ND	---	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	1.00	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	1.00	"	"	"	"	
Vinyl chloride	ND	---	0.500	"	"	"	"	
m,p-Xylene	ND	---	1.00	"	"	"	"	
o-Xylene	ND	---	0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 103 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*102 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*102 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*105 %*	*Limits: 80-120 %*	"	"	"	

Apex Laboratories

Philip Nerenberg, Lab Director

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Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Amec Earth and Environmental, Inc	Project: **Camp Rilea**	
7376 SW Durham Road	Project Number: 661M 110153-03	**Reported:**
Portland, OR 97224	Project Manager: Scott Kranz	07/02/09 16:30

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW2-060409 (A906050-02RE1)			**Matrix: Water**					**EST, X**
Acetone	ND	---	20.0	ug/L	1	06/11/09 02:24	EPA 8260B	
Benzene	ND	---	0.250	"	"	"	"	
Bromobenzene	ND	---	0.500	"	"	"	"	
Bromochloromethane	ND	---	0.500	"	"	"	"	
Bromodichloromethane	ND	---	0.500	"	"	"	"	
Bromoform	ND	---	1.00	"	"	"	"	
Bromomethane	ND	---	5.00	"	"	"	"	
2-Butanone (MEK)	ND	---	10.0	"	"	"	"	
n-Butylbenzene	ND	---	1.00	"	"	"	"	
sec-Butylbenzene	ND	---	1.00	"	"	"	"	
tert-Butylbenzene	ND	---	0.500	"	"	"	"	
Carbon tetrachloride	ND	---	0.500	"	"	"	"	
Chlorobenzene	ND	---	0.500	"	"	"	"	
Chloroethane	ND	---	2.00	"	"	"	"	
Chloroform	ND	---	2.00	"	"	"	"	
Chloromethane	ND	---	5.00	"	"	"	"	
2-Chlorotoluene	ND	---	0.500	"	"	"	"	
4-Chlorotoluene	ND	---	0.500	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	5.00	"	"	"	"	
Dibromochloromethane	ND	---	0.500	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	"	"	
Dibromomethane	ND	---	0.500	"	"	"	"	
1,2-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	---	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	---	1.00	"	"	"	"	
1,1-Dichloroethane	ND	---	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	"	"	
1,1-Dichloroethene	ND	---	0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
1,2-Dichloropropane	ND	---	0.500	"	"	"	"	
1,3-Dichloropropane	ND	---	0.500	"	"	"	"	
2,2-Dichloropropane	ND	---	0.500	"	"	"	"	
1,1-Dichloropropene	ND	---	0.500	"	"	"	"	

Apex Laboratories

Philip Nerenberg, Lab Director

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Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Amec Earth and Environmental, Inc	Project: **Camp Rilea**	
7376 SW Durham Road	Project Number: 661M 110153-03	**Reported:**
Portland, OR 97224	Project Manager: Scott Kranz	07/02/09 16:30

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW2-060409 (A906050-02RE1)			**Matrix: Water**					**EST, X**
cis-1,3-Dichloropropene	ND	---	1.00	ug/L	1	"	EPA 8260B	
trans-1,3-Dichloropropene	ND	---	0.500	"	"	"	"	
Ethylbenzene	ND	---	0.500	"	"	"	"	
Hexachlorobutadiene	ND	---	5.00	"	"	"	"	
2-Hexanone	ND	---	10.0	"	"	"	"	
Isopropylbenzene	ND	---	0.500	"	"	"	"	
4-Isopropyltoluene	ND	---	1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	"	"	"	"	
Methylene chloride	ND	---	5.00	"	"	"	"	
Naphthalene	ND	---	5.00	"	"	"	"	
n-Propylbenzene	ND	---	0.500	"	"	"	"	
Styrene	ND	---	0.500	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	0.500	"	"	"	"	
Toluene	ND	---	1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	5.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	5.00	"	"	"	"	
1,1,1-Trichloroethane	ND	---	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	---	0.500	"	"	"	"	
Trichloroethene (TCE)	ND	---	0.500	"	"	"	"	
Trichlorofluoromethane	ND	---	1.00	"	"	"	"	
1,2,3-Trichloropropane	ND	---	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	1.00	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	1.00	"	"	"	"	
Vinyl chloride	ND	---	0.500	"	"	"	"	
m,p-Xylene	ND	---	1.00	"	"	"	"	
o-Xylene	ND	---	0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 103 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*104 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*97 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*102 %*	*Limits: 80-120 %*	"	"	"	

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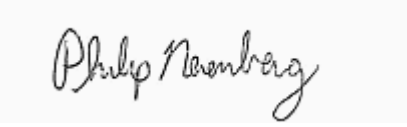

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12232 S.W. Garden Place
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Amec Earth and Environmental, Inc	Project: **Camp Rilea**	
7376 SW Durham Road	Project Number: 661M 110153-03	**Reported:**
Portland, OR 97224	Project Manager: Scott Kranz	07/02/09 16:30

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW3-060409 (A906050-03)			**Matrix: Water**					**EST, X**
Acetone	ND	---	20.0	ug/L	1	06/11/09 02:56	EPA 8260B	
Benzene	ND	---	0.250	"	"	"	"	
Bromobenzene	ND	---	0.500	"	"	"	"	
Bromochloromethane	ND	---	0.500	"	"	"	"	
Bromodichloromethane	ND	---	0.500	"	"	"	"	
Bromoform	ND	---	1.00	"	"	"	"	
Bromomethane	ND	---	5.00	"	"	"	"	
2-Butanone (MEK)	ND	---	10.0	"	"	"	"	
n-Butylbenzene	ND	---	1.00	"	"	"	"	
sec-Butylbenzene	ND	---	1.00	"	"	"	"	
tert-Butylbenzene	ND	---	0.500	"	"	"	"	
Carbon tetrachloride	ND	---	0.500	"	"	"	"	
Chlorobenzene	ND	---	0.500	"	"	"	"	
Chloroethane	ND	---	2.00	"	"	"	"	
Chloroform	ND	---	2.00	"	"	"	"	
Chloromethane	ND	---	5.00	"	"	"	"	
2-Chlorotoluene	ND	---	0.500	"	"	"	"	
4-Chlorotoluene	ND	---	0.500	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	5.00	"	"	"	"	
Dibromochloromethane	ND	---	0.500	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	"	"	
Dibromomethane	ND	---	0.500	"	"	"	"	
1,2-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	---	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	---	1.00	"	"	"	"	
1,1-Dichloroethane	ND	---	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	"	"	
1,1-Dichloroethene	ND	---	0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
1,2-Dichloropropane	ND	---	0.500	"	"	"	"	
1,3-Dichloropropane	ND	---	0.500	"	"	"	"	
2,2-Dichloropropane	ND	---	0.500	"	"	"	"	
1,1-Dichloropropene	ND	---	0.500	"	"	"	"	

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Amec Earth and Environmental, Inc	Project: **Camp Rilea**	
7376 SW Durham Road	Project Number: 661M 110153-03	**Reported:**
Portland, OR 97224	Project Manager: Scott Kranz	07/02/09 16:30

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW3-060409 (A906050-03)			**Matrix: Water**					**EST, X**
cis-1,3-Dichloropropene	ND	---	1.00	ug/L	1	"	EPA 8260B	
trans-1,3-Dichloropropene	ND	---	0.500	"	"	"	"	
Ethylbenzene	ND	---	0.500	"	"	"	"	
Hexachlorobutadiene	ND	---	5.00	"	"	"	"	
2-Hexanone	ND	---	10.0	"	"	"	"	
Isopropylbenzene	ND	---	0.500	"	"	"	"	
4-Isopropyltoluene	ND	---	1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	"	"	"	"	
Methylene chloride	ND	---	5.00	"	"	"	"	
Naphthalene	ND	---	5.00	"	"	"	"	
n-Propylbenzene	ND	---	0.500	"	"	"	"	
Styrene	ND	---	0.500	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	0.500	"	"	"	"	
Toluene	ND	---	1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	5.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	5.00	"	"	"	"	
1,1,1-Trichloroethane	ND	---	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	---	0.500	"	"	"	"	
Trichloroethene (TCE)	**1.44**	---	0.500	"	"	"	"	
Trichlorofluoromethane	ND	---	1.00	"	"	"	"	
1,2,3-Trichloropropane	ND	---	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	1.00	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	1.00	"	"	"	"	
Vinyl chloride	ND	---	0.500	"	"	"	"	
m,p-Xylene	ND	---	1.00	"	"	"	"	
o-Xylene	ND	---	0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 102 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*103 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*100 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*97 %*	*Limits: 80-120 %*	"	"	"	

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7376 SW Durham Road	Project Number: 661M 110153-03	**Reported:**
Portland, OR 97224	Project Manager: Scott Kranz	07/02/09 16:30

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW4-060409 (A906050-04)			**Matrix: Water**					**EST, X**
Acetone	ND	---	20.0	ug/L	1	06/11/09 03:28	EPA 8260B	
Benzene	ND	---	0.250	"	"	"	"	
Bromobenzene	ND	---	0.500	"	"	"	"	
Bromochloromethane	ND	---	0.500	"	"	"	"	
Bromodichloromethane	ND	---	0.500	"	"	"	"	
Bromoform	ND	---	1.00	"	"	"	"	
Bromomethane	ND	---	5.00	"	"	"	"	
2-Butanone (MEK)	ND	---	10.0	"	"	"	"	
n-Butylbenzene	ND	---	1.00	"	"	"	"	
sec-Butylbenzene	ND	---	1.00	"	"	"	"	
tert-Butylbenzene	ND	---	0.500	"	"	"	"	
Carbon tetrachloride	ND	---	0.500	"	"	"	"	
Chlorobenzene	ND	---	0.500	"	"	"	"	
Chloroethane	ND	---	2.00	"	"	"	"	
Chloroform	ND	---	2.00	"	"	"	"	
Chloromethane	ND	---	5.00	"	"	"	"	
2-Chlorotoluene	ND	---	0.500	"	"	"	"	
4-Chlorotoluene	ND	---	0.500	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	5.00	"	"	"	"	
Dibromochloromethane	ND	---	0.500	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	"	"	
Dibromomethane	ND	---	0.500	"	"	"	"	
1,2-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	---	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	---	1.00	"	"	"	"	
1,1-Dichloroethane	ND	---	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	"	"	
1,1-Dichloroethene	ND	---	0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
1,2-Dichloropropane	ND	---	0.500	"	"	"	"	
1,3-Dichloropropane	ND	---	0.500	"	"	"	"	
2,2-Dichloropropane	ND	---	0.500	"	"	"	"	
1,1-Dichloropropene	ND	---	0.500	"	"	"	"	

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Amec Earth and Environmental, Inc	Project: **Camp Rilea**	
7376 SW Durham Road	Project Number: 661M 110153-03	**Reported:**
Portland, OR 97224	Project Manager: Scott Kranz	07/02/09 16:30

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW4-060409 (A906050-04)			**Matrix: Water**					**EST, X**
cis-1,3-Dichloropropene	ND	---	1.00	ug/L	1	"	EPA 8260B	
trans-1,3-Dichloropropene	ND	---	0.500	"	"	"	"	
Ethylbenzene	ND	---	0.500	"	"	"	"	
Hexachlorobutadiene	ND	---	5.00	"	"	"	"	
2-Hexanone	ND	---	10.0	"	"	"	"	
Isopropylbenzene	ND	---	0.500	"	"	"	"	
4-Isopropyltoluene	ND	---	1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	"	"	"	"	
Methylene chloride	ND	---	5.00	"	"	"	"	
Naphthalene	ND	---	5.00	"	"	"	"	
n-Propylbenzene	ND	---	0.500	"	"	"	"	
Styrene	ND	---	0.500	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	0.500	"	"	"	"	
Toluene	ND	---	1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	5.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	5.00	"	"	"	"	
1,1,1-Trichloroethane	ND	---	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	---	0.500	"	"	"	"	
Trichloroethene (TCE)	ND	---	0.500	"	"	"	"	
Trichlorofluoromethane	ND	---	1.00	"	"	"	"	
1,2,3-Trichloropropane	ND	---	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	1.00	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	1.00	"	"	"	"	
Vinyl chloride	ND	---	0.500	"	"	"	"	
m,p-Xylene	ND	---	1.00	"	"	"	"	
o-Xylene	ND	---	0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 100 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*102 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*100 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*100 %*	*Limits: 80-120 %*	"	"	"	

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Amec Earth and Environmental, Inc	Project: **Camp Rilea**	
7376 SW Durham Road	Project Number: 661M 110153-03	**Reported:**
Portland, OR 97224	Project Manager: Scott Kranz	07/02/09 16:30

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW5-060409 (A906050-05)			**Matrix: Water**					**EST, X**
Acetone	ND	---	20.0	ug/L	1	06/11/09 04:01	EPA 8260B	
Benzene	ND	---	0.250	"	"	"	"	
Bromobenzene	ND	---	0.500	"	"	"	"	
Bromochloromethane	ND	---	0.500	"	"	"	"	
Bromodichloromethane	ND	---	0.500	"	"	"	"	
Bromoform	ND	---	1.00	"	"	"	"	
Bromomethane	ND	---	5.00	"	"	"	"	
2-Butanone (MEK)	ND	---	10.0	"	"	"	"	
n-Butylbenzene	ND	---	1.00	"	"	"	"	
sec-Butylbenzene	ND	---	1.00	"	"	"	"	
tert-Butylbenzene	ND	---	0.500	"	"	"	"	
Carbon tetrachloride	ND	---	0.500	"	"	"	"	
Chlorobenzene	ND	---	0.500	"	"	"	"	
Chloroethane	ND	---	2.00	"	"	"	"	
Chloroform	ND	---	2.00	"	"	"	"	
Chloromethane	ND	---	5.00	"	"	"	"	
2-Chlorotoluene	ND	---	0.500	"	"	"	"	
4-Chlorotoluene	ND	---	0.500	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	5.00	"	"	"	"	
Dibromochloromethane	ND	---	0.500	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	"	"	
Dibromomethane	ND	---	0.500	"	"	"	"	
1,2-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	---	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	---	1.00	"	"	"	"	
1,1-Dichloroethane	ND	---	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	"	"	
1,1-Dichloroethene	ND	---	0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
1,2-Dichloropropane	ND	---	0.500	"	"	"	"	
1,3-Dichloropropane	ND	---	0.500	"	"	"	"	
2,2-Dichloropropane	ND	---	0.500	"	"	"	"	
1,1-Dichloropropene	ND	---	0.500	"	"	"	"	

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Amec Earth and Environmental, Inc	Project: **Camp Rilea**	
7376 SW Durham Road	Project Number: 661M 110153-03	**Reported:**
Portland, OR 97224	Project Manager: Scott Kranz	07/02/09 16:30

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW5-060409 (A906050-05)			**Matrix: Water**					**EST, X**
cis-1,3-Dichloropropene	ND	---	1.00	ug/L	1	"	EPA 8260B	
trans-1,3-Dichloropropene	ND	---	0.500	"	"	"	"	
Ethylbenzene	ND	---	0.500	"	"	"	"	
Hexachlorobutadiene	ND	---	5.00	"	"	"	"	
2-Hexanone	ND	---	10.0	"	"	"	"	
Isopropylbenzene	ND	---	0.500	"	"	"	"	
4-Isopropyltoluene	ND	---	1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	"	"	"	"	
Methylene chloride	ND	---	5.00	"	"	"	"	
Naphthalene	ND	---	5.00	"	"	"	"	
n-Propylbenzene	ND	---	0.500	"	"	"	"	
Styrene	ND	---	0.500	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	0.500	"	"	"	"	
Toluene	ND	---	1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	5.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	5.00	"	"	"	"	
1,1,1-Trichloroethane	ND	---	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	---	0.500	"	"	"	"	
Trichloroethene (TCE)	ND	---	0.500	"	"	"	"	
Trichlorofluoromethane	ND	---	1.00	"	"	"	"	
1,2,3-Trichloropropane	ND	---	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	1.00	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	1.00	"	"	"	"	
Vinyl chloride	ND	---	0.500	"	"	"	"	
m,p-Xylene	ND	---	1.00	"	"	"	"	
o-Xylene	ND	---	0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 102 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*103 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*100 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*102 %*	*Limits: 80-120 %*	"	"	"	

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7376 SW Durham Road	Project Number: 661M 110153-03	**Reported:**
Portland, OR 97224	Project Manager: Scott Kranz	07/02/09 16:30

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
Dup-060409 (A906050-06)			**Matrix: Water**					**EST, X**
Acetone	ND	---	20.0	ug/L	1	06/11/09 04:34	EPA 8260B	
Benzene	ND	---	0.250	"	"	"	"	
Bromobenzene	ND	---	0.500	"	"	"	"	
Bromochloromethane	ND	---	0.500	"	"	"	"	
Bromodichloromethane	ND	---	0.500	"	"	"	"	
Bromoform	ND	---	1.00	"	"	"	"	
Bromomethane	ND	---	5.00	"	"	"	"	
2-Butanone (MEK)	ND	---	10.0	"	"	"	"	
n-Butylbenzene	ND	---	1.00	"	"	"	"	
sec-Butylbenzene	ND	---	1.00	"	"	"	"	
tert-Butylbenzene	ND	---	0.500	"	"	"	"	
Carbon tetrachloride	ND	---	0.500	"	"	"	"	
Chlorobenzene	ND	---	0.500	"	"	"	"	
Chloroethane	ND	---	2.00	"	"	"	"	
Chloroform	ND	---	2.00	"	"	"	"	
Chloromethane	ND	---	5.00	"	"	"	"	
2-Chlorotoluene	ND	---	0.500	"	"	"	"	
4-Chlorotoluene	ND	---	0.500	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	5.00	"	"	"	"	
Dibromochloromethane	ND	---	0.500	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	"	"	
Dibromomethane	ND	---	0.500	"	"	"	"	
1,2-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	---	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	---	1.00	"	"	"	"	
1,1-Dichloroethane	ND	---	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	"	"	
1,1-Dichloroethene	ND	---	0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
1,2-Dichloropropane	ND	---	0.500	"	"	"	"	
1,3-Dichloropropane	ND	---	0.500	"	"	"	"	
2,2-Dichloropropane	ND	---	0.500	"	"	"	"	
1,1-Dichloropropene	ND	---	0.500	"	"	"	"	

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Philip Nerenberg, Lab Director

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Amec Earth and Environmental, Inc	Project: **Camp Rilea**	
7376 SW Durham Road	Project Number: 661M 110153-03	**Reported:**
Portland, OR 97224	Project Manager: Scott Kranz	07/02/09 16:30

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
Dup-060409 (A906050-06)			**Matrix: Water**					**EST, X**
cis-1,3-Dichloropropene	ND	---	1.00	ug/L	1	"	EPA 8260B	
trans-1,3-Dichloropropene	ND	---	0.500	"	"	"	"	
Ethylbenzene	ND	---	0.500	"	"	"	"	
Hexachlorobutadiene	ND	---	5.00	"	"	"	"	
2-Hexanone	ND	---	10.0	"	"	"	"	
Isopropylbenzene	ND	---	0.500	"	"	"	"	
4-Isopropyltoluene	ND	---	1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	"	"	"	"	
Methylene chloride	ND	---	5.00	"	"	"	"	
Naphthalene	ND	---	5.00	"	"	"	"	
n-Propylbenzene	ND	---	0.500	"	"	"	"	
Styrene	ND	---	0.500	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	0.500	"	"	"	"	
Toluene	ND	---	1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	5.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	5.00	"	"	"	"	
1,1,1-Trichloroethane	ND	---	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	---	0.500	"	"	"	"	
Trichloroethene (TCE)	ND	---	0.500	"	"	"	"	
Trichlorofluoromethane	ND	---	1.00	"	"	"	"	
1,2,3-Trichloropropane	ND	---	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	1.00	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	1.00	"	"	"	"	
Vinyl chloride	ND	---	0.500	"	"	"	"	
m,p-Xylene	ND	---	1.00	"	"	"	"	
o-Xylene	ND	---	0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 103 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*102 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*98 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*100 %*	*Limits: 80-120 %*	"	"	"	

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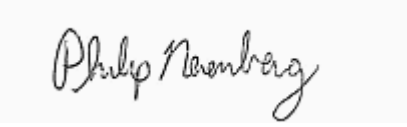

Philip Nerenberg, Lab Director

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Amec Earth and Environmental, Inc	Project: **Camp Rilea**	
7376 SW Durham Road	Project Number: 661M 110153-03	**Reported:**
Portland, OR 97224	Project Manager: Scott Kranz	07/02/09 16:30

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9060122 - EPA 5030B							**Water**					
Blank (9060122-BLK1)					Prepared: 06/10/09 08:58 Analyzed: 06/10/09 15:08							
EPA 8260B												
Acetone	ND	---	20.0	ug/L	1	---	---	---	---	---	---	
Benzene	ND	---	0.250	"	"	---	---	---	---	---	---	
Bromobenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Bromochloromethane	ND	---	0.500	"	"	---	---	---	---	---	---	
Bromodichloromethane	ND	---	0.500	"	"	---	---	---	---	---	---	
Bromoform	ND	---	1.00	"	"	---	---	---	---	---	---	
Bromomethane	ND	---	5.00	"	"	---	---	---	---	---	---	
2-Butanone (MEK)	ND	---	10.0	"	"	---	---	---	---	---	---	
n-Butylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
sec-Butylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
tert-Butylbenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Carbon tetrachloride	ND	---	0.500	"	"	---	---	---	---	---	---	
Chlorobenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Chloroethane	ND	---	2.00	"	"	---	---	---	---	---	---	
Chloroform	ND	---	2.00	"	"	---	---	---	---	---	---	
Chloromethane	ND	---	5.00	"	"	---	---	---	---	---	---	
2-Chlorotoluene	ND	---	0.500	"	"	---	---	---	---	---	---	
4-Chlorotoluene	ND	---	0.500	"	"	---	---	---	---	---	---	
1,2-Dibromo-3-chloropropane	ND	---	5.00	"	"	---	---	---	---	---	---	
Dibromochloromethane	ND	---	0.500	"	"	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	---	---	---	---	---	---	
Dibromomethane	ND	---	0.500	"	"	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Dichlorodifluoromethane	ND	---	1.00	"	"	---	---	---	---	---	---	
1,1-Dichloroethane	ND	---	0.500	"	"	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	---	---	---	---	---	---	
1,1-Dichloroethene	ND	---	0.500	"	"	---	---	---	---	---	---	
cis-1,2-Dichloroethene	ND	---	0.500	"	"	---	---	---	---	---	---	
trans-1,2-Dichloroethene	ND	---	0.500	"	"	---	---	---	---	---	---	
1,2-Dichloropropane	ND	---	0.500	"	"	---	---	---	---	---	---	
1,3-Dichloropropane	ND	---	0.500	"	"	---	---	---	---	---	---	
2,2-Dichloropropane	ND	---	0.500	"	"	---	---	---	---	---	---	

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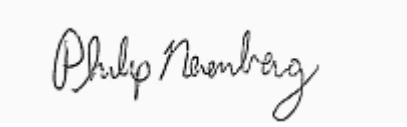

Philip Nerenberg, Lab Director

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Amec Earth and Environmental, Inc	Project: **Camp Rilea**	
7376 SW Durham Road	Project Number: 661M 110153-03	**Reported:**
Portland, OR 97224	Project Manager: Scott Kranz	07/02/09 16:30

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9060122 - EPA 5030B							**Water**					
Blank (9060122-BLK1)					Prepared: 06/10/09 08:58 Analyzed: 06/10/09 15:08							
1,1-Dichloropropene	ND	---	0.500	ug/L	"	---	---	---	---	---	---	
cis-1,3-Dichloropropene	ND	---	1.00	"	"	---	---	---	---	---	---	
trans-1,3-Dichloropropene	ND	---	0.500	"	"	---	---	---	---	---	---	
Ethylbenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Hexachlorobutadiene	ND	---	5.00	"	"	---	---	---	---	---	---	
2-Hexanone	ND	---	10.0	"	"	---	---	---	---	---	---	
Isopropylbenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
4-Isopropyltoluene	ND	---	1.00	"	"	---	---	---	---	---	---	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	"	"	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	"	"	---	---	---	---	---	---	
Methylene chloride	ND	---	5.00	"	"	---	---	---	---	---	---	
Naphthalene	ND	---	5.00	"	"	---	---	---	---	---	---	
n-Propylbenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Styrene	ND	---	0.500	"	"	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	---	0.500	"	"	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	---	0.500	"	"	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	---	0.500	"	"	---	---	---	---	---	---	
Toluene	ND	---	1.00	"	"	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	---	5.00	"	"	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	---	5.00	"	"	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	---	0.500	"	"	---	---	---	---	---	---	
1,1,2-Trichloroethane	ND	---	0.500	"	"	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	---	0.500	"	"	---	---	---	---	---	---	
Trichlorofluoromethane	ND	---	1.00	"	"	---	---	---	---	---	---	
1,2,3-Trichloropropane	ND	---	1.00	"	"	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
Vinyl chloride	ND	---	0.500	"	"	---	---	---	---	---	---	
m,p-Xylene	ND	---	1.00	"	"	---	---	---	---	---	---	
o-Xylene	ND	---	0.500	"	"	---	---	---	---	---	---	

Surr:	*Dibromofluoromethane (Surr)*	*Recovery:*	*106 %*	*Limits:*	*80-120 %*	*Dilution: 1x*
	1,4-Difluorobenzene (Surr)		*100 %*		*80-120 %*	*"*
	Toluene-d8 (Surr)		*99 %*		*80-120 %*	*"*
	4-Bromofluorobenzene (Surr)		*101 %*		*80-120 %*	*"*

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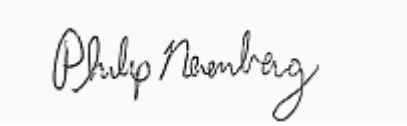

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Amec Earth and Environmental, Inc	Project: **Camp Rilea**	
7376 SW Durham Road	Project Number: 661M 110153-03	**Reported:**
Portland, OR 97224	Project Manager: Scott Kranz	07/02/09 16:30

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9060122 - EPA 5030B							**Water**					
LCS (9060122-BS1)					Prepared: 06/10/09 08:58		Analyzed: 06/10/09 14:07					
EPA 8260B												
Acetone	46.4	---	20.0	ug/L	1	40.0	---	116	70-130%	---	---	
Benzene	19.5	---	0.250	"	"	20.0	---	98	"	---	---	
Bromobenzene	19.9	---	0.500	"	"	"	---	100	"	---	---	
Bromochloromethane	22.7	---	0.500	"	"	"	---	113	"	---	---	
Bromodichloromethane	22.9	---	0.500	"	"	"	---	115	"	---	---	
Bromoform	19.8	---	1.00	"	"	"	---	99	"	---	---	
Bromomethane	28.5	---	5.00	"	"	"	---	142	"	---	---	Q-29
2-Butanone (MEK)	41.2	---	10.0	"	"	40.0	---	103	"	---	---	
n-Butylbenzene	19.9	---	1.00	"	"	20.0	---	99	"	---	---	
sec-Butylbenzene	19.4	---	1.00	"	"	"	---	97	"	---	---	
tert-Butylbenzene	20.9	---	0.500	"	"	"	---	104	"	---	---	
Carbon tetrachloride	22.4	---	0.500	"	"	"	---	112	"	---	---	
Chlorobenzene	19.2	---	0.500	"	"	"	---	96	"	---	---	
Chloroethane	23.2	---	2.00	"	"	"	---	116	"	---	---	
Chloroform	21.6	---	2.00	"	"	"	---	108	"	---	---	
Chloromethane	15.1	---	5.00	"	"	"	---	76	"	---	---	
2-Chlorotoluene	19.1	---	0.500	"	"	"	---	96	"	---	---	
4-Chlorotoluene	20.8	---	0.500	"	"	"	---	104	"	---	---	
1,2-Dibromo-3-chloropropane	18.0	---	5.00	"	"	"	---	90	"	---	---	
Dibromochloromethane	21.4	---	0.500	"	"	"	---	107	"	---	---	
1,2-Dibromoethane (EDB)	19.4	---	0.500	"	"	"	---	97	"	---	---	
Dibromomethane	19.5	---	0.500	"	"	"	---	98	"	---	---	
1,2-Dichlorobenzene	19.5	---	0.500	"	"	"	---	97	"	---	---	
1,3-Dichlorobenzene	19.8	---	0.500	"	"	"	---	99	"	---	---	
1,4-Dichlorobenzene	18.5	---	0.500	"	"	"	---	92	"	---	---	
Dichlorodifluoromethane	15.4	---	1.00	"	"	"	---	77	"	---	---	
1,1-Dichloroethane	21.6	---	0.500	"	"	"	---	108	"	---	---	
1,2-Dichloroethane (EDC)	25.4	---	0.500	"	"	"	---	127	"	---	---	
1,1-Dichloroethene	19.9	---	0.500	"	"	"	---	100	"	---	---	
cis-1,2-Dichloroethene	22.9	---	0.500	"	"	"	---	115	"	---	---	
trans-1,2-Dichloroethene	21.4	---	0.500	"	"	"	---	107	"	---	---	
1,2-Dichloropropane	21.4	---	0.500	"	"	"	---	107	"	---	---	
1,3-Dichloropropane	22.6	---	0.500	"	"	"	---	113	"	---	---	
2,2-Dichloropropane	21.6	---	0.500	"	"	"	---	108	"	---	---	

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Amec Earth and Environmental, Inc	Project: **Camp Rilea**	
7376 SW Durham Road	Project Number: 661M 110153-03	**Reported:**
Portland, OR 97224	Project Manager: Scott Kranz	07/02/09 16:30

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9060122 - EPA 5030B							**Water**					
LCS (9060122-BS1)					Prepared: 06/10/09 08:58		Analyzed: 06/10/09 14:07					
1,1-Dichloropropene	20.3	---	0.500	ug/L	"	"	---	102	"	---	---	
cis-1,3-Dichloropropene	19.5	---	1.00	"	"	"	---	98	"	---	---	
trans-1,3-Dichloropropene	21.4	---	0.500	"	"	"	---	107	"	---	---	
Ethylbenzene	20.6	---	0.500	"	"	"	---	103	"	---	---	
Hexachlorobutadiene	20.1	---	5.00	"	"	"	---	100	"	---	---	
2-Hexanone	43.4	---	10.0	"	"	40.0	---	109	"	---	---	
Isopropylbenzene	19.5	---	0.500	"	"	20.0	---	97	"	---	---	
4-Isopropyltoluene	19.0	---	1.00	"	"	"	---	95	"	---	---	
4-Methyl-2-pentanone (MiBK)	46.0	---	10.0	"	"	40.0	---	115	"	---	---	
Methyl tert-butyl ether (MTBE)	21.4	---	1.00	"	"	20.0	---	107	"	---	---	
Methylene chloride	19.3	---	5.00	"	"	"	---	96	"	---	---	
Naphthalene	18.6	---	5.00	"	"	"	---	93	"	---	---	
n-Propylbenzene	19.9	---	0.500	"	"	"	---	100	"	---	---	
Styrene	18.8	---	0.500	"	"	"	---	94	"	---	---	
1,1,1,2-Tetrachloroethane	21.6	---	0.500	"	"	"	---	108	"	---	---	
1,1,2,2-Tetrachloroethane	19.8	---	0.500	"	"	"	---	99	"	---	---	
Tetrachloroethene (PCE)	18.8	---	0.500	"	"	"	---	94	"	---	---	
Toluene	19.4	---	1.00	"	"	"	---	97	"	---	---	
1,2,3-Trichlorobenzene	17.9	---	5.00	"	"	"	---	89	"	---	---	
1,2,4-Trichlorobenzene	19.0	---	5.00	"	"	"	---	95	"	---	---	
1,1,1-Trichloroethane	22.8	---	0.500	"	"	"	---	114	"	---	---	
1,1,2-Trichloroethane	18.8	---	0.500	"	"	"	---	94	"	---	---	
Trichloroethene (TCE)	20.4	---	0.500	"	"	"	---	102	"	---	---	
Trichlorofluoromethane	21.4	---	1.00	"	"	"	---	107	"	---	---	
1,2,3-Trichloropropane	19.5	---	1.00	"	"	"	---	97	"	---	---	
1,2,4-Trimethylbenzene	20.9	---	1.00	"	"	"	---	105	"	---	---	
1,3,5-Trimethylbenzene	19.7	---	1.00	"	"	"	---	99	"	---	---	
Vinyl chloride	18.2	---	0.500	"	"	"	---	91	"	---	---	
m,p-Xylene	40.8	---	1.00	"	"	40.0	---	102	"	---	---	
o-Xylene	21.4	---	0.500	"	"	20.0	---	107	"	---	---	

Surr:	*Dibromofluoromethane (Surr)*	*Recovery:*	*105 %*	*Limits:*	*80-120 %*	*Dilution:* *1x*
	1,4-Difluorobenzene (Surr)		*100 %*		*80-120 %*	*"*
	Toluene-d8 (Surr)		*99 %*		*80-120 %*	*"*
	4-Bromofluorobenzene (Surr)		*99 %*		*80-120 %*	*"*

Apex Laboratories

Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Amec Earth and Environmental, Inc	Project: **Camp Rilea**	
7376 SW Durham Road	Project Number: 661M 110153-03	**Reported:**
Portland, OR 97224	Project Manager: Scott Kranz	07/02/09 16:30

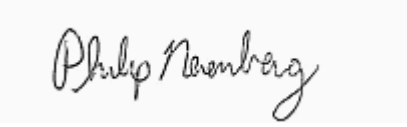
SAMPLE PREPARATION INFORMATION

Volatile Organic Compounds by EPA 8260B

Prep: EPA 5030B

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9060122							
A906050-01RE1	Water	EPA 8260B	06/04/09 12:30	06/10/09 08:58	5mL/5mL	5mL/5mL	1.00
A906050-02RE1	Water	EPA 8260B	06/04/09 14:50	06/10/09 08:58	5mL/5mL	5mL/5mL	1.00
A906050-03	Water	EPA 8260B	06/04/09 15:40	06/10/09 08:58	5mL/5mL	5mL/5mL	1.00
A906050-04	Water	EPA 8260B	06/04/09 14:05	06/10/09 08:58	5mL/5mL	5mL/5mL	1.00
A906050-05	Water	EPA 8260B	06/04/09 13:20	06/10/09 08:58	5mL/5mL	5mL/5mL	1.00
A906050-06	Water	EPA 8260B	06/04/09 00:00	06/10/09 08:58	5mL/5mL	5mL/5mL	1.00

Apex Laboratories



Philip Nerenberg, Lab Director

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7376 SW Durham Road	Project Number: 661M 110153-03	**Reported:**
Portland, OR 97224	Project Manager: Scott Kranz	07/02/09 16:30

Notes and Definitions

Qualifiers:

EST	Result reported as an Estimated Value.
Q-29	Recovery for Lab Control Spike (LCS) is above the upper control limit. Data may be biased high.
X	See Case Narrative.

Notes and Conventions:

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis. Results listed as 'wet' or without 'dry'designation are not dry weight corrected.
RPD	Relative Percent Difference
MDL	If MDL is not listed, data has been evaluated to the Method Reporting Limit only.
WMSC	Water Miscible Solvent Correction has been applied to Results and MRLs for volatiles soil samples per EPA 8000C.
Batch QC	Unless specifically requested, this report contains only results for Batch QC derived from client samples included in this report. All analyses were performed with the appropriate Batch QC (including Sample Duplicates, Matrix Spikes and/or Matrix Spike Duplicates) in order to meet or exceed method and regulatory requirements. Any exceptions to this will be qualified in this report. Complete Batch QC results are available upon request. In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.

Apex Laboratories

Philip Nerenberg, Lab Director

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Amec Earth and Environmental, Inc	Project: **Camp Rilea**	
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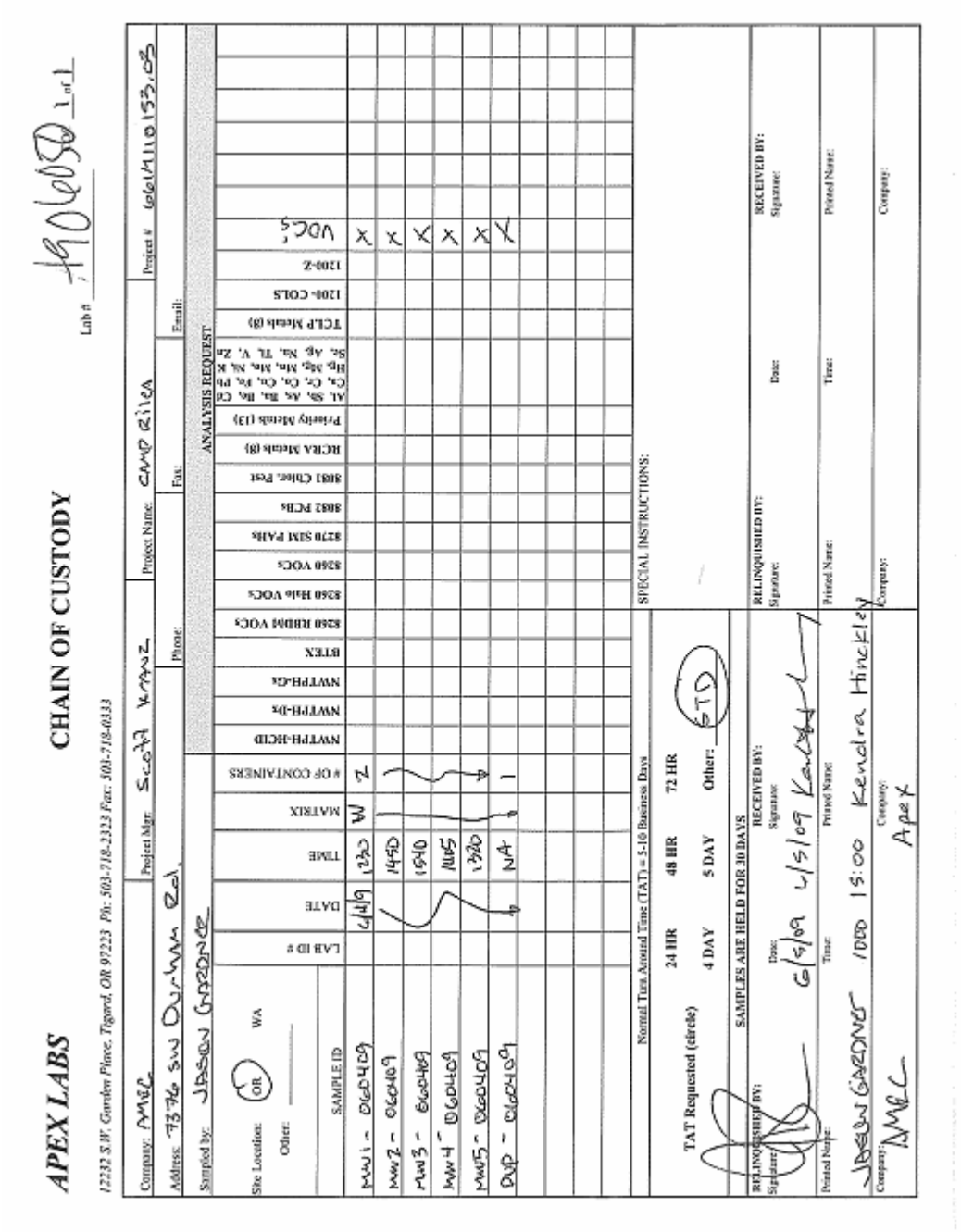
Portland, OR 97224	Project Manager: Scott Kranz	07/02/09 16:30



APEX LABS

12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333

CHAIN OF CUSTODY

Lab # 1906050 1 of 1

Company: AMEC | Project Mgr: Scott Kranz | Project Name: Camp Rilea | Project # 661M110153.03

Address: 7376 SW Durham Rd. | Phone: | Fax: | Email:

Sampled by: Jason Gardner

Site Location: OR WA Other:

ANALYSIS REQUEST

SAMPLE ID	LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	NWTPH-HCID	NWTPH-Dx	NWTPH-Gx	BTEX	8260 RBDM VOCs	8260 Halo VOCs	8260 VOCs	8270 SIM PAHs	8082 PCBs	8081 Chlor. Pest	RCRA Metals (8)	Priority Metals (13)	Al, Sb, As, Ba, Be, Cd Ca, Cr, Co, Cu, Fe, Pb Hg, Mg, Mn, Mo, Ni, K Se, Ag, Na, Tl, V, Zn	TCLP Metals (8)	1200-COLS	1200-Z	VOCs
MW1 - 060409		6/4/09	1230	W	2																	X
MW2 - 060409			1450																			X
MW3 - 060409			1540																			X
MW4 - 060409			1105																			X
MW5 - 060409			1320																			X
DUP - 060409			NA		1																	X

Normal Turn Around Time (TAT) = 5-10 Business Days

TAT Requested (circle): 24 HR 48 HR 72 HR 4 DAY 5 DAY Other: STD

SPECIAL INSTRUCTIONS:

SAMPLES ARE HELD FOR 30 DAYS

RELINQUISHED BY: Signature: Date: 6/5/09 Time: 1000 Printed Name: Jason Gardner Company: AMEC

RECEIVED BY: Signature: 6/5/09 Printed Name: Kendra Hinckley Company: Apex

RELINQUISHED BY: Signature: Date: Printed Name: Time: Company:

RECEIVED BY: Signature: Printed Name: Company:

Apex Laboratories

Philip Nerenberg

Philip Nerenberg, Lab Director

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ATTACHMENT 3

BIOCHLOR Model Input Parameters and Results

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Camp Rilea
Former Landfill
Run Name

Data Input Instructions:

115 — 1. Enter value directly....or
or — 2. Calculate by filling in gray
0.02 — cells. Press Enter, then C
(To restore formulas, hit "Restore Formulas" button)
Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	186.2	(ft/yr)
or			
Hydraulic Conductivity	K	1.0E-02	(cm/sec)
Hydraulic Gradient	i	0.0036	(ft/ft)
Effective Porosity	n	0.2	(-)

2. DISPERSION

Alpha x*	25	(ft)
(Alpha y) / (Alpha x)*	0.1	(-)
(Alpha z) / (Alpha x)*	1.E-99	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R
or

Soil Bulk Density, rho	1.7	(kg/L)		
FractionOrganicCarbon, foc	1.0E-3	(-)		
Partition Coefficient	Koc			
PCE	426	(L/kg)	4.62	(-)
TCE	130	(L/kg)	2.11	(-)
DCE	125	(L/kg)	2.06	(-)
VC	30	(L/kg)	1.25	(-)
ETH	302	(L/kg)	3.57	(-)
Common R (used in model)* =			**2.11**	

4. BIOTRANSFORMATION

-1st Order Decay Coefficient*

Zone 1	λ (1/yr)	half-life (yrs)	Yield
PCE → TCE	0.000		0.79
TCE → DCE	0.154	4.50	0.74
DCE → VC	0.000		0.64
VC → ETH	0.000		0.45

Zone 2	λ (1/yr)	half-life (yrs)
PCE → TCE	0.000	
TCE → DCE	0.000	
DCE → VC	0.000	
VC → ETH	0.000	

λ HELP

5. GENERAL

Simulation Time*	10	(yr)
Modeled Area Width*	200	(ft)
Modeled Area Length*	460	(ft)
Zone 1 Length*	460	(ft)
Zone 2 Length*	0	(ft)

L, W

Zone 2= L - Zone 1

6. SOURCE DATA

TYPE: Decaying Single Planar

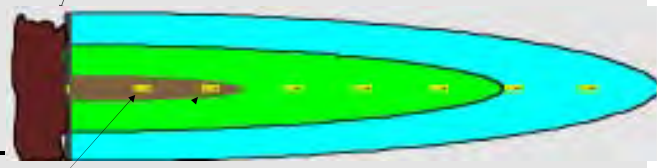
Source Options

Source Thickness in Sat. Zone* 20 (ft)

Y1
Width* (ft) 140

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE		0.659
TCE	6.84E-03	0.659
DCE		0.659
VC		0.659
ETH		0.659

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)											
TCE Conc. (mg/L)											
DCE Conc. (mg/L)											
VC Conc. (mg/L)											
ETH Conc. (mg/L)											
Distance from Source (ft)											
Date Data Collected											

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore Formulas | RESET | SEE OUTPUT | Paste Example

ATTACHMENT 3
Camp Rilea Former Landfill
BIOCHLOR Centerline Results: 1 year

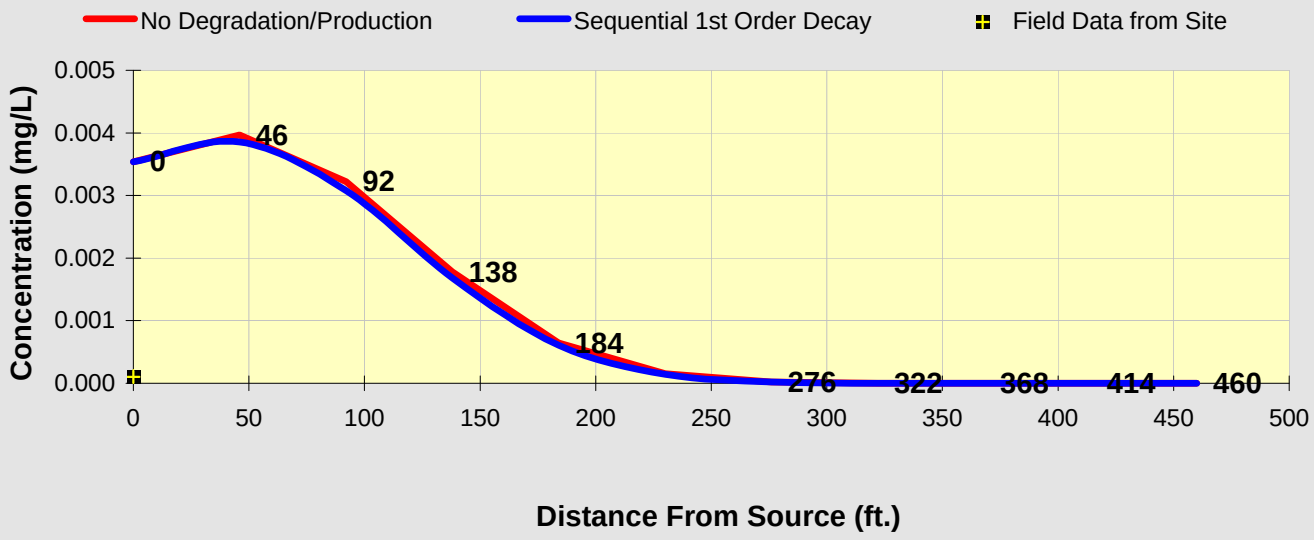
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

TCE	0	46	92	138	184	230	276	322	368	414	460
No Degradation	0.004	0.004	0.003	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.0035	0.004	0.003	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

Field Data from Site											



See PCE
See TCE
See DCE
See VC
See ETH

Replay

Time:
1.0 Years
Log ⟺ Linear

Return to Input
To All
To Array

ATTACHMENT 3
Camp Rilea Former Landfill
BIOCHLOR Centerline Results: 2 years

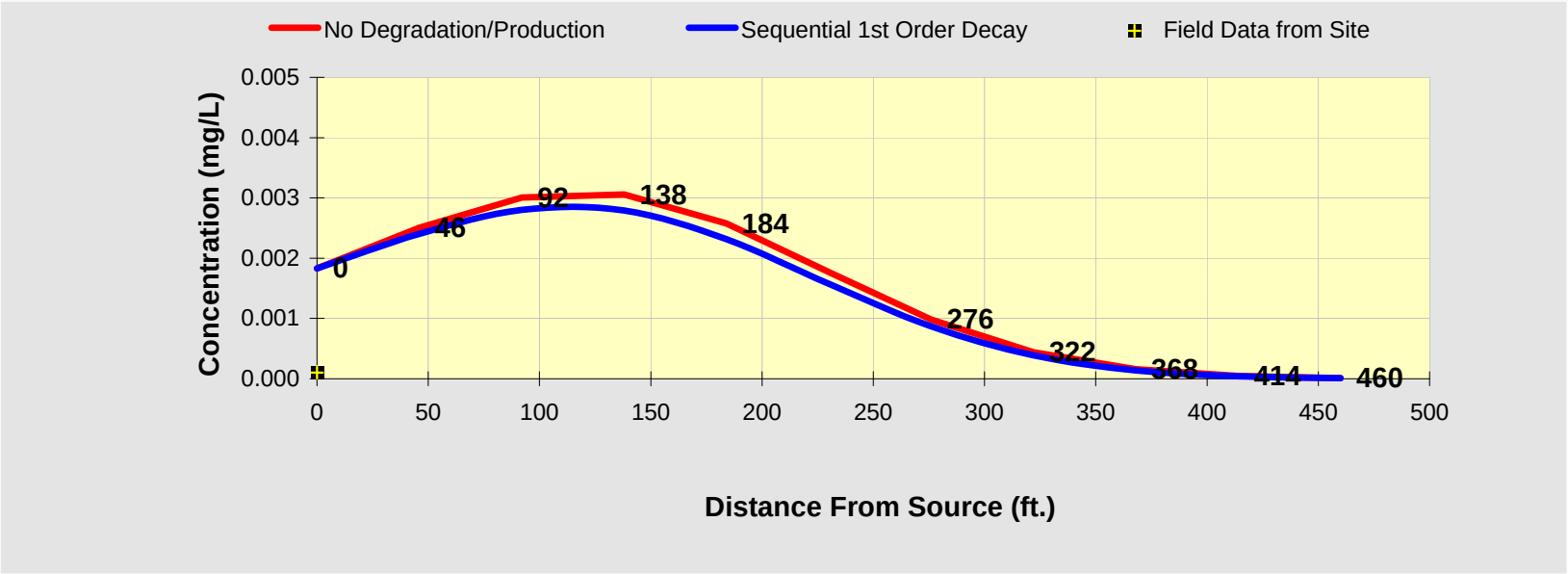
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

TCE	0	46	92	138	184	230	276	322	368	414	460
No Degradation	0.002	0.003	0.003	0.003	0.003	0.002	0.001	0.000	0.000	0.000	0.000
Biotransformation	0.0018	0.002	0.003	0.003	0.002	0.002	0.001	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

Field Data from Site											



See PCE
See TCE
See DCE
See VC
See ETH

Replay

Time:
2.0 Years
Log ⟺ Linear

Return to Input
To All
To Array

ATTACHMENT 3
Camp Rilea Former Landfill
BIOCHLOR Centerline Results: 3 years

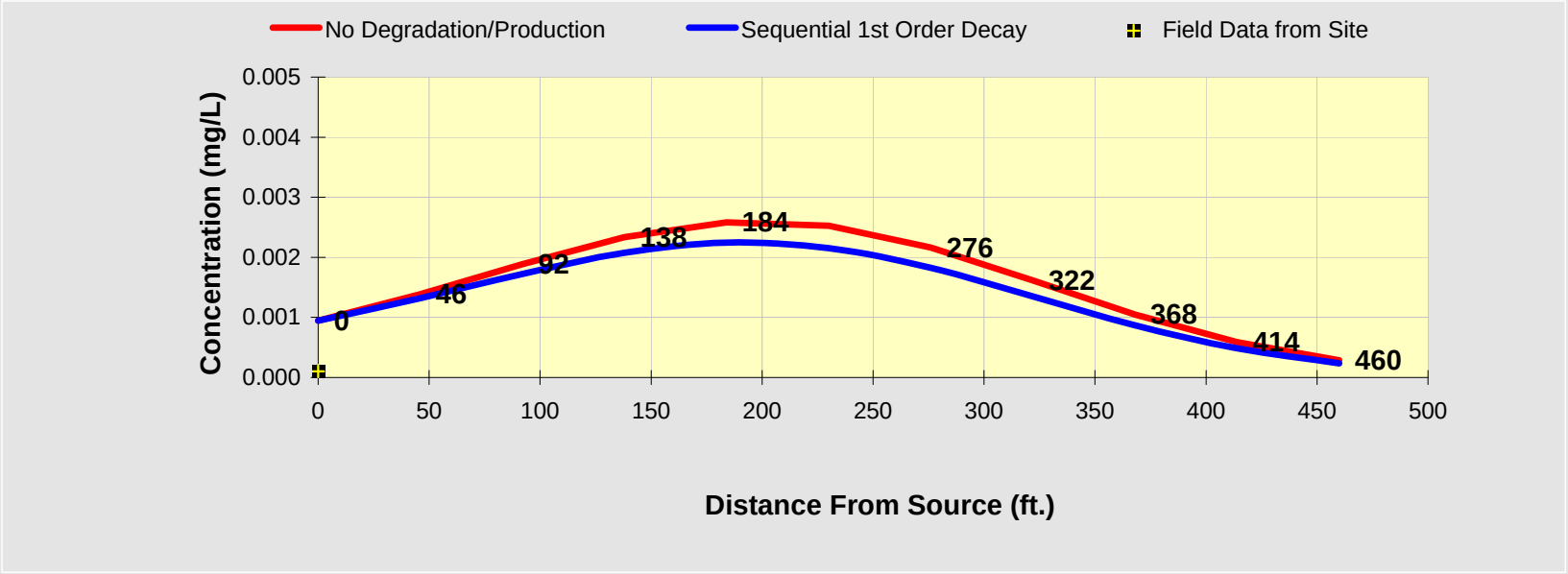
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

TCE	0	46	92	138	184	230	276	322	368	414	460
No Degradation	0.001	0.001	0.002	0.002	0.003	0.003	0.002	0.002	0.001	0.001	0.000
Biotransformation	0.0009	0.001	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.000	0.000

Monitoring Well Locations (ft)

Field Data from Site											



See PCE
See TCE
See DCE
See VC
See ETH

Replay

Time:
3.0 Years
Log ⟺ Linear

Return to Input
To All
To Array

ATTACHMENT 3
Camp Rilea Former Landfill
BIOCHLOR Centerline Results: 4 years

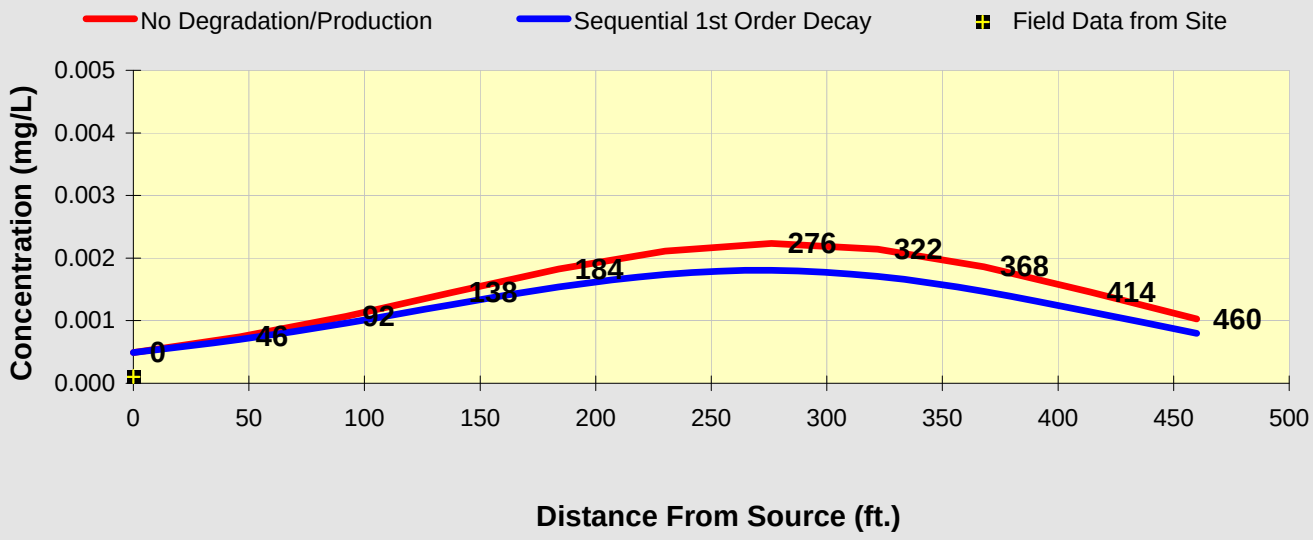
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

TCE	0	46	92	138	184	230	276	322	368	414	460
No Degradation	0.000	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.001	0.001
Biotransformation	0.0005	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.001	0.001	0.001

Monitoring Well Locations (ft)

Field Data from Site											



See PCE
See TCE
See DCE
See VC
See ETH

Replay

Time:
4.0 Years
Log ⟺ Linear

Return to Input
To All
To Array

ATTACHMENT 3
Camp Rilea Former Landfill
BIOCHLOR Centerline Results: 5 years

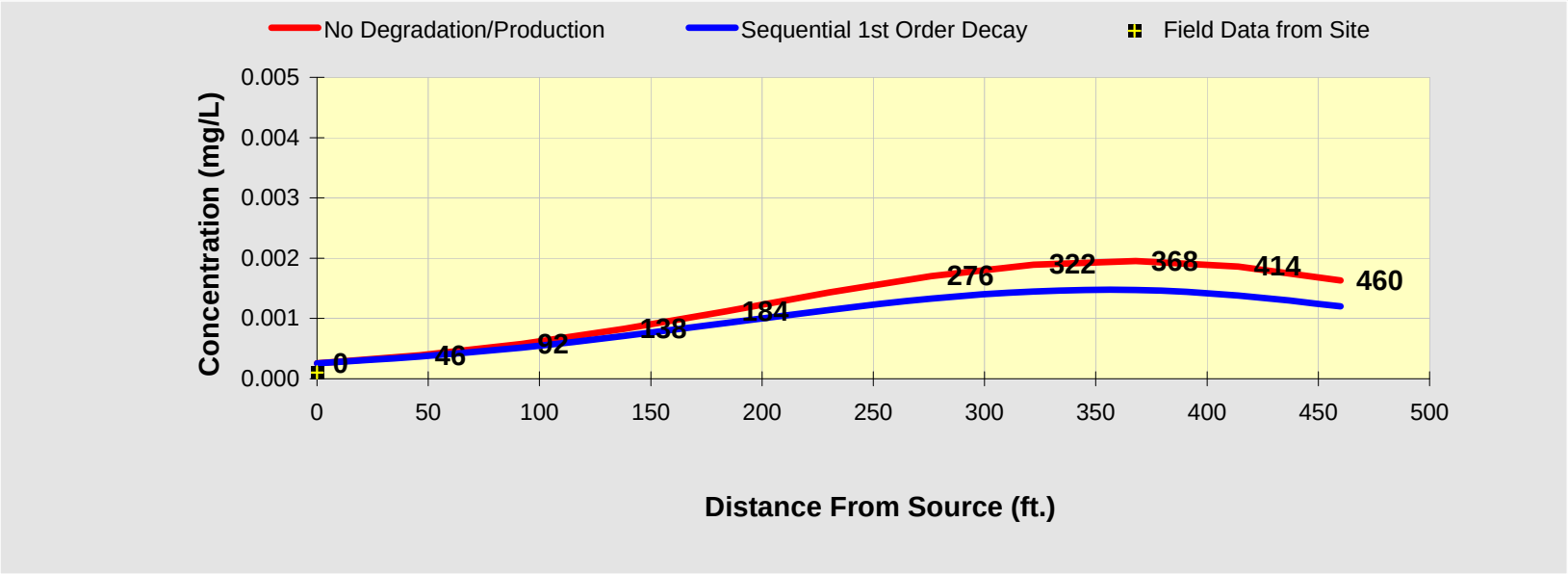
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

TCE	0	46	92	138	184	230	276	322	368	414	460
No Degradation	0.000	0.000	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002
Biotransformation	0.0003	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001

Monitoring Well Locations (ft)

Field Data from Site											



See PCE
See TCE
See DCE
See VC
See ETH

Replay

Time:
5.0 Years
Log ⇔ Linear

Return to Input
To All
To Array

ATTACHMENT 3
Camp Rilea Former Landfill
BIOCHLOR Centerline Results: 6 years

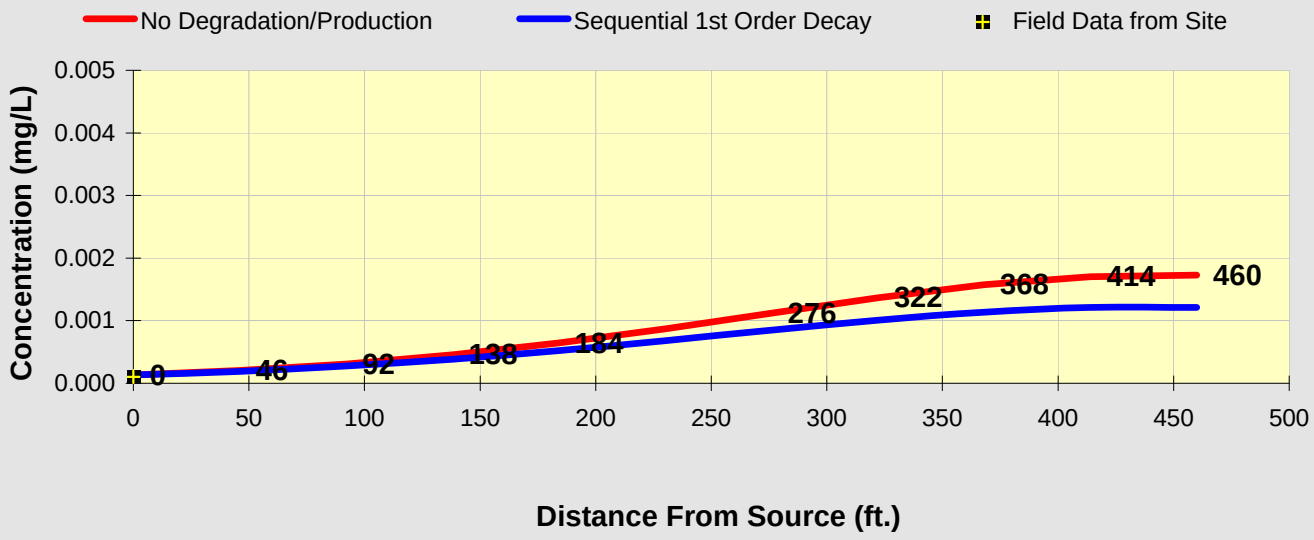
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

TCE	0	46	92	138	184	230	276	322	368	414	460
No Degradation	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001	0.002	0.002	0.002
Biotransformation	0.0001	0.000	0.000	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001

Monitoring Well Locations (ft)

Field Data from Site											



See PCE
See TCE
See DCE
See VC
See ETH

Replay

Time:
6.0 Years
Log ⟺ Linear

Return to Input
To All
To Array

ATTACHMENT 3
Camp Rilea Former Landfill
BIOCHLOR Centerline Results: 7 years

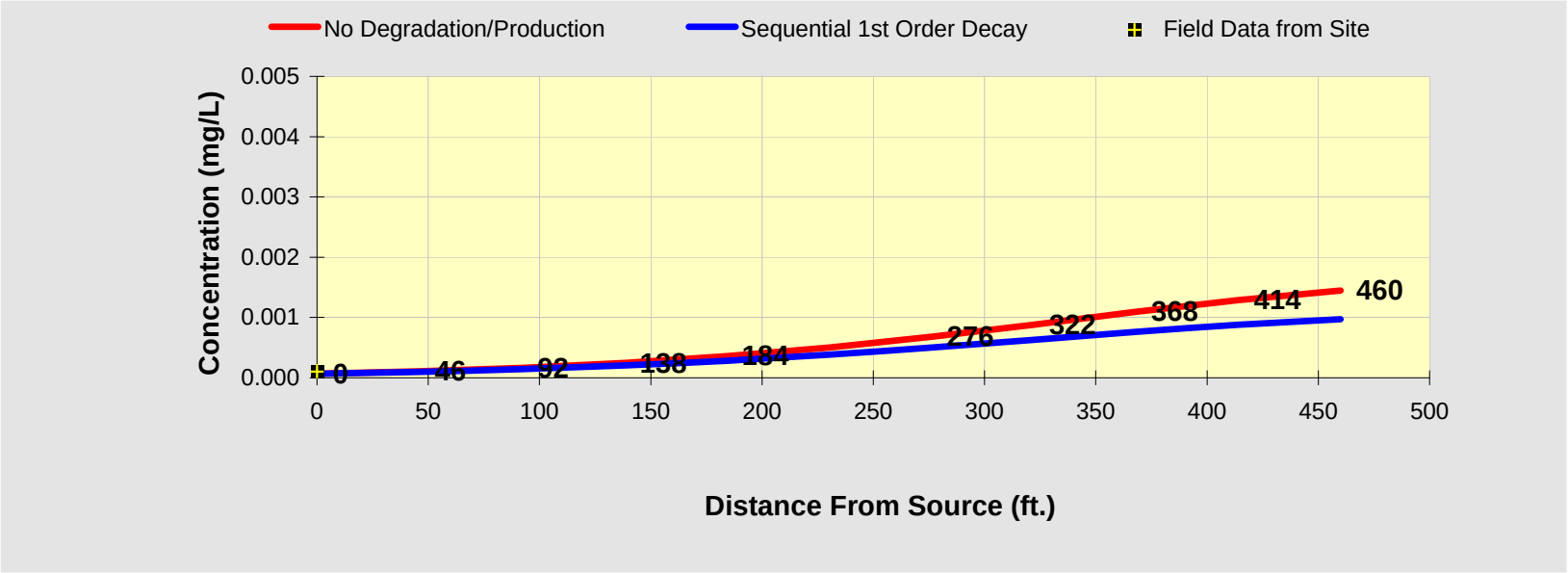
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

TCE	0	46	92	138	184	230	276	322	368	414	460
No Degradation	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001	0.001	0.001
Biotransformation	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001

Monitoring Well Locations (ft)

Field Data from Site											



See PCE
See TCE
See DCE
See VC
See ETH

Replay

Time:
7.0 Years
Log ⟺ Linear

Return to Input
To All
To Array

ATTACHMENT 3
Camp Rilea Former Landfill
BIOCHLOR Centerline Results: 8 years

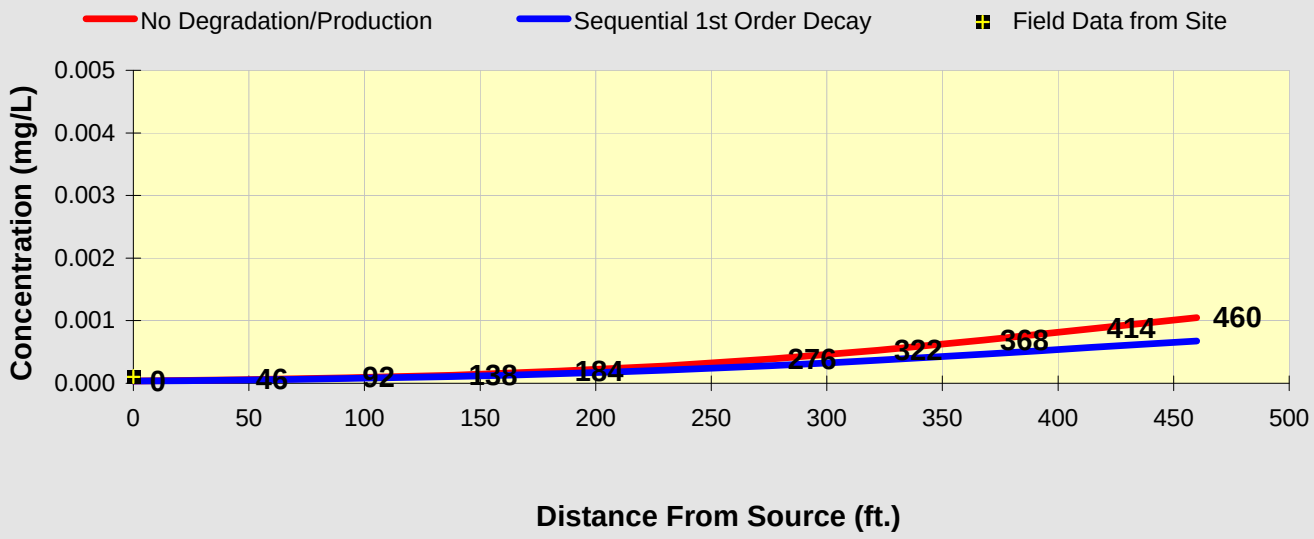
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

TCE	0	46	92	138	184	230	276	322	368	414	460
No Degradation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001
Biotransformation	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001

Monitoring Well Locations (ft)

Field Data from Site											



See PCE
See TCE
See DCE
See VC
See ETH

Replay

Time:
8.0 Years
Log ⟺ Linear

Return to Input
To All
To Array

ATTACHMENT 3
Camp Rilea Former Landfill
BIOCHLOR Centerline Results: 9 years

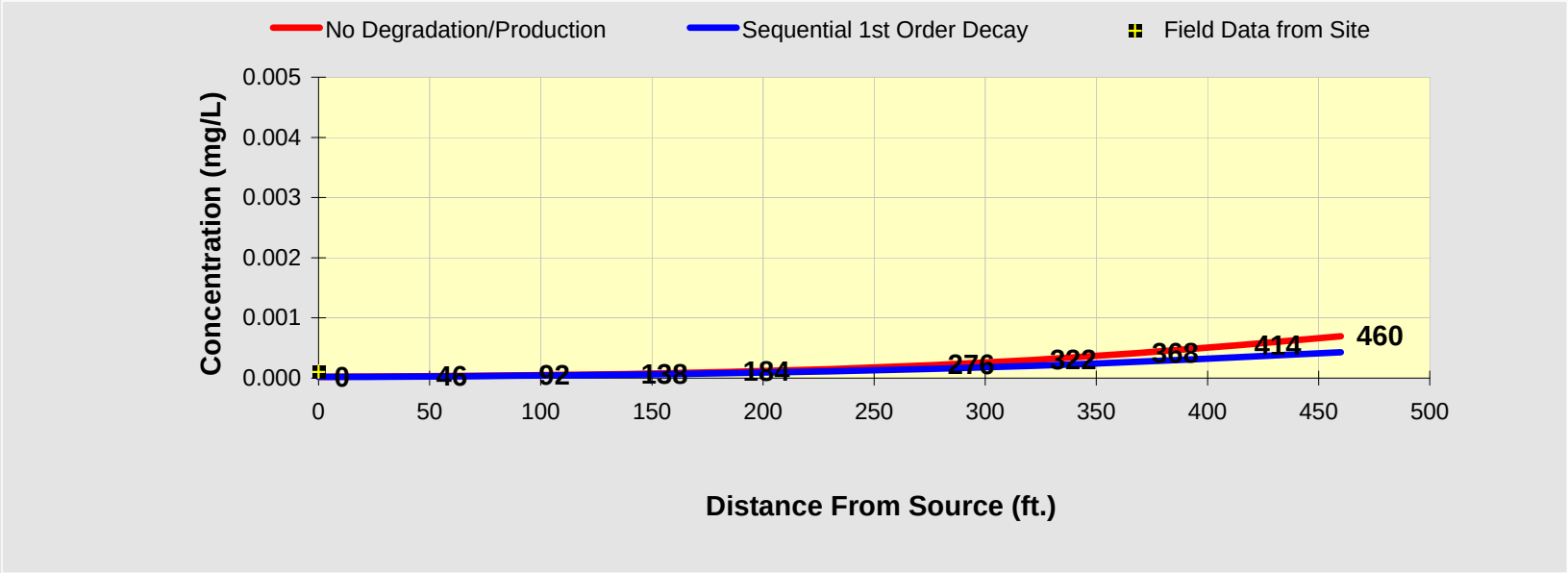
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

TCE	0	46	92	138	184	230	276	322	368	414	460
No Degradation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001
Biotransformation	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

Field Data from Site											



See PCE
See TCE
See DCE
See VC
See ETH

Replay

Time:
9.0 Years
Log ⟺ Linear

Return to Input
To All
To Array

ATTACHMENT 3
Camp Rilea Former Landfill
BIOCHLOR Centerline Results: 10 years

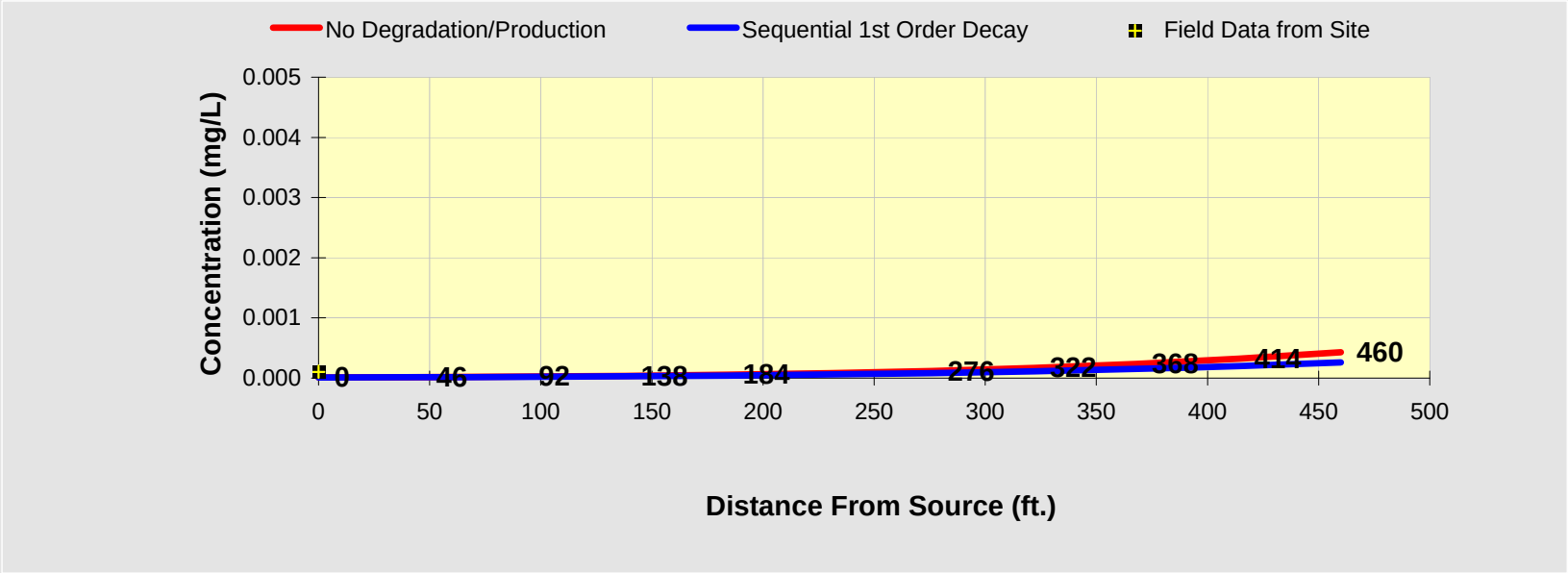
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

TCE	0	46	92	138	184	230	276	322	368	414	460
No Degradation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Replay

Time:
10.0 Years
Log ⟺ Linear

Return to Input

To All

To Array

DEQ Staff Report
Former Landfill Area, Camp Rilea
Warrenton, Oregon
ECSI Site No. 1524
December 10, 2009

1.0 INTRODUCTION

This document presents a summary of the environmental investigation and cleanup work performed at the former landfill area located on the Camp Rilea site in Warrenton, Oregon. The purpose of this Staff Report is to document the Oregon Department of Environmental Quality's (DEQs) recommendation for a No Further Action determination for this area. A partial No Further Action determination for the nearby Burn Pit Area was issued in January 2009. Other areas of the camp that may require further investigation, such as the barracks buildings diesel release area, would not be covered by this determination.

2.0 BACKGROUND

This section summarizes background information, history, and land use at the site. The Oregon Military Department (OMD) signed an Independent Cleanup Program Letter Agreement with DEQ for oversight of the Camp Rilea Armed Forces Training Center Project on July 27, 2006.

2.1 Physical Setting and History

Camp Rilea is located at 33168 Patriot Way in Warrenton and the entire property is 1,850 acres in size. The project site is located within the northern half of Section 4, Township 7 North, Range 10 East of the Willamette Meridian. The landscape at Camp Rilea consists of north-south trending sand dunes, interdunal plains, lakes, and streams. The camp is bordered by the Pacific Ocean to the west, U.S. Highway Route 101 to the east, agricultural land and a golf course to the south, and residential property to the north. Ground surface elevation ranges from sea level to 75 feet above sea level. Natural vegetation at the site includes pine forest and low-lying grasses. The camp includes a barracks area with several buildings, training and firing range areas, a sewage treatment plant, and a spray irrigation area. Camp Rilea has been used as a military training facility since it was originally established as Camp Clatsop in 1927.

The former landfill area is located near the top of a vegetated dune, at the end of NBC Road, immediately east of the Modified Automatic Record Fire (MARF) Range Maintenance Building and southeast of the range (see Figure 1). The landfill reportedly received waste from the general public and Camp Rilea personnel in the 1930s and was closed in the late 1980s but no closure documentation is available. Recent explorations in the landfill encountered wood, metal, glass, tires, clothing, fishing nets, etc. to depths of approximately six feet.

2.2 Geology

The Clatsop Plains developed in the late Quaternery period when sand began accumulating along the shoreline. The Columbia River to the north discharged sands which were distributed north and south of the river mouth in response to seasonal north and south-flowing ocean currents. Sand deposits built the beach seaward over the shallow continental shelf. Previously submerged sandbars grew in size as wind-blown sand was trapped by dune grasses and a series of parallel beach ridges and plains developed. Monitoring well boring logs show fine to medium sand in the landfill area. Groundwater was encountered at between approximately 25-42 feet below ground surface (bgs). Groundwater monitoring at the former landfill suggests that groundwater in the immediate area flows east toward Neacoxie Creek, 500 feet east of the landfill (see Figure 1).

2.3 Beneficial Land and Water Uses

The property is used by OMD for military training and housing purposes and this use can be reasonably anticipated to continue for the foreseeable future.

There is one USGS monitoring well located within the landfill locality of the facility that is used for water level measurement; it is not likely to be used for drinking water. Drinking water for the property is currently supplied by the City of Warrenton municipal supply. Camp Rilea is planning to convert to onsite potable water supply with the installation of three water supply wells located roughly 2,000 feet southwest of the landfill area (See Figure 2). The supply wells would be completed at depths greater than 100 feet and aquifer testing in this location indicates a radius of influence of less than 200 feet. These wells would be well outside the Locality of the Facility for the former landfill.

3.0 ENVIRONMENTAL INVESTIGATIONS

This section summarizes the investigations and remedial actions conducted at the landfill area from 1996 to 2009.

3.1 Early Investigations

Investigation began with the *Site Assessment Survey* No. 38-EH-1332b-01, a study prepared by the U.S. Army Center for Health Promotion and Preventative Medicine (USACHPPM). In 1996 the USACHPPM collected groundwater from six temporary well points in the vicinity of the former landfill. Samples were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), pesticides, dissolved metals, nitrate-nitrogen, and chloride. Trichloroethylene was detected at one well point at a concentration of 6.2 μg/L. Nitrate-nitrogen, chloride, barium, copper, and zinc were also detected but reportedly below drinking water quality standards. SVOCs, PCBs, and pesticides were not detected above detection limits.

Investigation continued in September 2005 when 28 borings and four test pits were advanced in and around the landfill using a push probe rig and a backhoe. All borings were used for landfill area delineation, and some also for soil and groundwater sampling. Selected soil samples were analyzed for total RCRA eight metals, explosives, VOCs, and SVOCs while groundwater samples were analyzed for metals and VOCs.

The extent of landfill debris was determined by visual observation of debris and refuse in the soil. The landfill was found to cover approximately 4,000 square feet in area and the boundary is shown in Figure 1. Metals found in landfill soil included arsenic up to 2.3 mg/Kg, lead up to 766 mg/kg, and mercury up to 0.1 mg/Kg. SVOCs and explosives were not detected in any soil samples. VOCs found included: methylene chloride up to 0.024 mg/Kg, trichloroethene (TCE) at 0.029 mg/Kg, and tetrachloroethylene (PCE) up to 0.024 mg/Kg. Methylene chloride was also found in the lab blank and was attributed to laboratory contamination.

Five borings were advanced to approximately 40 feet bgs for collection of groundwater samples. Arsenic was found at up to 24 μg/L and lead at up to 40.9 μg/L. The VOCs TCE at 7.5 μg/L, PCE at 1.5 μg/L, and 1,1,2,2-tetrachloroethane up to 2.6 μg/L, were also found.

3.2 Deep Groundwater Investigation

In April 2007 a deep groundwater investigation was performed to determine if there was potential for dense non-aqueous phase liquid (DNAPL) migration to deeper groundwater below the landfill. Deep groundwater was sampled at a temporary boring located in the southern part of the landfill footprint near the highest previous detection of VOCs in shallow groundwater. The boring was advanced to a total depth of 86 feet bgs and water samples were collected at 48, 73, and 84 feet bgs. Samples were analyzed for VOCs but they were not detected at any depth and it was concluded that VOC contamination was limited to shallow groundwater.

3.3 Methane Investigation and Long Term Groundwater Investigation

Due to the disposal of wood and organic debris in the landfill the potential for methane gas generation was investigated in July 2007. Five temporary two to three -foot, cased borings were installed and monitored for oxygen, carbon dioxide, and methane. Methane gas was detected at no more than 1 percent of the Lower Explosive Limit (LEL). This is below the 25 percent of LEL action level for methane.

Five permanent groundwater monitoring wells were installed in and around the landfill in August 2007 and quarterly sampling was conducted for two years (see Figure 3) . Groundwater samples were analyzed for VOCs and total RCRA metals. TCE was the only VOC consistently detected. Maximum concentrations included 1,1,2,2-tetrachloroethane at 2 μg/L, PCE at 1 μg/L, and TCE at 7 μg/L. Concentrations of TCE

appear to be declining and other compounds were only detected sporadically. Barium, selenium, and lead (4.5μg/L) were the only metals detected.

4.0 RISK ASSESSMENT SCREENING

This section discusses risk screening, groundwater modeling, and remediation conducted at the site.

4.1 Risk Screening

Concentrations of soil contaminants at the landfill were compared with DEQ risk-based concentrations (RBC). Arsenic concentrations exceeded the RBC but were below the Oregon default background concentration of 7 mg/kg. Concentrations of other metals and VOCs were below RBCs for direct contact and indoor vapor intrusion.

After the initial groundwater sample collection in 2007 concentrations of TCE below the landfill have been at or below the EPA maximum contaminant level for drinking water of 5 μg/L. Other groundwater VOCs were only sporadically detected. Concentrations of metals in groundwater were below DEQ RBCs and MCLs for drinking water. Groundwater is not used for drinking water in the vicinity of the landfill so the drinking water pathway is not considered complete. Concentrations of groundwater VOCs were below RBCs for the vapor intrusion to buildings pathway.

Concentrations of lead in two landfill soil samples exceeded the leaching to groundwater RBC. Since groundwater is not used in the vicinity leaching to groundwater is not considered a complete pathway. Low concentrations for lead from groundwater sampling in monitoring wells suggests that lead is not actively leaching from the landfill.

Concentrations of methane found in the soil gas investigation were below the DEQ action level of 25 percent of LEL.

4.2 Groundwater Modeling and Locality of the Facility

The shallow groundwater system in the vicinity is expected to discharge at Neacoxie Creek, 500 feet east of the landfill. Fate and transport of VOCs in groundwater was estimated using BIOCHLOR and SourceDK analytical groundwater models. Model results predicted a maximum transient concentration of 1μg/L for TCE in groundwater at the creek. This concentration is below Ambient Water Quality Criteria and fish consumption screening levels.

The locality of the facility (LOF) was estimated to be a rectangle originating with the footprint of the landfill and extending east, downslope to the shoreline of Neocoxie Creek. The depth of the LOF was estimated at 48 feet bgs based on the deep groundwater investigation.

4.3 Remedial Action

Although potential risks for contaminant direct contact or leaching to groundwater are considered low for the landfill site the Oregon Military Department elected to install an asphalt cap over the surface of the former landfill. In 2006 a cap consisting of a four-inch aggregate base and a 3-inch asphalt layer was placed over the footprint of the former landfill. The cap now serves as the parking lot for the MARF maintenance building. The cap will eliminate any potential direct contact with buried landfill debris and will limit potential leaching of contaminants from debris.

5.0 CONCLUSION

DEQ concludes that current environmental conditions at the former Camp Rilea former landfill do not pose an unacceptable risk to human health and the environment, and therefore, this portion of the property meets the requirements of the Oregon Environmental Cleanup Laws. Pursuant to ORS 465.320 and OAR 340-122-0100, notice of DEQ's proposal of a Conditional No Further Action determination for the site will be published in the Oregon Secretary of State's Bulletin and a newspaper of local distribution, and a 30-day comment period provided.

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REMEDIAL ACTION AND GROUNDWATER MONITORING REPORT

Camp Rilea
33168 Patriot Way
Warrenton, Oregon
Contract Number W912JV06C3004

Submitted to:

Oregon Military Department
1776 Militia Way Southeast
Salem, Oregon 97309

Submitted by:

AMEC Earth & Environmental, Inc.
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14 January 2008

6-61M-110153

Mr. Jim Arnold
Restoration Manager
Oregon Military Department
1776 Militia Way SE
Salem, Oregon 97309

Dear Mr. Arnold:

Re: Remedial Action and Groundwater Monitoring Report
Former Burn Pit and Landfill Areas
Camp Rilea, Oregon

AMEC Earth & Environmental, Inc. (AMEC) is pleased to submit this Remedial Action and Groundwater Monitoring Report (RA Report) for the former Burn Pit and Landfill areas at Camp Rilea, located in Warrenton, Oregon. The RA Report documents recently completed burn pit soil excavation as well as capping, monitoring well installation, at the former landfill.

The remedial action was completed following the methods and procedures described in the Burn Pit Soil Excavation and Disposal Work Plan (AMEC, 2007a) and the Landfill Capping and Groundwater Monitoring Work Plan (AMEC, 2007b). The work was completed with no significant deviations to the approved work plans.

We appreciate the opportunity to work with the Oregon Military Department and look forward to completing this project. If you have any questions regarding this report, please contact either of the undersigned at (503) 639-3400.

Sincerely,

AMEC Earth & Environmental, Inc.

Scott Kranz, RG
Senior Hydrogeologist

Charles T. Esler, CHMM
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Attachments

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ACRONYMS

AMEC	AMEC Earth & Environmental, Inc.
ASTM	American Society of Testing Materials
bgs	below ground surface
BP	Burn Pit
CS	Confirmation Sample
DO	Dissolved Oxygen
DEQ	Oregon Department of Environmental Quality
EBS	Environmental Baseline Study
EPA	(United States) Environmental Protection Agency
HASP	Health and Safety Plan
IDW	Investigation Derived Waste
LEL	Lower Explosive Limit
MARF	Modified Automated Record Fire
OMD	Oregon Military Department
ORP	Oxidation-Reduction Potential
OSHA	Oregon Occupational Safety and Health Administration
PCB	Polychlorinated Biphenyl
PCE	Tetrachloroethene
PRG	Preliminary Remediation Goal
PVC	Poly vinyl chloride
RBC	Risk Based Concentration
REC	Recognized Environmental Condition
RCRA	Resource Conservation Recovery Act
RZ	Removal Zone
SAP	Sampling and Analysis Plan
SOP	Standard Operating Procedure
SVOCs	Semi-Volatile Organic Compounds
TCE	Trichloroethylene
TCLP	Toxicity Characteristic Leaching Procedure
USACHPPM	U.S. Army Center for Health Promotion and Preventative Medicine

VOCs	Volatile Organic Compounds
WP	Work Plan

1.0 INTRODUCTION

This report describes remedial action activities performed at a former burn pit and a former landfill located on Camp Rilea, in Warrenton, Oregon. The remedial activities were conducted from 30 July 2007 to 20 August, 2007. In addition, this report includes the results from the first quarterly groundwater monitoring event, conducted on 24 August 2007 for new groundwater monitoring wells installed at the former landfill area. AMEC Earth and Environmental, Inc. (AMEC) conducted the remedial action activities for the Oregon Military Department (OMD) as described in contract W912JV063004. The remedial action activities were conducted with the goal of obtaining a no further action (NFA) determination for both sites from the Oregon Department of Environmental Quality (DEQ). The remedial action activities performed for the contract include:

1. Soil removal at the former burn pit, confirmation soil sampling, proper disposal of former burn pit material, and closing the excavation with clean fill material.

2. Installation of an asphalt cap at the former landfill area next to the Modified Automated Record Fire (MARF) Range maintenance shop.

3. Groundwater monitoring well installation at the former landfill area and collection of groundwater samples.

The results from previous investigations conducted at the former burn pit area and former land fill area were used to develop remedial action objectives for each of the areas. The remedial action activities were performed consistent with the following approved work plans:

- Burn Pit Soil Excavation and Disposal Work Plan (AMEC, 2007a)

- Landfill Capping And Groundwater Monitoring Work Plan (AMEC, 2007b)

- Groundwater Monitoring and Methane Gas Sampling Approach (AMEC, 2007c)

1.1 Site Description

Camp Rilea is located at 33168 Patriot Way in Warrenton, Oregon, and encompasses approximately 1,850 acres (Figure 1). The installation includes a cantonment area with several buildings and structures, training and range areas, and a sewage treatment plant and spray irrigation area. Camp Rilea has been used as a military training facility since its original establishment as Camp Clatsop in 1927. The camp is

bordered by the Pacific Ocean to the west, U.S. Route 101 to the east, agricultural land and the Astoria Country Club and Golf Course to the south, and residential properties to the north.

1.2 Background

The U.S. Army Center for Health Promotion and Preventative Medicine identified the former burn pit and landfill areas as Recognized Environmental Conditions (RECs) in a report entitled "Site Assessment Survey No. 38-EH-1332b-01, Camp Rilea, Warrenton, Clatsop County, Oregon, 10 and 25 September 2001 (USACHPPM, 2001) (Figure 2). Subsequently, AMEC evaluated these RECs in a Phase II Environmental Baseline Study (EBS) (AMEC, 2006). The EBS results and recommendations were used to develop the remedial activities conducted at the former burn pit area and former landfill area described in this report. Descriptions of the former burn pit and land areas are provided below

- **Former Burn Pit.** The former burn pit is located on First Causeway Road, approximately 700 feet south of the former landfill. The burn pit was used to reduce the volume of solid waste entering an off-post landfill after the Camp Rilea landfill closed in the 1980s.

  During the EBS, AMEC collected twelve soil samples and two groundwater samples to help characterize the extent of impacts from the former burn pit. The soil samples were analyzed for gasoline range hydrocarbons, diesel range hydrocarbons, heavy oil range hydrocarbons, Resource Conservation Recovery Act (RCRA) metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver), polychlorinated biphenyls (PCBs), volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and explosives. The groundwater samples were analyzed for RCRA metals and VOCs.

  The arsenic concentration detected in the soil sample from boring A1-BP-14, located in the center of the burn pit exceeded EPA Region 9 PRGs for industrial soil. In addition, the detected lead concentration in the sample from A1-BP-14 exceeded the DEQ Default Background. Arsenic was detected in a groundwater sample collected from boring A1-BP-09 above the Maximum Contaminant Limit (MCL) specified by the Environmental Protection Agency (EPA) (EPA, 2002).

- **Former Landfill.** The former landfill is located near the top of a sand dune west of the obstacle course at the end of NBC Road in the vicinity of the MARF Range Maintenance shop. The landfill has an aerial extent of approximately 4,000 square feet and reaches a maximum depth of approximately 6 feet (AMEC, 2006). Landfill

material was observed primarily in the building parking area. The landfill reportedly received waste from the general public and Camp Rilea personnel and was closed in the late 1980s.

During the EBS, AMEC collected four soil samples and five groundwater samples from temporary borings. The soil samples were analyzed for RCRA metals, VOCs, SVOCs and explosives. The groundwater samples were analyzed for RCRA metals, VOCs and SVOCs. Arsenic concentrations were above EPA MCLs in groundwater samples collected from borings LFEXT-08, LFEXT-21, A1LF-07, and TP-3. Concentrations of trichloroethylene (TCE) exceeded EPA MCLs groundwater samples collected from borings GP-TP-3-GW-35 and LFEXT-08.

In addition, during the prior USACHPPM investigation, trichloroethene (TCE) was detected in one groundwater sample from the landfill area above the MCL (USACHPPM, 2001).

1.3 Regulatory Framework

Based on current and future land use information and from an understanding of current and future beneficial water use at Camp Rilea, regulatory screening criteria were selected to evaluate of the effectiveness of the remedial activities. Camp Rilea is operated as a training and maintenance facility, with potential occupational exposure to environmental conditions. Environmental samples collected during the remedial activities discussed in this report were evaluated using the following screening criteria:

- Soil analytical results were compared DEQ RBCs for Occupational soil ingestion, dermal contact and inhalation (DEQ, 2007) and DEQ background concentrations (DEQ, 2002)
- Groundwater analytical results were compared to the DEQ RBCs for occupational ingestion and inhalation of tap water (DEQ, 2007), and their respective MCLs (EPA, 2002).
- Methane concentrations detected in soil gas samples collected from the former landfill were compared to the DEQ regulatory limit of five-percent of the lower explosive limit (LEL).

1.4 HASP and Utility Locates

Prior to initiating fieldwork at the site, a site-specific Health and Safety Plan (HASP) was prepared, as required by Oregon Occupational Safety and Health Administration (OSHA). In addition, prior to beginning fieldwork, AMEC contacted the public Utility

Notification Service and on site OMD personnel for the location of known utilities in the vicinity of the former burn pit excavation and the former landfill area. Daily safety meetings were performed each day before commencing work.

2.0 FORMER BURN PIT EXCAVATION

The former burn pit is located on the First Causeway, approximately 700 feet south of a former landfill and the Modified Automated Record Fire (MARF) Range maintenance shop (Figure 2). Excavation and backfill of the former burn pit area was performed between 30 July , 2007 through 1 August , 2007.

2.1 Excavation

Prior to excavating the former burn pit, the waste characteristics of the soil were evaluated for determination of disposal requirements. Three soil samples were collected from the burn pit material and evaluated using toxicity characteristic leaching procedure (TCLP) and analyzing the leachate for RCRA metals (Appendix A). The analytical results indicated the excavated burn pit material could be disposed as a solid waste at the Waste Management Inc. Facility in Hillsboro, Oregon (Hillsboro Landfill).

Soil was excavated from the former burn pit by backhoe and placed directly into dump trucks. Following removal of all visible waste and soil darkened by ash and cinders the final excavation was approximately 60 feet long by 35 feet wide and approximately eight to nine feet in depth. The 260.97 tons of excavated material were transported to the Hillsboro Landfill for disposal. Copies of tipping tickets demonstrating proper disposal of the excavated material are included in Appendix A.

2.2 Confirmation Sampling

Five confirmation soil samples and one duplicate soil sample were collected from the four sides and bottom of the excavation and analyzed for total arsenic and lead using EPA Method 6020. Analyses were performed only for arsenic and lead as they were the only metals detected during the EBS that exceeded regulatory limits. Confirmation soil sample locations are shown on Figure 3. The samples were collected in new 8-ounce laboratory-supplied glass jars, immediately placed on ice in a cooler, and transported to Apex Laboratories in Tigard, Oregon under chain-of-custody conditions for rush analysis, with a 24-hour turn-around time. A data quality review was performed and the results were determined to be acceptable. The laboratory analytical results and the data quality review are presented in Appendix B. The

analytical results are summarized in Table 1. The analytical results from confirmation soil samples indicate that all soil affected by burn pit activities was removed. The arsenic and lead concentrations in the confirmation samples were below their respective DEQ RBCs or DEQ background concentrations

2.3 Excavation Backfilling

Upon receipt of the confirmation sample results indicating all impacted burn pit material had been removed, the excavation was back-filled with 416 tons of clean fill material (See Appendix A). The clean fill material was imported from an off-site source along with a minor amount of clean fill which was generated during installation of the asphalt cap at the former landfill. The excavation fill was graded to match the surrounding topography.

3.0 FORMER LANDFILL ASPHALT CAP INSTALLATION

Remedial action activities at the former landfill included the installation of an asphalt cap over the former landfill area to prevent infiltration of water through landfill material. Installation of the asphalt cap included grading the surface currently occupied by the MARF building parking lot to control storm water run off, placement of four to eight inches of compacted aggregate, and covering the surface with a three-inch thick asphalt cap.

3.1 Methane Monitoring and Sampling

Before capping the landfill area, methane gas field measurements and soil gas samples were collected from five temporary borings (GP-01, GP-02, GP-03, GP-4 and GP-05) on 31 July , 2007. The sample locations are identified on Figure 4. Temporary probes were installed in each boring, consisting of a three-foot long, ½-inch inside-diameter, schedule-40 poly vinyl chloride (PVC) pipe sealed on one end with a slip-on cap. The uncapped end of each pipe inserted in to the ground was drilled with ¼-inch diameter holes to allow soil vapor to enter the probe. The probes were inserted into the hand-augered borings, back filled with cuttings to seal the annulus around the probe, and allowed to stand for several hours before monitoring and sample collection. Each boring was advanced into the ground until reaching refusal. GP-1 was inserted approximately 30-inches below ground surface (bgs) and the other four probes were inserted approximately 15-inches bgs.

Before sample collection, soil gas was evacuated from each probe using a battery-powered vacuum pump. The discharge gas was routed through a sealed PVC

tubing assembly and was monitored for oxygen, carbon dioxide and methane gas as a percent of the total atmospheric gases using an Innova Multi-Gas meter. When gas levels observed with the meter stabilized, a soil gas sample was collected in a Tedlar™ bag. The gas samples were submitted under chain-of-custody to Columbia Analytical Services laboratory (CAS) in Simi Valley, California for analysis of methane by EPA Method 25C modified. The methane gas laboratory analytical report and data quality review are presented in Appendix B.

The results of field monitoring indicate methane gas was detected at a concentration of one percent of the LEL or lower (Table 2). The analytical results from methane gas samples submitted for analysis indicate the methane concentration was below the regulatory limit of five-percent of the LEL (Table 2). In regards to data acceptability, the gas samples were analyzed outside the recommended method holding time because of sample transport and shipping delays. However, the analytical results are consistent with field-measured methane concentrations and are considered to be representative.

3.2 Asphalt Cap Installation

Grading for installation of the asphalt cap was performed from 31 July 2007 to 3 August 2007. The grading included removing non-impacted surficial soil and gravel overlying the landfill debris. This material was subsequently used for filling the former burn pit. If landfill debris was present in the excavated material, it was transported offsite for disposal as a solid waste. During grading, 342.43 tons of landfill debris was transferred to a solid waste landfill in Warrenton, Oregon. The surface was graded allowing storm water to drain away from the MARF building towards the northeast, as indicated on Figure 4. Four to eight inches of ¾-inch minus compacted aggregate was installed to support the asphalt cap. A three-inch asphalt cap was placed over the former landfill area on 20 August 2007, Figure 4.

3.3 Monitoring Well Installation

Five groundwater monitoring wells (MW-01, MW-02, MW-03, MW-04 and MW-05) were installed in the vicinity of the former landfill to facilitate long term groundwater monitoring. The wells were installed from 15 August through 17 August 2007. Monitoring well locations are identified on Figure 5. Boring logs summarizing subsurface conditions and monitoring well construction are presented in Appendix C. Well construction details are summarized on Table 3.

The groundwater monitoring wells were installed by driving temporary four-inch diameter steel casing with a direct-push drilling rig. Soil samples collected at five-foot intervals were screened for VOCs using a photo-ionization detector (PID) and classified using the Unified Soil Classification System. Generally, native soil encountered during drill was classified as tan to gray fine to medium sand. PID measurements were generally 0.1 parts per million (ppm) and never exceeded 0.7 ppm. First encountered groundwater and static water level were documented at each boring. Each boring was advanced to a depth where the static water level would be approximately in the center of a 15-foot long well screen. All soil cuttings and water generated during monitoring well installation were stored in 55-gallon drums, labeled as investigation-derived waste (IDW), and placed on the south side of the MARF Maintenance Shop building. IDW characterization is discussed Section 3.4 of this report.

Each monitoring well was constructed by assembling two-inch diameter flush-threaded schedule-40 PVC, sealed with rubber O-rings. Each well casing consists of 10-foot long sections with the top-most section cut so it rises approximately two-feet above the ground surface. Each 15-foot long well screen is comprised of three five-foot long sections with 0.010-inch slots, wrapped with a factory pre-pack filter consisting of stainless steel filter fabric over 10 x 20 Colorado silica sand. The bottom screened section is fitted with an O-ring sealed threaded PVC end cap.

During well construction, additional 10 x 20 sand was placed in the annular space to a level one foot above the top of the screen. Granular bentonite was placed in the annulus above the sand to approximately 3.0 feet bgs. Each well, except monitoring well MW-03, is completed using an above ground monument comprised of a new lockable steel security casing and a concrete surface seal. The security casing is surrounded by three concrete-filled steel bollards. Monitoring well MW-03 is located within the asphalt cap and was completed with a flush-mounted steel monument.

Following well construction, each well was developed by surging with a submersible pump and pumping from the well until the pump discharge was clear and colorless. In general, approximately 15 gallons of groundwater were pumped from each well during development.

3.4 IDW Waste Characterization

One composite soil sample was collected from the IDW generated during the monitoring well installations, and from material generated during previous exploratory drilling in the former landfill area. The waste characterization sample was collected in

a laboratory-supplied four-ounce jar, immediately put on ice, and transferred to Apex Laboratory in Tigard, Oregon for analysis of VOCs by EPA Method 8260B and RCRA metals by EPA Method 6020. No VOCs were detected and low-level trace metals were detected. The IDW analytical results are presented in Appendix B.

4.0 GROUNDWATER MONITORING

The groundwater monitoring wells were installed to facilitate two years of quarterly groundwater monitoring. The first groundwater monitoring event was conducted on 24 August 2007. In addition, a relative elevation survey was conducted to measure the top-of-casing elevations to the nearest 0.01 foot (Table 4). The survey elevations were adjusted so that the top-of-casing elevation at monitoring well MW-01 is equal to 100 feet.

4.1 Groundwater Sampling and Analysis Methods

Before collecting groundwater samples, depth-to-water was measured from the top-of-casing in each well to the nearest 0.01 foot using an electronic groundwater probe and recorded in a field notebook. The depth-to-water measurements were converted to groundwater elevations and are presented on Table 4 and shown on Figure 5.

Groundwater samples were collected from the monitoring wells using low-flow sampling techniques. To collect a groundwater sample each monitoring well was purged using a decontaminated stain-less steel dual-valve pump. The pump was fitted with new Teflon™ lined tubing at each monitoring well. The pump discharge was routed through a flow-through cell for measuring water quality parameters (temperature, pH, conductivity, dissolved oxygen [DO], and oxidation-reduction potential [ORP]), with the results summarized in Table 5. A groundwater sample was collected when the water quality parameters stabilized to the following criteria (Temperature:+/-3%, Conductance: +/- 3%, pH: +/- 0.1 pH units, DO: 10% [or measurement <1 mg/L], ORP: +/- 10 millivolts). Field quality assurance/quality control procedures included collecting a field duplicate sample at MW-03 and carrying a laboratory-supplied trip blank throughout the groundwater water sampling event.

Groundwater samples were collected in new laboratory-supplied containers, packed on ice immediately following collection, and transported to Apex Laboratory in Tigard, Oregon under chain-of-custody. The samples were analyzed for RCRA metals by EPA method 6020 and VOCs by EPA method 8260B. A data quality review was

performed and the results were determined to be acceptable.. The groundwater laboratory report and data quality review are presented in Appendix B.

4.2 Groundwater Monitoring Results

Groundwater elevations from the August 2007 groundwater sampling event are provided on Figure 5. The groundwater elevation measurements indicate the groundwater flow direction is generally eastward and the hydraulic gradient is approximately 0.008.

The August 2007 groundwater analytical detections are summarized in Table 5, with the appropriate screening criteria. No total metal detections exceed their respective MCLs or DEQ RBCs.

VOCs were not detected in August 2007 groundwater samples except for the following:

- MW-02: 1,1,2,2-Tetrachloroethene (1,1,2,2-PCE) (0.66 µg/L), tetrachloroethene (PCE) (0.81 µg/L) and trichloroethene (TCE) (1.75 µg/L).
- MW-03/ MW-03 (duplicate): TCE (1.82 µg/L) and (1.41 µg/L) respectively.
- MW-04: 1,1,2,2-PCE (1.97 µg/L) and TCE (6.84 µg/L)

Although detected, VOC concentrations did not exceed DEQ RBCs for occupational ingestion and inhalation of tap water. However, the TCE detection in the MW-04 sample exceeded the MCL of 5 µg/L.

5.0 CONCLUSIONS AND RECOMMENDATIONS

During 30 July, 2007 and 20 August, 2007 the proposed reclamation actions for the former Burn Pit and former Landfill were completed successfully and in accordance with their respective work plans.

5.1 Former Burn Pit

Observations recorded during over excavation in the former Burn Pit indicate no visual evidence that debris or blackened material remained in the cavity. In addition, confirmation soil sampling results demonstrate soil arsenic and lead concentrations are consistent with background concentrations and the confirmation soil sample concentrations are lower than DEQ RBCs. This report demonstrates that the excavation work was performed in accordance with the Burn Pit Soil Excavation and

Disposal Workplan (AMEC, 2007a) and a request to the DEQ for a no-further-action determination is appropriate.

5.2 Former Landfill

Near surface soil gas samples collected in the former landfill area indicate methane levels are below the LEL and no further methane monitoring is needed.

Following installation of five monitoring wells in the immediate vicinity of the former landfill representative groundwater samples were collected during the August 2007 monitoring event. Besides a select number of VOCs, no other analytes were detected in the samples. Furthermore, the detectable concentrations of VOCs in groundwater were all below their respective RBCs.

The next quarterly groundwater monitoring event is scheduled the week of 17 December, 2007. The monitoring event results will be submitted to the DEQ in a separate report.

REFERENCES

AMEC, 2006. Final Phase II Environmental Baseline Study, Camp Rilea, Warrenton, Oregon, March 24, 2006.

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AMEC, 2007b. Landfill Capping and Groundwater Monitoring Work Plan, Camp Rilea, Warrenton, Oregon, January 10, 2007.

AMEC, 2007c. Revised Groundwater Monitoring and Methane Gas Sampling Approach, Former Landfill Camp Rilea, Warrenton, Oregon.

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DEQ, 2004. Groundwater Quality Report for the North Coast Basin, Oregon.

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EPA, 2005, SW-846: Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, available online at: http://www.epa.og/epaoswer/hazwaste/test/sw846.htm.

U.S. Army Center for Health Promotion and Preventative Medicine (USACHPPM), 2001. Site Assessment Survey No. 38-EH-1332b-01, Camp Rilea, Warrenton, Clatsop County, Oregon, September 10 and 25, 2001.

LIMITATIONS

This report was prepared exclusively for the Oregon Military Department by AMEC Earth & Environmental, Inc. (AMEC). The quality of information, conclusions and estimates contained herein is consistent with the level of effort involved in AMEC services and based on: i) information available at the time of preparation, ii) data supplied by outside sources, and iii) the assumptions, conditions and qualifications set forth in this report. This Former Burn Pit and Former Landfill Remedial Action Report is intended to be used by the Oregon Military Department for Camp Rilea, Oregon only, subject to the terms and conditions of its contract with AMEC. Any other use of, or reliance on, this report by any third party is at that party's sole risk.

TABLES

TABLE 1
Former Burn Pit Soil Confirmation Sample Results

Sample ID	Sample Date	Arsenic (mg/kg)	Lead (mg/kg)
BP-CS-01	07/31/07	2.4	1.7
BP-CS-02	07/31/07	2.81	1.64
BP-CS-03	07/31/07	2.94	5.96
BP-CS-04	07/31/07	3.31	18.2
BP-CS-05	07/31/07	2.61	4.33
BP-CS-06	07/31/07	2.48	2.63
DEQ background[1]		7	17
DEQ RBCs[2]		1.7	800

Notes:

mg/kg = milligrams per kilogram

DEQ = Oregon Department of Environmental Quality

EPA = U. S. Environmental Protection Agency

RBC = Risk-based concentration

1 = DEQ, October 28, 2002, Memo: Default background concentrations for metals 2 = DEQ Risk-based Exposure Limit Occupational Soil Ingestion, Dermal Contact, and Inhalation

http://oregondeq.com/lq/rbdm.htm

TABLE 2
Former Landfill Area Methane Gas
Field Monitoring and Gas Sample Results

Sample ID	Sample Date	Oxygen *Field-Measured* (%)	Methane *Field-Measured* (% LEL)	Methane *Laboratory Result* (ppmV)
GP-01	7/31/2007	15.4	1	0.6
GP-02	7/31/2007	17.4	1	1.4
GP-03	7/31/2007	20.1	0	1.4
GP-04	7/31/2007	20.0	0	1.3
GP-05	7/31/2007	19.1	1	1.3

Notes:
ppmV = parts per million by volume
% = percent of total atmospheric gases
% LEL = percent of lower explosive limit
1% LEL = 500 ppmV

TABLE 3
Former Landfill Area Monitoring Well Construction Summary

Well ID	Well Tag ID	Installation Date	Easting (feet)	Northing (Feet)	Top-of-Casing Elevation (feet[a])	Casing Stickup (feet)	Borehole Depth (feet, bgs)	Ground Surface Elevation (feet[a])	Well Depth (feet, bgs)	Top-of-Screen (feet, bgs)	Static Groundwater Elevation (feet[a])
MW-1	L89888	8/17/2007	427388.78	5108665.17	100.0	3.5	48.0	48.5	47.0	35.0	58.0
MW-2	L89886	8/15/2007	427438.36	5108668.37	85.3	3.0	35.0	47.3	33.0	18.0	57.9
MW-3	L89887	8/15/2007	427410.43	5108687.89	89.3	0.0	40.0	49.3	39.0	24.0	58.3
MW-4	L89885	8/15/2007	427438.75	5108689.16	84.2	3.0	34.0	47.2	34.0	18.0	58.1
MW-5	L89889	8/17/2007	427387.75	5108725.90	91.0	3.0	40.0	48.0	38.0	23.0	58.1

Notes:

bgs = below ground surface

a = elevation relative to local datum. Local datum set such that the top-of-casing at MW-1 is 100 feet elevation.

TABLE 4
Former Landfill August 2007
Groundwater Elevation Measurements

Well ID	Easting (feet)	Northing (feet)	Top of Casing (feet[a])	Depth to Water (feet, btoc)	Water Level Elevation (feet[a])
MW-1	427388.78	5108665.17	100.0	41.33	58.7
MW-2	427438.36	5108668.37	85.3	26.92	58.4
MW-3	427410.43	5108687.89	89.3	30.71	58.6
MW-4	427438.75	5108689.16	84.2	25.83	58.3
MW-5	427387.75	5108725.90	91.0	32.49	58.5

Notes:

btoc = below top-of-casing

a = elevation relative to local datum. Local datum set such that the top-of-casing at MW-1 is 100 feet elevation.

TABLE 5
Former Landfill Area Volatile Organic Compound and Total Metals Detections in Groundwater

Sample Location	Sample Date	VOCs				Total Metals		
		1,1,2,2-Tetra-chloro-ethene (µg/L)	Tetra-chloro-ethene (µg/L)	Tri-chloro-ethene (µg/L)		Barium (µg/L)	Selenium (µg/L)	Lead (µg/L)
MW-01	24-Aug-07	0.5 U	0.5 U	0.5 U		**3.19**	1.00 U	1.00 U
MW-02	24-Aug-07	**0.66**	**0.81**	**1.75**		**6.70**	1.00 U	1.00 U
MW-03	24-Aug-07	0.5 U	0.5 U	**1.82**		**6.79**	**1.07**	1.00 U
MW-03(dup)	24-Aug-07	0.5 U	0.5 U	**1.41**		**6.70**	1.00 U	1.00 U
MW-04	24-Aug-07	**1.97**	0.5 U	**6.84**		**8.88**	1.00 U	**4.47**
MW-05	24-Aug-07	0.5 U	0.5 U	0.5 U		**5.50**	1.00 U	1.00 U

Regulatory Screening Levels

EPA MCL	NL	5	5		2000	50	NL
DEQ RBC Tapwater ingestion & inhalation (Occupational)	NL	0.63	0.17		NL	NL	15000
DEQ RBC Vapor Intrustion into Buildings (Occupational)	NL	1300	110		NL	NL	NL

Notes:

BOLD = detection

VOC = Volatile Organic Compounds

µg/L = micrograms per liter

dup = field duplicate

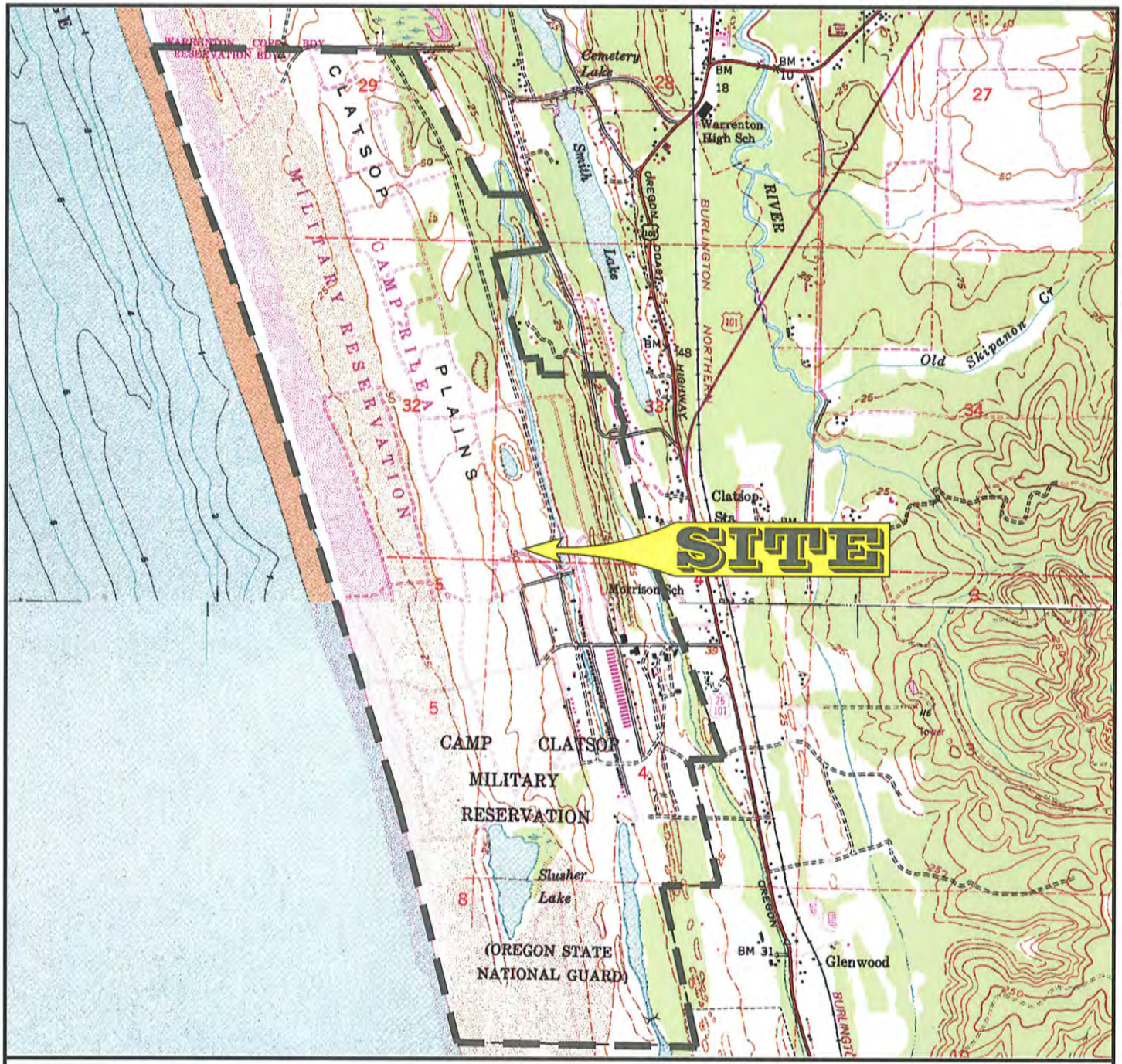
U = not detected above the listed method reporting limit

EPA MCL = Federal Environmental Protection Agency Maximum Concentration Level

DEQ RBC = Oregon Department of Environmental Quality Risk-based Concentration Limit

NL = no limit

FIGURES



ROAD CLASSIFICATION

- Heavy-duty
- Medium-duty
- Light-duty
- Unimproved dirt

- U.S. Route
- State Route
- Interstate Route

WARRENTON, OREG.-WASH.

46123-B8-TB-024
1953
PHOTOREVISED 1984
BATHYMETRY ADDED 1984
DMA 1276 III NW - SERIES V892

QUADRANGLE LOCATION

1 1/2 0 1 MILE

1000 0 1000 3000 6000 7000 FEET

FIGURE 1

amec

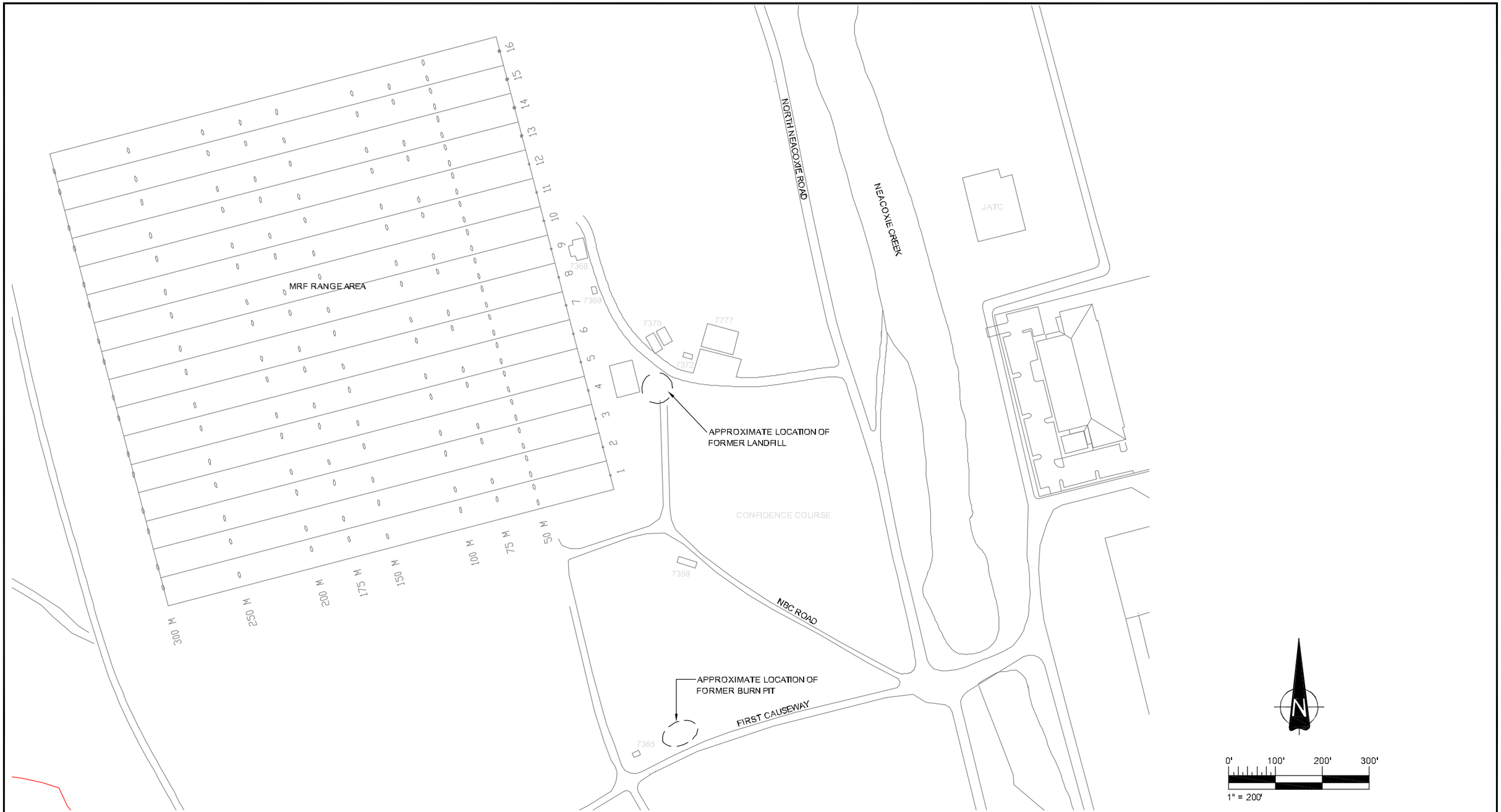
7376 S.W. Durham Road
Portland, OR, U.S.A. 97224

W.O.	661M110153.06
DESIGN	AH
DRAWN	DD
DATE	OCTOBER 2007
SCALE	AS NOTED

CAMP RILEA
33168 PATRIOT WAY
WARRENTON, OREGON

SITE LOCATION MAP

K:\11000\11000\11015\11015-3\DWG\FIG-1 Site Loc.dwg – Layout1 – Dec. 18, 2007 4:39pm – larry.robinson



SOURCE: OREGON MILITARY DEPARTMENT CAMP RILEA AUTOCAD FILE

NOTE: THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE AMEC EARTH & ENVIRONMENTAL REPORT No. ___ DATED ___.

CLIENT:
CAMP RILEA
33168 PATRIOT WAY
WARRENTON, OREGON

AMEC Earth & Environmental
7376 S.W. Durham Road
Portland, OR. U.S.A. 97224

DWN BY:	DD
CHK'D BY:	MK
DATUM:	-
PROJECTION:	-
SCALE:	1" = 200'

PROJECT
CAMP RILEA

TITLE
Former Burn Pit and Landfill Locations

DATE:	DECEMBER 2005
PROJECT NO:	4-61M-11015-2 (F)
REV. NO.:	-
FIGURE No.	2

\\por-fs1\ClientData\11000\11000\11015\DWG\FIG-2 STUDY AREA LOC.dwg - Layout1 - Dec. 18, 2007 1:30pm - dan.higgins

No warranty is made by the State/Territory/National Guard Bureau as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data. This map is a "living document", in that it is intended to change as new data become available and is incorporated into the Enterprise GIS database.

Aerial photograph from the Oregon Military Department.

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Portland, OR, U.S.A. 97224

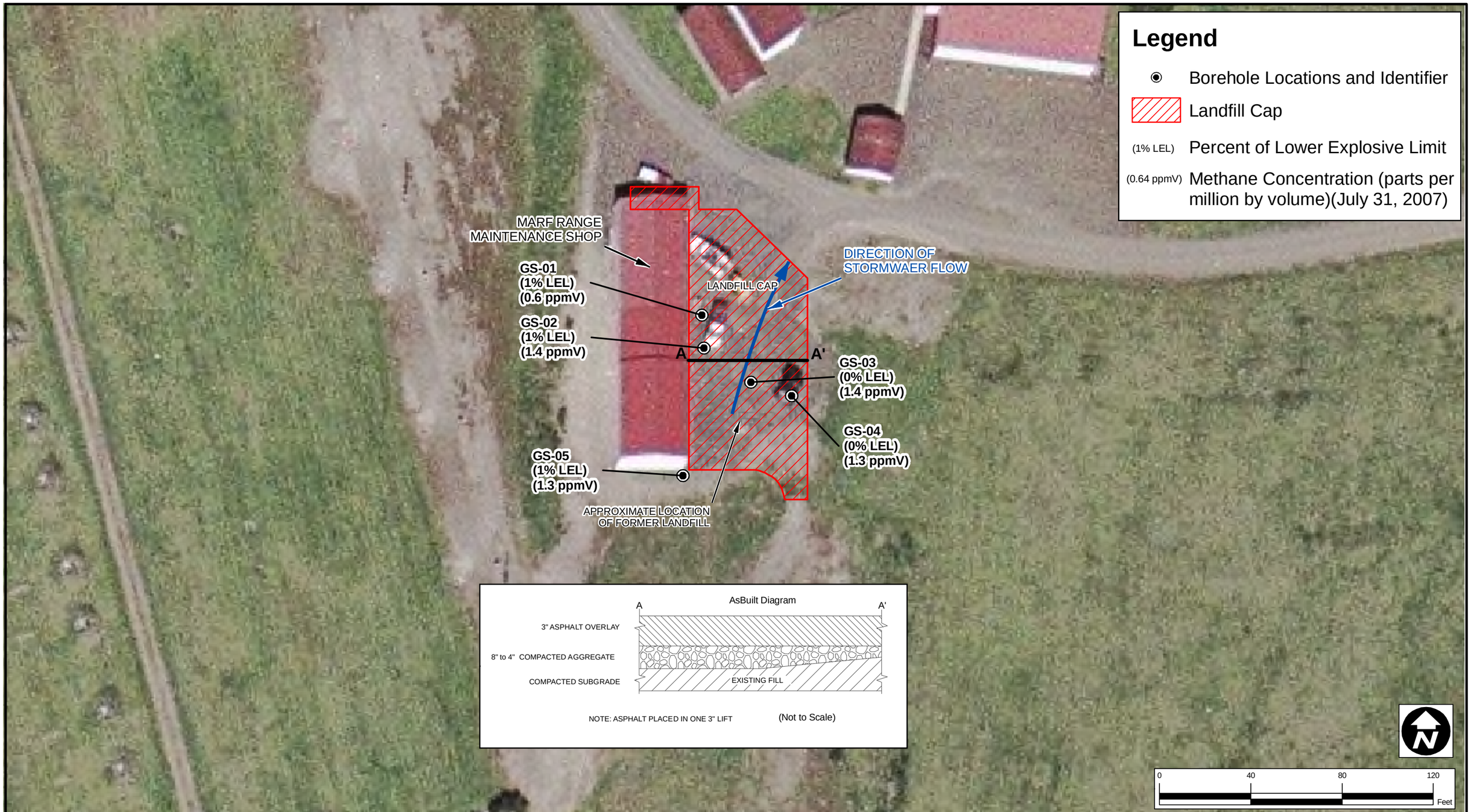
DWN BY:	PM
CHK'D BY:	-
DATUM:	WGS84
PROJECTION:	UTM ZONE 10N
SCALE:	1 " equals 40 '

PROJECT: CAMP RILEA
33168 PATRIOT WAY
WARRENTON, OREGON

TITLE: FORMER BURN PIT EXCAVATION AND CONFIRMATION SAMPLE LOCATIONS

DATE:	OCTOBER 2007
PROJECT NO.:	661M110153.06
REV. NO.:	-
FIGURE NO.:	3

K:\11000\11000\11015\11015-3\ArcView\Figure 3 Burn Pit.mxd



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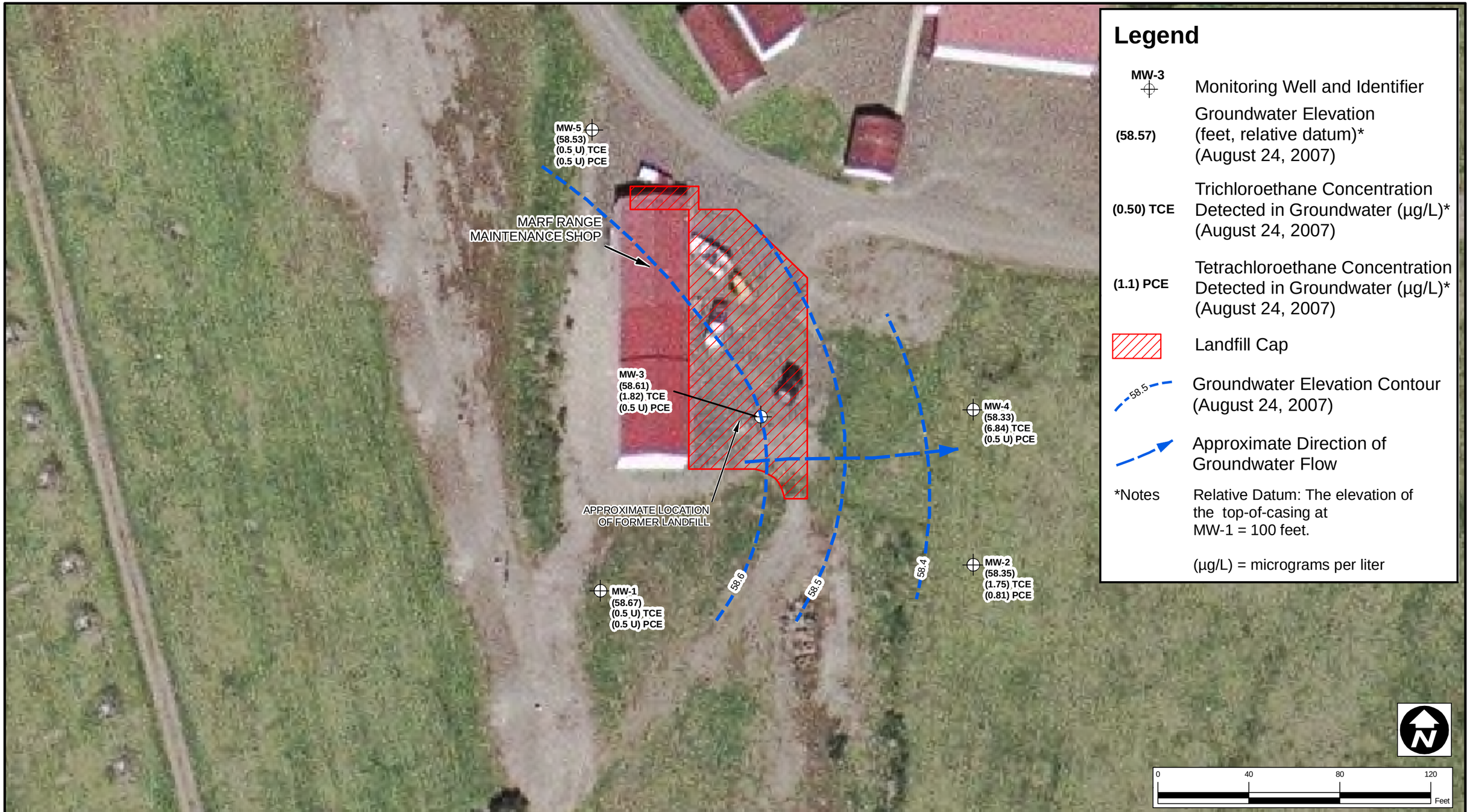
DATUM:	WGS84
PROJECTION:	UTM ZONE 10N
SCALE:	1 " equals 40 '

PROJECT: CAMP RILEA
33168 PATRIOT WAY
WARRENTON, OREGON

TITLE: FORMER LANDFILL ASPHALT CAP AND AS-BUILT DIAGRAM

DATE:	OCTOBER 2007
PROJECT NO.:	661M110153.06
REV. NO.:	-
FIGURE NO.:	4

K:\11000\11000\11015\11015-3\ArcView\Figure 4 Landfill Cap.mxd



Legend

MW-3	Monitoring Well and Identifier
(58.57)	Groundwater Elevation (feet, relative datum)* (August 24, 2007)
(0.50) TCE	Trichloroethane Concentration Detected in Groundwater (µg/L)* (August 24, 2007)
(1.1) PCE	Tetrachloroethane Concentration Detected in Groundwater (µg/L)* (August 24, 2007)
	Landfill Cap
58.5	Groundwater Elevation Contour (August 24, 2007)
	Approximate Direction of Groundwater Flow
*Notes	Relative Datum: The elevation of the top-of-casing at MW-1 = 100 feet.
	(µg/L) = micrograms per liter

No warranty is made by the State/Territory/National Guard Bureau as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data. This map is a "living document", in that it is intended to change as new data become available and is incorporated into the Enterprise GIS database.

Aerial photograph from the Oregon Military Department.

CLIENT: OREGON MILITARY DEPARTMENT

AMEC Earth & Environmental
7376 SW Durham Road
Portland, OR, U.S.A. 97224

DWN BY: PM/LR
CHK'D BY: DH
DATUM: WGS84
PROJECTION: UTM ZONE 10N
SCALE: 1 " equals 40 '

PROJECT: CAMP RILEA
33168 PATRIOT WAY
WARRENTON, OREGON

TITLE: FORMER LANDFILL GROUNDWATER MONITORING WELL LOCATIONS AND GROUNDWATER CONTOUR ELEVATIONS

DATE: NOVEMBER 2007
PROJECT NO.: 661M110153.06
REV. NO.: -
FIGURE NO.: 5

K:\11000\11000\11015\11015-3\ArcView\Figure 5 Monitoring Wells and Groundwater Contours.mxd

APPENDIX A

Excavation and Fill Tonnage Reports

Hillsboro Tonnage Report 100431OR 7/1/07-8/1/07

Organization ID	Customer Name (Site)	Ticket In (Date/Time)	Ticket No	Profile Nm (Master)	Profile Nm (Site)	Material Nm Ticket	Tons	Rate UOM - Material
S03305	VARCHANE NV	7/30/2007 13:32	1081158	168-100431OR	100431OR	Cont Soil Pet-RGC-To	30.42	Tons
S03305	VARCHANE NV	7/30/2007 14:01	1081172	168-100431OR	100431OR	Cont Soil Pet-RGC-To	11.24	Tons
S03305	VARCHANE NV	7/30/2007 14:11	1081176	168-100431OR	100431OR	Cont Soil Pet-RGC-To	10.11	Tons
S03305	VARCHANE NV	7/30/2007 14:29	1081188	168-100431OR	100431OR	Cont Soil Pet-RGC-To	22.96	Tons
S03305	VARCHANE NV	7/30/2007 15:18	1081225	168-100431OR	100431OR	Cont Soil Pet-RGC-To	11.13	Tons
S03305	VARCHANE NV	7/30/2007 8:18	1080939	168-100431OR	100431OR	Cont Soil Pet-RGC-To	18.39	Tons
S03305	VARCHANE NV	7/30/2007 8:50	1080959	168-100431OR	100431OR	Cont Soil Pet-RGC-To	20.74	Tons
S03305	VARCHANE NV	7/30/2007 8:54	1080961	168-100431OR	100431OR	Cont Soil Pet-RGC-To	21.52	Tons
S03305	VARCHANE NV	7/30/2007 9:04	1080971	168-100431OR	100431OR	Cont Soil Pet-RGC-To	19.69	Tons
S03305	VARCHANE NV	7/30/2007 9:43	1080999	168-100431OR	100431OR	Cont Soil Pet-RGC-To	10.29	Tons
S03305	VARCHANE NV	7/30/2007 9:44	1081001	168-100431OR	100431OR	Cont Soil Pet-RGC-To	9.63	Tons
S03305	VARCHANE NV	7/30/2007 10:12	1081020	168-100431OR	100431OR	Cont Soil Pet-RGC-To	10.29	Tons
S03305	VARCHANE NV	7/30/2007 11:27	1081069	168-100431OR	100431OR	Cont Soil Pet-RGC-To	18.62	Tons
S03305	VARCHANE NV	7/30/2007 12:58	1081137	168-100431OR	100431OR	Cont Soil Pet-RGC-To	24.52	Tons
S03305	VARCHANE NV	7/31/2007 9:56	1081407	168-100431OR	100431OR	Cont Soil Pet-RGC-To	10	Tons
S03305	VARCHANE NV	7/31/2007 9:59	1081409	168-100431OR	100431OR	Cont Soil Pet-RGC-To	11.42	Tons
							260.97	

from: Varchan
to: ?

Teevin & Fischer Quary, LLC

Detailed Gross/Tare/Net Report

Order: Account (VARCHAN) by Material (PITROCK) Type: All
From 7/30/2007 to 8/7/2007

VARCHAN ENVIRONMENTAL VARCHAN

PitRock PitRock

Ticket	Account	Truck	Code	Date	Time In	Time Out	Gross	Tare	Net	Net(T)	TotalCharge
6370	VARCHAN	#4	PitRock	07/31/2007	07:16 AM	07:16 AM	47,440	22,820	24,620	12.31	$0.00
6371	VARCHAN	#5	PitRock	07/31/2007	07:17 AM	07:17 AM	44,340	24,040	20,300	15.15	$0.00
6372	VARCHAN	#5	PitRock	07/31/2007	07:18 AM	07:18 AM	48,060	23,540	24,520	12.26	$0.00
6388	VARCHAN	#5	PitRock	07/31/2007	08:28 AM	08:28 AM	44,440	23,540	20,900	10.45	$0.00
6398	VARCHAN	#5	PitRock	07/31/2007	09:29 AM	09:29 AM	45,320	23,540	21,780	10.89	$0.00
6411	VARCHAN	#5	PitRock	07/31/2007	10:40 AM	10:40 AM	44,120	23,540	20,580	10.29	$0.00
6419	VARCHAN	#4	PitRock	07/31/2007	11:45 AM	11:45 AM	45,360	22,820	22,540	11.27	$0.00
6427	VARCHAN	#5	PitRock	07/31/2007	12:23 PM	12:23 PM	46,380	23,540	22,840	11.42	$0.00
6438	VARCHAN	#4	PitRock	07/31/2007	01:46 PM	01:46 PM	40,640	22,820	17,820	8.91	$0.00
6440	VARCHAN	#5	PitRock	07/31/2007	01:56 PM	01:56 PM	43,720	23,540	20,180	10.09	$0.00
6447	VARCHAN	#4	PitRock	07/31/2007	03:04 PM	03:04 PM	45,500	22,820	22,680	11.34	$0.00
6449	VARCHAN	#5	PitRock	07/31/2007	03:11 PM	03:11 PM	46,480	23,540	22,940	11.47	$0.00
6456	VARCHAN	#5	PitRock	07/31/2007	04:19 PM	04:19 PM	44,160	23,540	20,620	10.31	$0.00
6457	VARCHAN	#4	PitRock	07/31/2007	04:28 PM	04:28 PM	42,900	22,820	20,080	10.04	$0.00
6459	VARCHAN	#5	PitRock	08/01/2007	07:11 AM	07:11 AM	44,760	23,540	21,220	10.61	$0.00
6461	VARCHAN	#4	PitRock	08/01/2007	07:16 AM	07:16 AM	44,500	22,820	21,680	10.84	$0.00
6470	VARCHAN	#5	PitRock	08/01/2007	08:11 AM	08:11 AM	44,840	23,540	21,300	10.65	$0.00
6471	VARCHAN	#4	PitRock	08/01/2007	08:12 AM	08:12 AM	46,020	22,820	23,200	11.60	$0.00
6521	VARCHAN	#5	PitRock	08/01/2007	12:29 PM	12:37 PM	44,140	24,020	20,120	10.06	$0.00
6554	VARCHAN	#4	PitRock	08/02/2007	09:17 AM	09:17 AM	45,140	22,820	22,320	11.16	$0.00
6562	VARCHAN	#4	PitRock	08/02/2007	10:36 AM	10:36 AM	43,600	22,820	20,780	10.39	$0.00

	Loads	Units	Yards	Tons	TotalCharge
Pit Rock PitRock	21	0	0.0	231.51	$0.00
VARCHAN ENVIRONMENTAL VARCHAN	21	0	0.0	231.51	$0.00
Grand Total	21	0	0.0	231.51	$0.00

Teevin & Fischer Quary, LLC

Detailed Tonnage and Charge Report

Order: Hauler (VARCHAN) by Material Type: All
For 7/31/2007

VARCHAN ENVIRONMENTAL VARCHAN

Pit Rock PitRock

Site	Ticket	Date	Account	Truck	Code	Qty	----- Fees ----- Per Qty	Per Load	Frght/Add	Taxes	Total Charge	Total Paid
A	6370	07/31/2007	VARCHAN	#4	PitRock	12.31	0.00	0.00	$0.00	$0.00	$0.00	$0.00
A	6371	07/31/2007	VARCHAN	#9	PitRock	15.15	0.00	0.00	$0.00	$0.00	$0.00	$0.00
A	6372	07/31/2007	VARCHAN	#5	PitRock	12.26	0.00	0.00	$0.00	$0.00	$0.00	$0.00
A	6388	07/31/2007	VARCHAN	#5	PitRock	10.45	0.00	0.00	$0.00	$0.00	$0.00	$0.00
A	6398	07/31/2007	VARCHAN	#5	PitRock	10.89	0.00	0.00	$0.00	$0.00	$0.00	$0.00
A	6411	07/31/2007	VARCHAN	#5	PitRock	10.29	0.00	0.00	$0.00	$0.00	$0.00	$0.00
A	6419	07/31/2007	VARCHAN	#4	PitRock	11.27	0.00	0.00	$0.00	$0.00	$0.00	$0.00
A	6427	07/31/2007	VARCHAN	#5	PitRock	11.42	0.00	0.00	$0.00	$0.00	$0.00	$0.00
A	6438	07/31/2007	VARCHAN	#4	PitRock	8.91	0.00	0.00	$0.00	$0.00	$0.00	$0.00
A	6440	07/31/2007	VARCHAN	#5	PitRock	10.09	0.00	0.00	$0.00	$0.00	$0.00	$0.00
A	6447	07/31/2007	VARCHAN	#4	PitRock	11.34	0.00	0.00	$0.00	$0.00	$0.00	$0.00
A	6448	07/31/2007	VARCHAN	#5	PitRock	11.47	0.00	0.00	$0.00	$0.00	$0.00	$0.00
A	6456	07/31/2007	VARCHAN	#5	PitRock	10.31	0.00	0.00	$0.00	$0.00	$0.00	$0.00

	Loads	Tons	Yards	Units	Other	Frght/Add	Taxes	Total Charge	Total Paid
Pit Rock PitRock	13	146.16	0.00	0.00	0.00	$0.00	$0.00	$0.00	$0.00

	Loads	Tons	Yards	Units	Other	Frght/Add	Taxes	Total Charge	Total Paid
VARCHAN ENVIRONMENTAI	13	146.16	0.00	0.00	0.00	$0.00	$0.00	$0.00	$0.00

	Loads	Tons	Yards	Units	Other	Frght/Add	Taxes	Total Charge	Total Paid
Grand Totals	**13**	**146.16**	**0.00**	**0.00**	**0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**

Teevin & Fischer Quary, LLC

Detailed Tonnage and Charge Report

Order: Account (VARCHAN) by Material Type: All

From 8/1/2007 to 8/3/2007

RCHAN ENVIRONMENTAL VARCHAN

Rock PitRock

2	Ticket	Date	Account	Truck	Code	Qty	----- Fees ----- Per Qty	Per Load	Frght/Add	Taxes	Total Charge	Total Paid
	6459	08/01/2007	VARCHAN	#5	PitRock	10.61	0.00	0.00	$0.00	$0.00	$0.00	$0.00
	6461	08/01/2007	VARCHAN	#4	PitRock	10.84	0.00	0.00	$0.00	$0.00	$0.00	$0.00
	6470	08/01/2007	VARCHAN	#5	PitRock	10.65	0.00	0.00	$0.00	$0.00	$0.00	$0.00
	6471	08/01/2007	VARCHAN	#4	PitRock	11.60	0.00	0.00	$0.00	$0.00	$0.00	$0.00
	6521	08/01/2007	VARCHAN	#5	PitRock	10.06	0.00	0.00	$0.00	$0.00	$0.00	$0.00
	6554	08/02/2007	VARCHAN	#4	PitRock	11.16	0.00	0.00	$0.00	$0.00	$0.00	$0.00
	6562	08/02/2007	VARCHAN	#4	PitRock	10.39	0.00	0.00	$0.00	$0.00	$0.00	$0.00

Loads	Tons	Yards	Units	Other	Frght/Add	Taxes	Total Charge	Total Paid
7	75.31	0.00	0.00	0.00	$0.00	$0.00	$0.00	$0.00

it Rock PitRock

FQ 3/4"-0 TFQ3/4-0

ite	Ticket	Date	Account	Truck	Code	Qty	----- Fees ----- Per Qty	Per Load	Frght/Add	Taxes	Total Charge	Total Paid
\	6564	08/02/2007	VARCHAN	#5	FQ3/4-0	11.84	0.00	0.00	$0.00	$0.00	$0.00	$0.00
\	6570	08/02/2007	VARCHAN	#4	FQ3/4-0	10.98	0.00	0.00	$0.00	$0.00	$0.00	$0.00
\	6574	08/02/2007	VARCHAN	#5	FQ3/4-0	12.29	0.00	0.00	$0.00	$0.00	$0.00	$0.00
\	6577	08/02/2007	VARCHAN	#4	FQ3/4-0	11.87	0.00	0.00	$0.00	$0.00	$0.00	$0.00
\	6583	08/02/2007	VARCHAN	#5	FQ3/4-0	12.78	0.00	0.00	$0.00	$0.00	$0.00	$0.00
\	6585	08/02/2007	VARCHAN	#4	FQ3/4-0	11.95	0.00	0.00	$0.00	$0.00	$0.00	$0.00
\	6589	08/02/2007	VARCHAN	#5	FQ3/4-0	12.26	0.00	0.00	$0.00	$0.00	$0.00	$0.00
A	6599	08/02/2007	VARCHAN	#4	FQ3/4-0	12.16	0.00	0.00	$0.00	$0.00	$0.00	$0.00
A	6609	08/02/2007	VARCHAN	#5	FQ3/4-0	13.85	0.00	0.00	$0.00	$0.00	$0.00	$0.00
A	6610	08/02/2007	VARCHAN	#4	FQ3/4-0	11.74	0.00	0.00	$0.00	$0.00	$0.00	$0.00
A	6611	08/02/2007	VARCHAN	#5	FQ3/4-0	11.45	0.00	0.00	$0.00	$0.00	$0.00	$0.00
A	6613	08/03/2007	VARCHAN	#5	FQ3/4-0	10.21	0.00	0.00	$0.00	$0.00	$0.00	$0.00
A	6619	08/03/2007	VARCHAN	#4	FQ3/4-0	10.70	0.00	0.00	$0.00	$0.00	$0.00	$0.00
A	6625	08/03/2007	VARCHAN	#5	FQ3/4-0	10.18	0.00	0.00	$0.00	$0.00	$0.00	$0.00
A	6626	08/03/2007	VARCHAN	#4	FQ3/4-0	10.97	0.00	0.00	$0.00	$0.00	$0.00	$0.00
A	6627	08/03/2007	VARCHAN	#4	FQ3/4-0	9.91	0.00	0.00	$0.00	$0.00	$0.00	$0.00
A	6637	08/03/2007	VARCHAN	#5	FQ3/4-0	10.86	0.00	0.00	$0.00	$0.00	$0.00	$0.00
A	6644	08/03/2007	VARCHAN	#4	FQ3/4-0	11.18	0.00	0.00	$0.00	$0.00	$0.00	$0.00
A	6649	08/03/2007	VARCHAN	#5	FQ3/4-0	10.59	0.00	0.00	$0.00	$0.00	$0.00	$0.00
A	6656	08/03/2007	VARCHAN	#4	FQ3/4-0	9.92	0.00	0.00	$0.00	$0.00	$0.00	$0.00
A	6657	08/03/2007	VARCHAN	#4	FQ3/4-0	10.77	0.00	0.00	$0.00	$0.00	$0.00	$0.00
A	6667	08/03/2007	VARCHAN	#5	FQ3/4-0	11.48	0.00	0.00	$0.00	$0.00	$0.00	$0.00
A	6671	08/03/2007	VARCHAN	#4	FQ3/4-0	9.96	0.00	0.00	$0.00	$0.00	$0.00	$0.00
A	6677	08/03/2007	VARCHAN	#5	FQ3/4-0	10.00	0.00	0.00	$0.00	$0.00	$0.00	$0.00
A	6691	08/03/2007	VARCHAN	#4	FQ3/4-0	11.55	0.00	0.00	$0.00	$0.00	$0.00	$0.00
A	6698	08/03/2007	VARCHAN	#5	FQ3/4-0	10.59	0.00	0.00	$0.00	$0.00	$0.00	$0.00
A	6714	08/03/2007	VARCHAN	#4	FQ3/4-0	13.46	0.00	0.00	$0.00	$0.00	$0.00	$0.00
A	6717	08/03/2007	VARCHAN	#5	FQ3/4-0	11.62	0.00	0.00	$0.00	$0.00	$0.00	$0.00
A	6724	08/03/2007	VARCHAN	#4	FQ3/4-0	13.90	0.00	0.00	$0.00	$0.00	$0.00	$0.00
A	6725	08/03/2007	VARCHAN	#5	FQ3/4-0	10.54	0.00	0.00	$0.00	$0.00	$0.00	$0.00

Teevin & Fischer Quary, LLC

Detailed Tonnage and Charge Report

Order: Account (VARCHAN) by Material Type: All

From 8/1/2007 to 8/3/2007

	Loads	Tons	Yards	Units	Other	Frght/Add	Taxes	Total Charge	Total Paid
FQ 3/4"-0 TFQ3/4-0	30	341.56	0.00	0.00	0.00	$0.00	$0.00	$0.00	$0.00

	Loads	Tons	Yards	Units	Other	Frght/Add	Taxes	Total Charge	Total Paid
/ARCHAN ENVIRONMENTAI	37	416.87	0.00	0.00	0.00	$0.00	$0.00	$0.00	$0.00

	Loads	Tons	Yards	Units	Other	Frght/Add	Taxes	Total Charge	Total Paid
Grand Totals	**37**	**416.87**	**0.00**	**0.00**	**0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**

Oregon Waste –
Landfill
343.43 ton dirt rock
inert

APPENDIX B

Laboratory Analysis and Data Quality Review

APPENDIX B-1

TCLP Analysis of Former Burn Pit Soil

TCLP RESULTS

TestAmerica
ANALYTICAL TESTING CORPORATION

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

AMEC- Portland	Project Name:	Camp Rilea	
7376 SW Durham Road	Project Number:	661M110153	Report Created:
Portland, OR 97224	Project Manager:	Matt Kohlbecker	05/08/07 14:49

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
LF-GP01-50	PQD1055-01	Water	04/24/07 11:00	04/25/07 10:15
LF-GP01-75	PQD1055-02	Water	04/24/07 13:00	04/25/07 10:15
LF-GP01-86	PQD1055-03	Water	04/24/07 14:45	04/25/07 10:15
BP-CS-01	PQD1055-04	Soil	04/24/07 16:35	04/25/07 10:15
BP-CS-02	PQD1055-05	Soil	04/24/07 16:20	04/25/07 10:15
BP-CS-03	PQD1055-06	Soil	04/24/07 16:15	04/25/07 10:15

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

Sarah Rockwell

Sarah Rockwell, Project Manager

TestAmerica
ANALYTICAL TESTING CORPORATION

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

AMEC- Portland	Project Name:	Camp Rilea	
7376 SW Durham Road	Project Number:	661M110153	Report Created:
Portland, OR 97224	Project Manager:	Matt Kohlbecker	05/08/07 14:49

TCLP Metals per EPA 1311/6000/7000 Series Methods

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQD1055-04 (BP-CS-01)		**Soil**			**Sampled: 04/24/07 16:35**					
Arsenic	1311/6020	ND	----	0.0500	mg/l	1x	7050056	05/01/07 16:09	05/04/07 01:54	
Barium	"	ND	----	0.500	"	"	"	"	"	
Cadmium	"	ND	----	0.0200	"	"	"	"	"	
Chromium	"	ND	----	0.0500	"	"	"	"	"	
Lead	"	ND	----	0.0500	"	"	"	"	"	
Selenium	"	ND	----	0.0200	"	"	"	"	"	
Silver	"	ND	----	0.0500	"	"	"	"	"	
PQD1055-05 (BP-CS-02)		**Soil**			**Sampled: 04/24/07 16:20**					
Arsenic	1311/6020	ND	----	0.0500	mg/l	1x	7050056	05/01/07 16:09	05/04/07 02:01	
Barium	"	0.563	----	0.500	"	"	"	"	"	
Cadmium	"	ND	----	0.0200	"	"	"	"	"	
Chromium	"	ND	----	0.0500	"	"	"	"	"	
Lead	"	ND	----	0.0500	"	"	"	"	"	
Selenium	"	ND	----	0.0200	"	"	"	"	"	
Silver	"	ND	----	0.0500	"	"	"	"	"	
PQD1055-06 (BP-CS-03)		**Soil**			**Sampled: 04/24/07 16:15**					
Arsenic	1311/6020	ND	----	0.0500	mg/l	1x	7050056	05/01/07 16:09	05/04/07 02:09	
Barium	"	1.15	----	0.500	"	"	"	"	"	
Cadmium	"	ND	----	0.0200	"	"	"	"	"	
Chromium	"	ND	----	0.0500	"	"	"	"	"	
Lead	"	0.967	----	0.0500	"	"	"	"	"	
Selenium	"	ND	----	0.0200	"	"	"	"	"	
Silver	"	ND	----	0.0500	"	"	"	"	"	

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Sarah Rockwell, Project Manager

APPENDIX B-2

Former Burn Pit Confirmation Analytical Results

Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Tuesday, July 31, 2007

Dan Higgins
Amec Earth and Environmental, Inc
7376 SW Durham Road
Portland, OR 97224

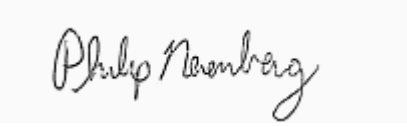
RE: Camp Rilea / 661M 11015-3

Enclosed are the results of analyses for samples received by the laboratory on 7/30/2007 at 5:00:00PM.

Thank you for using Apex Labs. We appreciate your business and strive to provide the highest quality services to the environmental industry.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: pnerenberg@apex-labs.com, or by phone at 503-718-2323.

Apex Laboratories



Philip Nerenberg, Lab Director

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Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Amec Earth and Environmental, Inc	Project: **Camp Rilea**	
7376 SW Durham Road	Project Number: 661M 11015-3	**Reported:**
Portland, OR 97224	Project Manager: Dan Higgins	07/31/07 14:39

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BP-CS-01	A707197-01	Soil	07/30/07 14:10	07/30/07 17:00
BP-CS-02	A707197-02	Soil	07/30/07 14:11	07/30/07 17:00
BP-CS-03	A707197-03	Soil	07/30/07 14:12	07/30/07 17:00
BP-CS-04	A707197-04	Soil	07/30/07 14:15	07/30/07 17:00
BP-CS-05	A707197-05	Soil	07/30/07 14:18	07/30/07 17:00
BP-CS-06	A707197-06	Soil	07/30/07 14:20	07/30/07 17:00

Apex Laboratories

Philip Nerenberg, Lab Director

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Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

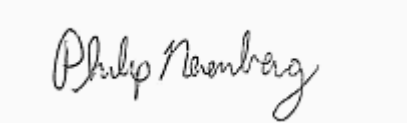
Amec Earth and Environmental, Inc	Project: **Camp Rilea**	
7376 SW Durham Road	Project Number: 661M 11015-3	**Reported:**
Portland, OR 97224	Project Manager: Dan Higgins	07/31/07 14:39

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
BP-CS-01 (A707197-01)			**Matrix: Soil**					
Arsenic	**2.40**	---	0.547	mg/kg dry	5	07/31/07 12:22	EPA 6020	
Lead	**1.70**	---	0.547	"	"	"	"	
BP-CS-02 (A707197-02)			**Matrix: Soil**					
Arsenic	**2.81**	---	0.539	mg/kg dry	5	07/31/07 12:39	EPA 6020	
Lead	**1.64**	---	0.539	"	"	"	"	
BP-CS-03 (A707197-03)			**Matrix: Soil**					
Arsenic	**2.94**	---	0.534	mg/kg dry	5	07/31/07 12:45	EPA 6020	
Lead	**5.96**	---	0.534	"	"	"	"	
BP-CS-04 (A707197-04)			**Matrix: Soil**					
Arsenic	**3.31**	---	0.556	mg/kg dry	5	07/31/07 12:51	EPA 6020	
Lead	**18.2**	---	0.556	"	"	"	"	
BP-CS-05 (A707197-05)			**Matrix: Soil**					
Arsenic	**2.61**	---	0.571	mg/kg dry	5	07/31/07 12:57	EPA 6020	
Lead	**4.33**	---	0.571	"	"	"	"	
BP-CS-06 (A707197-06)			**Matrix: Soil**					
Arsenic	**2.48**	---	0.556	mg/kg dry	5	07/31/07 13:15	EPA 6020	
Lead	**2.63**	---	0.556	"	"	"	"	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Amec Earth and Environmental, Inc	Project: **Camp Rilea**	
7376 SW Durham Road	Project Number: 661M 11015-3	**Reported:**
Portland, OR 97224	Project Manager: Dan Higgins	07/31/07 14:39

ANALYTICAL SAMPLE RESULTS

Percent Dry Weight by D2216

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
BP-CS-01 (A707197-01)			**Matrix: Soil**					
% Solids	**95.8**	---	1.00	% by Weight	1	07/31/07 08:32	D2216	
BP-CS-02 (A707197-02)			**Matrix: Soil**					
% Solids	**96.6**	---	1.00	% by Weight	1	07/31/07 08:32	D2216	
BP-CS-03 (A707197-03)			**Matrix: Soil**					
% Solids	**95.2**	---	1.00	% by Weight	1	07/31/07 08:32	D2216	
BP-CS-04 (A707197-04)			**Matrix: Soil**					
% Solids	**98.1**	---	1.00	% by Weight	1	07/31/07 08:32	D2216	
BP-CS-05 (A707197-05)			**Matrix: Soil**					
% Solids	**94.7**	---	1.00	% by Weight	1	07/31/07 08:32	D2216	
BP-CS-06 (A707197-06)			**Matrix: Soil**					
% Solids	**94.2**	---	1.00	% by Weight	1	07/31/07 08:32	D2216	

Apex Laboratories

Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

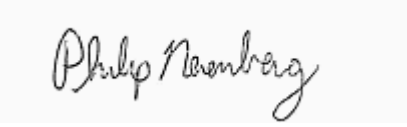
Amec Earth and Environmental, Inc	Project: **Camp Rilea**	
7376 SW Durham Road	Project Number: 661M 11015-3	**Reported:**
Portland, OR 97224	Project Manager: Dan Higgins	07/31/07 14:39

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7070209 - EPA 3051							**Soil**					
Blank (7070209-BLK1)						**Analyzed: 07/31/07 13:20**						
Arsenic	ND	---	0.500	mg/kg wet	5	---	---	---	---	---	---	
Lead	ND	---	0.500	"	"	---	---	---	---	---	---	
LCS (7070209-BS1)						**Analyzed: 07/31/07 12:16**						
Arsenic	51.2	---	0.500	mg/kg wet	5	50.0	---	102	80-120%	---	---	
Lead	50.8	---	0.500	"	"	50.0	---	102	80-120%	---	---	
Duplicate (7070209-DUP1)			**Source: A707197-01**			**Analyzed: 07/31/07 12:28**						
Arsenic	**2.76**	---	0.541	mg/kg dry	5	---	2.40	---	---	13.9	40%	
Lead	**2.00**	---	0.541	"	"	---	1.70	---	---	16.3	40%	
Matrix Spike (7070209-MS1)			**Source: A707197-01**			**Analyzed: 07/31/07 12:33**						
Arsenic	61.8	---	0.552	mg/kg dry	5	55.2	2.40	108	75-125%	---	---	
Lead	60.2	---	0.552	"	"	55.2	1.70	106	75-125%	---	---	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

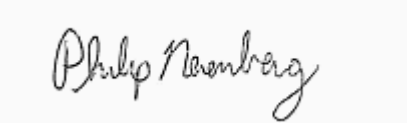
Amec Earth and Environmental, Inc	Project: **Camp Rilea**	
7376 SW Durham Road	Project Number: 661M 11015-3	**Reported:**
Portland, OR 97224	Project Manager: Dan Higgins	07/31/07 14:39

QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight by D2216

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7070207 - Dry Weight							**Soil**					
Duplicate (7070207-DUP3)			**Source: A707197-01**			**Analyzed: 07/31/07 08:32**						
% Solids	**96.3**	---	1.00	% by Weight	1	---	95.8	---	---	0.521	20%	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Amec Earth and Environmental, Inc	Project: **Camp Rilea**	
7376 SW Durham Road	Project Number: 661M 11015-3	**Reported:**
Portland, OR 97224	Project Manager: Dan Higgins	07/31/07 14:39

Apex Laboratories

Total Metals by EPA 6020 (ICPMS)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
EPA 3051							
Batch: 7070209							
A707197-01	Soil	EPA 6020	07/30/07 14:10	07/30/07 17:10	0.477g/50mL	0.5g/50mL	1.05
A707197-02	Soil	EPA 6020	07/30/07 14:11	07/30/07 17:10	0.48g/50mL	0.5g/50mL	1.04
A707197-03	Soil	EPA 6020	07/30/07 14:12	07/30/07 17:10	0.492g/50mL	0.5g/50mL	1.02
A707197-04	Soil	EPA 6020	07/30/07 14:15	07/30/07 17:10	0.458g/50mL	0.5g/50mL	1.09
A707197-05	Soil	EPA 6020	07/30/07 14:18	07/30/07 17:10	0.462g/50mL	0.5g/50mL	1.08
A707197-06	Soil	EPA 6020	07/30/07 14:20	07/30/07 17:10	0.477g/50mL	0.5g/50mL	1.05

Percent Dry Weight by D2216

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Dry Weight							
Batch: 7070207							
A707197-01	Soil	D2216	07/30/07 14:10	07/30/07 17:59	1g/1g	NA	NA
A707197-02	Soil	D2216	07/30/07 14:11	07/30/07 17:59	1g/1g	NA	NA
A707197-03	Soil	D2216	07/30/07 14:12	07/30/07 17:59	1g/1g	NA	NA
A707197-04	Soil	D2216	07/30/07 14:15	07/30/07 17:59	1g/1g	NA	NA
A707197-05	Soil	D2216	07/30/07 14:18	07/30/07 17:59	1g/1g	NA	NA
A707197-06	Soil	D2216	07/30/07 14:20	07/30/07 17:59	1g/1g	NA	NA

Apex Laboratories

Philip Nerenberg

Philip Nerenberg, Lab Director

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Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
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Amec Earth and Environmental, Inc	Project: **Camp Rilea**	
7376 SW Durham Road	Project Number: 661M 11015-3	**Reported:**
Portland, OR 97224	Project Manager: Dan Higgins	07/31/07 14:39

Notes and Definitions

Qualifiers:

Notes and Conventions:

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	If MDL is not listed, data has been evaluated to the Method Reporting Limit only.
Batch QC	Unless specifically stated, all analyses include full Batch QC, including Sample Duplicates, Matrix Spikes and/or Matrix Spike Duplicates, in order to meet or exceed method and regulatory requirements. This report contains only results for Batch QC derived from samples included in this report. Complete Batch QC results are available upon request. In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.

Apex Laboratories

Philip Nerenberg, Lab Director

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12232 S.W. Garden Place
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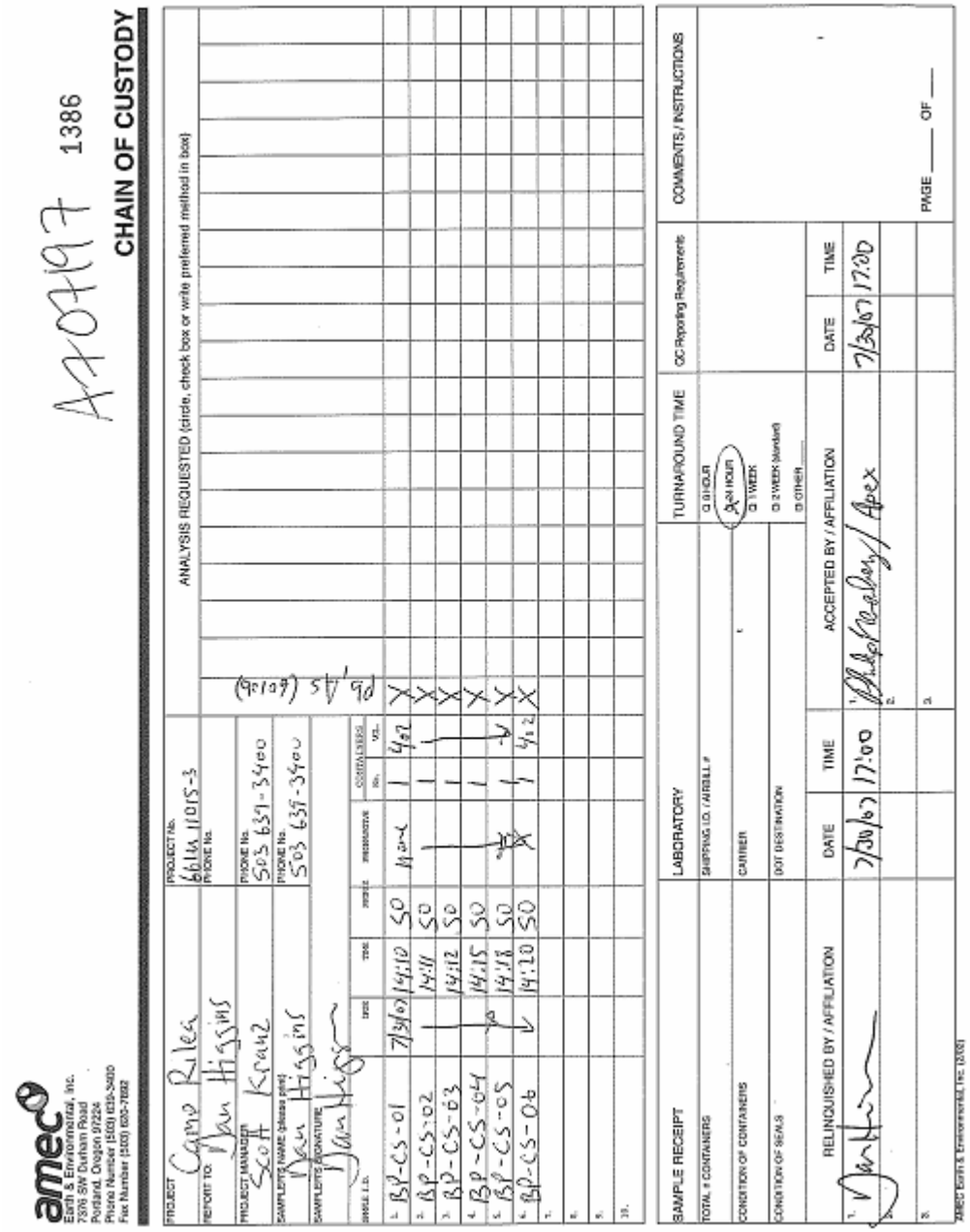
Amec Earth and Environmental, Inc	Project: **Camp Rilea**	
7376 SW Durham Road	Project Number: 661M 11015-3	**Reported:**
Portland, OR 97224	Project Manager: Dan Higgins	07/31/07 14:39



amec
Earth & Environmental, Inc.
7376 SW Durham Road
Portland, Oregon 97224
Phone Number (503) 639-3400
Fax Number (503) 620-7892

A707197 1386

CHAIN OF CUSTODY

PROJECT: Camp Rilea
PROJECT No.: 661M 11015-3
REPORT TO: Dan Higgins
PHONE No.:
PROJECT MANAGER: Scott Kraus
PHONE No.: 503 639-3400
SAMPLERS (NAME, please print): Dan Higgins
PHONE No.: 503 639-3400
SAMPLERS SIGNATURE: Dan Higgins

ANALYSIS REQUESTED (circle, check box or write preferred method in box)

Pb 1/5 (8010)

SAMPLE I.D.	DATE	TIME	MATRIX	PRESERVATIVE	CONTAINERS No.	VOL.	Pb 1/5 (8010)
1. BP-CS-01	7/30/07	14:10	SO	Non-e	1	4oz	X
2. BP-CS-02		14:11	SO		1		X
3. BP-CS-03		14:12	SO		1		X
4. BP-CS-04		14:15	SO		1		X
5. BP-CS-05		14:18	SO		1		X
6. BP-CS-06		14:20	SO		1	4oz	X
7.							
8.							
9.							
10.							

SAMPLE RECEIPT
TOTAL # CONTAINERS
CONDITION OF CONTAINERS
CONDITION OF SEALS

LABORATORY
SHIPPING I.D. / AIRBILL #
CARRIER
DOT DESTINATION

TURNAROUND TIME
☐ 24 HOUR
☒ 48 HOUR
☐ 1 WEEK
☐ 2 WEEK (standard)
☐ OTHER ____

QC Reporting Requirements

COMMENTS / INSTRUCTIONS

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
1. Dan Higgins	7/30/07	17:00	1. Philip Nerenberg / Apex	7/30/07	17:00
2.			2.		
3.			3.		

PAGE ____ OF ____

AMEC Earth & Environmental, Inc. (2/03)

Apex Laboratories

Philip Nerenberg

Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

APPENDIX B-3

Former Landfill Methane Analytical Results

2655 Park Center Drive, Suite A Simi Valley, California 93065 (805) 526-7161 (805) 526-7270 fax

Columbia Analytical Services INC.
An Employee - Owned Company

August 20, 2007

Mr. Scott Krantz
AMEC Earth & Environmental, Inc.
7376 SW Durham Road
Portland, OR 97224

RE: P2702336
Camp Rilea/661M110153-04

Dear Mr. Krantz:

Enclosed are the results of the sample(s) submitted to our laboratory on August 2, 2007. For your reference, these analyses have been assigned our service request number P2702336.

All analyses were performed in accordance with our laboratory's quality assurance program. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein. Your report contains 5 pages.

Columbia Analytical Services, Inc. is certified by the California Department of Health Services, NELAP Laboratory Certificate No. 02115CA; Arizona Department of Health Services, Certificate No. AZ0694; Florida Department of Health, NELAP Certification E871020; New Jersey Department of Environmental Protection, NELAP Laboratory Certification ID #CA009; New York State Department of Health, NELAP NY Lab ID No: 11221; Oregon Environmental Laboratory Accreditation Program, NELAP ID: CA20007; The American Industrial Hygiene Association, Laboratory #101661; Department of the Navy (NFESC); Pennsylvania Registration No. 68-03307. Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact me for information corresponding to a particular certification.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

Columbia Analytical Services, Inc.

Kate Aguilera

Kate Aguilera
Project Manager

NELAP Accredited ACIL Seal of Excellence Award 100% Recycled

2655 Park Center Drive, Suite A Simi Valley, California 93065 (805) 526-7161 (805) 526-7270 fax

Columbia Analytical Services INC.
An Employee - Owned Company

LABORATORY REPORT

Client:	AMEC EARTH & ENVIRONMENTAL, INC.	Date of Report:	08/20/07
Address:	7376 SW Durham Road	Date Received:	08/02/07
	Portland, OR 97224	CAS Project No:	P2702336
Contact:	Mr. Scott Krantz	Purchase Order:	Verbal

Client Project ID: Camp Rilea/661M110153-04

Five (5) Tedlar Bag Samples labeled: "GP-01" "GP-02" "GP-03" "GP-04" "GP-05"

The samples were received at the laboratory under chain of custody on August 02, 2007. The samples were received intact. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time that they were received at the laboratory.

Methane Analysis

The samples were analyzed for methane according to modified EPA Method 25C. The analyses included a single sample injection (method modification) analyzed by gas chromatography using flame ionization detection/total combustion analysis.

The samples were analyzed outside of holding time.

The results of analyses are given on the attached data sheet. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for utilization of less than the complete report.

Reviewed and Approved:

Wade Henton
GC-VOA Team Leader
Air Quality Laboratory

Reviewed and Approved:

for: John Yokoyama
Operations Manager
Air Quality Laboratory

NELAP Accredited ACIL Seal of Excellence Award 100% Recycled

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **AMEC Earth & Environmental, Inc.**
Client Project ID: **Camp Rilea/661M110153-04**

CAS Project ID: P2702336

Methane

Test Code: EPA Method 25C Modified
Instrument ID: HP5890II/GC1/FID/TCA
Analyst: Wade Henton
Sampling Media: Tedlar Bag(s)
Test Notes:

Date(s) Collected: 7/30/07
Date Received: 8/2/07
Date Analyzed: 8/2/07
Volume(s) Analyzed: 0.50 ml

Client Sample ID	CAS Sample ID	D.F.	**Methane Concentration in ppmV**		Data Qualifier
			Result	MRL	
GP-01	P2702336-001	1.00	**0.60**	0.50	**H**
GP-02	P2702336-002	1.00	**1.4**	0.50	**H**
GP-03	P2702336-003	1.00	**1.4**	0.50	**H**
GP-04	P2702336-004	1.00	**1.3**	0.50	**H**
GP-05	P2702336-005	1.00	**1.3**	0.50	**H**
Method Blank	P070802-MB	1.00	ND	0.50	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
H = Sample analyzed outside of holding time.

Verified By: KU Date: 8/16/07

Columbia Analytical Services, Inc.
Sample Acceptance Check Form

Client: AMEC Earth & Environmental, Inc. Work order: P2702336
Project: Camp Rilea/661M110153-04
Sample(s) received on: 8/2/07 Date opened: 8/2/07 by: LK

Note: This form is used for all samples received by CAS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
	Cooler Temperature NA °C			
	Blank Temperature NA °C			
8	Were **custody seals** on outside of cooler/Box?	☐	☐	☒
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
	Were custody seals on outside of sample container?	☐	☐	☒
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
9	Is pH (acid) **preservation** necessary, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** (acid) preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
	Do they contain moisture?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Required pH (as received, if required)	pH (as received, if required)	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2702336-001			NA	
P2702336-002			NA	
P2702336-003			NA	
P2702336-004			NA	
P2702336-005			NA	

Explain any discrepancies: (include lab sample ID numbers):

Air - Chain of Custody Record & Analytical Service Request

Columbia Analytical Services INC.
An Employee - Owned Company
2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

Requested Turnaround Time in Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day - Standard

CAS Project No. P2702336

CAS Contact: Kate Aguilera

Company Name & Address (Reporting Information): AMEC, 7376 SW Durham Rd., Portland, OR 97224

Project Name: Camp Rilea

Project Number: 661M110153-04

Project Manager: Scott Kranz

Phone: 503 639-3400

Fax:

P.O. # / Billing Information: AMEC, 7376 SW Durham Rd., Portland, OR 97224

Email Address for Result Reporting: dan.higgins@amec.com

Sampler (Print & Sign): Dan Higgins [signature]

Analysis Method and/or Analytes

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Sample Type (Air/Tube/Solid)	Canister ID (Bar Code # - AC, SC, etc.)	Flow Controller (Bar Code - FC #)	Sample Volume	TO3-MOD (methane only)				Comments e.g. Actual Preservative or specific instructions
GP-01	1	7/30/07	13:05	air			1L	X				
GP-02	2	↓	13:17	air			1L	X				
GP-03	3	↓	13:26	air			1L	X				
GP-04	4	↓	13:31	air			1L	X				
GP-05	5	↓	13:51	air			1L	X				

Report Tier Levels - please select
Tier I - (Results/Default if not specified) X
Tier II - (Results + QC) ____
Tier III - (Data Validation Package) 10% Surcharge ____
Tier V - (client specified) ____
EDD required Yes / No
Type: ____ EDD Units: ____

Project Requirements (MRLs, QAPP)

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Dan Higgins	8/1/07	9:00	FEDEX		
FEDEX			[signature]	8/2/07	0931

Cooler / Blank
Temperature ____ °C

5

APPENDIX B-4

Investigation Derived Waste Analytical Results

Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Thursday, September 13, 2007

Dan Higgins
Amec Earth and Environmental, Inc
7376 SW Durham Road
Portland, OR 97224

RE: Camp Rilea / 661M 11015-3

Enclosed are the results of analyses for samples received by the laboratory on 8/23/2007 at 8:17:00AM.

Thank you for using Apex Labs. We appreciate your business and strive to provide the highest quality services to the environmental industry.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: pnerenberg@apex-labs.com, or by phone at 503-718-2323.

Apex Laboratories

Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Amec Earth and Environmental, Inc	Project: **Camp Rilea**	
7376 SW Durham Road	Project Number: 661M 11015-3	**Reported:**
Portland, OR 97224	Project Manager: Dan Higgins	09/13/07 16:29

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1DW-081707	A708173-01	Soil	08/17/07 13:10	08/23/07 08:17

Apex Laboratories

Philip Nerenberg, Lab Director

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Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Amec Earth and Environmental, Inc	Project: **Camp Rilea**	
7376 SW Durham Road	Project Number: 661M 11015-3	**Reported:**
Portland, OR 97224	Project Manager: Dan Higgins	09/13/07 16:29

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW-1DW-081707 (A708173-01)			**Matrix: Soil**					**H-01**
Acetone	ND	---	1080	ug/kg dry	50	09/02/07 16:46	EPA 8260B	
Benzene	ND	---	27.1	"	"	"	"	
Bromobenzene	ND	---	27.1	"	"	"	"	
Bromochloromethane	ND	---	27.1	"	"	"	"	
Bromodichloromethane	ND	---	27.1	"	"	"	"	
Bromoform	ND	---	54.2	"	"	"	"	
Bromomethane	ND	---	271	"	"	"	"	
2-Butanone (MEK)	ND	---	542	"	"	"	"	
n-Butylbenzene	ND	---	27.1	"	"	"	"	
sec-Butylbenzene	ND	---	27.1	"	"	"	"	
tert-Butylbenzene	ND	---	27.1	"	"	"	"	
Carbon tetrachloride	ND	---	27.1	"	"	"	"	
Chlorobenzene	ND	---	27.1	"	"	"	"	
Chloroethane	ND	---	271	"	"	"	"	
Chloroform	ND	---	108	"	"	"	"	
Chloromethane	ND	---	271	"	"	"	"	
2-Chlorotoluene	ND	---	27.1	"	"	"	"	
4-Chlorotoluene	ND	---	27.1	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	108	"	"	"	"	
Dibromochloromethane	ND	---	54.2	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	27.1	"	"	"	"	
Dibromomethane	ND	---	27.1	"	"	"	"	
1,2-Dichlorobenzene	ND	---	27.1	"	"	"	"	
1,3-Dichlorobenzene	ND	---	27.1	"	"	"	"	
1,4-Dichlorobenzene	ND	---	27.1	"	"	"	"	
Dichlorodifluoromethane	ND	---	54.2	"	"	"	"	
1,1-Dichloroethane	ND	---	27.1	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	27.1	"	"	"	"	
1,1-Dichloroethene	ND	---	27.1	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	27.1	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	27.1	"	"	"	"	
1,2-Dichloropropane	ND	---	27.1	"	"	"	"	
1,3-Dichloropropane	ND	---	27.1	"	"	"	"	
2,2-Dichloropropane	ND	---	54.2	"	"	"	"	

Apex Laboratories

Philip Nerenberg, Lab Director

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Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Amec Earth and Environmental, Inc	Project: **Camp Rilea**	
7376 SW Durham Road	Project Number: 661M 11015-3	**Reported:**
Portland, OR 97224	Project Manager: Dan Higgins	09/13/07 16:29

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW-1DW-081707 (A708173-01)			**Matrix: Soil**					**H-01**
1,1-Dichloropropene	ND	---	27.1	ug/kg dry	50	"	EPA 8260B	
cis-1,3-Dichloropropene	ND	---	27.1	"	"	"	"	
trans-1,3-Dichloropropene	ND	---	54.2	"	"	"	"	
Ethylbenzene	ND	---	27.1	"	"	"	"	
Hexachlorobutadiene	ND	---	108	"	"	"	"	
2-Hexanone	ND	---	542	"	"	"	"	
Isopropylbenzene	ND	---	27.1	"	"	"	"	
4-Isopropyltoluene	ND	---	27.1	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	542	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	54.2	"	"	"	"	
Methylene chloride	ND	---	271	"	"	"	"	
Naphthalene	ND	---	271	"	"	"	"	
n-Propylbenzene	ND	---	27.1	"	"	"	"	
Styrene	ND	---	27.1	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	54.2	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	27.1	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	27.1	"	"	"	"	
Toluene	ND	---	108	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	108	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	108	"	"	"	"	
1,1,1-Trichloroethane	ND	---	54.2	"	"	"	"	
1,1,2-Trichloroethane	ND	---	27.1	"	"	"	"	
Trichloroethene (TCE)	ND	---	27.1	"	"	"	"	
Trichlorofluoromethane	ND	---	271	"	"	"	"	
1,2,3-Trichloropropane	ND	---	27.1	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	27.1	"	"	"	"	
1,3,5-Trimethybenzene	ND	---	27.1	"	"	"	"	
Vinyl chloride	ND	---	27.1	"	"	"	"	
m,p-Xylene	ND	---	54.2	"	"	"	"	
o-Xylene	ND	---	27.1	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 104 %*	*Limits: 70-130 %*	1	"	"	
1,4-Difluorobenzene (Surr)			*102 %*	*Limits: 70-130 %*	"	"	"	
Toluene-d8 (Surr)			*97 %*	*Limits: 70-130 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*105 %*	*Limits: 70-130 %*	"	"	"	

Apex Laboratories

Philip Nerenberg, Lab Director

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12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Amec Earth and Environmental, Inc	Project: **Camp Rilea**	
7376 SW Durham Road	Project Number: 661M 11015-3	**Reported:**
Portland, OR 97224	Project Manager: Dan Higgins	09/13/07 16:29

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW-1DW-081707 (A708173-01)			**Matrix: Soil**					
Arsenic	**2.41**	---	0.527	mg/kg dry	5	08/27/07 11:48	EPA 6020	
Cadmium	ND	---	0.527	"	"	"	"	
Chromium	**8.72**	---	1.05	"	"	08/27/07 15:45	"	
Lead	**13.2**	---	0.527	"	"	08/27/07 11:48	"	
Selenium	ND	---	0.527	"	"	"	"	
Silver	ND	---	1.05	"	"	08/27/07 15:45	"	
MW-1DW-081707 (A708173-01RE1)			**Matrix: Soil**					
Barium	**17.1**	---	0.594	mg/kg dry	5	09/07/07 17:50	EPA 6020	

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Portland, OR 97224	Project Manager: Dan Higgins	09/13/07 16:29

ANALYTICAL SAMPLE RESULTS

Total Mercury by EPA 7471

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW-1DW-081707 (A708173-01)			**Matrix: Soil**					
Mercury	**0.0211**	---	0.0158	mg/kg dry	1	08/27/07 10:47	EPA 7471A	M-01

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7376 SW Durham Road	Project Number: 661M 11015-3	**Reported:**
Portland, OR 97224	Project Manager: Dan Higgins	09/13/07 16:29

ANALYTICAL SAMPLE RESULTS

Percent Dry Weight by D2216

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW-1DW-081707 (A708173-01)			**Matrix: Soil**					
% Solids	**91.3**	---	1.00	% by Weight	1	08/26/07 12:20	D2216	

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7376 SW Durham Road	Project Number: 661M 11015-3	**Reported:**
Portland, OR 97224	Project Manager: Dan Higgins	09/13/07 16:29

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7090003 - EPA 5035-Mod (w/o Field Pres.)							**Soil**					
Blank (7090003-BLK1)						**Analyzed: 09/02/07 13:43**						
Acetone	ND	---	1000	ug/kg wet	50	---	---	---	---	---	---	
Benzene	ND	---	25.0	"	"	---	---	---	---	---	---	
Bromobenzene	ND	---	25.0	"	"	---	---	---	---	---	---	
Bromochloromethane	ND	---	25.0	"	"	---	---	---	---	---	---	
Bromodichloromethane	ND	---	25.0	"	"	---	---	---	---	---	---	
Bromoform	ND	---	50.0	"	"	---	---	---	---	---	---	
Bromomethane	ND	---	250	"	"	---	---	---	---	---	---	
2-Butanone (MEK)	ND	---	500	"	"	---	---	---	---	---	---	
n-Butylbenzene	ND	---	25.0	"	"	---	---	---	---	---	---	
sec-Butylbenzene	ND	---	25.0	"	"	---	---	---	---	---	---	
tert-Butylbenzene	ND	---	25.0	"	"	---	---	---	---	---	---	
Carbon tetrachloride	ND	---	25.0	"	"	---	---	---	---	---	---	
Chlorobenzene	ND	---	25.0	"	"	---	---	---	---	---	---	
Chloroethane	ND	---	250	"	"	---	---	---	---	---	---	
Chloroform	ND	---	100	"	"	---	---	---	---	---	---	
Chloromethane	ND	---	250	"	"	---	---	---	---	---	---	
2-Chlorotoluene	ND	---	25.0	"	"	---	---	---	---	---	---	
4-Chlorotoluene	ND	---	25.0	"	"	---	---	---	---	---	---	
1,2-Dibromo-3-chloropropane	ND	---	100	"	"	---	---	---	---	---	---	
Dibromochloromethane	ND	---	50.0	"	"	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	---	25.0	"	"	---	---	---	---	---	---	
Dibromomethane	ND	---	25.0	"	"	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	---	25.0	"	"	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	---	25.0	"	"	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	---	25.0	"	"	---	---	---	---	---	---	
Dichlorodifluoromethane	ND	---	50.0	"	"	---	---	---	---	---	---	
1,1-Dichloroethane	ND	---	25.0	"	"	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	---	25.0	"	"	---	---	---	---	---	---	
1,1-Dichloroethene	ND	---	25.0	"	"	---	---	---	---	---	---	
cis-1,2-Dichloroethene	ND	---	25.0	"	"	---	---	---	---	---	---	
trans-1,2-Dichloroethene	ND	---	25.0	"	"	---	---	---	---	---	---	
1,2-Dichloropropane	ND	---	25.0	"	"	---	---	---	---	---	---	
1,3-Dichloropropane	ND	---	25.0	"	"	---	---	---	---	---	---	
2,2-Dichloropropane	ND	---	50.0	"	"	---	---	---	---	---	---	
1,1-Dichloropropene	ND	---	25.0	"	"	---	---	---	---	---	---	

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7376 SW Durham Road	Project Number: 661M 11015-3	**Reported:**
Portland, OR 97224	Project Manager: Dan Higgins	09/13/07 16:29

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7090003 - EPA 5035-Mod (w/o Field Pres.)							**Soil**					
Blank (7090003-BLK1)						**Analyzed: 09/02/07 13:43**						
cis-1,3-Dichloropropene	ND	---	25.0	ug/kg wet	"	---	---	---	---	---	---	
trans-1,3-Dichloropropene	ND	---	50.0	"	"	---	---	---	---	---	---	
Ethylbenzene	ND	---	25.0	"	"	---	---	---	---	---	---	
Hexachlorobutadiene	ND	---	100	"	"	---	---	---	---	---	---	
2-Hexanone	ND	---	500	"	"	---	---	---	---	---	---	
Isopropylbenzene	ND	---	25.0	"	"	---	---	---	---	---	---	
4-Isopropyltoluene	ND	---	25.0	"	"	---	---	---	---	---	---	
4-Methyl-2-pentanone (MiBK)	ND	---	500	"	"	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	---	50.0	"	"	---	---	---	---	---	---	
Methylene chloride	ND	---	250	"	"	---	---	---	---	---	---	
Naphthalene	ND	---	250	"	"	---	---	---	---	---	---	
n-Propylbenzene	ND	---	25.0	"	"	---	---	---	---	---	---	
Styrene	ND	---	25.0	"	"	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	---	50.0	"	"	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	---	25.0	"	"	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	---	25.0	"	"	---	---	---	---	---	---	
Toluene	ND	---	100	"	"	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	---	100	"	"	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	---	100	"	"	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	---	50.0	"	"	---	---	---	---	---	---	
1,1,2-Trichloroethane	ND	---	25.0	"	"	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	---	25.0	"	"	---	---	---	---	---	---	
Trichlorofluoromethane	ND	---	250	"	"	---	---	---	---	---	---	
1,2,3-Trichloropropane	ND	---	25.0	"	"	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	---	25.0	"	"	---	---	---	---	---	---	
1,3,5-Trimethybenzene	ND	---	25.0	"	"	---	---	---	---	---	---	
Vinyl chloride	ND	---	25.0	"	"	---	---	---	---	---	---	
m,p-Xylene	ND	---	50.0	"	"	---	---	---	---	---	---	
o-Xylene	ND	---	25.0	"	"	---	---	---	---	---	---	

Surr: Dibromofluoromethane (Surr)	*Recovery: 95 %*	*Limits: 70-130 %*	*Dilution: 1x*
1,4-Difluorobenzene (Surr)	*102 %*	*70-130 %*	*"*
Toluene-d8 (Surr)	*99 %*	*70-130 %*	*"*
4-Bromofluorobenzene (Surr)	*108 %*	*70-130 %*	*"*

LCS (7090003-BS1) **Analyzed: 09/02/07 12:41**

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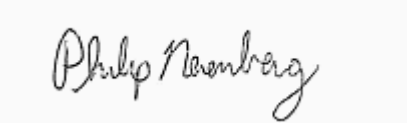

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7376 SW Durham Road	Project Number: 661M 11015-3	**Reported:**
Portland, OR 97224	Project Manager: Dan Higgins	09/13/07 16:29

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7090003 - EPA 5035-Mod (w/o Field Pres.)							**Soil**					
LCS (7090003-BS1)						**Analyzed: 09/02/07 12:41**						
Acetone	2300	---	1000	ug/kg wet	50	2000	---	115	65-135%	---	---	
Benzene	1020	---	25.0	"	"	1000	---	102	65-135%	---	---	
Bromobenzene	988	---	25.0	"	"	1000	---	99	65-135%	---	---	
Bromochloromethane	936	---	25.0	"	"	1000	---	94	65-135%	---	---	
Bromodichloromethane	1010	---	25.0	"	"	1000	---	101	65-135%	---	---	
Bromoform	952	---	50.0	"	"	1000	---	95	65-135%	---	---	
Bromomethane	1030	---	250	"	"	1000	---	103	65-135%	---	---	
2-Butanone (MEK)	2220	---	500	"	"	2000	---	111	65-135%	---	---	
n-Butylbenzene	1030	---	25.0	"	"	1000	---	103	65-135%	---	---	
sec-Butylbenzene	1130	---	25.0	"	"	1000	---	113	65-135%	---	---	
tert-Butylbenzene	990	---	25.0	"	"	1000	---	99	65-135%	---	---	
Carbon tetrachloride	979	---	25.0	"	"	1000	---	98	65-135%	---	---	
Chlorobenzene	946	---	25.0	"	"	1000	---	95	65-135%	---	---	
Chloroethane	1300	---	250	"	"	1000	---	130	40-135%	---	---	
Chloroform	947	---	100	"	"	1000	---	95	65-135%	---	---	
Chloromethane	1160	---	250	"	"	1000	---	116	65-135%	---	---	
2-Chlorotoluene	1050	---	25.0	"	"	1000	---	105	65-135%	---	---	
4-Chlorotoluene	1170	---	25.0	"	"	1000	---	117	65-135%	---	---	
1,2-Dibromo-3-chloropropane	984	---	100	"	"	1000	---	98	65-135%	---	---	
Dibromochloromethane	990	---	50.0	"	"	1000	---	99	65-135%	---	---	
1,2-Dibromoethane (EDB)	982	---	25.0	"	"	1000	---	98	65-135%	---	---	
Dibromomethane	1110	---	25.0	"	"	1000	---	111	65-135%	---	---	
1,2-Dichlorobenzene	1040	---	25.0	"	"	1000	---	104	65-135%	---	---	
1,3-Dichlorobenzene	1060	---	25.0	"	"	1000	---	106	65-135%	---	---	
1,4-Dichlorobenzene	1050	---	25.0	"	"	1000	---	105	65-135%	---	---	
Dichlorodifluoromethane	1320	---	50.0	"	"	1000	---	132	65-135%	---	---	
1,1-Dichloroethane	1010	---	25.0	"	"	1000	---	101	65-135%	---	---	
1,2-Dichloroethane (EDC)	979	---	25.0	"	"	1000	---	98	65-135%	---	---	
1,1-Dichloroethene	1050	---	25.0	"	"	1000	---	105	65-135%	---	---	
cis-1,2-Dichloroethene	1040	---	25.0	"	"	1000	---	104	65-135%	---	---	
trans-1,2-Dichloroethene	1080	---	25.0	"	"	1000	---	108	65-135%	---	---	
1,2-Dichloropropane	1010	---	25.0	"	"	1000	---	101	65-135%	---	---	
1,3-Dichloropropane	1000	---	25.0	"	"	1000	---	100	65-135%	---	---	
2,2-Dichloropropane	1050	---	50.0	"	"	1000	---	105	65-135%	---	---	
1,1-Dichloropropene	950	---	25.0	"	"	1000	---	95	65-135%	---	---	

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7376 SW Durham Road	Project Number: 661M 11015-3	**Reported:**
Portland, OR 97224	Project Manager: Dan Higgins	09/13/07 16:29

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7090003 - EPA 5035-Mod (w/o Field Pres.)							**Soil**					
LCS (7090003-BS1)						**Analyzed: 09/02/07 12:41**						
cis-1,3-Dichloropropene	964	---	25.0	ug/kg wet	"	1000	---	96	65-135%	---	---	
trans-1,3-Dichloropropene	986	---	50.0	"	"	1000	---	99	65-135%	---	---	
Ethylbenzene	1020	---	25.0	"	"	1000	---	102	65-135%	---	---	
Hexachlorobutadiene	930	---	100	"	"	1000	---	93	65-135%	---	---	
2-Hexanone	2390	---	500	"	"	2000	---	120	65-135%	---	---	
Isopropylbenzene	962	---	25.0	"	"	1000	---	96	65-135%	---	---	
4-Isopropyltoluene	1010	---	25.0	"	"	1000	---	101	65-135%	---	---	
4-Methyl-2-pentanone (MiBK)	2310	---	500	"	"	2000	---	116	65-135%	---	---	
Methyl tert-butyl ether (MTBE)	1020	---	50.0	"	"	1000	---	102	65-135%	---	---	
Methylene chloride	986	---	250	"	"	1000	---	99	65-135%	---	---	
Naphthalene	1010	---	250	"	"	1000	---	101	65-135%	---	---	
n-Propylbenzene	1100	---	25.0	"	"	1000	---	110	65-135%	---	---	
Styrene	1010	---	25.0	"	"	1000	---	101	65-135%	---	---	
1,1,1,2-Tetrachloroethane	912	---	50.0	"	"	1000	---	91	65-135%	---	---	
1,1,2,2-Tetrachloroethane	1160	---	25.0	"	"	1000	---	116	65-135%	---	---	
Tetrachloroethene (PCE)	940	---	25.0	"	"	1000	---	94	65-135%	---	---	
Toluene	985	---	100	"	"	1000	---	98	65-135%	---	---	
1,2,3-Trichlorobenzene	986	---	100	"	"	1000	---	99	65-135%	---	---	
1,2,4-Trichlorobenzene	1000	---	100	"	"	1000	---	100	65-135%	---	---	
1,1,1-Trichloroethane	992	---	50.0	"	"	1000	---	99	65-135%	---	---	
1,1,2-Trichloroethane	959	---	25.0	"	"	1000	---	96	65-135%	---	---	
Trichloroethene (TCE)	1060	---	25.0	"	"	1000	---	106	65-135%	---	---	
Trichlorofluoromethane	942	---	250	"	"	1000	---	94	30-135%	---	---	
1,2,3-Trichloropropane	1100	---	25.0	"	"	1000	---	110	65-135%	---	---	
1,2,4-Trimethylbenzene	1050	---	25.0	"	"	1000	---	105	65-135%	---	---	
1,3,5-Trimethybenzene	1070	---	25.0	"	"	1000	---	107	65-135%	---	---	
Vinyl chloride	1260	---	25.0	"	"	1000	---	126	65-135%	---	---	
m,p-Xylene	2260	---	50.0	"	"	2000	---	113	65-135%	---	---	
o-Xylene	943	---	25.0	"	"	1000	---	94	65-135%	---	---	

Surr: Dibromofluoromethane (Surr)	*Recovery: 99 %*	*Limits: 70-130 %*	*Dilution: 1x*
1,4-Difluorobenzene (Surr)	*103 %*	*70-130 %*	*"*
Toluene-d8 (Surr)	*103 %*	*70-130 %*	*"*
4-Bromofluorobenzene (Surr)	*101 %*	*70-130 %*	*"*

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7376 SW Durham Road	Project Number: 661M 11015-3	**Reported:**
Portland, OR 97224	Project Manager: Dan Higgins	09/13/07 16:29

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7080190 - EPA 3051							**Soil**					
Blank (7080190-BLK1)						**Analyzed: 08/27/07 11:41**						
Arsenic	ND	---	0.500	mg/kg wet	5	---	---	---	---	---	---	
Cadmium	ND	---	0.500	"	"	---	---	---	---	---	---	
Chromium	ND	---	1.00	"	"	---	---	---	---	---	---	
Lead	ND	---	0.500	"	"	---	---	---	---	---	---	
Selenium	ND	---	0.500	"	"	---	---	---	---	---	---	
						Analyzed: 08/27/07 15:37						
Silver	ND	---	1.00	"	"	---	---	---	---	---	---	
LCS (7080190-BS1)						**Analyzed: 08/27/07 11:43**						
Arsenic	52.8	---	0.500	mg/kg wet	5	50.0	---	106	80-120%	---	---	
Barium	54.8	---	0.500	"	"	50.0	---	110	80-120%	---	---	
Cadmium	51.8	---	0.500	"	"	50.0	---	104	80-120%	---	---	
Chromium	55.0	---	1.00	"	"	50.0	---	110	80-120%	---	---	
Lead	51.0	---	0.500	"	"	50.0	---	102	80-120%	---	---	
Selenium	26.9	---	0.500	"	"	25.0	---	108	80-120%	---	---	
						Analyzed: 08/27/07 15:40						
Silver	26.0	---	1.00	"	"	25.0	---	104	80-120%	---	---	

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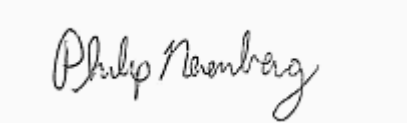

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Amec Earth and Environmental, Inc	Project: **Camp Rilea**	
7376 SW Durham Road	Project Number: 661M 11015-3	**Reported:**
Portland, OR 97224	Project Manager: Dan Higgins	09/13/07 16:29

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7080251 - EPA 3051							**Soil**					
Blank (7080251-BLK1)						**Analyzed: 09/07/07 17:39**						
Barium	ND	---	0.500	mg/kg wet	5	---	---	---	---	---	---	
LCS (7080251-BS1)						**Analyzed: 09/07/07 17:42**						
Barium	51.5	---	0.500	mg/kg wet	5	50.0	---	103	80-120%	---	---	

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Philip Nerenberg, Lab Director

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Amec Earth and Environmental, Inc	Project: **Camp Rilea**	
7376 SW Durham Road	Project Number: 661M 11015-3	**Reported:**
Portland, OR 97224	Project Manager: Dan Higgins	09/13/07 16:29

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Mercury by EPA 7471

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7080190 - EPA 3051							**Soil**					
Blank (7080190-BLK1)						**Analyzed: 08/27/07 10:40**						
Mercury	ND	---	0.0150	mg/kg wet	1	---	---	---	---	---	---	
LCS (7080190-BS1)						**Analyzed: 08/27/07 10:44**						
Mercury	0.265	---	0.0150	mg/kg wet	1	0.300	---	88	85-115%	---	---	

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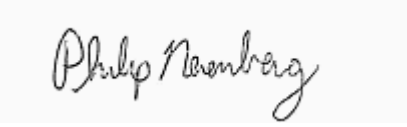

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7376 SW Durham Road	Project Number: 661M 11015-3	**Reported:**
Portland, OR 97224	Project Manager: Dan Higgins	09/13/07 16:29

QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight by D2216

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7080191 - Dry Weight							**Soil**					
Duplicate (7080191-DUP1)			**Source: A708173-01**			**Analyzed: 08/26/07 12:20**						
% Solids	**92.0**	---	1.00	% by Weight	1	---	91.3	---	---	0.8	20%	

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Portland, OR 97224	Project Manager: Dan Higgins	09/13/07 16:29

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Volatile Organic Compounds by EPA 8260B

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
EPA 5035-Mod (w/o Field Pres.)							
Batch: 7090003							
A708173-01	Soil	EPA 8260B	08/17/07 13:10	08/24/07 08:55	10.113g/10mL	10g/10mL	0.99

Total Metals by EPA 6020 (ICPMS)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
EPA 3051							
Batch: 7080190							
A708173-01	Soil	EPA 6020	08/17/07 13:10	08/25/07 10:02	0.52g/50mL	0.5g/50mL	0.96
Batch: 7080251							
A708173-01RE1	Soil	EPA 6020	08/17/07 13:10	08/31/07 10:05	0.461g/50mL	0.5g/50mL	1.08

Total Mercury by EPA 7471

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
EPA 3051							
Batch: 7080190							
A708173-01	Soil	EPA 7471A	08/17/07 13:10	08/25/07 10:02	0.52g/50mL	0.5g/50mL	0.96

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Amec Earth and Environmental, Inc	Project: **Camp Rilea**	
7376 SW Durham Road	Project Number: 661M 11015-3	**Reported:**
Portland, OR 97224	Project Manager: Dan Higgins	09/13/07 16:29

Notes and Definitions

Qualifiers:

H-01 This sample was analyzed outside the EPA recommended holding time.

M-01 Due to matrix interference, the sample cannot be accurately quantitated. The reported result is estimated.

Notes and Conventions:

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

MDL If MDL is not listed, data has been evaluated to the Method Reporting Limit only.

Batch QC Unless specifically stated, all analyses include full Batch QC, including Sample Duplicates, Matrix Spikes and/or Matrix Spike Duplicates, in order to meet or exceed method and regulatory requirements. This report contains only results for Batch QC derived from samples included in this report. Complete Batch QC results are available upon request. In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.

Apex Laboratories

Philip Nerenberg, Lab Director

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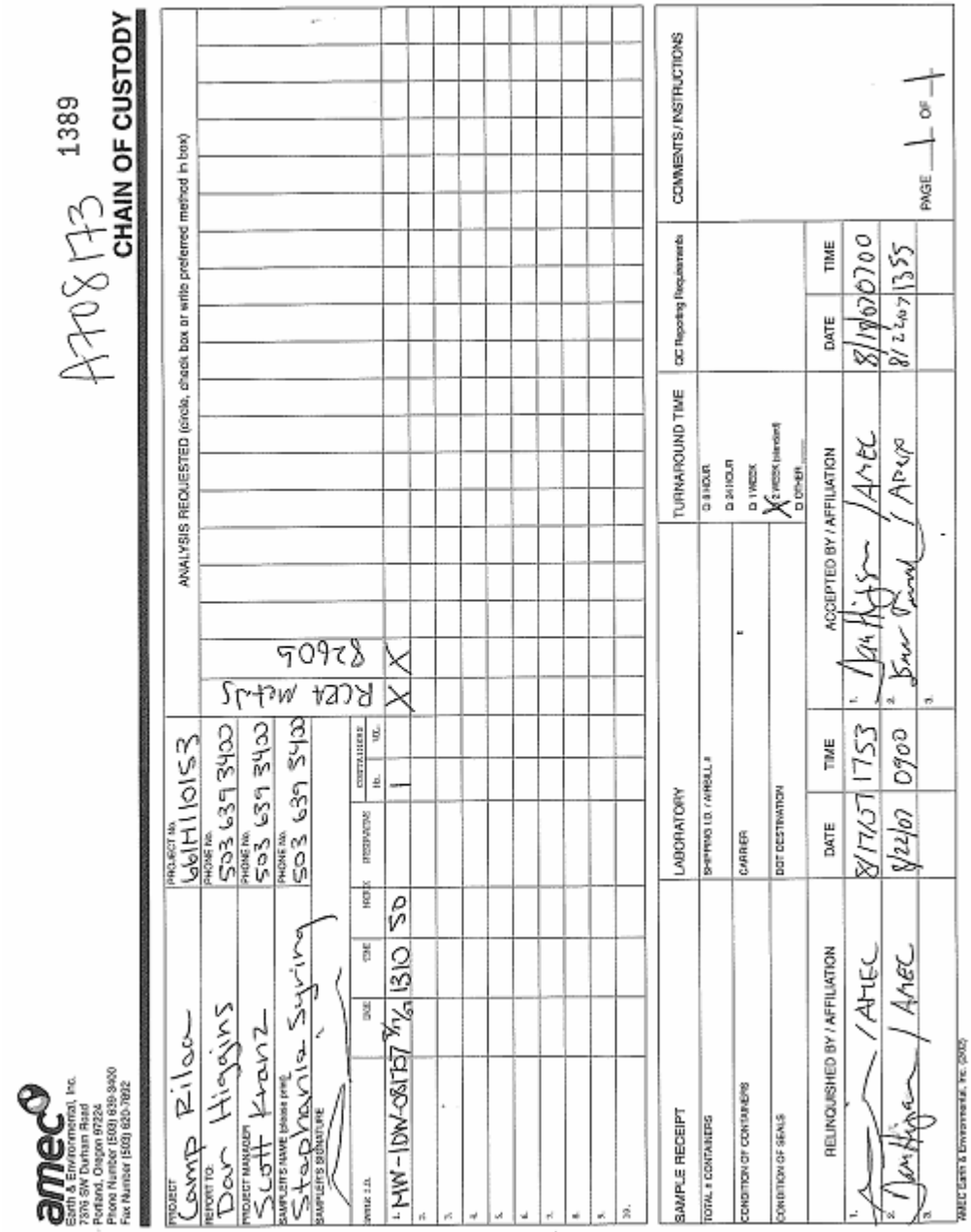
7376 SW Durham Road	Project Number: 661M 11015-3	**Reported:**
Portland, OR 97224	Project Manager: Dan Higgins	09/13/07 16:29



amec
Earth & Environmental, Inc.
7376 SW Durham Road
Portland, Oregon 97224
Phone Number (503) 639-3400
Fax Number (503) 620-7922

A708173 1389

CHAIN OF CUSTODY

PROJECT: Camp Rilea
PROJECT No.: 661H110153
REPORT TO: Dan Higgins
PHONE No.: 503 639 3400
PROJECT MANAGER: Scott Kranz
PHONE No.: 503 639 3400
SAMPLER'S NAME (please print): Stephanie Syring
PHONE No.: 503 639 3400
SAMPLER'S SIGNATURE:

ANALYSIS REQUESTED (circle, check box or write preferred method in box)

SAMPLE I.D.	DATE	TIME	MATRIX	CONTAINERS No.	VOL.	RCRA metals	82606
1. MW-1DW-081707	8/17/07	1310	SO	1		X	X
2.							
3.							
4.							
5.							
6.							
7.							
8.							
9.							
10.							

SAMPLE RECEIPT
TOTAL # CONTAINERS
CONDITION OF CONTAINERS
CONDITION OF SEALS

LABORATORY
SHIPPING I.D. / AIRBILL #
CARRIER
DOT DESTINATION

TURNAROUND TIME
☐ 8 HOUR
☐ 24 HOUR
☐ 1 WEEK
☒ 2 WEEK (standard)
☐ OTHER

QC Reporting Requirements

COMMENTS / INSTRUCTIONS

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
1. / AMEC	8/17/07	1753	1. / AMEC	8/18/07	0700
2. / AMEC	8/22/07	0900	2. / APEX	8/22/07	1355
3.			3.		

PAGE 1 OF 1

AMEC Earth & Environmental, Inc. (2/02)

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APPENDIX B-5

Groundwater Analytical Results

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503-718-2323 Phone
503-718-0333 Fax

Thursday, September 13, 2007

Dan Higgins
Amec Earth and Environmental, Inc
7376 SW Durham Road
Portland, OR 97224

RE: Camp Rilea / 661M110153-03

Enclosed are the results of analyses for samples received by the laboratory on 8/27/2007 at 9:45:00AM.

Thank you for using Apex Labs. We appreciate your business and strive to provide the highest quality services to the environmental industry.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: pnerenberg@apex-labs.com, or by phone at 503-718-2323.

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Philip Nerenberg, Lab Director

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Amec Earth and Environmental, Inc	Project: **Camp Rilea**	
7376 SW Durham Road	Project Number: 661M110153-03	**Reported:**
Portland, OR 97224	Project Manager: Dan Higgins	09/13/07 17:58

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
LF-MW-01-082407	A708208-01	Water	08/24/07 15:45	08/27/07 09:45
LF-MW-02-082407	A708208-02	Water	08/24/07 15:00	08/27/07 09:45
LF-MW-03-082407	A708208-03	Water	08/24/07 12:45	08/27/07 09:45
LF-MW-04-082407	A708208-04	Water	08/24/07 14:15	08/27/07 09:45
LF-MW-05-082407	A708208-05	Water	08/24/07 13:30	08/27/07 09:45
LF-MW-DUP-082407	A708208-06	Water	08/24/07 12:00	08/27/07 09:45
LF-MW-TB-082407	A708208-07	Water	08/24/07 12:00	08/27/07 09:45

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Amec Earth and Environmental, Inc	Project: **Camp Rilea**	
7376 SW Durham Road	Project Number: 661M110153-03	**Reported:**
Portland, OR 97224	Project Manager: Dan Higgins	09/13/07 17:58

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
LF-MW-01-082407 (A708208-01)			**Matrix: Water**					
Acetone	ND	---	20.0	ug/L	1	09/01/07 15:27	EPA 8260B	
Benzene	ND	---	0.500	"	"	"	"	
Bromobenzene	ND	---	0.500	"	"	"	"	
Bromochloromethane	ND	---	0.500	"	"	"	"	
Bromodichloromethane	ND	---	0.500	"	"	"	"	
Bromoform	ND	---	1.00	"	"	"	"	
Bromomethane	ND	---	5.00	"	"	"	"	
2-Butanone (MEK)	ND	---	10.0	"	"	"	"	
n-Butylbenzene	ND	---	0.500	"	"	"	"	
sec-Butylbenzene	ND	---	0.500	"	"	"	"	
tert-Butylbenzene	ND	---	0.500	"	"	"	"	
Carbon tetrachloride	ND	---	0.500	"	"	"	"	
Chlorobenzene	ND	---	0.500	"	"	"	"	
Chloroethane	ND	---	2.00	"	"	"	"	
Chloroform	ND	---	2.00	"	"	"	"	
Chloromethane	ND	---	2.00	"	"	"	"	
2-Chlorotoluene	ND	---	0.500	"	"	"	"	
4-Chlorotoluene	ND	---	0.500	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	2.00	"	"	"	"	
Dibromochloromethane	ND	---	0.500	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	"	"	
Dibromomethane	ND	---	0.500	"	"	"	"	
1,2-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	---	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	---	1.00	"	"	"	"	
1,1-Dichloroethane	ND	---	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	"	"	
1,1-Dichloroethene	ND	---	0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
1,2-Dichloropropane	ND	---	0.500	"	"	"	"	
1,3-Dichloropropane	ND	---	0.500	"	"	"	"	
2,2-Dichloropropane	ND	---	0.500	"	"	"	"	

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Amec Earth and Environmental, Inc	Project: **Camp Rilea**	
7376 SW Durham Road	Project Number: 661M110153-03	**Reported:**
Portland, OR 97224	Project Manager: Dan Higgins	09/13/07 17:58

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
LF-MW-01-082407 (A708208-01)			**Matrix: Water**					
1,1-Dichloropropene	ND	---	0.500	ug/L	1	"	EPA 8260B	
cis-1,3-Dichloropropene	ND	---	0.500	"	"	"	"	
trans-1,3-Dichloropropene	ND	---	1.00	"	"	"	"	
Ethylbenzene	ND	---	0.500	"	"	"	"	
Hexachlorobutadiene	ND	---	2.00	"	"	"	"	
2-Hexanone	ND	---	10.0	"	"	"	"	
Isopropylbenzene	ND	---	0.500	"	"	"	"	
4-Isopropyltoluene	ND	---	0.500	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	0.500	"	"	"	"	
Methylene chloride	ND	---	5.00	"	"	"	"	
Naphthalene	ND	---	5.00	"	"	"	"	
n-Propylbenzene	ND	---	0.500	"	"	"	"	
Styrene	ND	---	0.500	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	1.00	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	0.500	"	"	"	"	
Toluene	ND	---	2.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	2.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	2.00	"	"	"	"	
1,1,1-Trichloroethane	ND	---	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	---	0.500	"	"	"	"	
Trichloroethene (TCE)	ND	---	0.500	"	"	"	"	
Trichlorofluoromethane	ND	---	1.00	"	"	"	"	
1,2,3-Trichloropropane	ND	---	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	0.500	"	"	"	"	
1,3,5-Trimethybenzene	ND	---	0.500	"	"	"	"	
Vinyl chloride	ND	---	0.500	"	"	"	"	
m,p-Xylene	ND	---	1.00	"	"	"	"	
o-Xylene	ND	---	0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 102 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*103 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*100 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*105 %*	*Limits: 80-120 %*	"	"	"	

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7376 SW Durham Road	Project Number: 661M110153-03	**Reported:**
Portland, OR 97224	Project Manager: Dan Higgins	09/13/07 17:58

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
LF-MW-02-082407 (A708208-02)			**Matrix: Water**					
Acetone	ND	---	20.0	ug/L	1	09/01/07 15:57	EPA 8260B	
Benzene	ND	---	0.500	"	"	"	"	
Bromobenzene	ND	---	0.500	"	"	"	"	
Bromochloromethane	ND	---	0.500	"	"	"	"	
Bromodichloromethane	ND	---	0.500	"	"	"	"	
Bromoform	ND	---	1.00	"	"	"	"	
Bromomethane	ND	---	5.00	"	"	"	"	
2-Butanone (MEK)	ND	---	10.0	"	"	"	"	
n-Butylbenzene	ND	---	0.500	"	"	"	"	
sec-Butylbenzene	ND	---	0.500	"	"	"	"	
tert-Butylbenzene	ND	---	0.500	"	"	"	"	
Carbon tetrachloride	ND	---	0.500	"	"	"	"	
Chlorobenzene	ND	---	0.500	"	"	"	"	
Chloroethane	ND	---	2.00	"	"	"	"	
Chloroform	ND	---	2.00	"	"	"	"	
Chloromethane	ND	---	2.00	"	"	"	"	
2-Chlorotoluene	ND	---	0.500	"	"	"	"	
4-Chlorotoluene	ND	---	0.500	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	2.00	"	"	"	"	
Dibromochloromethane	ND	---	0.500	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	"	"	
Dibromomethane	ND	---	0.500	"	"	"	"	
1,2-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	---	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	---	1.00	"	"	"	"	
1,1-Dichloroethane	ND	---	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	"	"	
1,1-Dichloroethene	ND	---	0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
1,2-Dichloropropane	ND	---	0.500	"	"	"	"	
1,3-Dichloropropane	ND	---	0.500	"	"	"	"	
2,2-Dichloropropane	ND	---	0.500	"	"	"	"	

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7376 SW Durham Road	Project Number: 661M110153-03	**Reported:**
Portland, OR 97224	Project Manager: Dan Higgins	09/13/07 17:58

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
LF-MW-02-082407 (A708208-02)			**Matrix: Water**					
1,1-Dichloropropene	ND	---	0.500	ug/L	1	"	EPA 8260B	
cis-1,3-Dichloropropene	ND	---	0.500	"	"	"	"	
trans-1,3-Dichloropropene	ND	---	1.00	"	"	"	"	
Ethylbenzene	ND	---	0.500	"	"	"	"	
Hexachlorobutadiene	ND	---	2.00	"	"	"	"	
2-Hexanone	ND	---	10.0	"	"	"	"	
Isopropylbenzene	ND	---	0.500	"	"	"	"	
4-Isopropyltoluene	ND	---	0.500	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	0.500	"	"	"	"	
Methylene chloride	ND	---	5.00	"	"	"	"	
Naphthalene	ND	---	5.00	"	"	"	"	
n-Propylbenzene	ND	---	0.500	"	"	"	"	
Styrene	ND	---	0.500	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	1.00	"	"	"	"	
1,1,2,2-Tetrachloroethane	**0.660**	---	0.500	"	"	"	"	
Tetrachloroethene (PCE)	**0.810**	---	0.500	"	"	"	"	
Toluene	ND	---	2.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	2.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	2.00	"	"	"	"	
1,1,1-Trichloroethane	ND	---	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	---	0.500	"	"	"	"	
Trichloroethene (TCE)	**1.75**	---	0.500	"	"	"	"	
Trichlorofluoromethane	ND	---	1.00	"	"	"	"	
1,2,3-Trichloropropane	ND	---	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	0.500	"	"	"	"	
1,3,5-Trimethybenzene	ND	---	0.500	"	"	"	"	
Vinyl chloride	ND	---	0.500	"	"	"	"	
m,p-Xylene	ND	---	1.00	"	"	"	"	
o-Xylene	ND	---	0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 99 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*100 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*98 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*101 %*	*Limits: 80-120 %*	"	"	"	

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Amec Earth and Environmental, Inc	Project: **Camp Rilea**	
7376 SW Durham Road	Project Number: 661M110153-03	**Reported:**
Portland, OR 97224	Project Manager: Dan Higgins	09/13/07 17:58

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
LF-MW-03-082407 (A708208-03)			**Matrix: Water**					
Acetone	ND	---	20.0	ug/L	1	09/01/07 16:27	EPA 8260B	
Benzene	ND	---	0.500	"	"	"	"	
Bromobenzene	ND	---	0.500	"	"	"	"	
Bromochloromethane	ND	---	0.500	"	"	"	"	
Bromodichloromethane	ND	---	0.500	"	"	"	"	
Bromoform	ND	---	1.00	"	"	"	"	
Bromomethane	ND	---	5.00	"	"	"	"	
2-Butanone (MEK)	ND	---	10.0	"	"	"	"	
n-Butylbenzene	ND	---	0.500	"	"	"	"	
sec-Butylbenzene	ND	---	0.500	"	"	"	"	
tert-Butylbenzene	ND	---	0.500	"	"	"	"	
Carbon tetrachloride	ND	---	0.500	"	"	"	"	
Chlorobenzene	ND	---	0.500	"	"	"	"	
Chloroethane	ND	---	2.00	"	"	"	"	
Chloroform	ND	---	2.00	"	"	"	"	
Chloromethane	ND	---	2.00	"	"	"	"	
2-Chlorotoluene	ND	---	0.500	"	"	"	"	
4-Chlorotoluene	ND	---	0.500	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	2.00	"	"	"	"	
Dibromochloromethane	ND	---	0.500	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	"	"	
Dibromomethane	ND	---	0.500	"	"	"	"	
1,2-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	---	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	---	1.00	"	"	"	"	
1,1-Dichloroethane	ND	---	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	"	"	
1,1-Dichloroethene	ND	---	0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
1,2-Dichloropropane	ND	---	0.500	"	"	"	"	
1,3-Dichloropropane	ND	---	0.500	"	"	"	"	
2,2-Dichloropropane	ND	---	0.500	"	"	"	"	

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Amec Earth and Environmental, Inc	Project: **Camp Rilea**	
7376 SW Durham Road	Project Number: 661M110153-03	**Reported:**
Portland, OR 97224	Project Manager: Dan Higgins	09/13/07 17:58

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
LF-MW-03-082407 (A708208-03)			**Matrix: Water**					
1,1-Dichloropropene	ND	---	0.500	ug/L	1	"	EPA 8260B	
cis-1,3-Dichloropropene	ND	---	0.500	"	"	"	"	
trans-1,3-Dichloropropene	ND	---	1.00	"	"	"	"	
Ethylbenzene	ND	---	0.500	"	"	"	"	
Hexachlorobutadiene	ND	---	2.00	"	"	"	"	
2-Hexanone	ND	---	10.0	"	"	"	"	
Isopropylbenzene	ND	---	0.500	"	"	"	"	
4-Isopropyltoluene	ND	---	0.500	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	0.500	"	"	"	"	
Methylene chloride	ND	---	5.00	"	"	"	"	
Naphthalene	ND	---	5.00	"	"	"	"	
n-Propylbenzene	ND	---	0.500	"	"	"	"	
Styrene	ND	---	0.500	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	1.00	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	0.500	"	"	"	"	
Toluene	ND	---	2.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	2.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	2.00	"	"	"	"	
1,1,1-Trichloroethane	ND	---	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	---	0.500	"	"	"	"	
Trichloroethene (TCE)	**1.82**	---	0.500	"	"	"	"	
Trichlorofluoromethane	ND	---	1.00	"	"	"	"	
1,2,3-Trichloropropane	ND	---	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	0.500	"	"	"	"	
1,3,5-Trimethybenzene	ND	---	0.500	"	"	"	"	
Vinyl chloride	ND	---	0.500	"	"	"	"	
m,p-Xylene	ND	---	1.00	"	"	"	"	
o-Xylene	ND	---	0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 103 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*96 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*99 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*100 %*	*Limits: 80-120 %*	"	"	"	

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7376 SW Durham Road	Project Number: 661M110153-03	**Reported:**
Portland, OR 97224	Project Manager: Dan Higgins	09/13/07 17:58

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
LF-MW-04-082407 (A708208-04)			**Matrix: Water**					
Acetone	ND	---	20.0	ug/L	1	09/01/07 16:57	EPA 8260B	
Benzene	ND	---	0.500	"	"	"	"	
Bromobenzene	ND	---	0.500	"	"	"	"	
Bromochloromethane	ND	---	0.500	"	"	"	"	
Bromodichloromethane	ND	---	0.500	"	"	"	"	
Bromoform	ND	---	1.00	"	"	"	"	
Bromomethane	ND	---	5.00	"	"	"	"	
2-Butanone (MEK)	ND	---	10.0	"	"	"	"	
n-Butylbenzene	ND	---	0.500	"	"	"	"	
sec-Butylbenzene	ND	---	0.500	"	"	"	"	
tert-Butylbenzene	ND	---	0.500	"	"	"	"	
Carbon tetrachloride	ND	---	0.500	"	"	"	"	
Chlorobenzene	ND	---	0.500	"	"	"	"	
Chloroethane	ND	---	2.00	"	"	"	"	
Chloroform	ND	---	2.00	"	"	"	"	
Chloromethane	ND	---	2.00	"	"	"	"	
2-Chlorotoluene	ND	---	0.500	"	"	"	"	
4-Chlorotoluene	ND	---	0.500	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	2.00	"	"	"	"	
Dibromochloromethane	ND	---	0.500	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	"	"	
Dibromomethane	ND	---	0.500	"	"	"	"	
1,2-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	---	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	---	1.00	"	"	"	"	
1,1-Dichloroethane	ND	---	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	"	"	
1,1-Dichloroethene	ND	---	0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
1,2-Dichloropropane	ND	---	0.500	"	"	"	"	
1,3-Dichloropropane	ND	---	0.500	"	"	"	"	
2,2-Dichloropropane	ND	---	0.500	"	"	"	"	

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7376 SW Durham Road	Project Number: 661M110153-03	**Reported:**
Portland, OR 97224	Project Manager: Dan Higgins	09/13/07 17:58

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
LF-MW-04-082407 (A708208-04)			**Matrix: Water**					
1,1-Dichloropropene	ND	---	0.500	ug/L	1	"	EPA 8260B	
cis-1,3-Dichloropropene	ND	---	0.500	"	"	"	"	
trans-1,3-Dichloropropene	ND	---	1.00	"	"	"	"	
Ethylbenzene	ND	---	0.500	"	"	"	"	
Hexachlorobutadiene	ND	---	2.00	"	"	"	"	
2-Hexanone	ND	---	10.0	"	"	"	"	
Isopropylbenzene	ND	---	0.500	"	"	"	"	
4-Isopropyltoluene	ND	---	0.500	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	0.500	"	"	"	"	
Methylene chloride	ND	---	5.00	"	"	"	"	
Naphthalene	ND	---	5.00	"	"	"	"	
n-Propylbenzene	ND	---	0.500	"	"	"	"	
Styrene	ND	---	0.500	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	1.00	"	"	"	"	
1,1,2,2-Tetrachloroethane	**1.97**	---	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	0.500	"	"	"	"	
Toluene	ND	---	2.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	2.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	2.00	"	"	"	"	
1,1,1-Trichloroethane	ND	---	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	---	0.500	"	"	"	"	
Trichloroethene (TCE)	**6.84**	---	0.500	"	"	"	"	
Trichlorofluoromethane	ND	---	1.00	"	"	"	"	
1,2,3-Trichloropropane	ND	---	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	0.500	"	"	"	"	
1,3,5-Trimethybenzene	ND	---	0.500	"	"	"	"	
Vinyl chloride	ND	---	0.500	"	"	"	"	
m,p-Xylene	ND	---	1.00	"	"	"	"	
o-Xylene	ND	---	0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)		*Recovery: 101 %*	*Limits: 80-120 %*		"	"	"	
1,4-Difluorobenzene (Surr)		*101 %*	*Limits: 80-120 %*		"	"	"	
Toluene-d8 (Surr)		*99 %*	*Limits: 80-120 %*		"	"	"	
4-Bromofluorobenzene (Surr)		*105 %*	*Limits: 80-120 %*		"	"	"	

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Amec Earth and Environmental, Inc	Project: **Camp Rilea**	
7376 SW Durham Road	Project Number: 661M110153-03	**Reported:**
Portland, OR 97224	Project Manager: Dan Higgins	09/13/07 17:58

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
LF-MW-05-082407 (A708208-05)			**Matrix: Water**					
Acetone	ND	---	20.0	ug/L	1	09/01/07 17:26	EPA 8260B	
Benzene	ND	---	0.500	"	"	"	"	
Bromobenzene	ND	---	0.500	"	"	"	"	
Bromochloromethane	ND	---	0.500	"	"	"	"	
Bromodichloromethane	ND	---	0.500	"	"	"	"	
Bromoform	ND	---	1.00	"	"	"	"	
Bromomethane	ND	---	5.00	"	"	"	"	
2-Butanone (MEK)	ND	---	10.0	"	"	"	"	
n-Butylbenzene	ND	---	0.500	"	"	"	"	
sec-Butylbenzene	ND	---	0.500	"	"	"	"	
tert-Butylbenzene	ND	---	0.500	"	"	"	"	
Carbon tetrachloride	ND	---	0.500	"	"	"	"	
Chlorobenzene	ND	---	0.500	"	"	"	"	
Chloroethane	ND	---	2.00	"	"	"	"	
Chloroform	ND	---	2.00	"	"	"	"	
Chloromethane	ND	---	2.00	"	"	"	"	
2-Chlorotoluene	ND	---	0.500	"	"	"	"	
4-Chlorotoluene	ND	---	0.500	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	2.00	"	"	"	"	
Dibromochloromethane	ND	---	0.500	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	"	"	
Dibromomethane	ND	---	0.500	"	"	"	"	
1,2-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	---	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	---	1.00	"	"	"	"	
1,1-Dichloroethane	ND	---	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	"	"	
1,1-Dichloroethene	ND	---	0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
1,2-Dichloropropane	ND	---	0.500	"	"	"	"	
1,3-Dichloropropane	ND	---	0.500	"	"	"	"	
2,2-Dichloropropane	ND	---	0.500	"	"	"	"	

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Amec Earth and Environmental, Inc	Project: **Camp Rilea**	
7376 SW Durham Road	Project Number: 661M110153-03	**Reported:**
Portland, OR 97224	Project Manager: Dan Higgins	09/13/07 17:58

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
LF-MW-05-082407 (A708208-05)			**Matrix: Water**					
1,1-Dichloropropene	ND	---	0.500	ug/L	1	"	EPA 8260B	
cis-1,3-Dichloropropene	ND	---	0.500	"	"	"	"	
trans-1,3-Dichloropropene	ND	---	1.00	"	"	"	"	
Ethylbenzene	ND	---	0.500	"	"	"	"	
Hexachlorobutadiene	ND	---	2.00	"	"	"	"	
2-Hexanone	ND	---	10.0	"	"	"	"	
Isopropylbenzene	ND	---	0.500	"	"	"	"	
4-Isopropyltoluene	ND	---	0.500	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	0.500	"	"	"	"	
Methylene chloride	ND	---	5.00	"	"	"	"	
Naphthalene	ND	---	5.00	"	"	"	"	
n-Propylbenzene	ND	---	0.500	"	"	"	"	
Styrene	ND	---	0.500	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	1.00	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	0.500	"	"	"	"	
Toluene	ND	---	2.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	2.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	2.00	"	"	"	"	
1,1,1-Trichloroethane	ND	---	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	---	0.500	"	"	"	"	
Trichloroethene (TCE)	ND	---	0.500	"	"	"	"	
Trichlorofluoromethane	ND	---	1.00	"	"	"	"	
1,2,3-Trichloropropane	ND	---	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	0.500	"	"	"	"	
1,3,5-Trimethybenzene	ND	---	0.500	"	"	"	"	
Vinyl chloride	ND	---	0.500	"	"	"	"	
m,p-Xylene	ND	---	1.00	"	"	"	"	
o-Xylene	ND	---	0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 101 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*98 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*96 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*103 %*	*Limits: 80-120 %*	"	"	"	

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7376 SW Durham Road	Project Number: 661M110153-03	**Reported:**
Portland, OR 97224	Project Manager: Dan Higgins	09/13/07 17:58

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
LF-MW-DUP-082407 (A708208-06)			**Matrix: Water**					
Acetone	ND	---	20.0	ug/L	1	09/01/07 17:56	EPA 8260B	
Benzene	ND	---	0.500	"	"	"	"	
Bromobenzene	ND	---	0.500	"	"	"	"	
Bromochloromethane	ND	---	0.500	"	"	"	"	
Bromodichloromethane	ND	---	0.500	"	"	"	"	
Bromoform	ND	---	1.00	"	"	"	"	
Bromomethane	ND	---	5.00	"	"	"	"	
2-Butanone (MEK)	ND	---	10.0	"	"	"	"	
n-Butylbenzene	ND	---	0.500	"	"	"	"	
sec-Butylbenzene	ND	---	0.500	"	"	"	"	
tert-Butylbenzene	ND	---	0.500	"	"	"	"	
Carbon tetrachloride	ND	---	0.500	"	"	"	"	
Chlorobenzene	ND	---	0.500	"	"	"	"	
Chloroethane	ND	---	2.00	"	"	"	"	
Chloroform	ND	---	2.00	"	"	"	"	
Chloromethane	ND	---	2.00	"	"	"	"	
2-Chlorotoluene	ND	---	0.500	"	"	"	"	
4-Chlorotoluene	ND	---	0.500	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	2.00	"	"	"	"	
Dibromochloromethane	ND	---	0.500	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	"	"	
Dibromomethane	ND	---	0.500	"	"	"	"	
1,2-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	---	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	---	1.00	"	"	"	"	
1,1-Dichloroethane	ND	---	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	"	"	
1,1-Dichloroethene	ND	---	0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
1,2-Dichloropropane	ND	---	0.500	"	"	"	"	
1,3-Dichloropropane	ND	---	0.500	"	"	"	"	
2,2-Dichloropropane	ND	---	0.500	"	"	"	"	

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Amec Earth and Environmental, Inc	Project: **Camp Rilea**	
7376 SW Durham Road	Project Number: 661M110153-03	**Reported:**
Portland, OR 97224	Project Manager: Dan Higgins	09/13/07 17:58

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
LF-MW-DUP-082407 (A708208-06)			**Matrix: Water**					
1,1-Dichloropropene	ND	---	0.500	ug/L	1	"	EPA 8260B	
cis-1,3-Dichloropropene	ND	---	0.500	"	"	"	"	
trans-1,3-Dichloropropene	ND	---	1.00	"	"	"	"	
Ethylbenzene	ND	---	0.500	"	"	"	"	
Hexachlorobutadiene	ND	---	2.00	"	"	"	"	
2-Hexanone	ND	---	10.0	"	"	"	"	
Isopropylbenzene	ND	---	0.500	"	"	"	"	
4-Isopropyltoluene	ND	---	0.500	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	0.500	"	"	"	"	
Methylene chloride	ND	---	5.00	"	"	"	"	
Naphthalene	ND	---	5.00	"	"	"	"	
n-Propylbenzene	ND	---	0.500	"	"	"	"	
Styrene	ND	---	0.500	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	1.00	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	0.500	"	"	"	"	
Toluene	ND	---	2.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	2.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	2.00	"	"	"	"	
1,1,1-Trichloroethane	ND	---	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	---	0.500	"	"	"	"	
Trichloroethene (TCE)	**1.41**	---	0.500	"	"	"	"	
Trichlorofluoromethane	ND	---	1.00	"	"	"	"	
1,2,3-Trichloropropane	ND	---	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	0.500	"	"	"	"	
1,3,5-Trimethybenzene	ND	---	0.500	"	"	"	"	
Vinyl chloride	ND	---	0.500	"	"	"	"	
m,p-Xylene	ND	---	1.00	"	"	"	"	
o-Xylene	ND	---	0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 102 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*93 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*93 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*103 %*	*Limits: 80-120 %*	"	"	"	

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Amec Earth and Environmental, Inc	Project: **Camp Rilea**	
7376 SW Durham Road	Project Number: 661M110153-03	**Reported:**
Portland, OR 97224	Project Manager: Dan Higgins	09/13/07 17:58

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
LF-MW-TB-082407 (A708208-07)			**Matrix: Water**					
Acetone	ND	---	20.0	ug/L	1	09/01/07 18:26	EPA 8260B	
Benzene	ND	---	0.500	"	"	"	"	
Bromobenzene	ND	---	0.500	"	"	"	"	
Bromochloromethane	ND	---	0.500	"	"	"	"	
Bromodichloromethane	ND	---	0.500	"	"	"	"	
Bromoform	ND	---	1.00	"	"	"	"	
Bromomethane	ND	---	5.00	"	"	"	"	
2-Butanone (MEK)	ND	---	10.0	"	"	"	"	
n-Butylbenzene	ND	---	0.500	"	"	"	"	
sec-Butylbenzene	ND	---	0.500	"	"	"	"	
tert-Butylbenzene	ND	---	0.500	"	"	"	"	
Carbon tetrachloride	ND	---	0.500	"	"	"	"	
Chlorobenzene	ND	---	0.500	"	"	"	"	
Chloroethane	ND	---	2.00	"	"	"	"	
Chloroform	ND	---	2.00	"	"	"	"	
Chloromethane	ND	---	2.00	"	"	"	"	
2-Chlorotoluene	ND	---	0.500	"	"	"	"	
4-Chlorotoluene	ND	---	0.500	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	2.00	"	"	"	"	
Dibromochloromethane	ND	---	0.500	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	"	"	
Dibromomethane	ND	---	0.500	"	"	"	"	
1,2-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	---	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	---	1.00	"	"	"	"	
1,1-Dichloroethane	ND	---	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	"	"	
1,1-Dichloroethene	ND	---	0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
1,2-Dichloropropane	ND	---	0.500	"	"	"	"	
1,3-Dichloropropane	ND	---	0.500	"	"	"	"	
2,2-Dichloropropane	ND	---	0.500	"	"	"	"	

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Amec Earth and Environmental, Inc	Project: **Camp Rilea**	
7376 SW Durham Road	Project Number: 661M110153-03	**Reported:**
Portland, OR 97224	Project Manager: Dan Higgins	09/13/07 17:58

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
LF-MW-TB-082407 (A708208-07)			**Matrix: Water**					
1,1-Dichloropropene	ND	---	0.500	ug/L	1	"	EPA 8260B	
cis-1,3-Dichloropropene	ND	---	0.500	"	"	"	"	
trans-1,3-Dichloropropene	ND	---	1.00	"	"	"	"	
Ethylbenzene	ND	---	0.500	"	"	"	"	
Hexachlorobutadiene	ND	---	2.00	"	"	"	"	
2-Hexanone	ND	---	10.0	"	"	"	"	
Isopropylbenzene	ND	---	0.500	"	"	"	"	
4-Isopropyltoluene	ND	---	0.500	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	0.500	"	"	"	"	
Methylene chloride	ND	---	5.00	"	"	"	"	
Naphthalene	ND	---	5.00	"	"	"	"	
n-Propylbenzene	ND	---	0.500	"	"	"	"	
Styrene	ND	---	0.500	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	1.00	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	0.500	"	"	"	"	
Toluene	ND	---	2.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	2.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	2.00	"	"	"	"	
1,1,1-Trichloroethane	ND	---	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	---	0.500	"	"	"	"	
Trichloroethene (TCE)	ND	---	0.500	"	"	"	"	
Trichlorofluoromethane	ND	---	1.00	"	"	"	"	
1,2,3-Trichloropropane	ND	---	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	0.500	"	"	"	"	
1,3,5-Trimethybenzene	ND	---	0.500	"	"	"	"	
Vinyl chloride	ND	---	0.500	"	"	"	"	
m,p-Xylene	ND	---	1.00	"	"	"	"	
o-Xylene	ND	---	0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 100 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*102 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*99 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*98 %*	*Limits: 80-120 %*	"	"	"	

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7376 SW Durham Road	Project Number: 661M110153-03	**Reported:**
Portland, OR 97224	Project Manager: Dan Higgins	09/13/07 17:58

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
LF-MW-01-082407 (A708208-01)			**Matrix: Water**					
Arsenic	ND	---	1.00	ug/L	1	08/28/07 17:40	EPA 6020	
Cadmium	ND	---	1.00	"	"	"	"	
Chromium	ND	---	1.00	"	"	"	"	
Lead	ND	---	1.00	"	"	"	"	
Selenium	ND	---	1.00	"	"	09/12/07 15:34	"	
Silver	ND	---	2.00	"	"	08/28/07 17:40	"	
LF-MW-01-082407 (A708208-01RE3)			**Matrix: Water**					
Barium	**3.19**	---	1.00	ug/L	1	09/11/07 20:10	EPA 6020	
LF-MW-02-082407 (A708208-02)			**Matrix: Water**					
Arsenic	ND	---	1.00	ug/L	1	08/28/07 17:42	EPA 6020	
Cadmium	ND	---	1.00	"	"	"	"	
Chromium	ND	---	1.00	"	"	"	"	
Lead	ND	---	1.00	"	"	"	"	
Selenium	ND	---	1.00	"	"	09/12/07 15:40	"	
Silver	ND	---	2.00	"	"	08/28/07 17:42	"	
LF-MW-02-082407 (A708208-02RE3)			**Matrix: Water**					
Barium	**6.70**	---	1.00	ug/L	1	09/11/07 20:13	EPA 6020	
LF-MW-03-082407 (A708208-03)			**Matrix: Water**					
Arsenic	ND	---	1.00	ug/L	1	08/28/07 17:45	EPA 6020	
Cadmium	ND	---	1.00	"	"	"	"	
Chromium	ND	---	1.00	"	"	"	"	
Lead	ND	---	1.00	"	"	"	"	
Selenium	**1.07**	---	1.00	"	"	09/12/07 15:45	"	
Silver	ND	---	2.00	"	"	08/28/07 17:45	"	
LF-MW-03-082407 (A708208-03RE3)			**Matrix: Water**					
Barium	**6.79**	---	1.00	ug/L	1	09/11/07 20:16	EPA 6020	
LF-MW-04-082407 (A708208-04)			**Matrix: Water**					
Arsenic	ND	---	1.00	ug/L	1	09/05/07 15:27	EPA 6020	
Cadmium	ND	---	1.00	"	"	"	"	
Chromium	ND	---	1.00	"	"	"	"	
Lead	**4.47**	---	1.00	"	"	"	"	

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Amec Earth and Environmental, Inc	Project: **Camp Rilea**	
7376 SW Durham Road	Project Number: 661M110153-03	**Reported:**
Portland, OR 97224	Project Manager: Dan Higgins	09/13/07 17:58

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
LF-MW-04-082407 (A708208-04)			**Matrix: Water**					
Selenium	ND	---	1.00	ug/L	1	"	EPA 6020	
Silver	ND	---	2.00	"	"	"	"	
LF-MW-04-082407 (A708208-04RE2)			**Matrix: Water**					
Barium	**8.88**	---	1.00	ug/L	1	09/11/07 20:19	EPA 6020	
LF-MW-05-082407 (A708208-05)			**Matrix: Water**					
Arsenic	ND	---	1.00	ug/L	1	09/05/07 15:33	EPA 6020	
Cadmium	ND	---	1.00	"	"	"	"	
Chromium	ND	---	1.00	"	"	"	"	
Lead	ND	---	1.00	"	"	"	"	
Selenium	ND	---	1.00	"	"	"	"	
Silver	ND	---	2.00	"	"	"	"	
LF-MW-05-082407 (A708208-05RE2)			**Matrix: Water**					
Barium	**5.50**	---	1.00	ug/L	1	09/11/07 20:22	EPA 6020	
LF-MW-DUP-082407 (A708208-06)			**Matrix: Water**					
Arsenic	ND	---	1.00	ug/L	1	09/05/07 15:42	EPA 6020	
Cadmium	ND	---	1.00	"	"	"	"	
Chromium	ND	---	1.00	"	"	"	"	
Lead	ND	---	1.00	"	"	"	"	
Selenium	ND	---	1.00	"	"	"	"	
Silver	ND	---	2.00	"	"	"	"	
LF-MW-DUP-082407 (A708208-06RE2)			**Matrix: Water**					
Barium	**6.70**	---	1.00	ug/L	1	09/11/07 20:24	EPA 6020	

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Amec Earth and Environmental, Inc	Project: **Camp Rilea**	
7376 SW Durham Road	Project Number: 661M110153-03	**Reported:**
Portland, OR 97224	Project Manager: Dan Higgins	09/13/07 17:58

ANALYTICAL SAMPLE RESULTS

Total Mercury by EPA 7470A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
LF-MW-01-082407 (A708208-01)			**Matrix: Water**					
Mercury	ND	---	0.200	ug/L	1	08/27/07 17:00	EPA 7470A	
LF-MW-02-082407 (A708208-02)			**Matrix: Water**					
Mercury	ND	---	0.200	ug/L	1	08/27/07 17:03	EPA 7470A	
LF-MW-03-082407 (A708208-03)			**Matrix: Water**					
Mercury	ND	---	0.200	ug/L	1	08/27/07 17:06	EPA 7470A	
LF-MW-04-082407 (A708208-04)			**Matrix: Water**					
Mercury	ND	---	0.200	ug/L	1	08/27/07 17:09	EPA 7470A	
LF-MW-05-082407 (A708208-05)			**Matrix: Water**					
Mercury	ND	---	0.200	ug/L	1	08/27/07 17:12	EPA 7470A	
LF-MW-DUP-082407 (A708208-06)			**Matrix: Water**					
Mercury	ND	---	0.200	ug/L	1	08/27/07 17:22	EPA 7470A	

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7376 SW Durham Road	Project Number: 661M110153-03	**Reported:**
Portland, OR 97224	Project Manager: Dan Higgins	09/13/07 17:58

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7090001 - EPA 5030B							**Water**					
Blank (7090001-BLK1)							**Analyzed: 09/01/07 13:58**					
Acetone	ND	---	20.0	ug/L	1	---	---	---	---	---	---	
Benzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Bromobenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Bromochloromethane	ND	---	0.500	"	"	---	---	---	---	---	---	
Bromodichloromethane	ND	---	0.500	"	"	---	---	---	---	---	---	
Bromoform	ND	---	1.00	"	"	---	---	---	---	---	---	
Bromomethane	ND	---	5.00	"	"	---	---	---	---	---	---	
2-Butanone (MEK)	ND	---	10.0	"	"	---	---	---	---	---	---	
n-Butylbenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
sec-Butylbenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
tert-Butylbenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Carbon tetrachloride	ND	---	0.500	"	"	---	---	---	---	---	---	
Chlorobenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Chloroethane	ND	---	2.00	"	"	---	---	---	---	---	---	
Chloroform	ND	---	2.00	"	"	---	---	---	---	---	---	
Chloromethane	ND	---	2.00	"	"	---	---	---	---	---	---	
2-Chlorotoluene	ND	---	0.500	"	"	---	---	---	---	---	---	
4-Chlorotoluene	ND	---	0.500	"	"	---	---	---	---	---	---	
1,2-Dibromo-3-chloropropane	ND	---	2.00	"	"	---	---	---	---	---	---	
Dibromochloromethane	ND	---	0.500	"	"	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	---	---	---	---	---	---	
Dibromomethane	ND	---	0.500	"	"	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Dichlorodifluoromethane	ND	---	1.00	"	"	---	---	---	---	---	---	
1,1-Dichloroethane	ND	---	0.500	"	"	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	---	---	---	---	---	---	
1,1-Dichloroethene	ND	---	0.500	"	"	---	---	---	---	---	---	
cis-1,2-Dichloroethene	ND	---	0.500	"	"	---	---	---	---	---	---	
trans-1,2-Dichloroethene	ND	---	0.500	"	"	---	---	---	---	---	---	
1,2-Dichloropropane	ND	---	0.500	"	"	---	---	---	---	---	---	
1,3-Dichloropropane	ND	---	0.500	"	"	---	---	---	---	---	---	
2,2-Dichloropropane	ND	---	0.500	"	"	---	---	---	---	---	---	
1,1-Dichloropropene	ND	---	0.500	"	"	---	---	---	---	---	---	

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Amec Earth and Environmental, Inc	Project: **Camp Rilea**	
7376 SW Durham Road	Project Number: 661M110153-03	**Reported:**
Portland, OR 97224	Project Manager: Dan Higgins	09/13/07 17:58

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7090001 - EPA 5030B							**Water**					
Blank (7090001-BLK1)						**Analyzed: 09/01/07 13:58**						
cis-1,3-Dichloropropene	ND	---	0.500	ug/L	"	---	---	---	---	---	---	
trans-1,3-Dichloropropene	ND	---	1.00	"	"	---	---	---	---	---	---	
Ethylbenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Hexachlorobutadiene	ND	---	2.00	"	"	---	---	---	---	---	---	
2-Hexanone	ND	---	10.0	"	"	---	---	---	---	---	---	
Isopropylbenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
4-Isopropyltoluene	ND	---	0.500	"	"	---	---	---	---	---	---	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	"	"	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	---	0.500	"	"	---	---	---	---	---	---	
Methylene chloride	ND	---	5.00	"	"	---	---	---	---	---	---	
Naphthalene	ND	---	5.00	"	"	---	---	---	---	---	---	
n-Propylbenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Styrene	ND	---	0.500	"	"	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	---	1.00	"	"	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	---	0.500	"	"	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	---	0.500	"	"	---	---	---	---	---	---	
Toluene	ND	---	2.00	"	"	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	---	2.00	"	"	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	---	2.00	"	"	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	---	0.500	"	"	---	---	---	---	---	---	
1,1,2-Trichloroethane	ND	---	0.500	"	"	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	---	0.500	"	"	---	---	---	---	---	---	
Trichlorofluoromethane	ND	---	1.00	"	"	---	---	---	---	---	---	
1,2,3-Trichloropropane	ND	---	1.00	"	"	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
1,3,5-Trimethybenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Vinyl chloride	ND	---	0.500	"	"	---	---	---	---	---	---	
m,p-Xylene	ND	---	1.00	"	"	---	---	---	---	---	---	
o-Xylene	ND	---	0.500	"	"	---	---	---	---	---	---	

Surr:	*Dibromofluoromethane (Surr)*	*Recovery:*	*101 %*	*Limits:*	*80-120 %*	*Dilution: 1x*
	1,4-Difluorobenzene (Surr)		*92 %*		*80-120 %*	*"*
	Toluene-d8 (Surr)		*105 %*		*80-120 %*	*"*
	4-Bromofluorobenzene (Surr)		*101 %*		*80-120 %*	*"*

LCS (7090001-BS1) **Analyzed: 09/01/07 14:28**

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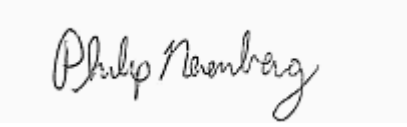

Philip Nerenberg, Lab Director

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Amec Earth and Environmental, Inc	Project: **Camp Rilea**	
7376 SW Durham Road	Project Number: 661M110153-03	**Reported:**
Portland, OR 97224	Project Manager: Dan Higgins	09/13/07 17:58

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7090001 - EPA 5030B							**Water**					
LCS (7090001-BS1)						**Analyzed: 09/01/07 14:28**						
Acetone	46.8	---	20.0	ug/L	1	40.0	---	117	70-130%	---	---	
Benzene	18.4	---	0.500	"	"	20.0	---	92	70-130%	---	---	
Bromobenzene	18.4	---	0.500	"	"	20.0	---	92	70-130%	---	---	
Bromochloromethane	19.9	---	0.500	"	"	20.0	---	100	70-130%	---	---	
Bromodichloromethane	18.1	---	0.500	"	"	20.0	---	90	70-130%	---	---	
Bromoform	19.0	---	1.00	"	"	20.0	---	95	70-130%	---	---	
Bromomethane	21.1	---	5.00	"	"	20.0	---	105	70-130%	---	---	
2-Butanone (MEK)	42.1	---	10.0	"	"	40.0	---	105	70-130%	---	---	
n-Butylbenzene	20.3	---	0.500	"	"	20.0	---	101	70-130%	---	---	
sec-Butylbenzene	19.8	---	0.500	"	"	20.0	---	99	70-130%	---	---	
tert-Butylbenzene	19.2	---	0.500	"	"	20.0	---	96	70-130%	---	---	
Carbon tetrachloride	21.0	---	0.500	"	"	20.0	---	105	70-130%	---	---	
Chlorobenzene	16.8	---	0.500	"	"	20.0	---	84	70-130%	---	---	
Chloroethane	15.3	---	2.00	"	"	20.0	---	77	70-130%	---	---	
Chloroform	19.7	---	2.00	"	"	20.0	---	99	70-130%	---	---	
Chloromethane	23.1	---	2.00	"	"	20.0	---	115	70-130%	---	---	
2-Chlorotoluene	19.5	---	0.500	"	"	20.0	---	98	70-130%	---	---	
4-Chlorotoluene	18.9	---	0.500	"	"	20.0	---	95	70-130%	---	---	
1,2-Dibromo-3-chloropropane	17.5	---	2.00	"	"	20.0	---	87	70-130%	---	---	
Dibromochloromethane	19.5	---	0.500	"	"	20.0	---	97	70-130%	---	---	
1,2-Dibromoethane (EDB)	19.7	---	0.500	"	"	20.0	---	98	70-130%	---	---	
Dibromomethane	19.6	---	0.500	"	"	20.0	---	98	70-130%	---	---	
1,2-Dichlorobenzene	19.6	---	0.500	"	"	20.0	---	98	70-130%	---	---	
1,3-Dichlorobenzene	18.9	---	0.500	"	"	20.0	---	94	70-130%	---	---	
1,4-Dichlorobenzene	18.9	---	0.500	"	"	20.0	---	94	70-130%	---	---	
Dichlorodifluoromethane	22.8	---	1.00	"	"	20.0	---	114	70-130%	---	---	
1,1-Dichloroethane	19.4	---	0.500	"	"	20.0	---	97	70-130%	---	---	
1,2-Dichloroethane (EDC)	19.3	---	0.500	"	"	20.0	---	96	70-130%	---	---	
1,1-Dichloroethene	18.8	---	0.500	"	"	20.0	---	94	70-130%	---	---	
cis-1,2-Dichloroethene	19.0	---	0.500	"	"	20.0	---	95	70-130%	---	---	
trans-1,2-Dichloroethene	19.8	---	0.500	"	"	20.0	---	99	70-130%	---	---	
1,2-Dichloropropane	20.2	---	0.500	"	"	20.0	---	101	70-130%	---	---	
1,3-Dichloropropane	19.9	---	0.500	"	"	20.0	---	99	70-130%	---	---	
2,2-Dichloropropane	21.2	---	0.500	"	"	20.0	---	106	70-130%	---	---	
1,1-Dichloropropene	19.5	---	0.500	"	"	20.0	---	97	70-130%	---	---	

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Philip Nerenberg, Lab Director

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Amec Earth and Environmental, Inc	Project: **Camp Rilea**	
7376 SW Durham Road	Project Number: 661M110153-03	**Reported:**
Portland, OR 97224	Project Manager: Dan Higgins	09/13/07 17:58

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7090001 - EPA 5030B							**Water**					
LCS (7090001-BS1)						**Analyzed: 09/01/07 14:28**						
cis-1,3-Dichloropropene	19.8	---	0.500	ug/L	"	20.0	---	99	70-130%	---	---	
trans-1,3-Dichloropropene	20.6	---	1.00	"	"	20.0	---	103	70-130%	---	---	
Ethylbenzene	19.4	---	0.500	"	"	20.0	---	97	70-130%	---	---	
Hexachlorobutadiene	20.6	---	2.00	"	"	20.0	---	103	70-130%	---	---	
2-Hexanone	39.7	---	10.0	"	"	40.0	---	99	70-130%	---	---	
Isopropylbenzene	19.6	---	0.500	"	"	20.0	---	98	70-130%	---	---	
4-Isopropyltoluene	20.2	---	0.500	"	"	20.0	---	101	70-130%	---	---	
4-Methyl-2-pentanone (MiBK)	36.3	---	10.0	"	"	40.0	---	91	70-130%	---	---	
Methyl tert-butyl ether (MTBE)	19.5	---	0.500	"	"	20.0	---	97	70-130%	---	---	
Methylene chloride	17.6	---	5.00	"	"	20.0	---	88	70-130%	---	---	
Naphthalene	17.5	---	5.00	"	"	20.0	---	88	70-130%	---	---	
n-Propylbenzene	19.2	---	0.500	"	"	20.0	---	96	70-130%	---	---	
Styrene	19.4	---	0.500	"	"	20.0	---	97	70-130%	---	---	
1,1,1,2-Tetrachloroethane	19.2	---	1.00	"	"	20.0	---	96	70-130%	---	---	
1,1,2,2-Tetrachloroethane	18.9	---	0.500	"	"	20.0	---	94	70-130%	---	---	
Tetrachloroethene (PCE)	18.7	---	0.500	"	"	20.0	---	93	70-130%	---	---	
Toluene	18.5	---	2.00	"	"	20.0	---	93	70-130%	---	---	
1,2,3-Trichlorobenzene	18.5	---	2.00	"	"	20.0	---	92	70-130%	---	---	
1,2,4-Trichlorobenzene	17.0	---	2.00	"	"	20.0	---	85	70-130%	---	---	
1,1,1-Trichloroethane	20.2	---	0.500	"	"	20.0	---	101	70-130%	---	---	
1,1,2-Trichloroethane	19.6	---	0.500	"	"	20.0	---	98	70-130%	---	---	
Trichloroethene (TCE)	20.1	---	0.500	"	"	20.0	---	101	70-130%	---	---	
Trichlorofluoromethane	19.5	---	1.00	"	"	20.0	---	98	70-130%	---	---	
1,2,3-Trichloropropane	18.5	---	1.00	"	"	20.0	---	93	70-130%	---	---	
1,2,4-Trimethylbenzene	19.3	---	0.500	"	"	20.0	---	96	70-130%	---	---	
1,3,5-Trimethybenzene	19.8	---	0.500	"	"	20.0	---	99	70-130%	---	---	
Vinyl chloride	20.2	---	0.500	"	"	20.0	---	101	70-130%	---	---	
m,p-Xylene	38.4	---	1.00	"	"	40.0	---	96	70-130%	---	---	
o-Xylene	18.1	---	0.500	"	"	20.0	---	91	70-130%	---	---	

Surr:	*Dibromofluoromethane (Surr)*	*Recovery:*	*102 %*	*Limits:*	*80-120 %*	*Dilution:* *1x*
	1,4-Difluorobenzene (Surr)		*103 %*		*80-120 %*	*"*
	Toluene-d8 (Surr)		*97 %*		*80-120 %*	*"*
	4-Bromofluorobenzene (Surr)		*100 %*		*80-120 %*	*"*

Matrix Spike (7090001-MS1) **Source: A708208-03** **Analyzed: 09/01/07 18:56**

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Philip Nerenberg, Lab Director

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Amec Earth and Environmental, Inc	Project: **Camp Rilea**	
7376 SW Durham Road	Project Number: 661M110153-03	**Reported:**
Portland, OR 97224	Project Manager: Dan Higgins	09/13/07 17:58

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7090001 - EPA 5030B							**Water**					
Matrix Spike (7090001-MS1)			**Source: A708208-03**			**Analyzed: 09/01/07 18:56**						
Acetone	32.9	---	20.0	ug/L	1	40.0	ND	82	70-130%	---	---	
Benzene	19.4	---	0.500	"	"	20.0	ND	97	70-130%	---	---	
Bromobenzene	18.5	---	0.500	"	"	20.0	ND	92	70-130%	---	---	
Bromochloromethane	19.5	---	0.500	"	"	20.0	ND	98	70-130%	---	---	
Bromodichloromethane	18.3	---	0.500	"	"	20.0	ND	92	70-130%	---	---	
Bromoform	15.8	---	1.00	"	"	20.0	ND	79	70-130%	---	---	
Bromomethane	21.0	---	5.00	"	"	20.0	ND	105	70-130%	---	---	
2-Butanone (MEK)	39.9	---	10.0	"	"	40.0	ND	100	70-130%	---	---	
n-Butylbenzene	20.0	---	0.500	"	"	20.0	ND	100	70-130%	---	---	
sec-Butylbenzene	19.7	---	0.500	"	"	20.0	ND	98	70-130%	---	---	
tert-Butylbenzene	18.9	---	0.500	"	"	20.0	ND	95	70-130%	---	---	
Carbon tetrachloride	20.0	---	0.500	"	"	20.0	ND	100	70-130%	---	---	
Chlorobenzene	18.9	---	0.500	"	"	20.0	ND	95	70-130%	---	---	
Chloroethane	14.4	---	2.00	"	"	20.0	ND	72	70-130%	---	---	
Chloroform	18.9	---	2.00	"	"	20.0	ND	95	70-130%	---	---	
Chloromethane	23.2	---	2.00	"	"	20.0	ND	116	70-130%	---	---	
2-Chlorotoluene	19.1	---	0.500	"	"	20.0	ND	96	70-130%	---	---	
4-Chlorotoluene	18.3	---	0.500	"	"	20.0	ND	91	70-130%	---	---	
1,2-Dibromo-3-chloropropane	20.4	---	2.00	"	"	20.0	ND	102	70-130%	---	---	
Dibromochloromethane	17.6	---	0.500	"	"	20.0	ND	88	70-130%	---	---	
1,2-Dibromoethane (EDB)	20.7	---	0.500	"	"	20.0	ND	104	70-130%	---	---	
Dibromomethane	20.7	---	0.500	"	"	20.0	ND	103	70-130%	---	---	
1,2-Dichlorobenzene	18.6	---	0.500	"	"	20.0	ND	93	70-130%	---	---	
1,3-Dichlorobenzene	18.4	---	0.500	"	"	20.0	ND	92	70-130%	---	---	
1,4-Dichlorobenzene	18.1	---	0.500	"	"	20.0	ND	91	70-130%	---	---	
Dichlorodifluoromethane	23.3	---	1.00	"	"	20.0	ND	117	70-130%	---	---	
1,1-Dichloroethane	19.4	---	0.500	"	"	20.0	ND	97	70-130%	---	---	
1,2-Dichloroethane (EDC)	19.8	---	0.500	"	"	20.0	ND	99	70-130%	---	---	
1,1-Dichloroethene	19.8	---	0.500	"	"	20.0	ND	99	70-130%	---	---	
cis-1,2-Dichloroethene	19.7	---	0.500	"	"	20.0	ND	98	70-130%	---	---	
trans-1,2-Dichloroethene	20.0	---	0.500	"	"	20.0	ND	100	70-130%	---	---	
1,2-Dichloropropane	20.2	---	0.500	"	"	20.0	ND	101	70-130%	---	---	
1,3-Dichloropropane	20.4	---	0.500	"	"	20.0	ND	102	70-130%	---	---	
2,2-Dichloropropane	19.9	---	0.500	"	"	20.0	ND	100	70-130%	---	---	
1,1-Dichloropropene	20.3	---	0.500	"	"	20.0	ND	101	70-130%	---	---	

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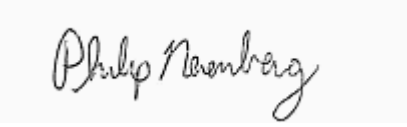

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Amec Earth and Environmental, Inc	Project: **Camp Rilea**	
7376 SW Durham Road	Project Number: 661M110153-03	**Reported:**
Portland, OR 97224	Project Manager: Dan Higgins	09/13/07 17:58

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7090001 - EPA 5030B							**Water**					
Matrix Spike (7090001-MS1)			**Source: A708208-03**			**Analyzed: 09/01/07 18:56**						
cis-1,3-Dichloropropene	18.6	---	0.500	ug/L	"	20.0	ND	93	70-130%	---	---	
trans-1,3-Dichloropropene	19.9	---	1.00	"	"	20.0	ND	100	70-130%	---	---	
Ethylbenzene	19.3	---	0.500	"	"	20.0	ND	97	70-130%	---	---	
Hexachlorobutadiene	20.2	---	2.00	"	"	20.0	ND	101	70-130%	---	---	
2-Hexanone	39.8	---	10.0	"	"	40.0	ND	100	70-130%	---	---	
Isopropylbenzene	16.5	---	0.500	"	"	20.0	ND	83	70-130%	---	---	
4-Isopropyltoluene	19.3	---	0.500	"	"	20.0	ND	96	70-130%	---	---	
4-Methyl-2-pentanone (MiBK)	43.2	---	10.0	"	"	40.0	ND	108	70-130%	---	---	
Methyl tert-butyl ether (MTBE)	18.6	---	0.500	"	"	20.0	ND	93	70-130%	---	---	
Methylene chloride	17.8	---	5.00	"	"	20.0	ND	89	70-130%	---	---	
Naphthalene	17.8	---	5.00	"	"	20.0	ND	89	70-130%	---	---	
n-Propylbenzene	19.0	---	0.500	"	"	20.0	ND	95	70-130%	---	---	
Styrene	18.0	---	0.500	"	"	20.0	ND	90	70-130%	---	---	
1,1,1,2-Tetrachloroethane	19.0	---	1.00	"	"	20.0	ND	95	70-130%	---	---	
1,1,2,2-Tetrachloroethane	20.6	---	0.500	"	"	20.0	ND	103	70-130%	---	---	
Tetrachloroethene (PCE)	18.9	---	0.500	"	"	20.0	ND	95	70-130%	---	---	
Toluene	18.7	---	2.00	"	"	20.0	ND	93	70-130%	---	---	
1,2,3-Trichlorobenzene	18.7	---	2.00	"	"	20.0	ND	94	70-130%	---	---	
1,2,4-Trichlorobenzene	18.1	---	2.00	"	"	20.0	ND	90	70-130%	---	---	
1,1,1-Trichloroethane	20.0	---	0.500	"	"	20.0	ND	100	70-130%	---	---	
1,1,2-Trichloroethane	19.4	---	0.500	"	"	20.0	ND	97	70-130%	---	---	
Trichloroethene (TCE)	21.7	---	0.500	"	"	20.0	1.82	99	70-130%	---	---	
Trichlorofluoromethane	20.9	---	1.00	"	"	20.0	ND	104	70-130%	---	---	
1,2,3-Trichloropropane	21.2	---	1.00	"	"	20.0	ND	106	70-130%	---	---	
1,2,4-Trimethylbenzene	17.7	---	0.500	"	"	20.0	ND	88	70-130%	---	---	
1,3,5-Trimethybenzene	18.6	---	0.500	"	"	20.0	ND	93	70-130%	---	---	
Vinyl chloride	23.0	---	0.500	"	"	20.0	ND	115	70-130%	---	---	
m,p-Xylene	38.3	---	1.00	"	"	40.0	ND	96	70-130%	---	---	
o-Xylene	17.0	---	0.500	"	"	20.0	ND	85	70-130%	---	---	

Surr: Dibromofluoromethane (Surr)	*Recovery: 101 %*	*Limits: 80-120 %*	*Dilution: 1x*
1,4-Difluorobenzene (Surr)	*102 %*	*80-120 %*	*"*
Toluene-d8 (Surr)	*100 %*	*80-120 %*	*"*
4-Bromofluorobenzene (Surr)	*99 %*	*80-120 %*	*"*

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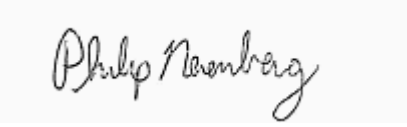

Philip Nerenberg, Lab Director

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Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

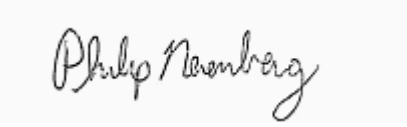
Amec Earth and Environmental, Inc	Project: **Camp Rilea**	
7376 SW Durham Road	Project Number: 661M110153-03	**Reported:**
Portland, OR 97224	Project Manager: Dan Higgins	09/13/07 17:58

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7080200 - EPA 3015							**Water**					
Blank (7080200-BLK1)						**Analyzed: 08/28/07 16:41**						
Arsenic	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Cadmium	ND	---	1.00	"	"	---	---	---	---	---	---	
Chromium	ND	---	1.00	"	"	---	---	---	---	---	---	
Lead	ND	---	1.00	"	"	---	---	---	---	---	---	
Selenium	ND	---	1.00	"	"	---	---	---	---	---	---	
Silver	ND	---	2.00	"	"	---	---	---	---	---	---	
LCS (7080200-BS1)						**Analyzed: 08/28/07 16:43**						
Arsenic	112	---	1.00	ug/L	1	111	---	101	80-120%	---	---	
Cadmium	108	---	1.00	"	"	111	---	97	80-120%	---	---	
Chromium	108	---	1.00	"	"	111	---	97	80-120%	---	---	
Lead	107	---	1.00	"	"	111	---	96	80-120%	---	---	
Selenium	56.9	---	1.00	"	"	55.6	---	102	80-120%	---	---	
Silver	55.4	---	2.00	"	"	55.6	---	100	80-120%	---	---	

Apex Laboratories



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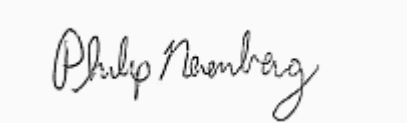
7376 SW Durham Road	Project Number: 661M110153-03	**Reported:**
Portland, OR 97224	Project Manager: Dan Higgins	09/13/07 17:58

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7080227 - EPA 3015							**Water**					
Blank (7080227-BLK1)						**Analyzed: 09/05/07 15:07**						
Arsenic	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Cadmium	ND	---	1.00	"	"	---	---	---	---	---	---	
Chromium	ND	---	1.00	"	"	---	---	---	---	---	---	
Lead	ND	---	1.00	"	"	---	---	---	---	---	---	
Selenium	ND	---	1.00	"	"	---	---	---	---	---	---	
Silver	ND	---	2.00	"	"	---	---	---	---	---	---	
LCS (7080227-BS1)						**Analyzed: 09/05/07 15:10**						
Arsenic	118	---	1.00	ug/L	1	111	---	106	80-120%	---	---	
Cadmium	114	---	1.00	"	"	111	---	102	80-120%	---	---	
Chromium	114	---	1.00	"	"	111	---	103	80-120%	---	---	
Lead	112	---	1.00	"	"	111	---	100	80-120%	---	---	
Selenium	59.2	---	1.00	"	"	55.6	---	106	80-120%	---	---	
Silver	58.8	---	2.00	"	"	55.6	---	106	80-120%	---	---	
Matrix Spike (7080227-MS2)			**Source: A708208-04**			**Analyzed: 09/05/07 15:30**						
Arsenic	124	---	1.00	ug/L	1	111	0.522	111	75-125%	---	---	
Cadmium	116	---	1.00	"	"	111	0.389	104	75-125%	---	---	
Chromium	102	---	1.00	"	"	111	ND	92	75-125%	---	---	
Lead	120	---	1.00	"	"	111	4.47	104	75-125%	---	---	
Selenium	60.8	---	1.00	"	"	55.6	0.633	108	75-125%	---	---	
Silver	57.6	---	2.00	"	"	55.6	ND	104	75-125%	---	---	

Apex Laboratories



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Tigard, OR 97223
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503-718-0333 Fax

Amec Earth and Environmental, Inc	Project: **Camp Rilea**	
7376 SW Durham Road	Project Number: 661M110153-03	**Reported:**
Portland, OR 97224	Project Manager: Dan Higgins	09/13/07 17:58

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7090064 - EPA 3015							**Water**					
Blank (7090064-BLK1)						**Analyzed: 09/11/07 20:05**						
Barium	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
LCS (7090064-BS1)						**Analyzed: 09/11/07 20:07**						
Barium	114	---	1.00	ug/L	1	111	---	102	80-120%	---	---	

Apex Laboratories

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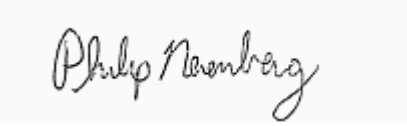
Amec Earth and Environmental, Inc	Project: **Camp Rilea**	
7376 SW Durham Road	Project Number: 661M110153-03	**Reported:**
Portland, OR 97224	Project Manager: Dan Higgins	09/13/07 17:58

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Mercury by EPA 7470A

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7080198 - EPA 3015							**Water**					
Blank (7080198-BLK1)						**Analyzed: 08/27/07 15:57**						
Mercury	ND	---	0.200	ug/L	1	---	---	---	---	---	---	
LCS (7080198-BS1)						**Analyzed: 08/27/07 16:01**						
Mercury	3.74	---	0.200	ug/L	1	3.75	---	100	85-115%	---	---	
Matrix Spike (7080198-MS2)			**Source: A708208-06**			**Analyzed: 08/27/07 17:26**						
Mercury	3.88	---	0.200	ug/L	1	3.75	0.0375	102	75-125%	---	---	

Apex Laboratories



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7376 SW Durham Road	Project Number: 661M110153-03	**Reported:**
Portland, OR 97224	Project Manager: Dan Higgins	09/13/07 17:58

Apex Laboratories

Volatile Organic Compounds by EPA 8260B

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
EPA 5030B							
Batch: 7090001							
A708208-01	Water	EPA 8260B	08/24/07 15:45	09/01/07 12:11	5mL/5mL	5mL/5mL	1.00
A708208-02	Water	EPA 8260B	08/24/07 15:00	09/01/07 12:11	5mL/5mL	5mL/5mL	1.00
A708208-03	Water	EPA 8260B	08/24/07 12:45	09/01/07 12:11	5mL/5mL	5mL/5mL	1.00
A708208-04	Water	EPA 8260B	08/24/07 14:15	09/01/07 12:11	5mL/5mL	5mL/5mL	1.00
A708208-05	Water	EPA 8260B	08/24/07 13:30	09/01/07 12:11	5mL/5mL	5mL/5mL	1.00
A708208-06	Water	EPA 8260B	08/24/07 12:00	09/01/07 12:11	5mL/5mL	5mL/5mL	1.00
A708208-07	Water	EPA 8260B	08/24/07 12:00	09/01/07 12:11	5mL/5mL	5mL/5mL	1.00

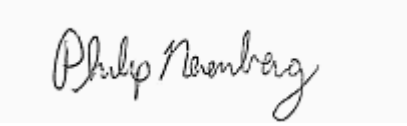
Total Metals by EPA 6020 (ICPMS)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
EPA 3015							
Batch: 7080200							
A708208-01	Water	EPA 6020	08/24/07 15:45	08/27/07 10:57	45mL/50mL	45mL/50mL	1.00
A708208-02	Water	EPA 6020	08/24/07 15:00	08/27/07 10:57	45mL/50mL	45mL/50mL	1.00
A708208-03	Water	EPA 6020	08/24/07 12:45	08/27/07 10:57	45mL/50mL	45mL/50mL	1.00
Batch: 7080227							
A708208-04	Water	EPA 6020	08/24/07 14:15	08/30/07 14:40	45mL/50mL	45mL/50mL	1.00
A708208-05	Water	EPA 6020	08/24/07 13:30	08/30/07 14:40	45mL/50mL	45mL/50mL	1.00
A708208-06	Water	EPA 6020	08/24/07 12:00	08/30/07 14:40	45mL/50mL	45mL/50mL	1.00
Batch: 7090064							
A708208-01RE3	Water	EPA 6020	08/24/07 15:45	09/10/07 10:20	45mL/50mL	45mL/50mL	1.00
A708208-02RE3	Water	EPA 6020	08/24/07 15:00	09/10/07 10:20	45mL/50mL	45mL/50mL	1.00
A708208-03RE3	Water	EPA 6020	08/24/07 12:45	09/10/07 10:20	45mL/50mL	45mL/50mL	1.00
A708208-04RE2	Water	EPA 6020	08/24/07 14:15	09/10/07 10:20	45mL/50mL	45mL/50mL	1.00
A708208-05RE2	Water	EPA 6020	08/24/07 13:30	09/10/07 10:20	45mL/50mL	45mL/50mL	1.00
A708208-06RE2	Water	EPA 6020	08/24/07 12:00	09/10/07 10:20	45mL/50mL	45mL/50mL	1.00

Total Mercury by EPA 7470A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
EPA 3015							
Batch: 7080198							

Apex Laboratories



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Amec Earth and Environmental, Inc	Project: **Camp Rilea**	
7376 SW Durham Road	Project Number: 661M110153-03	**Reported:**
Portland, OR 97224	Project Manager: Dan Higgins	09/13/07 17:58

Apex Laboratories

Total Mercury by EPA 7470A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
EPA 3015							
A708208-01	Water	EPA 7470A	08/24/07 15:45	08/27/07 10:44	40mL/50mL	40mL/50mL	1.00
A708208-02	Water	EPA 7470A	08/24/07 15:00	08/27/07 10:44	40mL/50mL	40mL/50mL	1.00
A708208-03	Water	EPA 7470A	08/24/07 12:45	08/27/07 10:44	40mL/50mL	40mL/50mL	1.00
A708208-04	Water	EPA 7470A	08/24/07 14:15	08/27/07 10:44	40mL/50mL	40mL/50mL	1.00
A708208-05	Water	EPA 7470A	08/24/07 13:30	08/27/07 10:44	40mL/50mL	40mL/50mL	1.00
A708208-06	Water	EPA 7470A	08/24/07 12:00	08/27/07 10:44	40mL/50mL	40mL/50mL	1.00

Apex Laboratories

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7376 SW Durham Road	Project Number: 661M110153-03	**Reported:**
Portland, OR 97224	Project Manager: Dan Higgins	09/13/07 17:58

Notes and Definitions

Qualifiers:

Notes and Conventions:

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	If MDL is not listed, data has been evaluated to the Method Reporting Limit only.
Batch QC	Unless specifically stated, all analyses include full Batch QC, including Sample Duplicates, Matrix Spikes and/or Matrix Spike Duplicates, in order to meet or exceed method and regulatory requirements. This report contains only results for Batch QC derived from samples included in this report. Complete Batch QC results are available upon request. In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.

Apex Laboratories

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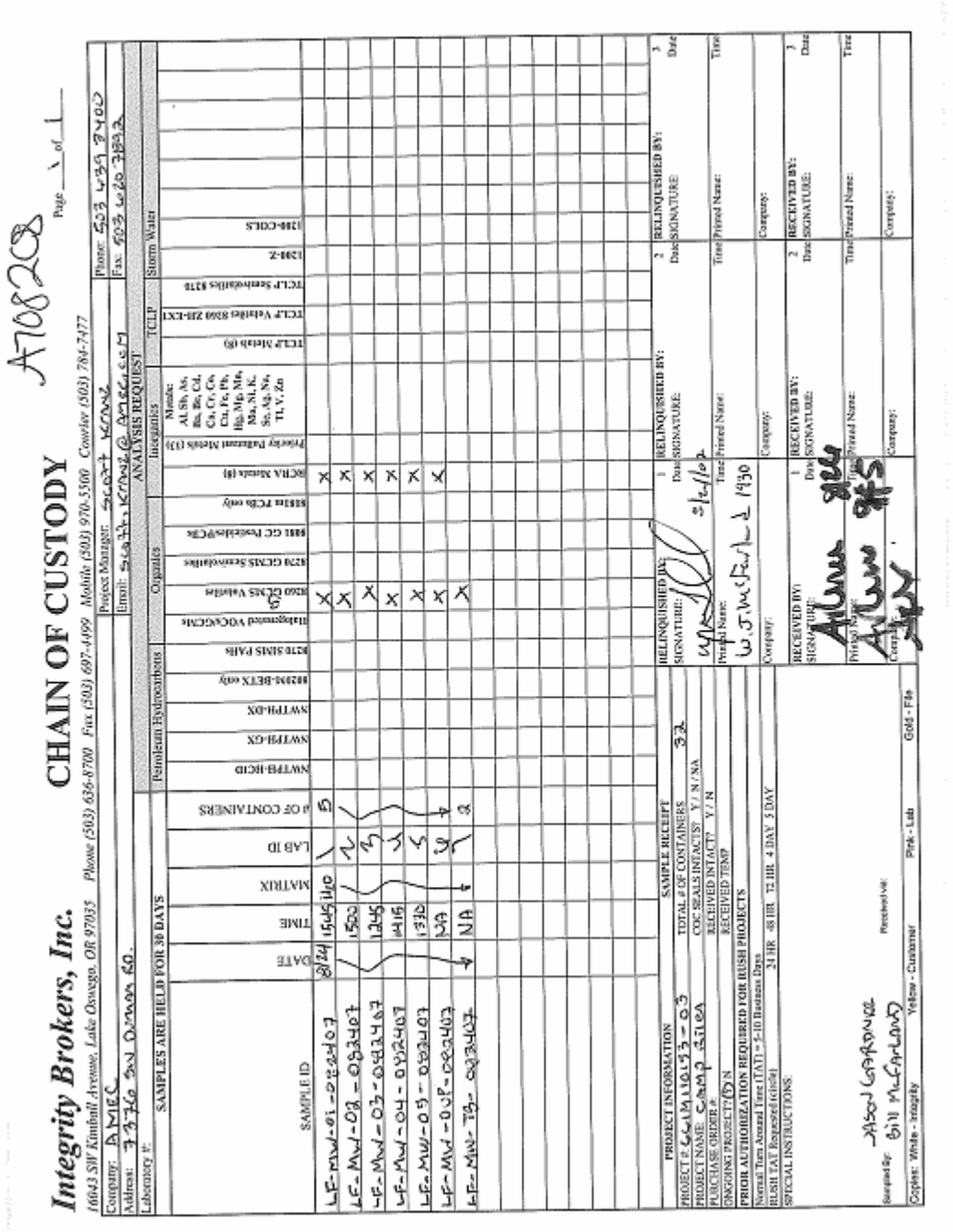

Integrity Brokers, Inc. **CHAIN OF CUSTODY** A708208

16043 SW Kimball Avenue, Lake Oswego, OR 97035 Phone (503) 636-8700 Fax (503) 697-4499 Mobile (503) 970-5500 Courier (503) 784-7477

Company: AMEC Project Manager: Scott Krantz Phone: 503 639 3400
Address: 7376 SW Durham Rd. Email: scott.krantz@amec.com Fax: 503 620 7892
Laboratory #:

SAMPLES ARE HELD FOR 30 DAYS

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	# OF CONTAINERS	NWTPH-HCID	NWTPH-GX	NWTPH-DX	8020M-BETX only	8270 SIMS PAHs	Halogenated VOCs/GCMs	8260 GCMS Volatiles	8270 GCMS Semivolatiles	8081 GC Pesticides/PCBs	8081m PCBs only	8CRA Metals (8)	Priority Pollutant Metals (13)	Metals: Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Hg, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Tl, V, Zn	TCLP Metals (8)	TCLP Volatiles 8260 ZHE-EXT	TCLP Semivolatiles 8270	1200-Z	1200-COLS
LF-MW-01-082407	8/24	1545	1410	1	5							X				X							
LF-MW-02-082407		1500		2								X				X							
LF-MW-03-082407		1245		3								X				X							
LF-MW-04-082407		1415		4								X				X							
LF-MW-05-082407		1330		5								X				X							
LF-MW-DUP-082407		NA		6								X				X							
LF-MW-TB-082407		NA		7	2							X											

PROJECT INFORMATION
PROJECT #: 661M110153-03
PROJECT NAME: Camp Rilea
PURCHASE ORDER #:
ONGOING PROJECT? (Y) N
PRIOR AUTHORIZATION REQUIRED FOR RUSH PROJECTS
Normal Turn Around Time (TAT) = 5-10 Business Days
RUSH TAT Requested (circle): 24 HR 48 HR 72 HR 4 DAY 5 DAY
SPECIAL INSTRUCTIONS:

SAMPLE RECEIPT
TOTAL # OF CONTAINERS: 32
COC SEALS INTACT? Y / N / NA
RECEIVED INTACT? Y / N
RECEIVED TEMP

RELINQUISHED BY: 1 Date 3/21/07
SIGNATURE:
Printed Name: W.J. McFarland 1930
Company:

RELINQUISHED BY: 2 Date
SIGNATURE:
Printed Name:
Company:

RELINQUISHED BY: 3 Date
SIGNATURE:
Printed Name:
Company:

RECEIVED BY: 1 Date
SIGNATURE:
Printed Name:
Company:

RECEIVED BY: 2 Date
SIGNATURE:
Printed Name:
Company:

RECEIVED BY: 3 Date
SIGNATURE:
Printed Name:
Company:

Sampled By: Jason Gardner, Bill McFarland
Received via:
Copies: White - Integrity Yellow - Customer Pink - Lab Gold - File

Apex Laboratories

Philip Nerenberg

Philip Nerenberg, Lab Director

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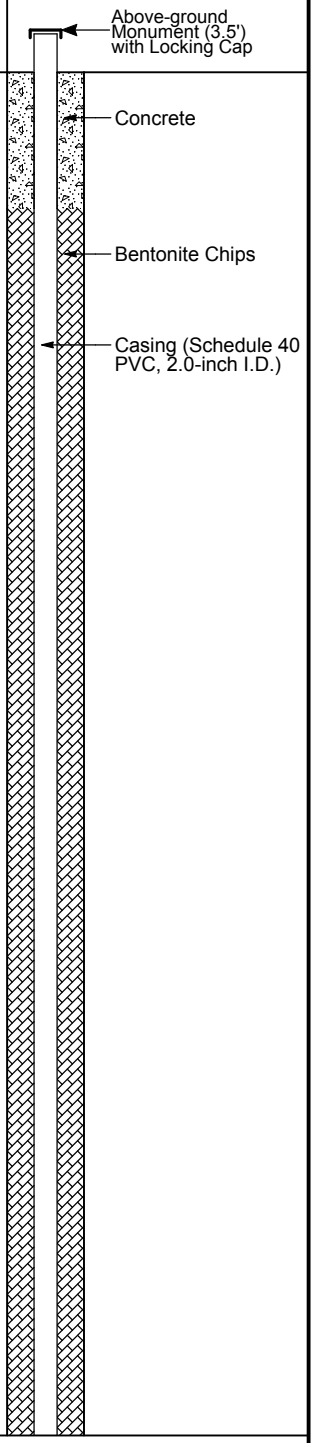
APPENDIX C

Monitoring Well Construction Logs and Exploratory Boring Logs

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	BLOW COUNT SPT N VALUE	VOLATILE READING (ppm)	GROUNDWATER	FIELD AND LABORATORY TESTING
0		SP	Tan to gray, fine to medium SAND.					
5			No sample recovery.					
10						0.0		
15						0.2		
20						0.1		
25						0.2		
30								

WELL SCHEMATIC



BORING METHOD: Direct Push
BOREHOLE DIAMETER: 4.0 (in)
DRILL RIG: Pacific Soil & Water
CONTRACTOR: Pacific Soil & Water
LOGGED BY: S. Syring

ELEVATION REFERENCE: NA
GROUND SURFACE ELEVATION: NA
CASING ELEVATION: NA
START CARD/TAG ID: 192637/L89888
DRILLING DATES: 08/16/2007 - 08/17/2007

REMARKS:

Camp Rilea

6-61M-110153

AMEC
7376 SW Durham Road
Portland, Oregon
USA 97224
Tel (503) 639-3400
Fax (503) 620-7892

LOG OF BORING MW-1

ENVR+WELL BORING 6-61M-110153.GPJ AMEC PORTLAND.GDT 12/18/07

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	BLOW COUNT SPT N VALUE	VOLATILE READING (ppm)	GROUNDWATER	FIELD AND LABORATORY TESTING	WELL SCHEMATIC
30		SP	Tan to gray, fine to medium SAND.			0.1			Bentonite Chips; Casing (Schedule 40 PVC, 2.0-inch I.D.)
35						0.1			10/20 Colorado Silica Sand; Well Screen (Schedule 40 PVC, 2.0-inch I.D. Pre-pack with 0.010-inch slot size)
							▼		
40						0.1			
45						0.1			Threaded End Cap
			End of boring at 48 ft bgs.			0.1			
50									
55									
60									

BORING METHOD: Direct Push
BOREHOLE DIAMETER: 4.0 (in)
DRILL RIG: Pacific Soil & Water
CONTRACTOR: Pacific Soil & Water
LOGGED BY: S. Syring

ELEVATION REFERENCE: NA
GROUND SURFACE ELEVATION: NA
CASING ELEVATION: NA
START CARD/TAG ID: 192637/L89888
DRILLING DATES: 08/16/2007 - 08/17/2007

REMARKS:

Camp Rilea

6-61M-110153

AMEC
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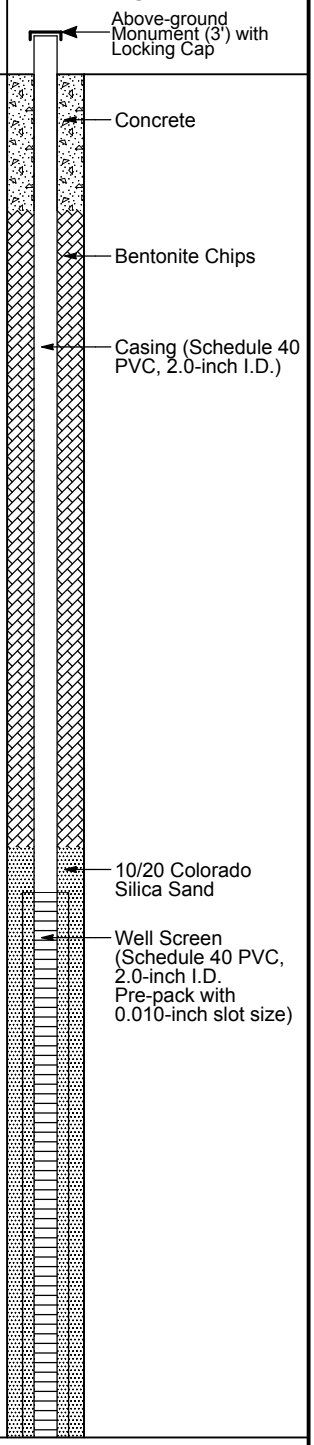
Portland, Oregon
USA 97224
Tel (503) 639-3400
Fax (503) 620-7892

LOG OF BORING MW-1

ENVR+WELL BORING 6-61M-110153.GPJ AMEC PORTLAND.GDT 12/18/07

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	BLOW COUNT SPT N VALUE	VOLATILE READING (ppm)	GROUNDWATER	FIELD AND LABORATORY TESTING
0		SP	Tan to gray, fine to medium SAND.					
5						0.4		
10						0.3		
15						0.4		
20						0.3		
25						0.5		
30								

WELL SCHEMATIC



BORING METHOD: Direct Push
BOREHOLE DIAMETER: 4.0 (in)
DRILL RIG: Pacific Soil & Water
CONTRACTOR: Pacific Soil & Water
LOGGED BY: S. Syring

ELEVATION REFERENCE: NA
GROUND SURFACE ELEVATION: NA
CASING ELEVATION: NA
START CARD/TAG ID: 192635/L89886
DRILLING DATES: 08/15/2007 - 08/15/2007

REMARKS:

Camp Rilea

6-61M-110153

AMEC
7376 SW Durham Road
Portland, Oregon
USA 97224
Tel (503) 639-3400
Fax (503) 620-7892

LOG OF BORING MW-2

ENVR+WELL BORING 6-61M-110153.GPJ AMEC PORTLAND.GDT 12/18/07

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	BLOW COUNT SPT N VALUE	VOLATILE READING (ppm)	GROUNDWATER	FIELD AND LABORATORY TESTING	WELL SCHEMATIC
30		SP	Tan to gray, fine to medium SAND.			0.4			10/20 Colorado Silica Sand; Well Screen (Schedule 40 PVC, 2.0-inch I.D. Pre-pack with 0.010-inch slot size); Threaded End Cap
35			End of boring at 35 ft bgs.			0.4			
40									
45									
50									
55									
60									

BORING METHOD: Direct Push
BOREHOLE DIAMETER: 4.0 (in)
DRILL RIG: Pacific Soil & Water
CONTRACTOR: Pacific Soil & Water
LOGGED BY: S. Syring

ELEVATION REFERENCE: NA
GROUND SURFACE ELEVATION: NA
CASING ELEVATION: NA
START CARD/TAG ID: 192635/L89886
DRILLING DATES: 08/15/2007 - 08/15/2007

REMARKS:

Camp Rilea

6-61M-110153

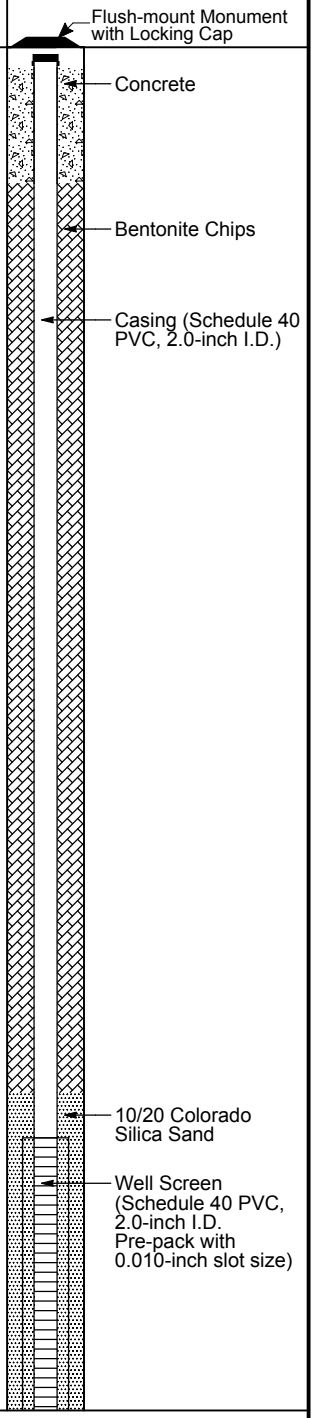
AMEC
7376 SW Durham Road
Portland, Oregon
USA 97224
Tel (503) 639-3400
Fax (503) 620-7892

LOG OF BORING MW-2

ENVR+WELL BORING 6-61M-110153.GPJ AMEC PORTLAND.GDT 12/18/07

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	BLOW COUNT SPT N VALUE	VOLATILE READING (ppm)	GROUNDWATER	FIELD AND LABORATORY TESTING
0		SP	Tan to gray, fine to medium SAND. (FILL)					
			Reddish brown SAND with green glass mixed with tan to gray SAND. (FILL)					
5		SP	Tan to gray, fine to medium SAND.			0.3		
10						0.3		
			GRAVEL (approximately 2 inches thick) mixed with brown sand.					
15						0.3		
			GRAVEL (approximately 2 inches thick) mixed with sand.					
20						0.2		
			Black and reddish flecks in sand.					
25						0.2		
30								

WELL SCHEMATIC



BORING METHOD: Direct Push
BOREHOLE DIAMETER: 4.0 (in)
DRILL RIG: Pacific Soil & Water
CONTRACTOR: Pacific Soil & Water
LOGGED BY: S. Syring

ELEVATION REFERENCE: NA
GROUND SURFACE ELEVATION: NA
CASING ELEVATION: NA
START CARD/TAG ID: 192636/L89887
DRILLING DATES: 08/15/2007 - 08/15/2007

REMARKS:

Camp Rilea

6-61M-110153

AMEC
7376 SW Durham Road
Portland, Oregon
USA 97224
Tel (503) 639-3400
Fax (503) 620-7892

LOG OF BORING MW-3

ENVR+WELL BORING 6-61M-110153.GPJ AMEC PORTLAND.GDT 12/18/07

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	BLOW COUNT SPT N VALUE	VOLATILE READING (ppm)	GROUNDWATER	FIELD AND LABORATORY TESTING	WELL SCHEMATIC
30		SP	Tan to gray, fine to medium SAND.			0.2	▼		10/20 Colorado Silica Sand; Well Screen (Schedule 40 PVC, 2.0-inch I.D. Pre-pack with 0.010-inch slot size)
35						0.1			Threaded End Cap
40			End of boring at 40 ft bgs.			0.1			
45									
50									
55									
60									

BORING METHOD: Direct Push
BOREHOLE DIAMETER: 4.0 (in)
DRILL RIG: Pacific Soil & Water
CONTRACTOR: Pacific Soil & Water
LOGGED BY: S. Syring

ELEVATION REFERENCE: NA
GROUND SURFACE ELEVATION: NA
CASING ELEVATION: NA
START CARD/TAG ID: 192636/L89887
DRILLING DATES: 08/15/2007 - 08/15/2007

REMARKS:

Camp Rilea

6-61M-110153

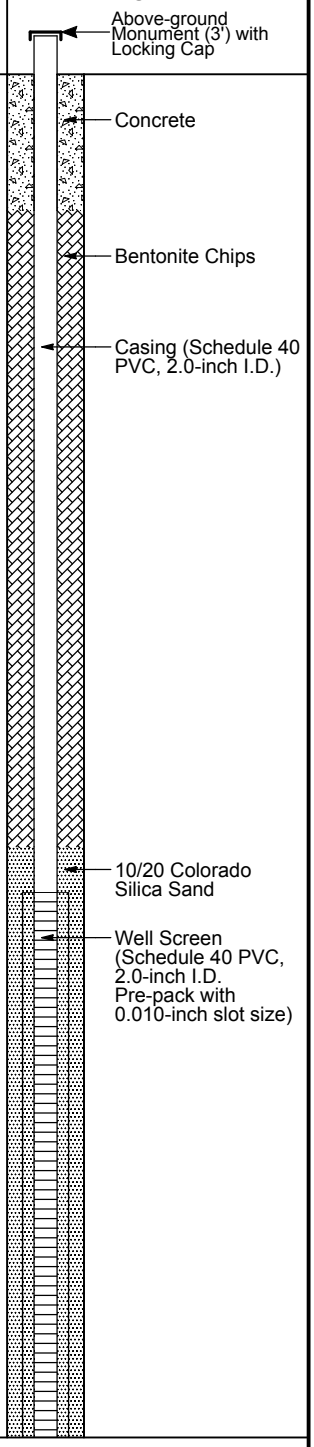
AMEC
7376 SW Durham Road
Portland, Oregon
USA 97224
Tel (503) 639-3400
Fax (503) 620-7892

LOG OF BORING MW-3

ENVR+WELL BORING 6-61M-110153.GPJ AMEC PORTLAND.GDT 12/18/07

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	BLOW COUNT SPT N VALUE	VOLATILE READING (ppm)	GROUNDWATER	FIELD AND LABORATORY TESTING
0		SP	Tan to gray, fine to medium SAND.					
5						0.6		
10						0.7		
15						0.7		
20						0.5		
25						0.7		
30								

WELL SCHEMATIC



BORING METHOD: Direct Push
BOREHOLE DIAMETER: 4.0 (in)
DRILL RIG: Pacific Soil & Water
CONTRACTOR: Pacific Soil & Water
LOGGED BY: S. Syring

ELEVATION REFERENCE: NA
GROUND SURFACE ELEVATION: NA
CASING ELEVATION: NA
START CARD/TAG ID: 192634/L89885
DRILLING DATES: 08/15/2007 - 08/15/2007

REMARKS:

Camp Rilea

6-61M-110153

AMEC
7376 SW Durham Road
Portland, Oregon
USA 97224
Tel (503) 639-3400
Fax (503) 620-7892

LOG OF BORING MW-4

ENVR+WELL BORING 6-61M-110153.GPJ AMEC PORTLAND.GDT 12/18/07

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	BLOW COUNT SPT N VALUE	VOLATILE READING (ppm)	GROUNDWATER	FIELD AND LABORATORY TESTING	WELL SCHEMATIC
30		SP	Tan to gray, fine to medium SAND.			0.7			10/20 Colorado Silica Sand; Well Screen (Schedule 40 PVC, 2.0-inch I.D. Pre-pack with 0.010-inch slot size); Threaded End Cap
			End of boring at 34 ft bgs.			0.7			
35									
40									
45									
50									
55									
60									

BORING METHOD: Direct Push
BOREHOLE DIAMETER: 4.0 (in)
DRILL RIG: Pacific Soil & Water
CONTRACTOR: Pacific Soil & Water
LOGGED BY: S. Syring

ELEVATION REFERENCE: NA
GROUND SURFACE ELEVATION: NA
CASING ELEVATION: NA
START CARD/TAG ID: 192634/L89885
DRILLING DATES: 08/15/2007 - 08/15/2007

REMARKS:

Camp Rilea

6-61M-110153

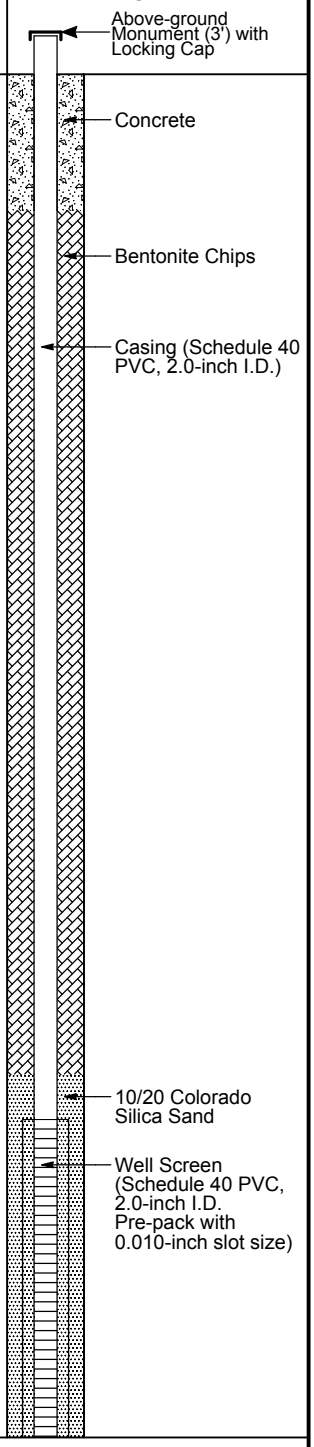
AMEC
7376 SW Durham Road
Portland, Oregon
USA 97224
Tel (503) 639-3400
Fax (503) 620-7892

LOG OF BORING MW-4

ENVR+WELL BORING 6-61M-110153.GPJ AMEC PORTLAND.GDT 12/18/07

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	BLOW COUNT SPT N VALUE	VOLATILE READING (ppm)	GROUNDWATER	FIELD AND LABORATORY TESTING
0		SP	Tan to gray, fine to medium SAND.					
5						0.1		
10						0.5		
15						0.4		
20						0.6		
25						0.7		
30								

WELL SCHEMATIC



BORING METHOD: Direct Push
BOREHOLE DIAMETER: 4.0 (in)
DRILL RIG: Pacific Soil & Water
CONTRACTOR: Pacific Soil & Water
LOGGED BY: S. Syring

ELEVATION REFERENCE: NA
GROUND SURFACE ELEVATION: NA
CASING ELEVATION: NA
START CARD/TAG ID: 192638/L89889
DRILLING DATES: 08/16/2007 - 08/17/2007

REMARKS:

Camp Rilea

6-61M-110153

AMEC
7376 SW Durham Road
Portland, Oregon
USA 97224
Tel (503) 639-3400
Fax (503) 620-7892

LOG OF BORING MW-5

ENVR+WELL BORING 6-61M-110153.GPJ AMEC PORTLAND.GDT 12/18/07

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	BLOW COUNT SPT N VALUE	VOLATILE READING (ppm)	GROUNDWATER	FIELD AND LABORATORY TESTING	WELL SCHEMATIC
30		SP	Tan to gray, fine to medium SAND.			0.5			10/20 Colorado Silica Sand; Well Screen (Schedule 40 PVC, 2.0-inch I.D. Pre-pack with 0.010-inch slot size); Threaded End Cap
35						0.5			
40			End of boring at 40 ft bgs.			0.1			
45									
50									
55									
60									

BORING METHOD: Direct Push
BOREHOLE DIAMETER: 4.0 (in)
DRILL RIG: Pacific Soil & Water
CONTRACTOR: Pacific Soil & Water
LOGGED BY: S. Syring

ELEVATION REFERENCE: NA
GROUND SURFACE ELEVATION: NA
CASING ELEVATION: NA
START CARD/TAG ID: 192638/L89889
DRILLING DATES: 08/16/2007 - 08/17/2007

REMARKS:

Camp Rilea

6-61M-110153

AMEC
7376 SW Durham Road
Portland, Oregon
USA 97224
Tel (503) 639-3400
Fax (503) 620-7892

LOG OF BORING MW-5

ENVR+WELL BORING 6-61M-110153.GPJ AMEC PORTLAND.GDT 12/18/07

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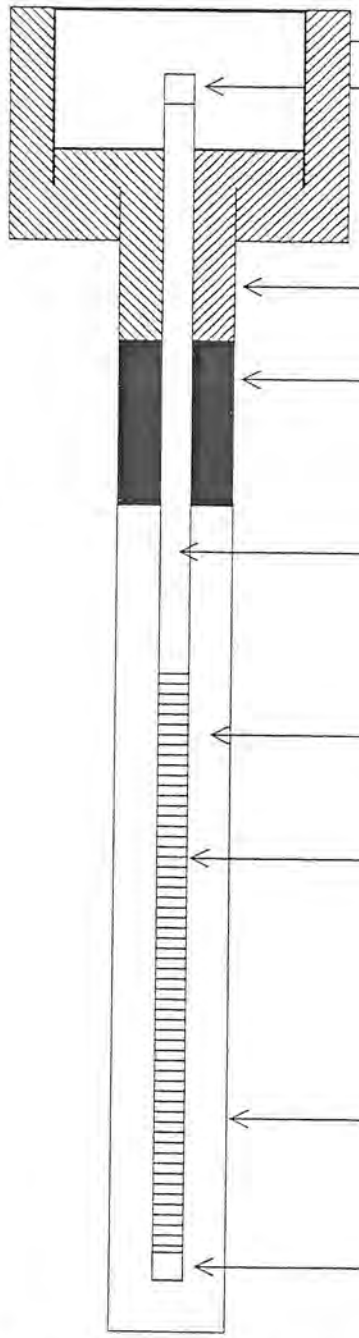
MONITORING WELL AS-BUILT REPORT

LOCATION Camp Rilea
OBSERVED BY S. Syring
DRILLER/INSTALLER PSW

PROJECT No. 66/M110153
PROJECT NAME Camp Rilea
BORING/WELL I.D. MW-1
DATE 8/17/07
START CARD#/ WELL TAG I.D.# ~~L89887~~ ~~L88~~ L89888
192637

SOIL TYPE DEPTH



3

34

35

47

ABOVE GROUND RISER HEIGHT (IF APPLICABLE) 3.5'
MONUMENT TYPE (IF APPLICABLE)
WELL CAP TYPE

~~GROUT TYPE~~/#SACKS Concrete to surface

BENTONITE SEAL /#SACKS 1 sack granular bentonite + ~15 sacks medium bentonite chips

WELL CASING I.D. 2"
TYPE OF CASING Schedule 40 PVC
TYPE OF CONNECTION treaded w/ o-ring

FILTER PACK / SIZE/ #SACKS Sand Prepack ~½ sack 10/20 colorado silica sand

WELL SCREEN I.D. 2"
TYPE OF SCREEN Schedule 40 PVC
SLOT SIZE 0.010"

DIAMETER OF BOREHOLE 4"

ENDCAP TYPE Schedule 40 PVC, Hat treaded w/ oring

REMARKS Various paper, concrete + steel debris discovered when installing monument and bollards. Monument set 3.5' above ground due to steel debris unable to remove.

LOCATION

WEATHER 60°F, cloudy

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TEST BORING LOG

HOLE NO. MW-2
SHEET 1 OF 3
TOTAL DEPTH 8/15/07 = 4
DATE BEGUN 8/16/07
DATE COMPLETED 8/16/07

SAMPLING METHOD	SAMPLE NUMBER	BLOW COUNT	DEPTH SAMPLED	RECOVERY	DEPTH IN FEET	SOIL DESCRIPTION
					0	Tan to gray, fine to medium SAND
					1	
					2	
					3	
					4	
					5	No sample recovery
					6	
					7	
					8	
					9	
					10	PID = 0.0
					1	
					2	
					3	
					4	
					5	PID = 0.2
					6	
					7	
					8	
					9	
					20	PID = 0.1

GROUNDWATER TABLE
ATD=AT TIME OF DRILLING AB=AFTER BORING
DEPTH IN FEET 3805 MSL
TIME 8/17/07
DATE 1035

PROJECT NAME Camp Pike
PROJECT NUMBER 661M110153
GEOLOGIST/ENGINEER S Syring
DRILLING CONTACTOR/CREW PSW
METHOD USED Direct Push

SAMPLING METHOD: SPT=STANDARD PENETRATION TEST T=TUBE R=RING

BORING LOG SUMMARY

AMEC Earth & Environmental, Inc. (Rev. 11/01)

LOCATION

WEATHER

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TEST BORING LOG

HOLE NO. MW-1
SHEET 2 OF 3
TOTAL DEPTH 48
DATE BEGUN 8/16/07
DATE COMPLETED 8/16/07

SAMPLING METHOD	SAMPLE NUMBER	BLOW COUNT	DEPTH SAMPLED	RECOVERY	DEPTH IN FEET	SOIL DESCRIPTION
					2 0	Tan to gray, fine to medium SAND
					1	
					2	
					3	
					4	
					5	PID = 0.7
					6	
					7	
					8	
					9	
					3 0	PID = 0.1
					1	
					2	
					3	
					4	
					5	PID = 0.1
					6	
					7	
					8	
					9	Water table @ ~ 39' bgs
					4 0	PID = 0.1
					—	
					—	
					—	
					—	
					—	

SAMPLING

GROUNDWATER TABLE
ATD=AT TIME OF DRILLING AB=AFTER BORING
DEPTH IN FEET ~39 bgs ATD
TIME
DATE 8/16/07

PROJECT NAME Camp Pilot
PROJECT NUMBER 66101110153
GEOLOGIST/ENGINEER S. Syring
DRILLING CONTACTOR/CREW BSW
METHOD USED Direct Push

SAMPLING METHOD: SPT=STANDARD PENETRATION TEST T=TUBE R=RING

BORING LOG SUMMARY

LOCATION

WEATHER

amec
Earth & Environmental

TEST BORING LOG

HOLE NO. MW-1
SHEET 3 OF 3
TOTAL DEPTH 48'
DATE BEGUN 8/16/01
DATE COMPLETED 8/16/01

SAMPLING						GROUNDWATER TABLE	
SAMPLING METHOD	SAMPLE NUMBER	BLOW COUNT	DEPTH SAMPLED	RECOVERY	DEPTH IN FEET	ATD=AT TIME OF DRILLING AB=AFTER BORING	PROJECT NAME Camp Pilot
						DEPTH IN FEET	PROJECT NUMBER 66/M110153
						TIME	GEOLOGIST/ENGINEER S. Syring
						DATE	DRILLING CONTACTOR/CREW PSW
							METHOD USED Direct Push

SAMPLING METHOD: SPT=STANDARD PENETRATION TEST T=TUBE R=RING

DEPTH IN FEET	SOIL DESCRIPTION
40	
1	
2	
3	
4	
5	PID = 0.1
6	
7	
8	END OF BORING PID = 0.1
9	
50	
1	
2	
3	
4	
5	
6	
7	
8	
9	
0	

BORING LOG SUMMARY

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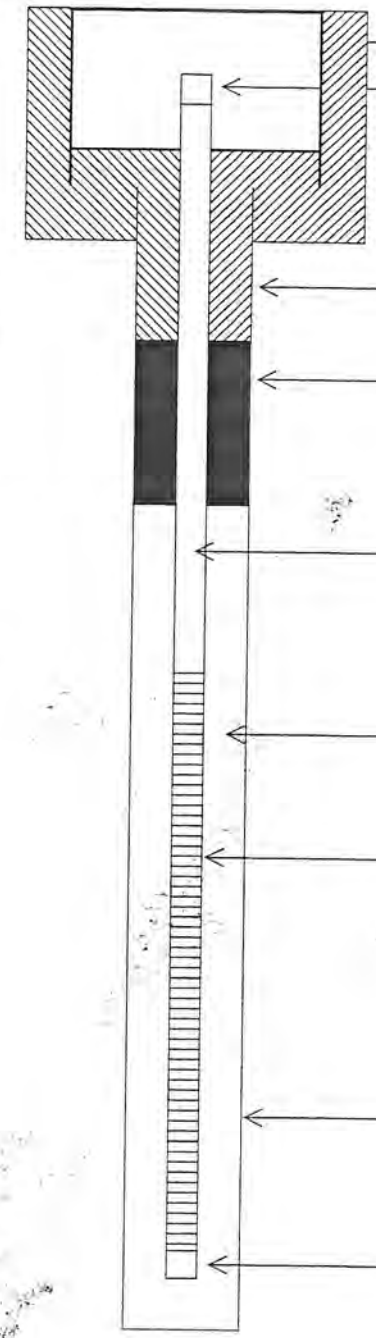
Earth & Environmental

MONITORING WELL AS-BUILT REPORT

LOCATION Camp Pilon
OBSERVED BY S. Syring
DRILLER/INSTALLER Pacific Soil + Water

PROJECT No. 66IM110153
PROJECT NAME Camp Pilon
BORING/WELL I.D. MW-2
DATE 8/15/07
START CARD#/ WELL TAG I.D.# L89886 → 192635

SOIL TYPE DEPTH



3

17

18

23

ABOVE GROUND RISER HEIGHT (IF APPLICABLE) 3'
MONUMENT TYPE (IF APPLICABLE)
WELL CAP TYPE

~~GROUT TYPE~~/#SACKS concrete to surface

BENTONITE SEAL /#SACKS Granular Bentonite / 1 sack

WELL CASING I.D. 2"
TYPE OF CASING Schedule 40 PVC
TYPE OF CONNECTION threaded w/ rubber o-ring

FILTER PACK / SIZE/ #SACKS Prepack Screen + ~ 1/2 sack 10/20 colorado silica sand

WELL SCREEN I.D. 2"
TYPE OF SCREEN Schedule 40 PVC
SLOT SIZE 0.010

DIAMETER OF BOREHOLE 4"

ENDCAP TYPE threaded PVC, flat

REMARKS

LOCATION

WEATHER

amec Earth & Environmental

TEST BORING LOG

HOLE NO. MW-2
SHEET 1 OF 2
TOTAL DEPTH 35'
DATE BEGUN 8/15/07
DATE COMPLETED 8/15/07

SAMPLING METHOD	SAMPLE NUMBER	BLOW COUNT	DEPTH SAMPLED	RECOVERY	DEPTH IN FEET	SOIL DESCRIPTION
					0	Tan to gray fine to medium sand
					1	
					2	
					3	
					4	
					5	PID = 0.4
					6	
					7	
					8	
					9	
					10	PID = 0.3
					1	
					2	
					3	
					4	
					5	PID = 0.4
					6	
					7	
					8	
					9	
					20	PID = 0.3

SAMPLING

GROUNDWATER TABLE
ATD=AT TIME OF DRILLING AB=AFTER BORING
DEPTH IN FEET 24.4 bgs AB
TIME 1010
DATE 8/16/07

PROJECT NAME Camp Pilot
PROJECT NUMBER 661M110153
GEOLOGIST/ENGINEER S. Syring
DRILLING CONTACTOR/CREW PSW
METHOD USED Direct Push

SAMPLING METHOD: SPT=STANDARD PENETRATION TEST T=TUBE R=RING

BORING LOG SUMMARY

LOCATION

WEATHER

amec Earth & Environmental

TEST BORING LOG

HOLE NO. MW2
SHEET 2 OF 2
TOTAL DEPTH 35'
DATE BEGUN 8/15/07
DATE COMPLETED 8/15/07

PROJECT NAME Camp Pilot
PROJECT NUMBER 661M110153
GEOLOGIST/ENGINEER S.Syring
DRILLING CONTACTOR/CREW FSN
METHOD USED Direct Push

GROUNDWATER TABLE
ATD=AT TIME OF DRILLING AB=AFTER BORING
DEPTH IN FEET 24.7 BGS ATD
TIME 1553
DATE 8/15/07

SAMPLING METHOD: SPT=STANDARD PENETRATION TEST T=TUBE R=RING

SAMPLING METHOD	SAMPLE NUMBER	BLOW COUNT	DEPTH SAMPLED	RECOVERY	DEPTH IN FEET	SOIL DESCRIPTION
					2 0	tan to gray, fine to medium SAND
					1	
					2	
					3	
					4	Groundwater table @ 24.7'
					2 5	PID = 0.5
					6	
					7	
					8	
					9	
					3 0	PID = 0.4
					1	
					2	
					3	
					4	
					5	END OF BORING PID = 0.4
					6	
					7	
					8	
					9	
					0	

BORING LOG SUMMARY

AMEC Earth & Environmental, Inc. (Rev. 11/01)

LOCATION

WEATHER

amec Earth & Environmental

TEST BORING LOG

HOLE NO.

SHEET ____ OF ____

TOTAL DEPTH

DATE BEGUN

DATE COMPLETED

SAMPLING

SAMPLING METHOD	SAMPLE NUMBER	BLOW COUNT	DEPTH SAMPLED	RECOVERY

GROUNDWATER TABLE

ATD=AT TIME OF DRILLING AB=AFTER BORING

DEPTH IN FEET

TIME

DATE

PROJECT NAME

PROJECT NUMBER

GEOLOGIST/ENGINEER

DRILLING CONTACTOR/CREW

METHOD USED

SAMPLING METHOD: SPT=STANDARD PENETRATION TEST T=TUBE R=RING

DEPTH IN FEET	SOIL DESCRIPTION
0	
1	
2	
3	
4	
5	
6	
7	
8	
9	
0	
1	
2	
3	
4	
5	
6	
7	
8	
9	
0	

BORING LOG SUMMARY

AMEC Earth & Environmental, Inc. (Rev. 11/01)

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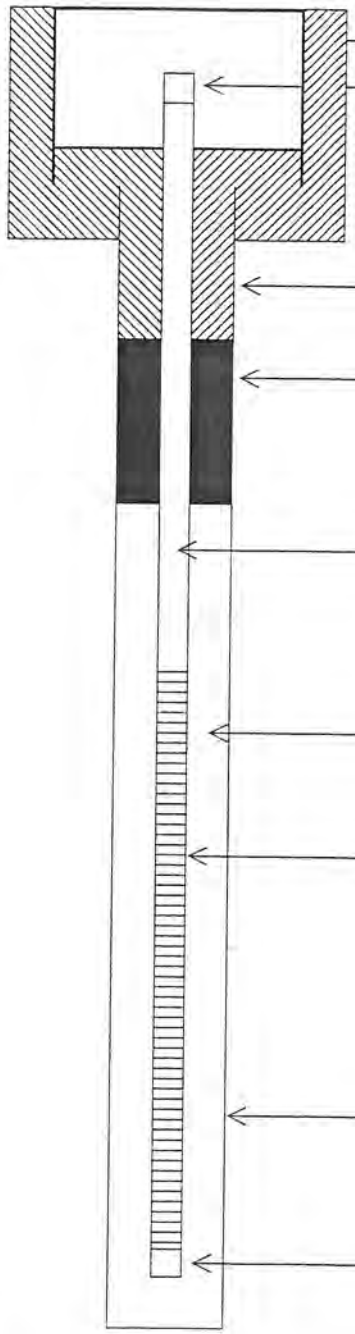
Earth & Environmental

MONITORING WELL AS-BUILT REPORT

PROJECT No. 161M110153
LOCATION Camp Pilot
PROJECT NAME Camp Pilot
OBSERVED BY S. Syring
BORING/WELL I.D. MW-3
DRILLER/INSTALLER Pacific Soil + Water
DATE 8/15/07
START CARD#/ WELL TAG I.D.# L 87887 192656

SOIL TYPE DEPTH



ABOVE GROUND RISER HEIGHT (IF APPLICABLE)
MONUMENT TYPE (IF APPLICABLE) flush
WELL CAP TYPE

3 — GROUT TYPE/#SACKS Concrete to surface

23 — BENTONITE SEAL /#SACKS Granular bentonite w/ ~ [illegible] sack, ~ 1/4 sack medium bentonite chips

WELL CASING I.D. 2"
TYPE OF CASING Schedule 40 PVC
TYPE OF CONNECTION threaded w/ o-ring

24 — FILTER PACK / SIZE/ #SACKS Tropack screen + ~ 2/3 sack 10/20 Colorado silica sand

WELL SCREEN I.D. 2"
TYPE OF SCREEN Schedule 40 PVC
SLOT SIZE threaded w/ o-ring

DIAMETER OF BOREHOLE 4"

39 — ENDCAP TYPE 4" Schedule 40 PVC threaded, cap

REMARKS

LOCATION

WEATHER

amec Earth & Environmental

TEST BORING LOG

HOLE NO. MW-3
SHEET 1 OF 2
TOTAL DEPTH 40'
DATE BEGUN 8/15/07
DATE COMPLETED 8/15/07

SAMPLING METHOD	SAMPLE NUMBER	BLOW COUNT	DEPTH SAMPLED	RECOVERY	DEPTH IN FEET	SOIL DESCRIPTION
					0	Tan to gray, fine to medium SAND
					1	
					2	Green glass, reddish brown sand mixed
					3	with tan to gray SAND
					4	
					5	PID = 0.3
					6	
					7	
					8	
					9	
					10	PID = 0.3
					1	
					2	Gravel layer mixed with brown sand ~ 2" thick
					3	
					4	
					5	PID = 0.3
					6	
					7	Gravel mixed with SAND ~ 2" thick
					8	
					9	
					20	PID = 0.2

BORING LOG SUMMARY

GROUNDWATER TABLE
ATD=AT TIME OF DRILLING AB=AFTER BORING
DEPTH IN FEET 31 bgs AB
TIME 1000
DATE 8/16/07

PROJECT NAME Camp Pilot
PROJECT NUMBER bk1M110153
GEOLOGIST/ENGINEER S Syring
DRILLING CONTACTOR/CREW PSW
METHOD USED Direct Push

SAMPLING METHOD: SPT=STANDARD PENETRATION TEST T=TUBE R=RING

LOCATION

WEATHER

amec Earth & Environmental

TEST BORING LOG

HOLE NO. MW-3
SHEET 2 OF 2
TOTAL DEPTH 40'
DATE BEGUN 8/15/07
DATE COMPLETED 8/15/07

SAMPLING						GROUNDWATER TABLE	
SAMPLING METHOD	SAMPLE NUMBER	BLOW COUNT	DEPTH SAMPLED	RECOVERY	DEPTH IN FEET	ATD=AT TIME OF DRILLING AB=AFTER BORING	PROJECT NAME Camp Pilar
						DEPTH IN FEET 31 BGS ATD	PROJECT NUMBER 661M110153
						TIME	GEOLOGIST/ENGINEER S. Syring
						DATE	DRILLING CONTACTOR/CREW PSW
							METHOD USED Direct Push

SAMPLING METHOD: SPT=STANDARD PENETRATION TEST T=TUBE R=RING

DEPTH IN FEET	SOIL DESCRIPTION
20	Tan to gray, fine to medium SAND
1	
2	Black + reddish flecks in SAND
3	
4	
5	PID = 0.2
6	
7	
8	
9	
30	PID = 0.2
1	Water table @ 31'
2	
3	
4	
5	PID = 0.1
6	
7	
8	
9	
40	END OF BORING PID = 0.1

BORING LOG SUMMARY

AMEC Earth & Environmental, Inc. (Rev. 11/01)

LOCATION

WEATHER _____

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Earth & Environmental

TEST BORING LOG

HOLE NO. _____
SHEET _____ OF _____
TOTAL DEPTH _____
DATE BEGUN _____
DATE COMPLETED _____

SAMPLING

SAMPLING METHOD	SAMPLE NUMBER	BLOW COUNT	DEPTH SAMPLED	RECOVERY	DEPTH IN FEET
					0
					1
					2
					3
					4
					5
					6
					7
					8
					9
					0
					1
					2
					3
					4
					5
					6
					7
					8
					9
					0

GROUNDWATER TABLE

ATD=AT TIME OF DRILLING AB=AFTER BORING

DEPTH IN FEET _____
TIME _____
DATE _____

PROJECT NAME _____
PROJECT NUMBER _____
GEOLOGIST/ENGINEER _____
DRILLING CONTACTOR/CREW _____
METHOD USED _____

SAMPLING METHOD: SPT=STANDARD PENETRATION TEST T=TUBE R=RING

SOIL DESCRIPTION

BORING LOG SUMMARY

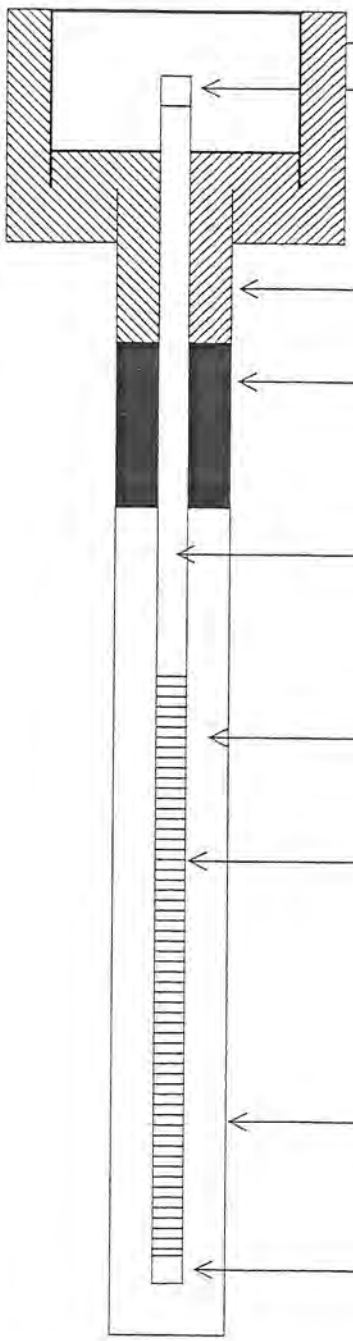
amec
Earth & Environmental

MONITORING WELL AS-BUILT REPORT

LOCATION Camp Rilea
OBSERVED BY S Syring
DRILLER/INSTALLER Pacific Soil + Water

PROJECT No. 66M110153
PROJECT NAME Camp Rilea
BORING/WELL I.D. MW-4
DATE 8/15/07
START CARD#/ WELL TAG I.D.# 192634
L89885

SOIL TYPE DEPTH



ABOVE GROUND RISER HEIGHT (IF APPLICABLE) 3'
MONUMENT TYPE (IF APPLICABLE)
WELL CAP TYPE

3
~~GROUT TYPE/#SACKS~~ Concrete to surface

BENTONITE SEAL /#SACKS Gravel or bentonite / 1 sack

17

WELL CASING I.D. 2"
TYPE OF CASING Schedule 40 PVC
TYPE OF CONNECTION threaded w/ rubber o-ring

18

FILTER PACK / SIZE/ #SACKS Pre-pack screen + ~ ½ sack 10/20 Colorado silica sand

WELL SCREEN I.D. 2"
TYPE OF SCREEN Schedule 40 PVC
SLOT SIZE 0.010

DIAMETER OF BOREHOLE 4"

33
34
ENDCAP TYPE threaded PVC, flat

REMARKS

LOCATION

WEATHER

amec
Earth & Environmental

TEST BORING LOG

HOLE NO. MW-4
SHEET 1 OF 2
TOTAL DEPTH 34'
DATE BEGUN 8/15/07
DATE COMPLETED 8/15/07

SAMPLING METHOD	SAMPLE NUMBER	BLOW COUNT	DEPTH SAMPLED	RECOVERY	DEPTH IN FEET	SOIL DESCRIPTION
					0	Tan to gray, fine to medium SAND
					1	
					2	
					3	
					4	
					5	PID = 0.6
					6	
					7	
					8	
					9	
					10	PID = 0.7
					1	
					2	
					3	
					4	
					5	PID = 0.7
					6	
					7	
					8	
					9	
					20	PID = 0.5

GROUNDWATER TABLE
ATD=AT TIME OF DRILLING AB=AFTER BORING
DEPTH IN FEET 24.6 BGS ATD
TIME 1945
DATE 8/15/07

PROJECT NAME Camp Pilot
PROJECT NUMBER 6-61M-11015-3
GEOLOGIST/ENGINEER S. Syring
DRILLING CONTACTOR/CREW Pacific Soil + Water
METHOD USED Direct Push

SAMPLING METHOD: SPT=STANDARD PENETRATION TEST T=TUBE R=RING

BORING LOG SUMMARY

LOCATION

WEATHER

amec Earth & Environmental

TEST BORING LOG

HOLE NO. MW-4
SHEET 2 OF 2
TOTAL DEPTH 34'
DATE BEGUN 8/15/07
DATE COMPLETED 8/15/07

SAMPLING						GROUNDWATER TABLE	
SAMPLING METHOD	SAMPLE NUMBER	BLOW COUNT	DEPTH SAMPLED	RECOVERY	DEPTH IN FEET	ATD=AT TIME OF DRILLING AB=AFTER BORING	PROJECT NAME Camp Pilot
						DEPTH IN FEET 23.1 bgs AB	PROJECT NUMBER C61M110153
						TIME 1005	GEOLOGIST/ENGINEER S. Syring
						DATE 8/16/07	DRILLING CONTACTOR/CREW PSW
							METHOD USED Direct Push

SAMPLING METHOD: SPT=STANDARD PENETRATION TEST T=TUBE R=RING

DEPTH IN FEET	SOIL DESCRIPTION
20	tan to gray, fine to medium SAND
1	
2	
3	
4	Water table @ ~ 24.6'
5	PID = 0.7
6	
7	
8	
9	
30	PID = 0.7
1	
2	
3	
4	END OF BORING PID = 0.7
5	
6	
7	
8	
9	
40	

BORING LOG SUMMARY

LOCATION

WEATHER

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Earth & Environmental

TEST BORING LOG

HOLE NO.
SHEET OF
TOTAL DEPTH
DATE BEGUN
DATE COMPLETED

SAMPLING

SAMPLING METHOD	SAMPLE NUMBER	BLOW COUNT	DEPTH SAMPLED	RECOVERY	DEPTH IN FEET	SOIL DESCRIPTION
					0	
					1	
					2	
					3	
					4	
					5	
					6	
					7	
					8	
					9	
					0	
					1	
					2	
					3	
					4	
					5	
					6	
					7	
					8	
					9	
					0	

GROUNDWATER TABLE

ATD=AT TIME OF DRILLING AB=AFTER BORING

DEPTH IN FEET
TIME
DATE

PROJECT NAME
PROJECT NUMBER
GEOLOGIST/ENGINEER
DRILLING CONTACTOR/ CREW
METHOD USED

SAMPLING METHOD: SPT=STANDARD PENETRATION TEST T=TUBE R=RING

BORING LOG SUMMARY

AMEC Earth & Environmental, Inc. (Rev. 11/01)

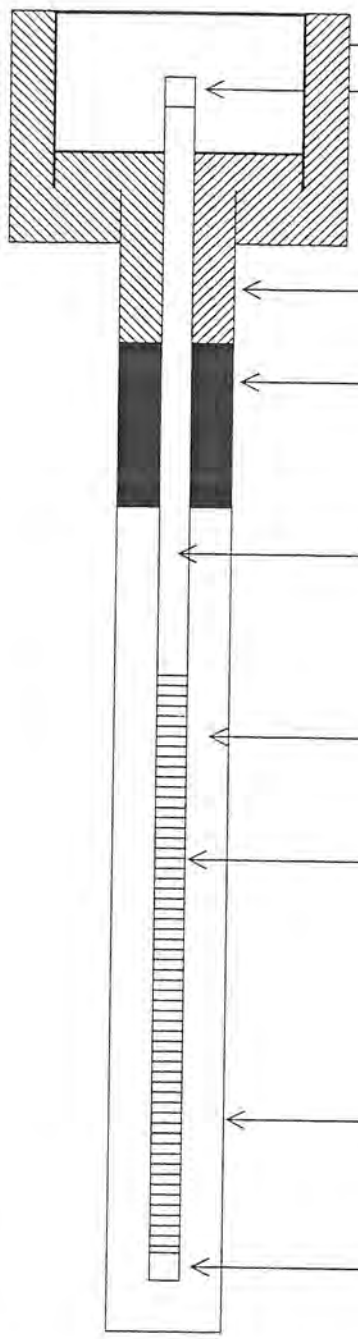
amec
Earth & Environmental

MONITORING WELL AS-BUILT REPORT

LOCATION Camp Pilea
OBSERVED BY S Syring
DRILLER/INSTALLER PSW

PROJECT No. 66/M110153
PROJECT NAME Camp Pilea
BORING/WELL I.D. MW-5
DATE 8/17/07
START CARD#/ WELL TAG I.D.# L89889 → 192638

SOIL TYPE DEPTH



ABOVE GROUND RISER HEIGHT (IF APPLICABLE) 3'
MONUMENT TYPE (IF APPLICABLE)
WELL CAP TYPE

3
~~GROUT TYPE~~/#SACKS concrete to surface

BENTONITE SEAL /#SACKS 1 ~~scack~~ sack granular bentonite, ½ sack medium bentonite chips

22

WELL CASING I.D. 2"
TYPE OF CASING Schedule 40 PVC
TYPE OF CONNECTION threaded w/ o-ring

23

FILTER PACK / SIZE/ #SACKS sand prepack + ~½ sack 10/20 colorado silica sand

WELL SCREEN I.D. 2"
TYPE OF SCREEN Schedule 40 PVC
SLOT SIZE 0.010

DIAMETER OF BOREHOLE 4"

38
ENDCAP TYPE Schedule 40 PVC, flat

REMARKS

LOCATION

WEATHER

amec Earth & Environmental

TEST BORING LOG

HOLE NO. MW-5
SHEET 1 OF 2
TOTAL DEPTH 40
DATE BEGUN 8/16/07
DATE COMPLETED 8/16/07

SAMPLING METHOD	SAMPLE NUMBER	BLOW COUNT	DEPTH SAMPLED	RECOVERY	DEPTH IN FEET	SOIL DESCRIPTION
					0	tan to gray, fine to medium SAND
					1	
					2	
					3	
					4	
					5	PID = 0.1
					6	
					7	
					8	
					9	
					10	PID = 0.3 0.5
					1	
					2	
					3	
					4	
					5	PID = 0.4
					6	
					7	
					8	
					9	
					20	PID = 0.6

SAMPLING

GROUNDWATER TABLE
ATD=AT TIME OF DRILLING AB=AFTER BORING
DEPTH IN FEET 27.9' AB bgs
TIME 1040
DATE 8/17/07

PROJECT NAME Camp Bilar
PROJECT NUMBER 661M110153
GEOLOGIST/ENGINEER S. Syring
DRILLING CONTACTOR/CREW PSW
METHOD USED Direct push

SAMPLING METHOD: SPT=STANDARD PENETRATION TEST T=TUBE R=RING

BORING LOG SUMMARY

LOCATION

WEATHER

amec Earth & Environmental

TEST BORING LOG

HOLE NO. MW-5
SHEET 2 OF 2
TOTAL DEPTH 40'
DATE BEGUN 8/16/07
DATE COMPLETED 8/16/07

SAMPLING METHOD	SAMPLE NUMBER	BLOW COUNT	DEPTH SAMPLED	RECOVERY	DEPTH IN FEET	SOIL DESCRIPTION
					20	tan to gray, fine to medium SAND
					1	
					2	
					3	
					4	
					5	PID=0.7
					6	
					7	
					8	
					9	
					30	PID 0.5, Water level @ ~30' bgs
					1	
					2	
					3	
					4	
					5	PID = 0.5
					6	
					7	
					8	
					9	
					40	END OF BORING PID = 0.1

SAMPLING

GROUNDWATER TABLE
ATD=AT TIME OF DRILLING AB=AFTER BORING
DEPTH IN FEET 30 bgs atd
TIME 935
DATE 8/16/07

PROJECT NAME Camp Pilot
PROJECT NUMBER 661M11015S
GEOLOGIST/ENGINEER S. Syring
DRILLING CONTACTOR/CREW PSW
METHOD USED Direct Push

SAMPLING METHOD: SPT=STANDARD PENETRATION TEST T=TUBE R=RING

BORING LOG SUMMARY

AMEC Earth & Environmental, Inc. (Rev. 11/01)

PHASE II ENVIRONMENTAL BASELINE STUDY

Camp Rilea
33168 Patriot Way
Warrenton, Oregon

Submitted to:

Oregon Military Department
1776 Militia Way Southeast
Salem, Oregon 97301

Submitted by:

AMEC Earth & Environmental, Inc.
7376 SW Durham Road
Portland, Oregon 97224

4-61M-110152

March 2006

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March 24, 2006

4-61M-110152

Mr. James G. Arnold
Oregon Military Department
1776 Militia Way Southeast
Salem, Oregon 97301

Dear Mr. Arnold:

Re: Phase II Environmental Baseline Study
Camp Rilea
33168 Patriot Way, Warrenton, Oregon

AMEC Earth & Environmental, Inc. is pleased to submit this Phase II Environmental Baseline Study to the Oregon Military Department (OMD) for the above-referenced property in Warrenton, Clatsop County, Oregon. The work was conducted following the statement of work provided in the OMD contract NGB3504C3011 and the September 30, 2004 Notice to Proceed.

The attached report describes the results from soil and groundwater investigations conducted at the former burn pit and landfill located at Camp Rilea. The report includes soil boring logs and analytical results from soil and groundwater samples submitted for laboratory analysis.

We appreciate the opportunity to assist you on this project. If you have any questions or desire further information, please feel free to contact us at (503) 639-3400.

Sincerely,

AMEC Earth & Environmental, Inc.

Matthew V. Kohlbecker
Environmental Scientist

Scott Kranz
Senior Project Manager

Attachments

MVK/jlm

AMEC Earth & Environmental, Inc.
7376 SW Durham Road
Portland, Oregon
USA 97224
Tel +1 (503) 639-3400
Fax +1 (503) 620-7892

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EXECUTIVE SUMMARY

This report summarizes the findings of the Phase II Environmental Baseline Study (EBS) conducted by AMEC Earth & Environmental, Inc. (AMEC) at the former burn pit and landfill located at Camp Rilea, 33168 Patriot Way in Warrenton, Clatsop County, Oregon (Site). This Phase II EBS was conducted to evaluate Recognized Environmental Conditions (RECs) at the former burn pit and landfill areas identified in a report entitled "Site Assessment Survey No. 38-EH-1332b-01, Camp Rilea, Warrenton, Clatsop County, Oregon, 10 and 25 September 2001," prepared by the U.S. Army Center for Health Promotion and Preventative Medicine (USACHPPM, 2001).

Soil and Groundwater Sampling: Soil and groundwater sampling were conducted to estimate the lateral and vertical extent of the former burn pit and landfill areas and to determine if any human health or ecological impacts to soil and groundwater are present. Groundwater samples were collected at the former burn pit and landfill areas with a direct-push drilling rig, and soil samples were collected with a direct-push drilling rig, hand auger, or backhoe. Field activities were conducted on August 23 and 24, 2005, and on September 19 and 20, 2005.

Two groundwater samples and twelve soil samples were collected from ten borings at the former burn pit. Five groundwater samples and four soil samples were collected from twenty-eight borings and four test pits at the former landfill.

Chemical Analysis: Soil samples collected at the burn pit were analyzed for petroleum hydrocarbons, polychlorinated biphenyls (PCBs), volatile organic compounds (VOCs), semi volatile organic compounds (SVOCs), Resource Conservation and Recovery Act (RCRA) metals, and explosives. Petroleum hydrocarbons, PCBs, VOCs, SVOCs, and explosives were not detected in soil at the burn pit. Arsenic and lead were detected at concentrations greater than the Oregon Department of Environmental Quality (DEQ) Default Background Concentrations and Environmental Protection Agency (EPA) Region 9 Preliminary Remedial Goals (PRGs) for industrial soil. Groundwater samples at the burn pit were analyzed for RCRA metals, VOCs, and SVOCs. Arsenic was detected at a concentration greater than the EPA Maximum Contaminant Levels (MCLs) at one location. VOCs and SVOCs were not detected in groundwater at the burn pit.

Soil samples at the landfill were analyzed for RCRA metals, explosives, VOCs, and SVOCs. RCRA metals were not detected at concentrations greater than the DEQ Default Background Concentrations and EPA Region 9 PRGs for industrial soil. Explosives and SVOCs were not detected in soil at the landfill. Groundwater samples

at the landfill were analyzed for RCRA metals and VOCs. Arsenic was detected at a concentration above EPA MCLs. The VOCs trichloroethene (TCE), tetrachloroethene (PCE), and 1,1,2,2-Tetrachloroethane were detected in groundwater. The concentration of TCE was greater than EPA MCLs.

Conclusions and Recommendations: The burn pit has an aerial extent of approximately 1,500 square feet and reaches a maximum thickness of 3 feet (Figure 3). The concentration of arsenic in groundwater exceeded EPA MCLs in one location. Landfill material was observed primarily in the parking area for the MARF Range Maintenance shop. The landfill has an aerial extent of approximately 4,000 square feet and reaches a maximum depth of approximately 6 feet (Figure 4). Groundwater at the landfill is impacted by arsenic and TCE above EPA MCLs.

The conclusions of the Phase II EBS were used to develop the following recommendations that would limit potential exposure to human and ecological receptors. Burn pit material should be removed and disposed at an approved landfill. If necessary, clean fill could be placed in the excavation. At the landfill area, an asphalt pavement should be applied to the parking area to prevent exposure of the landfill material to human and ecological receptors and to prevent potential leaching from the landfill material. A monitoring well network should be installed to determine the groundwater flow direction and to assess the lateral extent of VOCs in groundwater. Four quarters of groundwater monitoring should be adequate to characterize seasonal variability. The results of the quarterly groundwater monitoring should be used to evaluate potential human health and ecologic risk associated with VOCs and arsenic in the former landfill area.

The preceding executive summary is intended for introductory and reference use. A complete reading of this report is recommended.

1.0 INTRODUCTION

AMEC Earth & Environmental, Inc. (AMEC) performed a Phase II Environmental Baseline Study (EBS) for the Oregon Military Department (OMD) at the former burn pit and landfill areas of Camp Rilea, located at 33168 Patriot Way in Warrenton, Oregon (Figure 1). The purpose of the Phase II EBS was to evaluate the Recognized Environmental Conditions (RECs) identified at the former burn pit and landfill (USACHPPM, 2001). The results of the soil and groundwater samples will be used to identify necessary steps and alternatives for obtaining a No Further Action (NFA) determination for the site from the Oregon Department of Environmental Quality (DEQ).

2.0 SITE DESCRIPTION

Camp Rilea encompasses approximately 1,850 acres and consists of a cantonment area that houses several buildings and structures, training and range areas, and a sewage treatment and spray irrigation area. Camp Rilea is bordered to the west by the Pacific Ocean, to the north by private residences, to the east by U.S. Route 101, and to the south by agricultural land and the Astoria County Club and Golf Course. Camp Rilea has been utilized as a military training facility from the time it was originally established as Camp Clatsop in 1927.

Camp Rilea is in the Oregon coast climate zone and receives an average of 86 inches of precipitation each year, with the majority occurring during the winter months (OCS, 2005). The landscape at Camp Rilea consists of north-south trending sand dunes and lakes. Ground surface elevations range from sea level to 75 feet above sea level, and the dunes are covered with vegetation, including shore pine forest and low-lying grasses.

The areas of concern at Camp Rilea include (Figure 2):

- **Former Landfill.** The former landfill is located near the top of a sand dune west of the obstacle course at the end of NBC Road. The landfill reportedly received waste from the general public and Camp Rilea personnel. The landfill was closed in the late 1980s. Trichloroethene (TCE) was detected in one groundwater sample at a concentration of 6.2 micrograms per liter (µg/L), greater than the Environmental Protection Agency (EPA) Maximum Contaminant Limit (MCL) of 5 µg/L during previous investigations (USACHPPM, 2001).

- **Former Burn Pit.** The former burn pit is located on First Causeway Road, approximately 700 feet south of the former landfill. The burn pit was used to reduce the volume of solid waste entering an off-post landfill after the Camp Rilea landfill closed in the 1980s. Anecdotal information suggests wood, paper, landscaping waste, used oils and solvents, and metals may have been incinerated at the burn pit. The results from previous investigations indicate arsenic, barium, cadmium, chromium, lead, and silver were detected at concentrations above background, and lead was detected in one sample at a concentration exceeding the toxicity characteristic leaching procedure (TCLP) maximum allowable concentration. Topography at the burn pit suggests groundwater flows west, towards an interdunal area.

3.0 REGULATORY SETTING

Regulatory cleanup levels and background concentrations are provided in this report to provide context for soil and groundwater analytical results. Cleanup levels and background concentrations may change due to site-specific conditions.

EPA PRGs

EPA Preliminary Remedial Goals (PRGs) are limits for constituents in soil, groundwater, and air determined for hypothetical exposure pathways, including direct contact (i.e., with residential soil, industrial soil, ambient air, and tap water) and migration of contamination from soil to water (EPA, 2004). Typically, a different limit is established for each pathway, and the strictest limit among the pathways is used as the EPA PRG. EPA PRGs are preliminary screening tools for soil and groundwater that may change due to site-specific conditions. The PRGs are provided as guidance only and do not represent actual site specific remediation goals.

EPA MCLs

EPA MCLs are legally enforceable limits for concentrations of constituents in drinking water (EPA, 2002). EPA MCLs are used by DEQ to determine, for example, whether an NFA determination is appropriate at a site.

DEQ Default Background Concentrations for Metals

Metals occur naturally in water, soil, and sediment. The naturally-occurring concentration of a metal is its background level, and the DEQ provides Default Background Concentrations for Metals for the state of Oregon (DEQ, 2002). The DEQ Default Background Concentrations for Metals are used to evaluate whether metals

concentrations at a site are consistent with average background levels in the State of Oregon or may have derived from anthropogenic sources.

4.0 FIELD SAMPLING AND LABORATORY METHODOLOGY

Prior to the subsurface investigation, a site-specific health and safety plan was prepared to cover all AMEC employees, as required by federal and state Occupational Safety and Health Administration (OSHA) regulations. A public utility locate was completed at the Camp Rilea gate. Underground utilities at Camp Rilea were located by OMD employee Ken Klee, who indicated that utilities were outside of the investigation area and marked the nearest utilities.

AMEC personnel conducted a short safety meeting each day with the subcontracted drilling team to discuss any physical or chemical hazards and field activities. Soil and groundwater samples were collected with a direct-push drilling rig, hand auger, and backhoe.

4.1 Soil and Groundwater Sampling Methods

AMEC contracted with Boart Longyear, Inc. (Tualatin, Oregon) to provide direct-push drilling services. The direct-push sampling technique involved advancing a hollow rod into the subsurface using a truck-mounted percussion hammer. Soil samples were collected at discrete-depth intervals, soil conditions permitting, by hand-transferring soil from the core barrel into a sample jar with a clean nitrile glove. Groundwater samples were collected from first-encountered water through a 4-foot long wire mesh screen using dedicated polyethylene tubing. The screen was decontaminated with a pressure washer between each groundwater sample. Groundwater was purged with a peristaltic pump for 5 minutes prior to collecting the sample. Groundwater samples analyzed for semi-volatile organic compounds (SVOCs) and Resource Conservation and Recovery Act (RCRA) metals were collected with a peristaltic pump. Groundwater samples analyzed for volatile organic compounds (VOCs) were collected using dedicated tubing and a check valve.

Hand augering was conducted with a 2-inch diameter stainless steel hand auger. The hand auger was decontaminated with de-ionized water and alconox detergent between each boring. Soil samples were collected by hand-transferring soil from the hand auger core barrel into the sample jar with a clean nitrile glove. Care was taken to collect the soil from the central portion of the core barrel to avoid cross-contamination from material on the sides of the core barrel.

Test pits were excavated with a backhoe owned and operated by Camp Rilea. Soil samples were collected by hand-transferring soil from the hoe bucket into the sample jar with a clean nitrile glove. Soil samples from the test pits were collected from the central portion of the backhoe to avoid cross-contamination from material on the sides of the backhoe.

4.2 Burn Pit Sampling and Laboratory Analysis

AMEC conducted field activities at the burn pit on September 19 and 20, 2005. The burn pit delineation involved qualitative description of soil samples, and collecting soil and groundwater samples for laboratory analysis. The burn pit investigation consisted of 10 borings, labeled A1-BP-08 through A1-BP-17, with locations identified in Figure 3. The soil sample at boring A1-BP-14 and groundwater samples at borings A1-BP-08 and A1-BP-09 were collected using direct-push drilling methods. Soil samples at all other borings were collected with a hand auger.

Burn Pit Soil Analytical Testing

At least two soil samples were collected for laboratory analysis at each soil boring, from different depth horizons. Sample depths and the chemical analyses performed on the soil samples are listed in Table 1. Boring logs noting the types of soils encountered, depths to groundwater, sampling depths, and laboratory testing methods are included in Appendix A. Soil samples were collected in airtight, laboratory-supplied, teflon-sealed glass containers. Samples were analyzed for one or more of the following:

- Hydrocarbon Identification by Northwest Total Petroleum Hydrocarbons Methods (NWTPH),
- Total RCRA metals by EPA Methods 6010B, 7470, and 7471,
- VOCs by EPA Method 8260B,
- SVOCs by EPA Method 8270C,
- Polychlorinated Biphenyls (PCBs) by EPA Method 8082, and
- Explosives by EPA Method 8330.

Burn Pit Groundwater Analytical Testing

Groundwater samples for SVOCs analysis were collected in unpreserved 1 liter (L) amber bottles. Groundwater samples for VOC analysis were collected in hydrochloric acid preserved 40 milliliter (mL) volatile organic analysis (VOA) vials. Groundwater

samples for RCRA metals analysis were collected in nitric acid preserved 250 mL polyethylene bottles. Groundwater samples were collected in the appropriate laboratory-supplied containers and analyzed for one or more of the following:

- Total RCRA metals by EPA Methods 6010B, 7470, and 7471,
- VOCs by EPA Method 8260B, and
- SVOCs by EPA Method 8270C.

4.3 Landfill Sampling and Laboratory Analysis

AMEC conducted drilling activities at the landfill on August 23 and 24, 2005; test pits and additional drilling were conducted on September 19 and 20, 2005. The landfill investigation consisted of 28 borings and 4 test pits. All borings were used for landfill delineation, and soil or groundwater samples were collected at borings A1-LF-07, A1-LF-08, A1-LF-12, LFEXT-05, and LFEXT-21 and test pits TP-3 and TP-4, and submitted to a laboratory for analysis. Groundwater samples and soil samples at borings A1-LF-07, A1-LF-08, A1-LF-12, LFEXT-05, and LFEXT-21 were collected using direct-push drilling methods. Soil samples at test pits TP-3 and TP-4 were collected with a backhoe, and the groundwater sample at test pit TP-3 was collected using direct-push drilling methods. Sample depths and analyses at each boring are provided in Table 2, and sample locations are shown on Figure 4.

Soil Analytical Testing

Soil samples were collected in airtight, laboratory-supplied, teflon-sealed glass containers. Samples were analyzed at Severn Trent Laboratories ([STL], Seattle, Washington) or North Creek Analytical ([NCA], Beaverton, Oregon) for one or more of the following:

- Total RCRA metals by EPA Methods 6010B, 7470, and 7471,
- Explosives by EPA Method 8330,
- VOCs by EPA Method 8260B, and
- SVOCs by EPA Method 8270C.

Groundwater Analytical Testing

Groundwater samples for RCRA metals were collected in nitric acid preserved 250 mL polyethylene bottles. Groundwater samples for VOC analysis were collected in hydrochloric acid preserved 40 mL VOA vials. Groundwater samples were collected in

the appropriate laboratory-supplied containers and analyzed at STL or NCA for one or more of the following:

- Total RCRA metals by EPA Methods 6010B, 7470, and 7471, and
- VOCs by EPA Method 8260B.

5.0 INVESTIGATION RESULTS

5.1 Burn Pit Investigation Results

Twelve soil samples and two groundwater samples were collected at the burn pit and submitted to NCA for analysis. Following delineation of the burn pit, soil samples were collected in the north, south, west, east, and central areas of the burn pit and groundwater samples were collected at the upgradient and downgradient edges of the burn pit. Soil and groundwater samples were placed in an ice-chilled cooler and were transported to the laboratory under chain-of-custody procedures. Laboratory reports and chain-of-custody documents are provided in Appendix B.

All soil and groundwater samples were analyzed within their holding times. The temperature blank sample submitted to NCA was 5.9 degrees Celsius, which is within the range of acceptable sample storage temperatures for EPA sampling protocol requirements (i.e., 4 degrees Celsius $^{+}$/- 2 degrees Celsius) (EPA, 2005).

Analytical results were reviewed for qualifiers, which describe limitations on the quality of an analytical result for a soil or groundwater sample. Qualifiers indicated that surrogate recovery was outside of control limits due to matrix interference in samples A1-BP-14-SO-02 and A1-BP-14-SO-04, and that bis(2-ethylhexyl)phthalate was detected in a lab blank at a concentration of 755 µg/L. Since bis(2-ethylhexyl)phthalate was not detected in any samples, the detection does not affect data quality.

5.1.1 Burn Pit Extent

Subsurface conditions generally were uniform at the burn pit and consisted of well-sorted fine sand with less than 5% silt. Groundwater was encountered at approximately 26 feet below ground surface (bgs). The burn pit was delineated by noting the presence or absence of ash, charred wood, metal debris, and/or refuse in soils from hand auger and direct-push borings. Burn pit material was observed in borings A1-BP-10, A1-BP-11, A1-BP-12, A1-BP-13, and A1-BP-14.

The aerial extent of the burn pit is identified in Figure 3, and photos of the burn pit delineation are included in Appendix C (Photos 1 - 4). The burn pit is circular in shape and extends approximately 30 feet in the east-west direction and 25 feet in the north-south direction. The north side of the burn pit abuts a hill, which is the northern boundary of the burn pit (Appendix C, Photo 3). The thickest point in the burn pit is 3.0 feet at borings A1-BP-14, located in the center of the burn pit, and A1-BP-12, located at the eastern edge of the burn pit. The thickness of the burn pit and material encountered at each boring are shown in Table 3.

5.1.2 Burn Pit Soil Analytical Results

Petroleum hydrocarbons, PCBs, VOCs, SVOCs, and explosives were not detected above method reporting limits in soils at the burn pit. Arsenic (1.81 to 1,700 milligrams per kilogram [mg/kg]), barium (17.8 to 2,380 mg/kg), cadmium (4.06 mg/kg), total chromium (8.82 to 247 mg/kg), lead (6.82 to 1,180 mg/kg), silver (0.681 to 0.691 mg/kg), and mercury (0.225 mg/kg) were detected in soil at the burn pit.

Lead was detected above DEQ Default Background Concentrations for Metals and EPA Region 9 PRGs for industrial soil at boring A1-BP-14, located in the center of the burn pit. Arsenic was detected above DEQ Default Background Concentrations for Metals and EPA Region 9 PRGs for industrial soil at borings A1-BP-10, A1-BP-13, and A1-BP-14, located in the western, northern, and central portions of the burn pit, respectively. Soil analytical results and regulatory screening levels are presented in Table 4. Soil analytical results are displayed graphically in Figure 5.

5.1.3 Burn Pit Groundwater Analytical Results

Lead (6.42 to 8.83 µg/L), barium (64.9 to 81.6 µg/L), and total chromium (18.0 to 23.0 µg/L) were detected in groundwater at concentrations below EPA MCLs. Arsenic (12.1 µg/L) was detected in groundwater above EPA MCLs at sample location A1-BP-09 (12.1 µg/L), on the upgradient side of the burn pit, and below EPA MCLs at sample location A1-BP-08 (8.09 to 9.20 µg/L), on the downgradient side of the burn pit. Arsenic concentrations in groundwater on the upgradient and downgradient sides of the burn pit are similar; therefore, arsenic in groundwater at the burn pit can be attributed to naturally-occurring arsenic on suspended sediment in the water samples. A listing of groundwater analytical results and regulatory screening levels are presented in Table 5. Groundwater analytical results are displayed graphically in Figure 6.

5.2 Landfill Investigation Results

Five groundwater samples and four soil samples were collected and submitted to the laboratory for analysis. Soil and groundwater samples were collected beneath areas of landfill debris. Soil samples were immediately placed in an ice-chilled cooler and were transported under chain-of-custody procedures to STL. The analysis run on each sample is listed in Table 2, and laboratory reports and chain-of-custody documents are provided in Appendix B.

All soil and groundwater samples were analyzed within their holding time. Analytical results were reviewed for qualifiers which may limit the quality of an analytic result for soil or groundwater. Methylene chloride was detected in a lab blank at a concentration of 755 µg/L; methylene chloride was also detected in soil and groundwater samples at concentrations lower than the concentration in the lab blank. No other significant flags were attached to soil and groundwater samples at the landfill.

5.2.1 Landfill Extent

Subsurface conditions during drilling generally were uniform at the landfill and consisted of well sorted fine sand less than 5% silt. Groundwater was encountered at approximately 30 feet bgs. Boring logs noting the types of soils encountered, depths to groundwater, sampling depths, and laboratory testing methods are included in Appendix A.

The landfill was delineated by noting the presence or absence of debris in 4 test pits and 28 geoprobe borings. Debris in test pits and borings included wood, metal (i.e., rods, vehicle bumpers), glass, tires, clothing, a fishing net, and a single crushed 5-gallon drum.

Borings, test pits, and the types of debris at each sampling location are shown in Figure 4. The landfill is located primarily in the parking area of the MARF Range Maintenance shop. The landfill material was observed at depths in Test Pit TP-3 (Appendix C, Photos 5 and 6). The landfill encompassed an area of approximately 4,000 square feet, and the approximate landfill boundary is shown in Figure 4. A small amount of trash observed at borings LFEXT-1, LFEXT-2, LFEXT-3, and LFEXT-4 near ground surface is likely associated with landfill material moved during construction of the MARF Range Maintenance shop. The trash found near the ground surface was not disposed of at that location and was not used to delineate the landfill boundary.

5.2.2 Landfill Soil Analytical Results

SVOCs and explosives were not detected above method reporting limits in soils at the landfill. RCRA metals cadmium, selenium, and silver were not detected in soil at the landfill. RCRA metals arsenic (non-detect [ND] to 2.35 mg/kg), barium (27.4 to 170 mg/kg), chromium (8.68 to 33.9 mg/kg); and lead (1.47 to 766 mg/kg) were detected in soil at the landfill.

A listing of soil analytical results at the landfill, and regulatory screening levels are presented in Table 6.

5.2.3 Landfill Groundwater Analytical Results

RCRA metals cadmium, selenium, silver, and mercury were not detected above method reporting limits in groundwater at the landfill. RCRA metals arsenic (ND to 24 µg/L), barium (86.3 to 323 µg/L), chromium (131 to 452 µg/L), and lead (7.85 to 40.9 µg/L) were detected in groundwater at the landfill. Arsenic concentrations were above EPA MCLs at borings LFEXT-08, LFEXT-21, A1LF-07, and TP-3.

VOCs trichloroethene (TCE) (0.139 to 7.48 µg/L, tetrachloroethene (PCE) (0.247 to 1.49 µg/L), and 1,1,2,2-Tetrachloroethane (ND to 2.59 µg/L) were detected in groundwater at the landfill. Concentrations of TCE exceeded EPA MCLs at two locations.

A listing of groundwater analytical results at the landfill, and regulatory screening levels is presented in Table 7. Groundwater analytical results are displayed graphically in Figure 7.

6.0 CONCLUSIONS AND RECOMMENDATIONS

The results from soil boring and laboratory analysis were used to evaluate potential exposure to human and ecological receptors. The results of the Phase II EBS were used to develop the following conclusions and recommendations:

- The burn pit has an aerial extent of approximately 1,500 square feet and reaches a maximum thickness of 3 feet (Figure 5). Lead and arsenic were detected in soil at concentrations greater than DEQ Default Background Concentrations for Metals and EPA Region 9 PRGs for industrial soil. The concentration of arsenic in groundwater exceeded EPA MCLs in one location.

- The landfill has an aerial extent of approximately 4,000 square feet and reaches a maximum depth of approximately 6 feet (Figure 4). Soil at the landfill is not impacted with SVOCs, VOCs, Explosives, or RCRA metals above EPA Region 9 PRGs for industrial soil. Arsenic and TCE were detected in groundwater at concentrations greater than EPA MCLs.

The conclusions of the Phase II EBS were used to develop the following additional work recommendations:

- Burn pit material should be removed and disposed at an approved landfill. If necessary, clean fill could be placed in the excavation.
- At the landfill area, a monitoring well network should be installed to determine the groundwater flow direction and to assess the lateral extent of VOCs in groundwater. Four quarters of groundwater monitoring should be adequate to characterize seasonal variability.
- The results of the quarterly groundwater monitoring should be used to evaluate potential human health and ecologic risk associated with VOCs and arsenic in the former landfill area.
- Landfill material was observed primarily in the parking area for the MARF Range Maintenance shop. An asphalt pavement applied to the parking area would prevent exposure of the landfill material to human and ecological receptors and prevent potential leaching from the landfill material.

Additional Work

AMEC recommends additional work at the former burn pit and landfill; the goal of the additional work is to obtain NFA letters from the DEQ.

<u>Burn Pit</u>

Concentrations of lead and arsenic in soil at the burn pit exceed DEQ Default Background Concentrations for Metals and EPA Region 9 PRGs for industrial soil. Because the soil is exposed at the ground surface, the exceedances of lead and arsenic have the potential to adversely affect human health and the environment.

AMEC recommends that burn pit soil be removed and transported to an appropriate landfill for disposal. Soil samples will be collected from the cavity and analyzed for RCRA metals in order to evaluate whether soil exceeding DEQ Default Background Concentrations for Metals and EPA Region 9 PRGs for industrial soil has been removed. Finally, the burn pit cavity will be backfilled.

Landfill

Concentrations of arsenic and TCE in groundwater at the landfill exceed EPA MCLs. The shallow groundwater flow direction should be determined in order to evaluate whether arsenic and TCE in groundwater at the landfill are threats to human health and the environment. Asphalt pavement could be applied to the parking lot area to prevent exposure of the landfill material to human and ecological receptors and prevent leaching from landfill material.

AMEC recommends that temporary monitoring wells be installed at the landfill. The monitoring wells will be approximately 45 feet deep, screened in first-encountered groundwater, and installed by a geoprobe drilling rig. Groundwater samples should be collected from the monitoring wells quarterly and analyzed for VOCs and RCRA metals. The groundwater flow direction, coupled with concentrations of VOCs and RCRA metals in groundwater, will allow AMEC to assess the potential of contamination from the landfill to migrate off-site and the threat to human health and the environment.

We appreciate the opportunity to be of service to OMD on this project. If you have any questions or comments regarding this report, please contact the undersigned at (503) 639-3400.

AMEC Earth & Environmental, Inc.

Matthew V. Kohlbecker
Environmental Scientist

Scott Kranz
Senior Project Manager

MVK/jlm

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USACHPPM, 2001, Site Assessment Survey No. 38-EH-1332b-01, Camp Rilea, Warrenton, Clatsop County, Oregon, 10 and 25 September 2001.

LIMITATIONS

This report was prepared exclusively for Oregon Military Department, by AMEC Earth & Environmental, Inc. The quality of information, conclusions and estimates contained herein is consistent with the level of effort involved in AMEC services and based on: i) information available at the time of preparation, ii) data supplied by outside sources, and iii) the assumptions, conditions and qualifications set forth in this report.

The findings contained herein are relevant to the dates of the AMEC Site visit and should not be relied upon to represent conditions later. In the event that changes in the nature, usage, or layout of the property or nearby properties are made, the conclusions contained in this report may not be valid. If additional information becomes available, it should be provided to AMEC so the original conclusions can be modified as necessary.

AMEC services have been performed in accordance with the normal and reasonable standard of care exercised by similar professionals performing services under similar conditions and geographic locations. Except for our stated standard of care, no other warranties or guarantees are offered as part of AMEC's contracted services.

The purpose of an environmental baseline study is to reasonably evaluate the potential for adverse impact from past practices at a given property or neighboring properties. In performing an environmental baseline study, it is understood that a balance must be struck between a reasonable inquiry into the environmental issues and an exhaustive analysis of each conceivable issue of potential concern. The professional opinions in this report are based in part on the interpretation of data from discrete sampling locations that may not represent conditions at unsampled locations.

Finally, it should be noted that no subsurface exploration can be thorough enough to exclude the possible presence of hazardous materials or wastes at a given site. In cases where contaminants have not been discovered through exploration, this should not be construed as a guarantee that contaminants do not exist. At a given site, environmental conditions may exist that cannot be identified by visual observation. Where sample collection and testing have been performed, AMEC's professional opinions are based in part on the interpretation of data from discrete sampling locations that may not represent conditions at unsampled locations.

FIGURES

ROAD CLASSIFICATION

- Heavy-duty
- Medium-duty
- Light-duty
- Unimproved dirt

- U.S. Route
- State Route
- Interstate Route

WARRENTON, OREG.-WASH.

46123-B8-TB-024
1953
PHOTOREVISED 1984
BATHYMETRY ADDED 1984
DMA 1276 III NW - SERIES V892

QUADRANGLE LOCATION

N

1 1/2 0 1 MILE

1000 0 1000 3000 6000 7000 FEET

FIGURE 1

amec

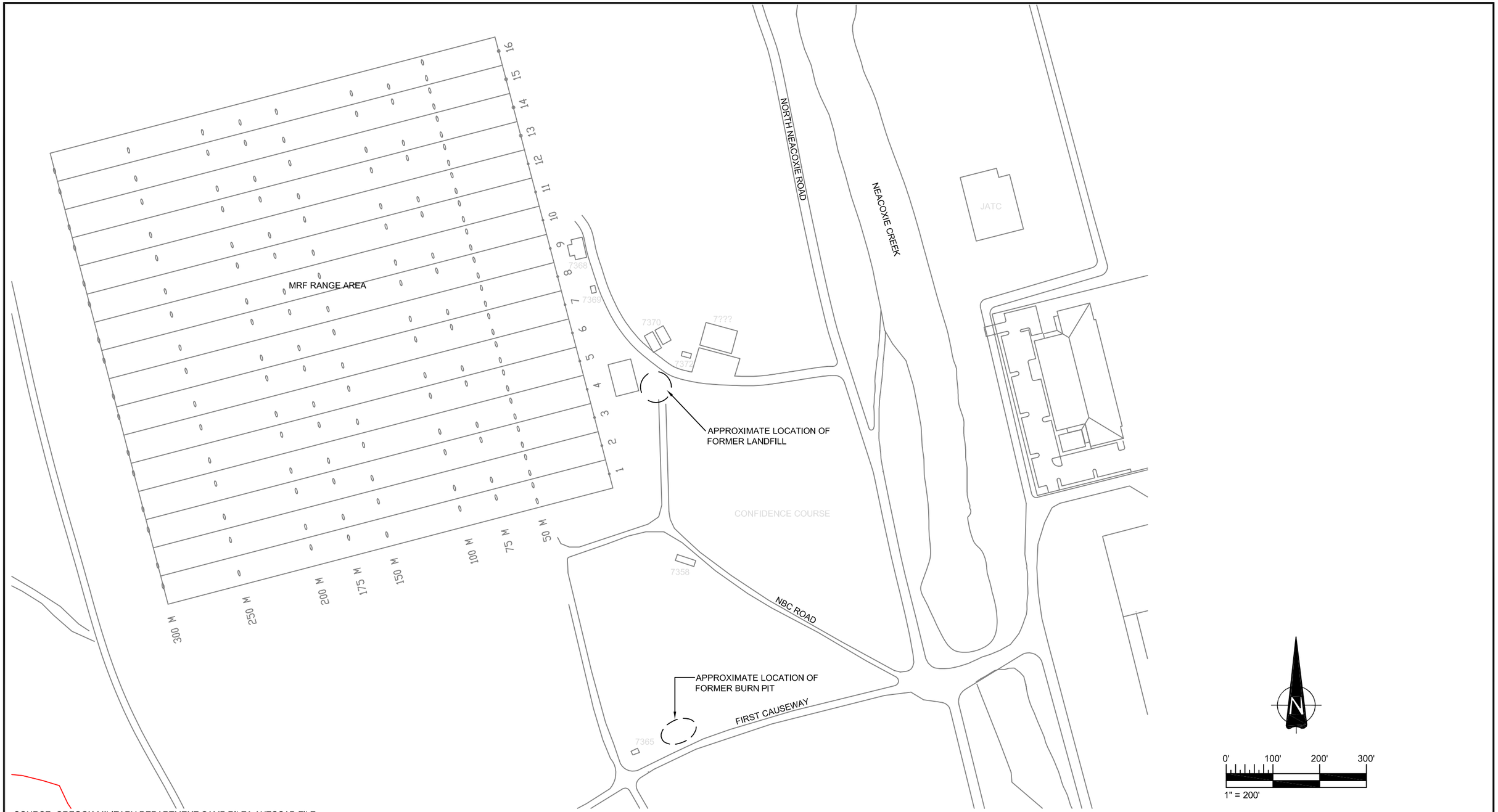
7376 S.W. Durham Road
Portland, OR, U.S.A. 97224

W.O.	4-61M-11015-2
DESIGN	AH
DRAWN	DD
DATE	MARCH 2006
SCALE	AS NOTED

CAMP RILEA
33168 PATRIOT WAY
WARRENTON, OREGON

SITE LOCATION MAP

K:\11000\11000\11015\Phase II\dwg\FIG-1 Site Loc.dwg – Layout1 – Mar. 24, 2006 2:21pm – doug.davis

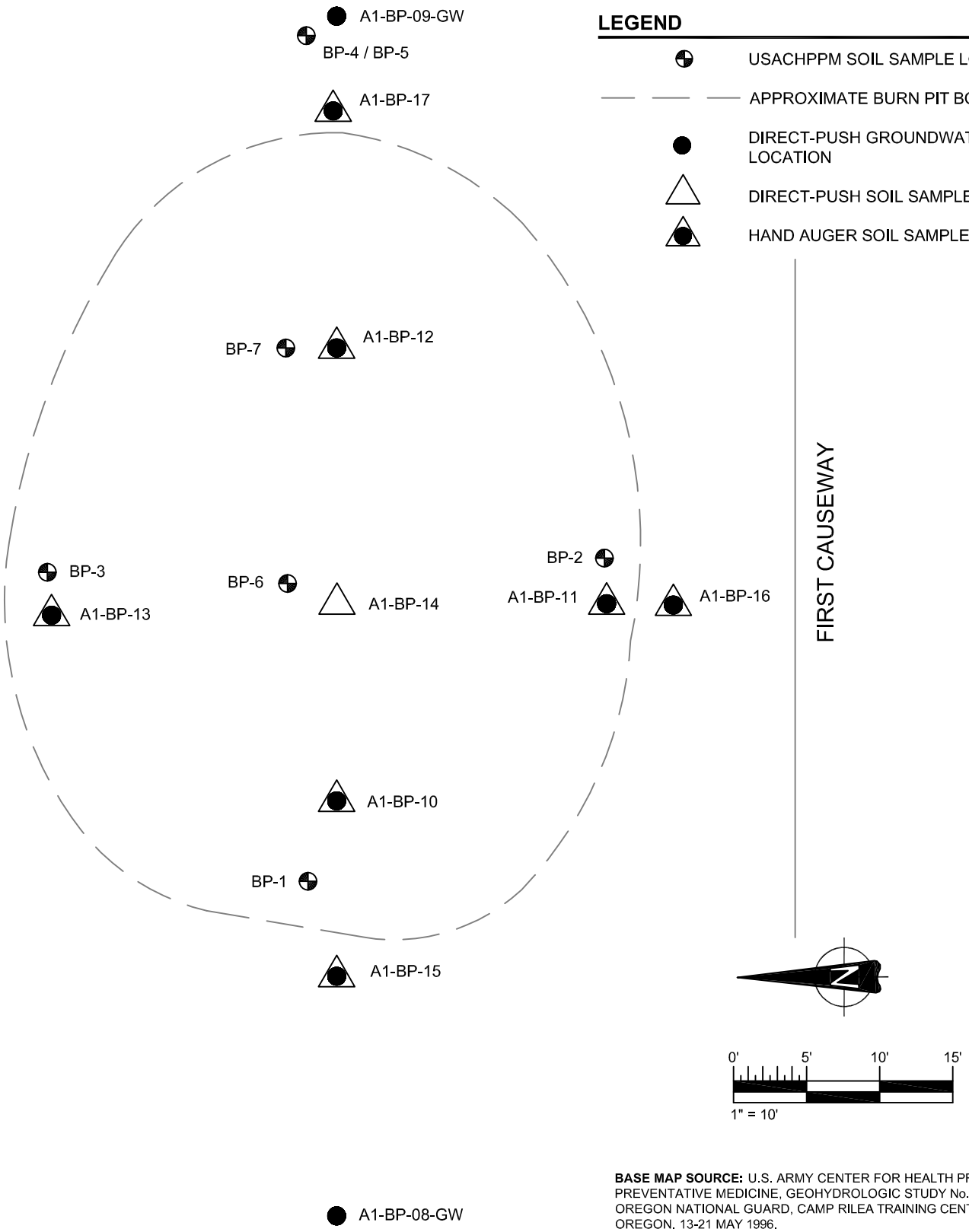


SOURCE: OREGON MILITARY DEPARTMENT CAMP RILEA AUTOCAD FILE

NOTE: THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE AMEC EARTH & ENVIRONMENTAL REPORT No. 4-61M-110152 DATED MARCH 17, 2006.

CLIENT: CAMP RILEA 33168 PATRIOT WAY WARRENTON, OREGON	DWN BY: DD CHK'D BY: MK DATUM: - PROJECTION: - SCALE: 1" = 200'	PROJECT: CAMP RILEA	DATE: MARCH 2006 PROJECT NO: 4-61M-11015-2 (F)
AMEC Earth & Environmental 7376 S.W. Durham Road Portland, OR. U.S.A. 97224		TITLE: STUDY AREA LOCATION	REV. NO.: - FIGURE No. 2

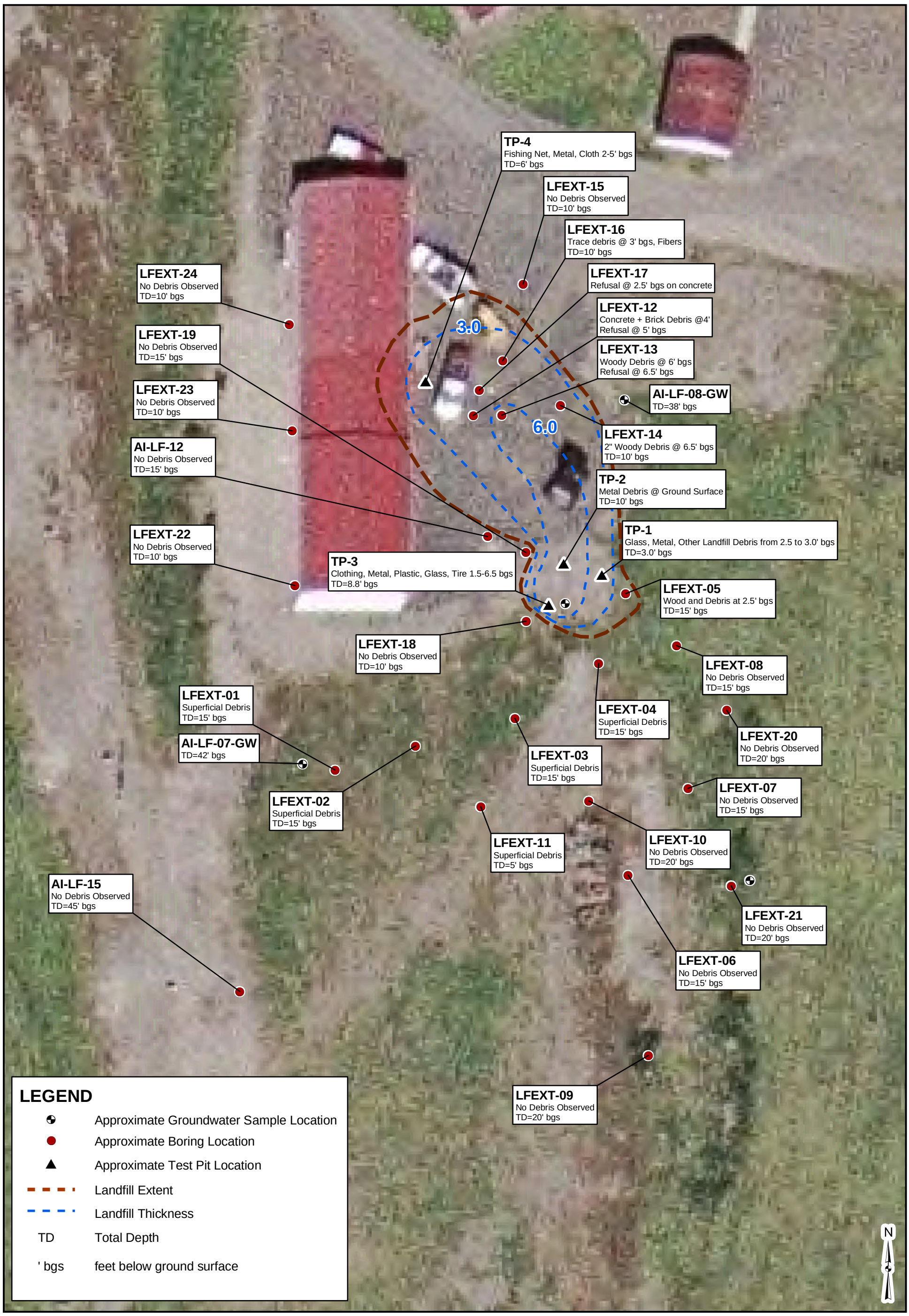
K:\11000\11000\11015\Report\DWG\FIG-2 STUDY AREA LOC.dwg – Layout1 – Mar. 15, 2006 3:44pm – matthew.kohlbecker



BASE MAP SOURCE: U.S. ARMY CENTER FOR HEALTH PROMOTION AND PREVENTATIVE MEDICINE, GEOHYDROLOGIC STUDY No. 38-EH-4247-96, OREGON NATIONAL GUARD, CAMP RILEA TRAINING CENTER, OREGON. 13-21 MAY 1996.

AMEC Earth & Environmental 7376 S.W. Durham Road Portland OR. U.S.A. 97224	amec		CLIENT CAMP RILEA 33168 PATRIOT WAY WARRENTON, OREGON
PROJECT CAMP RILEA	DWN BY: DD	DATUM: -	DATE: MARCH 2006
TITLE FORMER BURN PIT AREA SAMPLE LOCATIONS	CHK'D BY: MK	REV. NO.: -	PROJECT NO: 4-61M-11015-2 (F)
	PROJECTION: -	SCALE: 1" = 10'	FIGURE No. 3

K:\11000\11000\11015\Report\DWG\FIGURE 3 SAMPLE LOCATIONS.dwg – Layout1 – Mar. 23, 2006 10:23am – matthew.kohlbecker



2004 Aerial photo from **Oregon Military Department**.

0 12.5 25 50 Feet

1 inch equals 25 feet

FIGURE 4

amec

7376 SW Durham Road
Portland, OR, U.S.A. 97224

W.O.	4-61M110152 (F)
DESIGN	SK / MK
DRAWN	BRJ/LM
DATE	MARCH 2006

CAMP RILEA

SAMPLE LOCATIONS AND VISUAL OBSERVATIONS
FORMER LANDFILL

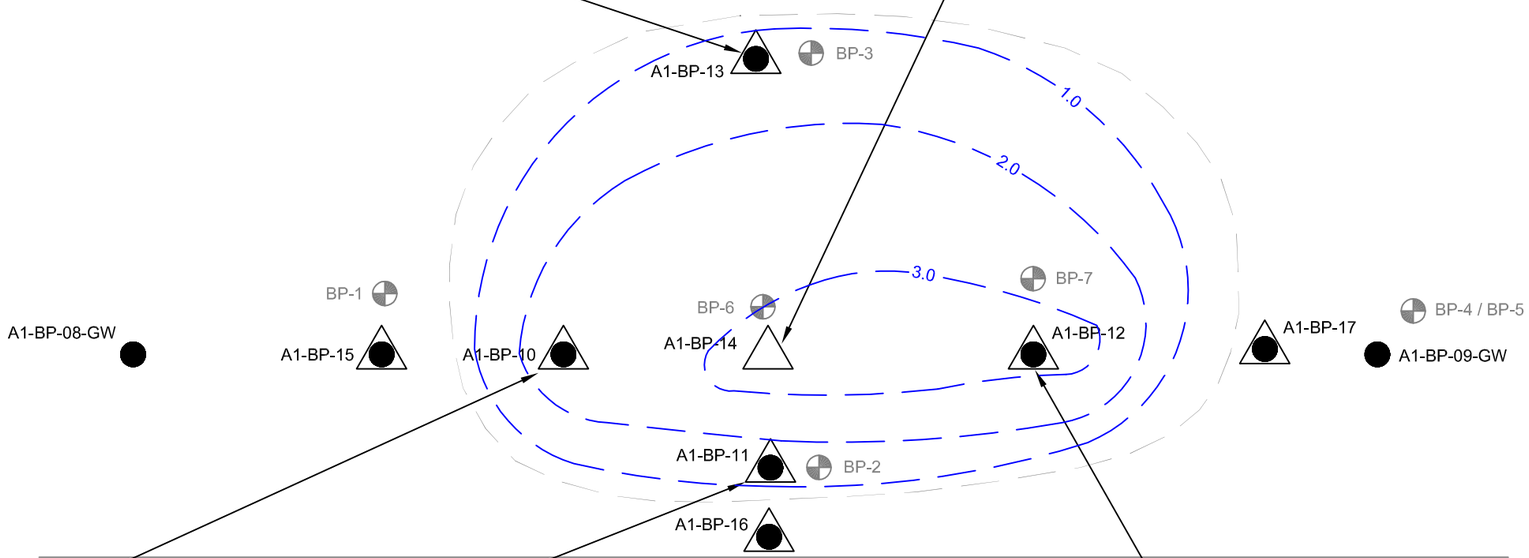
K:\11000\11000\11015\Report\DWG\Visual observations former landfill--FIG 4.mxd

A1-BP-13
THICKNESS = 1.5 FEET

	0 to 1 feet bgs	1 to 2 feet bgs
Arsenic	7.67	4.46
Barium	68.1	39.9
Cadmium	<0.508	<0.510
Total Chromium	8.36	8.82
Lead	6.82	31.0
Selenium	<0.508	<0.510
Silver	<0.508	<0.510
Total Mercury	<0.0978	<0.0644
PCBs	ND	- - - -
VOCs	- - - -	ND
SVOCs	ND	ND
Explosives	ND	ND

A1-BP-14
THICKNESS = 3.0 FEET

	0 to 1 feet bgs	1 to 2 feet bgs	2 to 3 feet bgs	3 to 4 feet bgs
Arsenic	19.1	1700	- - - -	- - - -
Barium	149	2380	- - - -	- - - -
Cadmium	<0.548	4.06	- - - -	- - - -
Total Chromium	18.0	247	- - - -	- - - -
Lead	1180	976	- - - -	- - - -
Selenium	<0.548	<0.739	- - - -	- - - -
Silver	<0.548	<0.739	- - - -	- - - -
Total Mercury	<0.0893	<0.145	- - - -	- - - -
PCBs	ND	- - - -	- - - -	- - - -
VOCs	- - - -	ND	ND	ND
SVOCs	ND	ND	- - - -	- - - -
Explosives	ND	ND	ND	ND



A1-BP-10
THICKNESS = 2.0 FEET

	0 to 1 feet bgs	1 to 2 feet bgs
Arsenic	20.0	5.10
Barium	170	21.7
Cadmium	<0.654	<0.556
Total Chromium	20.8	14.4
Lead	164	34.2
Selenium	<0.654	<0.556
Silver	0.681	<0.556
Total Mercury	<0.0934	<0.0729
PCBs	ND	- - - -
VOCs	- - - -	ND
SVOCs	ND	ND
Explosives	ND	ND

A1-BP-11
THICKNESS = 1.5 FEET

	0 to 1 feet bgs	1 to 2 feet bgs
Arsenic	4.54	2.36
Barium	181	17.7
Cadmium	<0.561	<0.527
Total Chromium	11.2	7.45
Lead	119	12.6
Selenium	<0.561	<0.527
Silver	<0.561	<0.527
Total Mercury	<0.0859	<0.0782
PCBs	ND	- - - -
VOCs	- - - -	ND
SVOCs	ND	ND
Explosives	ND	ND

A1-BP-12
THICKNESS = 3.0 FEET

	0 to 1 feet bgs	1 to 2 feet bgs
Arsenic	2.56	1.81
Barium	76.8	50.30
Cadmium	<0.564	<0.892
Total Chromium	8.88	11.8
Lead	112	160
Selenium	<0.564	<0.892
Silver	<0.564	<0.892
Total Mercury	<0.0797	0.225
PCBs	ND	- - - -
VOCs	- - - -	ND
Explosives	ND	ND

LEGEND

- HAND AUGER SOIL SAMPLE LOCATION
- DIRECT-PUSH SOIL SAMPLE LOCATION
- DIRECT-PUSH GROUNDWATER SAMPLE LOCATION
- USACHPPM SOIL SAMPLE LOCATION
- APPROXIMATE BURN PIT BOUNDARY
- BURN PIT THICKNESS CONTOUR

NOTES

CONCENTRATIONS IN MILLIGRAMS PER KILOGRAM.

BASE MAP SOURCE: U.S. ARMY CENTER FOR HEALTH PROMOTION AND PREVENTATIVE MEDICINE, GEOHYDROLOGIC STUDY No. 38-EH-4247-96, OREGON NATIONAL GUARD, CAMP RILEA TRAINING CENTER, OREGON. 13-21 MAY 1996.

ND = NON DETECT FOR ALL VOC PCB, EXPLOSIVE, AND SVOC ANALYTES.

- - - - = SAMPLE NOT COLLECTED

< ANALYTE NOT DETECTED ABOVE METHOD REPORTING LIMIT.

VOC = VOLATILE ORGANIC COMPOUND.

PCB = POLYCHLORINATED BIPHENYL.

SVOC = SEMI VOLATILE ORGANIC COMPOUND.

N

0' 5' 10' 15'
1" = 10'

NOTE: THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE AMEC EARTH & ENVIRONMENTAL REPORT No. 4-61M-110152 DATED MARCH 17, 2006.

CLIENT: CAMP RILEA
33168 PATRIOT WAY
WARRENTON, OREGON

AMEC Earth & Environmental
7376 S.W. Durham Road
Portland, OR. U.S.A. 97224

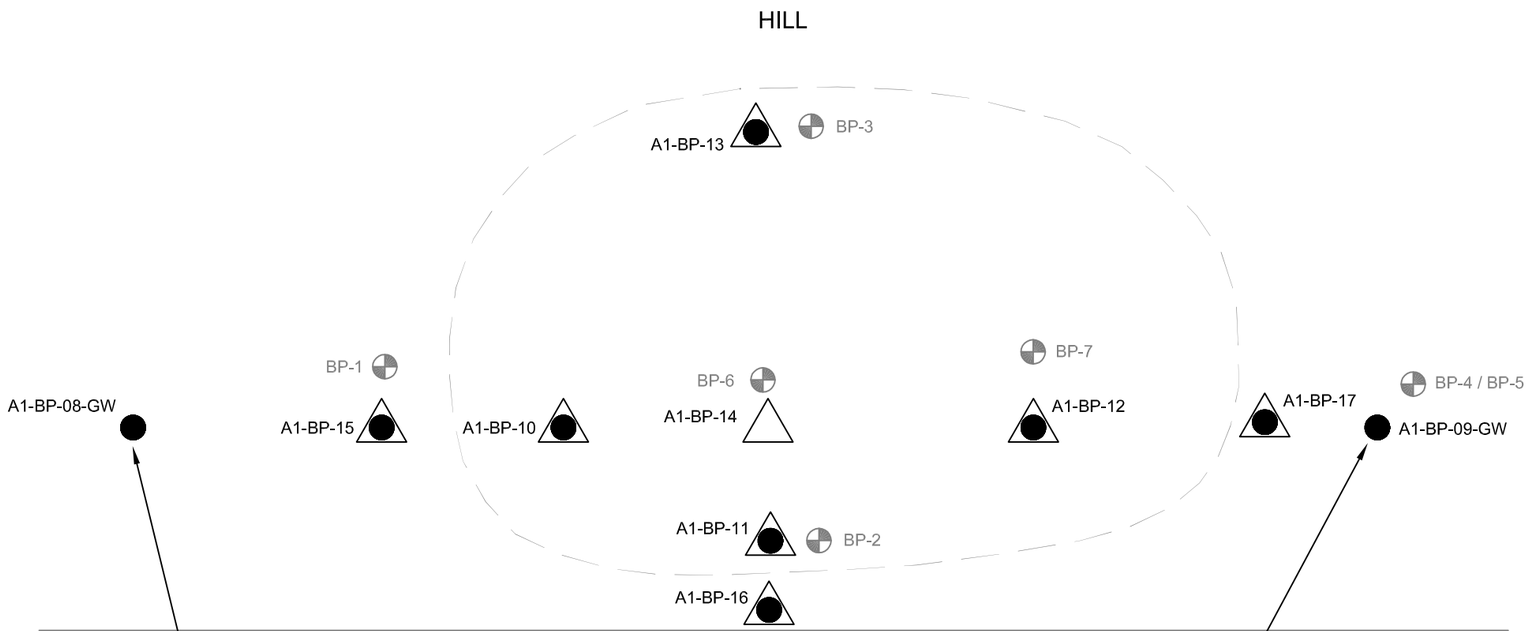
DWN BY: DD
CHK'D BY: MK
DATUM: -
PROJECTION: -
SCALE: 1" = 10'

PROJECT: CAMP RILEA

TITLE: SOIL ANALYTICAL RESULTS FORMER BURN PIT

DATE: MARCH 2006
PROJECT NO: 4-61M-11015-2 (F)
REV. NO.: -
FIGURE No. 5

K:\11000\11000\11015\Report\DWG\FIG-5 SOIL ANALYTICAL RESULTS BURN PIT.dwg – Layout1 – Mar. 23, 2006 10:29am – matthew.kohlbecker



A1-BP-08-GW

Arsenic	8.09
Barium	64.9
Cadmium	<5.00
Total Chromium	18.0
Lead	64.2
Selenium	<2.00
Silver	<1.00
Total Mercury	<0.2
VOCs	ND
SVOCs	- - - -

A1-BP-09-GW

Arsenic	12.1
Barium	81.6
Cadmium	<1.00
Total Chromium	23.0
Lead	8.83
Selenium	<2.00
Silver	<1.00
Total Mercury	<0.2
VOCs	ND
SVOCs	ND

LEGEND

- HAND AUGER SOIL SAMPLE LOCATION
- DIRECT-PUSH SOIL SAMPLE LOCATION
- DIRECT-PUSH GROUNDWATER SAMPLE LOCATION
- USACHPPM SOIL SAMPLE LOCATION
- APPROXIMATE BURN PIT BOUNDARY

NOTES

CONCENTRATIONS IN MILLIGRAMS PER KILOGRAM.

BASE MAP SOURCE: U.S. ARMY CENTER FOR HEALTH PROMOTION AND PREVENTATIVE MEDICINE, GEOHYDROLOGIC STUDY No. 38-EH-4247-96, OREGON NATIONAL GUARD, CAMP RILEA TRAINING CENTER, OREGON. 13-21 MAY 1996.

ND = NON DETECT FOR ALL VOC PCB, EXPLOSIVE, AND SVOC ANALYTES.

- - - - = SAMPLE NOT COLLECTED

< ANALYTE NOT DETECTED ABOVE METHOD REPORTING LIMIT.

VOC = VOLATILE ORGANIC COMPOUND.

SVOC = SEMI VOLATILE ORGANIC COMPOUND.

N

0' 5' 10' 15'

1" = 10'

NOTE: THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE AMEC EARTH & ENVIRONMENTAL REPORT No. 4-61M-110152 DATED MARCH 17, 2006.

CLIENT: CAMP RILEA
33168 PATRIOT WAY
WARRENTON, OREGON

AMEC Earth & Environmental
7376 S.W. Durham Road
Portland, OR. U.S.A. 97224

DWN BY:	DD
CHK'D BY:	MK
DATUM:	-
PROJECTION:	-
SCALE:	1" = 10'

PROJECT: CAMP RILEA

TITLE: GROUNDWATER ANALYTICAL RESULTS FORMER BURN PIT

DATE:	MARCH 2006
PROJECT NO:	4-61M-11015-2 (F)
REV. NO.:	-
FIGURE No.	6

K:\11000\11000\11015\Report\DWG\FIG-6 GROUNDWATER ANALYTICAL RESULTS.dwg – Layout1 – Mar. 16, 2006 11:20am – doug.davis

Notes:
2004 Aerial photo from **Oregon Military Department**.
Concentrations in ug/L (micrograms per liter)

0 12.5 25 50 Feet

1 inch equals 25 feet

FIGURE 7

amec

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Portland, OR, U.S.A. 97224

W.O.	4-61M110152 (F)
DESIGN	SK / MK
DRAWN	BRJ/LM
DATE	MARCH 2006

CAMP RILEA

GROUNDWATER ANALYTICAL RESULTS
FORMER LANDFILL

K:\11000\11000\11015\Report\DWG\GW Analytical results At the Landfill--FIG 7.mxd

TABLES

TABLE 1
Samples Collected at the Burn Pit
Camp Rilea, Warrenton, Oregon

Sample Location	Media	Sample Depth (feet bgs)	Sample Identification	Analytical Testing					
				RCRA Metals	TPH-HCID	VOCs	SVOCs	PCBs	Explosives
A1-BP-08	Groundwater	26 to 30	A1-BP-08-GW-35	X		X	X		
A1-BP-08(dup)	Groundwater	26 to 30	A1-BP-08-GW-53	X		X			
A1-BP-09	Groundwater	26 to 30	A1-BP-09-GW-35	X		X	X		
A1-BP-10	Soil	0 to 1	A1-BP-10-SO-01	X			X	X	X
	Soil	1 to 2	A1-BP-10-SO-02	X		X	X		X
A1-BP-11	Soil	0 to 1	A1-BP-11-SO-01	X			X	X	X
	Soil	1 to 2	A1-BP-11-SO-02	X		X	X		X
A1-BP-12	Soil	0 to 1	A1-BP-12-SO-01	X			X	X	X
	Soil	1 to 2	A1-BP-12-SO-02	X		X	X		X
A1-BP-13	Soil	0 to 1	A1-BP-13-SO-01	X			X	X	X
	Soil	1 to 2	A1-BP-13-SO-02	X		X	X		X
A1-BP-14	Soil	0 to 1	A1-BP-14-SO-01	X	X		X	X	X
	Soil	1 to 2	A1-BP-14-SO-02	X	X	X	X		X
	Soil	1 to 2 (dup)	A1-BP-14-SO-20	X		X	X		X
	Soil	3 to 4	A1-BP-14-SO-04			X			X
	Soil	4 to 5	A1-BP-14-SO-05			X			X
A1-BP-15	Soil	NT	NT						
A1-BP-16	Soil	NT	NT						
A1-BP-17	Soil	NT	NT						
Trip Blank	Water	NA	TB			X			

Notes:

RCRA = Resource Conservation and Recovery Act
TPH-HCID = total petroleum hydrocarbon identification
VOCs = volatile organic compounds
SVOCs = semi-volatile organic compounds
PCBs = polychlorinated biphenyls
dup = duplicate sample
bgs = below ground surface
X = sample collected and analyzed

NA = Not applicable
NT = No sample taken, boring for BP depth-delineation
BP = Burn Pit
SO = Soil
GW = Groundwater

TABLE 2
Samples Collected at the Landfill
Camp Rilea, Warrenton, Oregon

Sample Location	Media	Sample Depth (feet bgs)	Sample Identification	Analytical Testing			
				RCRA Metals	VOCs	SVOCs	Explosives
A1-LF-07	Groundwater	38 to 42	A1LF-07-GW	X	X		
A1-LF-08	Groundwater	33 to 37	A1LF-08-GW	X	X		
A1-LF-12	Soil	3	A1LF12-3	X	X	X	
A1-LF-15	Soil	NT	NT				
LFEXT-01	Soil	NT	NT				
LFEXT-02	Soil	NT	NT				
LFEXT-03	Soil	NT	NT				
LFEXT-04	Soil	NT	NT				
LFEXT-05	Soil	2.5	LFEXT-05-2.5	X	X	X	
LFEXT-06	Soil	NT	NT				
LFEXT-07	Soil	NT	NT				
LFEXT-08	Groundwater	36 to 40	LFEXT-08	X	X		
LFEXT-09	Soil	NT	NT				
LFEXT-10	Soil	NT	NT				
LFEXT-11	Soil	NT	NT				
LFEXT-12	Soil	NT	NT				
LFEXT-13	Soil	NT	NT				
LFEXT-14	Soil	NT	NT				
LFEXT-15	Soil	NT	NT				
LFEXT-16	Soil	NT	NT				
LFEXT-17	Soil	NT	NT				
LFEXT-18	Soil	NT	NT				
LFEXT-19	Soil	NT	NT				
LFEXT-20	Soil	NT	NT				
LFEXT-21	Groundwater	37 to 41	LFEXT-21	X	X		
LFEXT-22	Soil	NT	NT				
LFEXT-23	Soil	NT	NT				
LFEXT-24	Soil	NT	NT				
TP-1	Soil	NT	NT				
TP-2	Soil	NT	NT				
TP-3	Soil	6.5	TP-3	X	X	X	X
	Groundwater	36 to 40	GP-TP-3-GW-35	X	X		
TP-4	Soil	6	TP-4	X	X	X	X

Notes:

RCRA = Resource Conservation and Recovery Act
TPH-HCID = total petroleum hydrocarbon identification
VOCs = volatile organic compounds
SVOCs = semi-volatile organic compounds
dup = duplicate sample
bgs = below ground surface
X = Sample collected and analyzed

NA = Not applicable
NT = No sample taken, boring for LF depth-delineation
LF = Landfill
SO = Soil
GW = Groundwater

TABLE 3
Thickness of Burn Pit Materials in Borings
Camp Rilea, Warrenton, Oregon

Sample Location	Burn Pit Thickness (feet)	Total Depth of Boring (feet)	Material Encountered
A1-BP-08	NA	30.0	Burn pit not encountered
A1-BP-09	NA	30.0	Burn pit not encountered
A1-BP-10	2.0	3.0	Charred wood, rusty nail, gravel, ash
A1-BP-11	1.5	2.0	Charred wood, rusty metal, ash
A1-BP-12	3.0	3.8	Charred wood, brick fragments, ash
A1-BP-13	1.5	2.5	Charred wood, ash
A1-BP-14	3.0	4.0	Charred wood, metal debris, ash
A1-BP-15	NA	2.0	Burn pit not encountered
A1-BP-16	NA	4.0	Burn pit not encountered
A1-BP-17	NA	3.0	Burn pit not encountered

Notes:

NA = Not applicable, burn pit not encountered

BP = Burn Pit

bgs = below ground surface

TABLE 4
Soil Analytical Results - Burn Pit
Camp Rilea, Warrenton, Oregon

	Sample Depth (feet bgs)	Gasoline Range Hydrocarbons	Diesel Range Hydrocarbons	Heavy Oil Range Hydrocarbons	Arsenic	Barium	Cadmium	Total Chromium	Lead	Selenium	Silver	Total Mercury	PCBs	VOCs	SVOCs	Explosives
		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
A1-BP-10-SO-01	0 to 1	-----	-----	-----	**20.0**	170	< 0.654	20.8	164	< 0.654	0.681	< 0.0934	ND	-----	ND	ND
A1-BP-10-SO-02	1 to 2	-----	-----	-----	5.10	21.7	< 0.556	14.4	34.2	< 0.556	< 0.556	< 0.0729	-----	ND	ND	ND
A1-BP-11-SO-01	0 to 1	-----	-----	-----	4.54	181	< 0.561	11.2	119	< 0.561	< 0.561	< 0.0859	ND	-----	ND	ND
A1-BP-11-SO-02	1 to 2	-----	-----	-----	2.36	17.7	< 0.527	7.45	12.6	< 0.527	< 0.527	< 0.0782	-----	ND	ND	ND
A1-BP-12-SO-01	0 to 1	-----	-----	-----	2.56	76.8	< 0.564	8.88	112	< 0.564	< 0.564	< 0.0797	ND	-----	ND	ND
A1-BP-12-SO-02	1 to 2	-----	-----	-----	1.81	50.0	< 0.892	11.8	160	< 0.892	< 0.892	0.225	-----	ND	ND	ND
A1-BP-13-SO-01	0 to 1	-----	-----	-----	**7.67**	68.1	< 0.508	8.36	6.82	< 0.508	< 0.508	< 0.0978	ND	-----	ND	ND
A1-BP-13-SO-02	1 to 2	-----	-----	-----	4.46	39.9	< 0.510	8.82	31.0	< 0.510	< 0.510	< 0.0644	-----	ND	ND	ND
A1-BP-14-SO-01	0 to 1	< 22.2	< 55.4	< 111	**19.1**	149	< 0.548	18.0	**1180**	< 0.548	< 0.548	< 0.0893	ND	-----	ND	ND
A1-BP-14-SO-02	1 to 2	< 31.1	< 77.7	< 155	**1700**	2380	4.06	247	**976**	< 0.739	< 0.739	< 0.145	-----	ND	ND	ND
A1-BP-14-SO-20	1 to 2	-----	-----	-----	**91.6**	335	< 0.691	49.9	412	< 0.691	0.691	< 0.0919	-----	ND	ND	ND
A1-BP-14-SO-04	2 to 3	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	ND	-----	ND
A1-BP-14-SO-05	3 to 4	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	ND	-----	ND
DEQ Default Background Concentration for Metals [1]		-----	-----	-----	7	-----	1.0	42	17	2	1	0.07	-----	-----	-----	-----
EPA REGION 9 PRGs - INDUSTRIAL SOIL [2]		-----	-----	-----	1.6	67,000	450	450	800	5,100	5,100	310	-----	-----	-----	-----

Notes:
BOLD numbers indicate that concentration in soil sample exceeds EPA Region 9 PRG for industrial soil and DEQ Background Metals Concentrations
< YYY = analyte not detected in sample above method reporting limit of YYY
EPA = Environmental Protection Agency
DEQ = Oregon Department of Environmental Quality
PRG = Preliminary Remediation Goal
MCL = Maximum Contaminant Level
mg = milligrams
kg = kilograms
PCB = Polychlorinated Biphenyl
VOC = Volatile Organic Compound
SVOC = Semivolatile Organic Compound
ND = Non detect for all PCB, VOC, SVOC, or Explosive analytes
[1] DEQ Default Background Concentration for Metals from DEQ, 2002, Default Background Concentrations for Metals
[2] EPA Region 9 PRGs for industrial soil from EPA, 2004, Preliminary Remediation Goals, available online at http://www.epa.gov/region09/waste/sfund/prg/index.htm

TABLE 5
Groundwater Analytical Results - Burn Pit
Camp Rilea, Warrenton, Oregon

	Sample Depth (feet bgs)	Arsenic	Barium	Cadmium	Total Chromium	Lead	Selenium	Silver	Total Mercury	VOCs	SVOCs
		(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
A1-BP-08-GW-35	26 to 30	8.09	64.9	< 5	18.0	6.42	< 2	< 1	< 0.2	ND	-----
A1-BP-08-GW-53	26 to 30	9.2	71.1	< 1	20.6	6.95	< 2	< 1	< 0.2	ND	-----
A1-BP-09-GW-35	26 to 30	**12.1**	81.6	< 1	23.0	8.83	< 2	< 1	< 0.2	ND	ND
EPA REGION 9 PRGs - TAP WATER [1]		0.045	2,600.0	18	55,000 2	-----	180	180	-----	-----	-----
EPA MCLs [2]		10	2,000	5	100	-----	50	-----	2	-----	-----

Notes:
BOLD numbers indicate that concentration in soil sample exceeds EPA Region 9 PRG for residential soil
< YYY = analyte not detected in sample above method reporting limit of YYY.
EPA = Environmental Protection Agency
PRG = Preliminary Remediation Goal
MCL = Maximum Contaminant Level
µg/L - micrograms per liter
L = liter
PCB = Polychlorinated Biphenyl
VOC = Volatile Organic Compound
SVOC = Semivolatile Organic Compound
GW = Groundwater
ND = Non detect for all VOC and SVOC analytes
EPA Region 9 PRGs for tap water from EPA, 2004, Preliminary Remediation Goals, available online at
http://www.epa.gov/region09/waste/sfund/prg/index.htm
EPA, 2002, "List of Contaminants and their MCLs," available online at http://www.epa.gov/safewater/mcl.html#mcls

TABLE 6
Soil Analytical Results - Landfill
Camp Rilea, Warrenton, Oregon

		RCRA Metals								*VOCs*				
	Sample Depth (feet bgs)	**Arsenic**	**Barium**	**Cadmium**	**Total Chromium**	**Lead**	**Selenium**	**Silver**	**Total Mercury**	**Methylene Chloride**	**Trichloroethene**	**Tetrachloroethene**	**SVOCs**	**Explosives**
		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
TP-3	6.5	2.08	11.5	< 0.529	8.68	1.47	< 0.529	< 0.529	< 0.103	< 0.534	< 0.107	< 0.107	ND	ND
TP-4	6.0	2.35	170	< 0.654	8.81	1.70	< 0.592	< 0.592	< 0.0814	< 0.571	< 0.114	< 0.114	ND	ND
LFEXT-05-2.5	2.5	< 4.88	108	< 2.44	33.9	766	< 9.76	< 14.6	0.105	0.0238	0.0285	0.0235	ND	-----
A1LF12-3	3.0	< 6.96	27.4	< 3.48	12	62.2	< 13.9	< 20.9	0.0311	0.026	< 0.0119	< 0.0119	ND	-----
DEQ Default Background Concentration for Metals [1]		7	-----	1.0	42	17	2	1	0.07	-----	-----	-----	-----	-----
EPA REGION 9 PRGs - INDUSTRIAL SOIL [2]		1.6	67,000	450	450	800	5,100	5,100	310	21	0.11	1.3	-----	-----

Notes:
BOLD numbers indicate that concentration in soil sample exceeds EPA Region 9 PRG for industrial soil *and* DEQ Background Metals concentrations for residential soil
< YYY = analyte not detected in sample above method reporting limit of YYY
EPA = Environmental Protection Agency
DEQ = Oregon Department of Environmental Quality
PRG = Preliminary Remediation Goal
mg = milligrams
kg = kilograms
PCB = Polychlorinated Biphenyl
VOC = Volatile Organic Compound
SVOC = Semivolatile Organic Compound
ND = Non detect for all explosive and SVOC analytes
[1] DEQ Default Background Concentration for Metals from DEQ, 2002, Default Background Concentrations for Metals
[2] EPA Region 9 PRGs for industrial soil from EPA, 2004, Preliminary Remediation Goals, available online at http://www.epa.gov/region09/waste/sfund/prg/index.htm

TABLE 7
Groundwater Analytical Results - Landfill
Camp Rilea, Warrenton, Oregon

		RCRA Metals								*VOCs*				
Sample ID	**Sample Depth (feet bgs)**	**Arsenic**	**Barium**	**Cadmium**	**Total Chromium**	**Lead**	**Selenium**	**Silver**	**Total Mercury**	**Methylene Chloride**	**Trichloroethene**	**1,1,2-Trichloroethane**	**Tetrachloroethene**	**1,1,2,2-Tetrachloroethane**
		(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
GP-TP-3-GW-35	36 to 40	**21.2**	203	< 1.0	131	35.0	< 2.0	< 1.0	< 0.2	< 5.00	**7.46**	< 1.00	< 1.00	< 1.00
LFEXT-08	36 to 40	**23.3 J**	186	< 9.0	210	24.6	< 100	< 20	< 0.2	1	**7.48**	0.099	1.49	**2.59**
LFEXT-21	37 to 41	**17.9 J**	190	< 9.0	452	20.1	< 100	< 20	< 0.2	0.32 J	0.139 J	< 1	0.247 J	< 1
A1LF-07-GW	38 to 42	**24.0 J**	323	< 15.0	292	40.9	< 100	< 30	< 0.2	0.322 J	2.51	< 1	0.817 J	**2.19**
A1LF-08-GW	33 to 37	< 50	86.3	< 5.0	132	7.85 J	< 100	< 10	< 0.2	0.317 J	< 1	< 1	< 1	< 1
EPA REGION 9 PRGs - TAP WATER [1]		0.045	2,600	18	55,000 [2]	-----	180	180	-----	4.3	0.028	0.2	0.1	0.55
EPA MCLs [3]		10	2,000	5	100	-----	50	-----	2	-----	5	5	5	-----

Notes:
BOLD numbers indicate that concentration in soil sample exceeds EPA Region 9 PRG *and* DEQ Background Metals concentrations for residential soil
< YYY = analyte not detected in sample above method reporting limit of YYY.
EPA = Environmental Protection Agency
DEQ = Oregon Department of Environmental Quality
PRG = Preliminary Remediation Goal
µg/L = micrograms per liter
L = liter
SVOC = Semivolatile Organic Compound
GP = Geoprobe
TP = Test Pit
GW = Groundwater
LF = Landfill
J = The analyte was identified, but the concentration is estimated
[1] EPA Region 9 PRGs for tap water from EPA, 2004, Preliminary Remediation Goals, available online at http://www.epa.gov/region09/waste/sfund/prg/index.htm
[2] EPA Region 9 PRG is for Trivalent Chromium
[3] EPA, 2002, "List of Contaminants and their MCLs" available online at http://www.epa.gov/safewater/mcl.html#mcls

APPENDIX A

Boring Logs

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	VOLATILE READING (ppm)	GROUNDWATER	GW SCREENED INTERVAL	FIELD TESTING	TESTING AND LABORATORY DATA
0			Sand at surface.						
		SM	Loose, light brown, well-sorted, fine SAND with trace silt, trace rootlets in 0-1 feet; dry. (NATIVE SOIL)						
5									
10			Becomes medium dense.						
15									
20			Light brown, fine SAND with some silt; dry (1-inch layer) at 19.5 feet below ground surface.						
25						▽			
			Becomes wet.						A1-BP-08-GW-35 A1-BP-08-GW-53
30			Total depth = 30 feet below ground surface. Backfilled hole with bentonite pellets.						

BORING METHOD: Direct Push

ELEVATION REFERENCE: NA

BOREHOLE DIAMETER:

DRILL RIG: Geoprobe

GROUND SURFACE ELEVATION: NA

CONTRACTOR: Boart Longyear

START CARD/TAG ID: NA

LOGGED BY: M. Kohlbecker

DRILLING DATES: 09/20/2005 - 09/20/2005

REMARKS:

DTW = 26.0 feet bgs.

Camp Rilea

4-61M-110152

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Fax (503) 620-7892

LOG OF BORING A1-BP-08

DIRECT PUSH BORING 4-61M-110152.GPJ AMEC PORTLAND.GDT 12/28/05

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	VOLATILE READING (ppm)	GROUNDWATER	GW SCREENED INTERVAL	FIELD TESTING	TESTING AND LABORATORY DATA
0			Sand at surface.						
		SM	Loose, light brown, well-sorted, angular, fine SAND with trace silt, trace rootlets in upper 1-5 feet; dry. (NATIVE SOIL)						
5									
10									
15									
			Organics (wood) at 17 feet below ground surface.						
20			Becomes medium dense.						
			Woody debris at 23 feet below ground surface.						
25						▽			
			Becomes wet.						A1-BP-09-GW-35
30			Total depth = 30 feet below ground surface. Backfilled hole with bentonite pellets.						

BORING METHOD: Direct Push

ELEVATION REFERENCE: NA

BOREHOLE DIAMETER:

DRILL RIG: Geoprobe

GROUND SURFACE ELEVATION: NA

CONTRACTOR: Boart Longyear

START CARD/TAG ID: NA

LOGGED BY: M. Kohlbecker

DRILLING DATES: 09/20/2005 - 09/20/2005

REMARKS:
DTW = 25.0 feet bgs.

Camp Rilea

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LOG OF BORING A1-BP-09

DIRECT PUSH BORING 4-61M-110152.GPJ AMEC PORTLAND.GDT 12/28/05

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	BLOW COUNT SPT N VALUE	VOLATILE READING (ppm)	GROUNDWATER	FIELD TESTING	TESTING AND LABORATORY DATA
0		SM	Light brown and gray, well-sorted, angular, fine SAND with trace silt, several charred wood pieces, rusty nail, trace 1/2-inch gravel; dry. (BURN PIT)						A1-BP-10-SO-01 A1-BP-10-SO-02
		SM	Same as above. Woody debris from 2.5-3 feet below ground surface. (NATIVE SOIL) Total depth = 3 feet below ground surface.						
5									
10									
15									
20									
25									
30									

BORING METHOD: Hand Auger

BOREHOLE DIAMETER: 2.0 (in)

DRILL RIG:

CONTRACTOR:

LOGGED BY: M. Kohlbecker

ELEVATION REFERENCE:

GROUND SURFACE ELEVATION:

CASING ELEVATION:

DRILLING DATES: 09/19/2005 - 09/19/2005

REMARKS:

Camp Rilea

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LOG OF BORING A1-BP-10

ENVIRONMENTAL BORING 4-61M-110152.GPJ AMEC PORTLAND.GDT 12/28/05

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	BLOW COUNT SPT N VALUE	VOLATILE READING (ppm)	GROUNDWATER	FIELD TESTING	TESTING AND LABORATORY DATA
0		SM	Light brown and gray, well-sorted, angular, fine SAND with trace silt, minor amounts of charred wood, rusty metal; dry. (BURN PIT)						A1-BP-11-SO-01
		SM	Same as above. (NATIVE SOIL)						A1-BP-11-SO-02
			Total depth = 2 feet below ground surface.						
5									
10									
15									
20									
25									
30									

BORING METHOD: Hand Auger

BOREHOLE DIAMETER: 2.0 (in)

DRILL RIG:

CONTRACTOR:

LOGGED BY: M. Kohlbecker

ELEVATION REFERENCE:

GROUND SURFACE ELEVATION:

CASING ELEVATION:

DRILLING DATES: 09/20/2005 - 09/20/2005

REMARKS:

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LOG OF BORING A1-BP-11

ENVIRONMENTAL BORING 4-61M-110152.GPJ AMEC PORTLAND.GDT 12/28/05

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	BLOW COUNT SPT N VALUE	VOLATILE READING (ppm)	GROUNDWATER	FIELD TESTING	TESTING AND LABORATORY DATA
0		SM	Light brown and gray, well-sorted, angular, fine SAND with trace silt, trace charred wood, brick fragments. (BURN PIT)						A1-BP-12-SO-01 A1-BP-12-SO-02
		SM	Same as above. (NATIVE SOIL)						
			Total depth = 3.8 feet below ground surface.						
5									
10									
15									
20									
25									
30									

BORING METHOD: Hand Auger

BOREHOLE DIAMETER: 2.0 (in)

DRILL RIG:

CONTRACTOR:

LOGGED BY: M. Kohlbecker

ELEVATION REFERENCE:

GROUND SURFACE ELEVATION:

CASING ELEVATION:

DRILLING DATES: 09/19/2005 - 09/19/2005

REMARKS:
Refusal at 1 foot on first attempt. Moved 1 foot west and advanced hand auger again. Refusal again. Moved 1 foot south, dug out area with shovel. Success!

Camp Rilea

4-61M-110152

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LOG OF BORING A1-BP-12

ENVIRONMENTAL BORING 4-61M-110152.GPJ AMEC PORTLAND.GDT 12/28/05

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	BLOW COUNT SPT N VALUE	VOLATILE READING (ppm)	GROUNDWATER	FIELD TESTING	TESTING AND LABORATORY DATA
0		SM	Light brown and gray, well-sorted, angular, fine SAND with trace silt, minor charred wood; dry. (BURN PIT)						A1-BP-13-SO-01
									A1-BP-13-SO-02
		SM	Same as above. (NATIVE SOIL)						
			Total depth = 2.5 feet below ground surface.						
5									
10									
15									
20									
25									
30									

BORING METHOD: Hand Auger

BOREHOLE DIAMETER: 2.0 (in)

DRILL RIG:

CONTRACTOR:

LOGGED BY: M. Kohlbecker

ELEVATION REFERENCE:

GROUND SURFACE ELEVATION:

CASING ELEVATION:

DRILLING DATES: 09/20/2005 - 09/20/2005

REMARKS:
Refusal on heavy cloth at 1 foot. Moved 1 foot west and advanced hand auger again.

Camp Rilea

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LOG OF BORING A1-BP-13

ENVIRONMENTAL BORING 4-61M-110152.GPJ AMEC PORTLAND.GDT 12/28/05

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	VOLATILE READING (ppm)	GROUNDWATER	GW SCREENED INTERVAL	FIELD TESTING	TESTING AND LABORATORY DATA
0		SM	Light brown and gray, angular, fine SAND with trace silt, burnt wood, metal debris; dry. (BURN PIT)						A1-BP-14-SO-01 A1-BP-14-SO-02 A1-BP-14-SO-20 A1-BP-14-SO-04
		SM	Light brown, well-sorted, angular, fine SAND with trace silt; dry. (NATIVE SOIL)						A1-BP-14-SO-05
			Total depth = 4 feet below ground surface.						
5									
10									
15									
20									
25									
30									

BORING METHOD: Direct Push

BOREHOLE DIAMETER:

DRILL RIG: Geoprobe

CONTRACTOR: Boart Longyear

LOGGED BY: M. Kohlbecker

ELEVATION REFERENCE: NA

GROUND SURFACE ELEVATION: NA

START CARD/TAG ID: NA

DRILLING DATES: 09/20/2005 - 09/20/2005

REMARKS:

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amec

LOG OF BORING A1-BP-14

DIRECT PUSH BORING 4-61M-110152.GPJ AMEC PORTLAND.GDT 12/28/05

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	BLOW COUNT SPT N VALUE	VOLATILE READING (ppm)	GROUNDWATER	FIELD TESTING	TESTING AND LABORATORY DATA
0		SM	Well-sorted, angular, fine SAND with trace silt, trace organics (rootlets); dry. (NATIVE SOIL)						
			Total depth = 2 feet below ground surface.						
5									
10									
15									
20									
25									
30									

BORING METHOD: Hand Auger

BOREHOLE DIAMETER: 2.0 (in)

DRILL RIG:

CONTRACTOR:

LOGGED BY: M. Kohlbecker

ELEVATION REFERENCE:

GROUND SURFACE ELEVATION:

CASING ELEVATION:

DRILLING DATES: 09/19/2005 - 09/19/2005

REMARKS:

Camp Rilea

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LOG OF BORING A1-BP-15

ENVIRONMENTAL BORING 4-61M-110152.GPJ AMEC PORTLAND.GDT 12/28/05

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	BLOW COUNT SPT N VALUE	VOLATILE READING (ppm)	GROUNDWATER	FIELD TESTING	TESTING AND LABORATORY DATA
0		SM	Light brown, well-sorted, angular, fine SAND with trace silt and trace subrounded to subangular, 1/2-inch gravel; dry. (NATIVE SOIL)						
			Total depth = 4 feet below ground surface.						
5									
10									
15									
20									
25									
30									

BORING METHOD: Hand Auger

BOREHOLE DIAMETER: 2.0 (in)

DRILL RIG:

CONTRACTOR:

LOGGED BY: M. Kohlbecker

ELEVATION REFERENCE:

GROUND SURFACE ELEVATION:

CASING ELEVATION:

DRILLING DATES: 09/20/2005 - 09/20/2005

REMARKS:

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LOG OF BORING A1-BP-16

ENVIRONMENTAL BORING 4-61M-110152.GPJ AMEC PORTLAND.GDT 12/28/05

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	BLOW COUNT SPT N VALUE	VOLATILE READING (ppm)	GROUNDWATER	FIELD TESTING	TESTING AND LABORATORY DATA
0		SM	Light brown, well-sorted, angular, fine SAND with trace silt, trace organics (rootlets); dry. (NATIVE SOIL)						
			Total depth = 3 feet below ground surface.						
5									
10									
15									
20									
25									
30									

BORING METHOD: Hand Auger

BOREHOLE DIAMETER: 2.0 (in)

DRILL RIG:

CONTRACTOR:

LOGGED BY: M. Kohlbecker

ELEVATION REFERENCE:

GROUND SURFACE ELEVATION:

CASING ELEVATION:

DRILLING DATES: 09/20/2005 - 09/20/2005

REMARKS:

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LOG OF BORING A1-BP-17

ENVIRONMENTAL BORING 4-61M-110152.GPJ AMEC PORTLAND.GDT 12/28/05

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	VOLATILE READING (ppm)	GROUNDWATER	GW SCREENED INTERVAL	FIELD TESTING	TESTING AND LABORATORY DATA
0		SM	Tan to gray, fine to medium SAND with trace to 5% fines and trace to 5% organic material.						
5									
10									
15									
20									
25									
30									

BORING METHOD: Direct Push

BOREHOLE DIAMETER:

DRILL RIG: Geoprobe

CONTRACTOR: Boart Longyear

LOGGED BY: S. Kranz

ELEVATION REFERENCE: NA

GROUND SURFACE ELEVATION: NA

START CARD/TAG ID: NA

DRILLING DATES: 08/24/2005 - 08/24/2005

REMARKS:

Collected groundwater sample near LFEXT-01.

DTW = 40.55 feet bgs.

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LOG OF BORING A1-LF-07-GW

DIRECT PUSH BORING 4-61M-110152.GPJ AMEC PORTLAND.GDT 12/28/05

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	VOLATILE READING (ppm)	GROUNDWATER	GW SCREENED INTERVAL	FIELD TESTING	TESTING AND LABORATORY DATA
30		SM	Tan to gray, fine to medium SAND with trace to 5% fines and trace to 5% organic material.						
35									
40									
			Total depth = 42 feet below ground surface.						A1-LF-07-GW
45									
50									
55									
60									

BORING METHOD: Direct Push

BOREHOLE DIAMETER:

DRILL RIG: Geoprobe

CONTRACTOR: Boart Longyear

LOGGED BY: S. Kranz

ELEVATION REFERENCE: NA

GROUND SURFACE ELEVATION: NA

START CARD/TAG ID: NA

DRILLING DATES: 08/24/2005 - 08/24/2005

REMARKS:
Collected groundwater sample near LFEXT-01.

DTW = 40.55 feet bgs.

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LOG OF BORING A1-LF-07-GW

DIRECT PUSH BORING 4-61M-110152.GPJ AMEC PORTLAND.GDT 12/28/05

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	VOLATILE READING (ppm)	GROUNDWATER	GW SCREENED INTERVAL	FIELD TESTING	TESTING AND LABORATORY DATA
0		SM	Tan to gray, fine to medium SAND with trace to 5% fines and trace to 5% organic material.						
5									
10									
15									
20									
25									
30									

BORING METHOD: Direct Push

BOREHOLE DIAMETER:

DRILL RIG: Geoprobe

CONTRACTOR: Boart Longyear

LOGGED BY: S. Kranz

ELEVATION REFERENCE: NA

GROUND SURFACE ELEVATION: NA

START CARD/TAG ID: NA

DRILLING DATES: 08/24/2005 - 08/24/2005

REMARKS:
DTW = 32.8 feet bgs.

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LOG OF BORING A1-LF-08-GW

DIRECT PUSH BORING 4-61M-110152.GPJ AMEC PORTLAND.GDT 12/28/05

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	VOLATILE READING (ppm)	GROUNDWATER	GW SCREENED INTERVAL	FIELD TESTING	TESTING AND LABORATORY DATA
30		SM	Tan to gray, fine to medium SAND with trace to 5% fines and trace to 5% organic material.						
35									A1-LF-08-GW
			Total depth = 37 feet below ground surface.						
40									
45									
50									
55									
60									

BORING METHOD: Direct Push
ELEVATION REFERENCE: NA
BOREHOLE DIAMETER:
DRILL RIG: Geoprobe
GROUND SURFACE ELEVATION: NA
CONTRACTOR: Boart Longyear
START CARD/TAG ID: NA
LOGGED BY: S. Kranz
DRILLING DATES: 08/24/2005 - 08/24/2005

REMARKS:
DTW = 32.8 feet bgs.

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LOG OF BORING A1-LF-08-GW

DIRECT PUSH BORING 4-61M-110152.GPJ AMEC PORTLAND.GDT 12/28/05

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	VOLATILE READING (ppm)	GROUNDWATER	GW SCREENED INTERVAL	FIELD TESTING	TESTING AND LABORATORY DATA
0			GRAVEL FILL (3/4-inch minus).						
		SM	Tan and gray, fine to medium SAND.						
			Black debris with rock, wood, glass, and small rusty pieces of metal.		0.0				A1-LF-12-3
			Brick.						
5		SM	Tan and gray, fine to medium SAND.						
10									
15			Total depth = 15 feet below ground surface.						
20									
25									
30									

BORING METHOD: Direct Push
ELEVATION REFERENCE: NA
BOREHOLE DIAMETER:
REMARKS:
DRILL RIG: Geoprobe
GROUND SURFACE ELEVATION: NA
CONTRACTOR: Boart Longyear
START CARD/TAG ID: NA
LOGGED BY: S. Kranz
DRILLING DATES: 08/24/2005 - 08/24/2005

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LOG OF BORING A1-LF-12

DIRECT PUSH BORING 4-61M-110152.GPJ AMEC PORTLAND.GDT 12/28/05

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	VOLATILE READING (ppm)	GROUNDWATER	GW SCREENED INTERVAL	FIELD TESTING	TESTING AND LABORATORY DATA
0			Sand at surface.						
		SM	Loose, light brown, well-sorted, fine SAND with trace silt, rootlets in upper foot; dry.						
5									
10									
15									
20			Driller switched to closed tip sampler.						
			Dark gray to olive-gray, fine SAND with trace silt (0.25-inch layer) at 22.5 feet below ground surface.						
25									
30									

BORING METHOD: Direct Push
ELEVATION REFERENCE: NA
BOREHOLE DIAMETER:
DRILL RIG: Geoprobe
GROUND SURFACE ELEVATION: NA
CONTRACTOR: Boart Longyear
START CARD/TAG ID: NA
LOGGED BY: M. Kohlbecker
DRILLING DATES: 09/20/2005 - 09/20/2005

REMARKS:
DTW = 43.5 feet bgs.

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LOG OF BORING A1-LF-15

DIRECT PUSH BORING 4-61M-110152.GPJ AMEC PORTLAND.GDT 12/28/05

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	VOLATILE READING (ppm)	GROUNDWATER	GW SCREENED INTERVAL	FIELD TESTING	TESTING AND LABORATORY DATA
30		SM	Loose, light brown, well-sorted, fine SAND with trace silt, rootlets in upper foot; dry.						
35									
40						▽			
45			Total depth = 45 feet below ground surface. Backfilled hole with bentonite pellets.						
50									
55									
60									

BORING METHOD: Direct Push

BOREHOLE DIAMETER:

DRILL RIG: Geoprobe

CONTRACTOR: Boart Longyear

LOGGED BY: M. Kohlbecker

ELEVATION REFERENCE: NA

GROUND SURFACE ELEVATION: NA

START CARD/TAG ID: NA

DRILLING DATES: 09/20/2005 - 09/20/2005

REMARKS:
DTW = 43.5 feet bgs.

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LOG OF BORING A1-LF-15

DIRECT PUSH BORING 4-61M-110152.GPJ AMEC PORTLAND.GDT 12/28/05

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	VOLATILE READING (ppm)	GROUNDWATER	GW SCREENED INTERVAL	FIELD TESTING	TESTING AND LABORATORY DATA
0			Grass and wood.						
		SM	Fine to medium SAND, trace to 5% silt and clay, trace to 5% organic matter, trace debris (glass and wood) from 0-6 inches below ground surface.						
5									
		SM	Black, fine to medium SAND with 5-10% organic material; wet.						
		SM	Fine to medium SAND, trace to 5% silt and clay, trace to 5% organic matter.						
10									
15			Total depth = 15 feet below ground surface.						
20									
25									
30									

BORING METHOD: Direct Push
ELEVATION REFERENCE: NA
BOREHOLE DIAMETER:
REMARKS:
DRILL RIG: Geoprobe
GROUND SURFACE ELEVATION: NA
CONTRACTOR: Boart Longyear
START CARD/TAG ID: NA
LOGGED BY: S. Kranz
DRILLING DATES: 08/23/2005 - 08/23/2005

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LOG OF BORING LFEXT-01

DIRECT PUSH BORING 4-61M-110152.GPJ AMEC PORTLAND.GDT 12/28/05

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	VOLATILE READING (ppm)	GROUNDWATER	GW SCREENED INTERVAL	FIELD TESTING	TESTING AND LABORATORY DATA
0		SM	Brown to gray, fine to medium SAND, trace to 5% fines, trace to 5% organic material. Debris (plastic, glass, wood) from 0-12 inches below ground surface.						
5									
		SM	Black, fine to medium SAND with 5-10% organic material; wet.						
		SM	Brown to gray, fine to medium SAND, trace to 5% fines, trace to 5% organic material.						
10									
15			Total depth = 15 feet below ground surface.						
20									
25									
30									

BORING METHOD: Direct Push
ELEVATION REFERENCE: NA
BOREHOLE DIAMETER:
REMARKS:
DRILL RIG: Geoprobe
GROUND SURFACE ELEVATION: NA
CONTRACTOR: Boart Longyear
START CARD/TAG ID: NA
LOGGED BY: S. Kranz
DRILLING DATES: 08/23/2005 - 08/23/2005

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LOG OF BORING LFEXT-02

DIRECT PUSH BORING 4-61M-110152.GPJ AMEC PORTLAND.GDT 12/28/05

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	VOLATILE READING (ppm)	GROUNDWATER	GW SCREENED INTERVAL	FIELD TESTING	TESTING AND LABORATORY DATA
0			Turf and weeds.						
		SM	Tan to gray, fine to medium SAND with trace to 5% fines and trace to 5% organic material. Debris (wood/rock) from 0-6 inches below ground surface.						
5									
		SM	Black, fine to medium SAND with 5-10% organic material; wet.						
		SM	Tan to gray, fine to medium SAND with trace to 5% fines and trace to 5% organic material.						
10									
15			Total depth = 15 feet below ground surface.						
20									
25									
30									

BORING METHOD: Direct Push
ELEVATION REFERENCE: NA
BOREHOLE DIAMETER:
REMARKS:
DRILL RIG: Geoprobe
GROUND SURFACE ELEVATION: NA
CONTRACTOR: Boart Longyear
START CARD/TAG ID: NA
LOGGED BY: S. Kranz
DRILLING DATES: 08/23/2005 - 08/23/2005

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LOG OF BORING LFEXT-03

DIRECT PUSH BORING 4-61M-110152.GPJ AMEC PORTLAND.GDT 12/28/05

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	VOLATILE READING (ppm)	GROUNDWATER	GW SCREENED INTERVAL	FIELD TESTING	TESTING AND LABORATORY DATA
0			Turf and weeds.						
		SM	Tan to gray, fine to medium SAND with trace to 5% fines and trace to 5% organic material. Trace debris (wood/rock) from 0-6 inches below ground surface.						
5									
		SM	Black, fine to medium SAND with 5-10% organic material.						
		SM	Tan to gray, fine to medium SAND with trace to 5% fines and trace to 5% organic material.						
10									
15			Total depth = 15 feet below ground surface.						
20									
25									
30									

BORING METHOD: Direct Push
ELEVATION REFERENCE: NA
BOREHOLE DIAMETER:
REMARKS:
DRILL RIG: Geoprobe
GROUND SURFACE ELEVATION: NA
CONTRACTOR: Boart Longyear
START CARD/TAG ID: NA
LOGGED BY: S. Kranz
DRILLING DATES: 08/23/2005 - 08/23/2005

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LOG OF BORING LFEXT-04

DIRECT PUSH BORING 4-61M-110152.GPJ AMEC PORTLAND.GDT 12/28/05

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	VOLATILE READING (ppm)	GROUNDWATER	GW SCREENED INTERVAL	FIELD TESTING	TESTING AND LABORATORY DATA
0			Turf and weeds.						
		SM	Tan to gray, fine to medium SAND with trace to 5% fines and trace to 5% organic material.						
					0.1				LFEXT-05-2.5
		SM	Brown to dark gray, red oxidized landfill material, wood and other debris.						
		SM	Tan to gray, fine to medium SAND with trace to 5% fines and trace to 5% organic material.						
5									
10									
15			Total depth = 15 feet below ground surface.						
20									
25									
30									

BORING METHOD: Direct Push
ELEVATION REFERENCE: NA
BOREHOLE DIAMETER:
REMARKS:
DRILL RIG: Geoprobe
GROUND SURFACE ELEVATION: NA
CONTRACTOR: Boart Longyear
START CARD/TAG ID: NA
LOGGED BY: S. Kranz
DRILLING DATES: 08/23/2005 - 08/23/2005

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LOG OF BORING LFEXT-05

DIRECT PUSH BORING 4-61M-110152.GPJ AMEC PORTLAND.GDT 12/28/05

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	VOLATILE READING (ppm)	GROUNDWATER	GW SCREENED INTERVAL	FIELD TESTING	TESTING AND LABORATORY DATA
0			Grass and weeds.						
		SM	Tan to gray, fine to medium SAND with trace to 5% fines and trace to 5% organic material.						
5									
		SM	Black, fine to medium SAND with 5-10% organic material; wet.						
		SM	Tan to gray, fine to medium SAND with trace to 5% fines and trace to 5% organic material.						
10									
15			Total depth = 15 feet below ground surface.						
20									
25									
30									

BORING METHOD: Direct Push

ELEVATION REFERENCE: NA

BOREHOLE DIAMETER:

REMARKS:

DRILL RIG: Geoprobe

GROUND SURFACE ELEVATION: NA

CONTRACTOR: Boart Longyear

START CARD/TAG ID: NA

LOGGED BY: S. Kranz

DRILLING DATES: 08/23/2005 - 08/23/2005

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LOG OF BORING LFEXT-06

DIRECT PUSH BORING 4-61M-110152.GPJ AMEC PORTLAND.GDT 12/28/05

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	VOLATILE READING (ppm)	GROUNDWATER	GW SCREENED INTERVAL	FIELD TESTING	TESTING AND LABORATORY DATA
0			Grass and weeds.						
		SM	Tan and gray, fine to medium SAND with trace to 5% fines and trace to 5% organic material.						
5									
10		SM	Black, fine to medium SAND with 5-10% organic material.						
		SM	Tan and gray, fine to medium SAND with trace to 5% fines and trace to 5% organic material.						
15			Total depth = 15 feet below ground surface.						
20									
25									
30									

BORING METHOD: Direct Push

ELEVATION REFERENCE: NA

BOREHOLE DIAMETER:

REMARKS:

DRILL RIG: Geoprobe

GROUND SURFACE ELEVATION: NA

CONTRACTOR: Boart Longyear

START CARD/TAG ID: NA

LOGGED BY: S. Kranz

DRILLING DATES: 08/23/2005 - 08/23/2005

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LOG OF BORING LFEXT-07

DIRECT PUSH BORING 4-61M-110152.GPJ AMEC PORTLAND.GDT 12/28/05

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	VOLATILE READING (ppm)	GROUNDWATER	GW SCREENED INTERVAL	FIELD TESTING	TESTING AND LABORATORY DATA
0			Turf and weeds.						
		SM	Tan to gray, fine to medium SAND with trace to 5% fines and trace to 5% organic material.						
5									
		SM	Black, fine to medium SAND with 5-10% organic material.						
		SM	Tan and gray, fine to medium SAND with trace to 5% fines and trace to 5% organic material.						
10									
15									
20									
25									
30									

BORING METHOD: Direct Push

BOREHOLE DIAMETER:

DRILL RIG: Geoprobe

CONTRACTOR: Boart Longyear

LOGGED BY: S. Kranz

ELEVATION REFERENCE: NA

GROUND SURFACE ELEVATION: NA

START CARD/TAG ID: NA

DRILLING DATES: 08/23/2005 - 08/23/2005

REMARKS:
DTW = 37.5 feet bgs.

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LOG OF BORING LFEXT-08

DIRECT PUSH BORING 4-61M-110152.GPJ AMEC PORTLAND.GDT 12/28/05

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	VOLATILE READING (ppm)	GROUNDWATER	GW SCREENED INTERVAL	FIELD TESTING	TESTING AND LABORATORY DATA
30		SM	Tan and gray, fine to medium SAND with trace to 5% fines and trace to 5% organic material.						
35						▽			
40			Total depth = 40 feet below ground surface.						LFEXT08
45									
50									
55									
60									

BORING METHOD: Direct Push
ELEVATION REFERENCE: NA
BOREHOLE DIAMETER:
DRILL RIG: Geoprobe
GROUND SURFACE ELEVATION: NA
CONTRACTOR: Boart Longyear
START CARD/TAG ID: NA
LOGGED BY: S. Kranz
DRILLING DATES: 08/23/2005 - 08/23/2005

REMARKS:
DTW = 37.5 feet bgs.

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LOG OF BORING LFEXT-08

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	VOLATILE READING (ppm)	GROUNDWATER	GW SCREENED INTERVAL	FIELD TESTING	TESTING AND LABORATORY DATA
0			Grass and weeds.						
		SM	Tan and gray, fine to medium SAND with trace to 5% fines and trace to 5% organic material.						
5									
		SM	Black, fine to medium SAND with 5-10% sand.						
		SM	Tan and gray, fine to medium SAND with trace to 5% fines and trace to 5% organic material.						
10									
15									
20			Total depth = 20 feet below ground surface.						
25									
30									

BORING METHOD: Direct Push
ELEVATION REFERENCE: NA
BOREHOLE DIAMETER:
REMARKS:
DRILL RIG: Geoprobe
GROUND SURFACE ELEVATION: NA
CONTRACTOR: Boart Longyear
START CARD/TAG ID: NA
LOGGED BY: S. Kranz
DRILLING DATES: 08/23/2005 - 08/23/2005

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LOG OF BORING LFEXT-09

DIRECT PUSH BORING 4-61M-110152.GPJ AMEC PORTLAND.GDT 12/28/05

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	VOLATILE READING (ppm)	GROUNDWATER	GW SCREENED INTERVAL	FIELD TESTING	TESTING AND LABORATORY DATA
0			Grass and weeds.						
		SM	Tan and gray, fine to medium SAND with trace to 5% fines and trace to 5% organic material.						
5									
		SM	Black, fine to medium SAND with 5-10% organic material.						
		SM	Tan and gray, fine to medium SAND with trace to 5% fines and trace to 5% organic material.						
10									
15									
20			Total depth = 20 feet below ground surface.						
25									
30									

BORING METHOD: Direct Push

ELEVATION REFERENCE: NA

BOREHOLE DIAMETER:

REMARKS:

DRILL RIG: Geoprobe

GROUND SURFACE ELEVATION: NA

CONTRACTOR: Boart Longyear

START CARD/TAG ID: NA

LOGGED BY: S. Kranz

DRILLING DATES: 08/23/2005 - 08/23/2005

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LOG OF BORING LFEXT-10

DIRECT PUSH BORING 4-61M-110152.GPJ AMEC PORTLAND.GDT 12/28/05

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	VOLATILE READING (ppm)	GROUNDWATER	GW SCREENED INTERVAL	FIELD TESTING	TESTING AND LABORATORY DATA
0		SM	Encountered metal, glass, and wood. Tan to gray, fine to medium SAND with trace to 5% fines and trace to 5% organic material.						
5			Total depth = 5 feet below ground surface.						
10									
15									
20									
25									
30									

BORING METHOD: Direct Push

BOREHOLE DIAMETER:

DRILL RIG: Geoprobe

CONTRACTOR: Boart Longyear

LOGGED BY: S. Kranz

ELEVATION REFERENCE: NA

GROUND SURFACE ELEVATION: NA

START CARD/TAG ID: NA

DRILLING DATES: 08/24/2005 - 08/24/2005

REMARKS:

Camp Rilea

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LOG OF BORING LFEXT-11

DIRECT PUSH BORING 4-61M-110152.GPJ AMEC PORTLAND.GDT 12/28/05

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	VOLATILE READING (ppm)	GROUNDWATER	GW SCREENED INTERVAL	FIELD TESTING	TESTING AND LABORATORY DATA
0		SM	Tan to gray, fine to medium SAND with trace to 5% fines and trace to 5% organic material.						
			Encountered concrete and brick debris.						
5			Total depth = 5 feet below ground surface due to refusal.						
10									
15									
20									
25									
30									

BORING METHOD: Direct Push
ELEVATION REFERENCE: NA
BOREHOLE DIAMETER:
REMARKS:
DRILL RIG: Geoprobe
GROUND SURFACE ELEVATION: NA
CONTRACTOR: Boart Longyear
START CARD/TAG ID: NA
LOGGED BY: S. Kranz
DRILLING DATES: 08/24/2005 - 08/24/2005

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LOG OF BORING LFEXT-12

DIRECT PUSH BORING 4-61M-110152.GPJ AMEC PORTLAND.GDT 12/28/05

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	VOLATILE READING (ppm)	GROUNDWATER	GW SCREENED INTERVAL	FIELD TESTING	TESTING AND LABORATORY DATA
0			GRAVEL driveway.						
		SM	Tan to gray, fine to medium SAND with trace to 5% fines and trace to 5% organic material.						
5			Encountered woody debris.						
			Total depth = 6.5 feet below ground surface due to refusal.						
10									
15									
20									
25									
30									

BORING METHOD: Direct Push
ELEVATION REFERENCE: NA
BOREHOLE DIAMETER:
REMARKS:
DRILL RIG: Geoprobe
GROUND SURFACE ELEVATION: NA
CONTRACTOR: Boart Longyear
START CARD/TAG ID: NA
LOGGED BY: S. Kranz
DRILLING DATES: 08/24/2005 - 08/24/2005

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LOG OF BORING LFEXT-13

DIRECT PUSH BORING 4-61M-110152.GPJ AMEC PORTLAND.GDT 12/28/05

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	VOLATILE READING (ppm)	GROUNDWATER	GW SCREENED INTERVAL	FIELD TESTING	TESTING AND LABORATORY DATA
0		SM	Tan to gray, fine to medium SAND with trace to 5% fines and trace to 5% organic material.						
5			Wood debris (2-inch layer).						
10			Total depth = 10 feet below ground surface.						
15									
20									
25									
30									

BORING METHOD: Direct Push
ELEVATION REFERENCE: NA
BOREHOLE DIAMETER:
REMARKS:
DRILL RIG: Geoprobe
GROUND SURFACE ELEVATION: NA
CONTRACTOR: Boart Longyear
START CARD/TAG ID: NA
LOGGED BY: S. Kranz
DRILLING DATES: 08/24/2005 - 08/24/2005

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LOG OF BORING LFEXT-14

DIRECT PUSH BORING 4-61M-110152.GPJ AMEC PORTLAND.GDT 12/28/05

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	VOLATILE READING (ppm)	GROUNDWATER	GW SCREENED INTERVAL	FIELD TESTING	TESTING AND LABORATORY DATA
0		SM	Tan to gray, fine to medium SAND with trace to 5% fines and trace to 5% organic material.						
5									
10			Total depth = 10 feet below ground surface.						
15									
20									
25									
30									

BORING METHOD: Direct Push

BOREHOLE DIAMETER:

DRILL RIG: Geoprobe

CONTRACTOR: Boart Longyear

LOGGED BY: S. Kranz

ELEVATION REFERENCE: NA

GROUND SURFACE ELEVATION: NA

START CARD/TAG ID: NA

DRILLING DATES: 08/24/2005 - 08/24/2005

REMARKS:

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LOG OF BORING LFEXT-15

DIRECT PUSH BORING 4-61M-110152.GPJ AMEC PORTLAND.GDT 12/28/05

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	VOLATILE READING (ppm)	GROUNDWATER	GW SCREENED INTERVAL	FIELD TESTING	TESTING AND LABORATORY DATA
0		SM	Tan to gray, fine to medium SAND with trace to 5% fines and trace to 5% organic material.						
			Trace debris, fibers.						
5									
10			Total depth = 10 feet below ground surface.						
15									
20									
25									
30									

BORING METHOD: Direct Push
ELEVATION REFERENCE: NA
BOREHOLE DIAMETER:
REMARKS:
DRILL RIG: Geoprobe
GROUND SURFACE ELEVATION: NA
CONTRACTOR: Boart Longyear
START CARD/TAG ID: NA
LOGGED BY: S. Kranz
DRILLING DATES: 08/24/2005 - 08/24/2005

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LOG OF BORING LFEXT-16

DIRECT PUSH BORING 4-61M-110152.GPJ AMEC PORTLAND.GDT 12/28/05

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	VOLATILE READING (ppm)	GROUNDWATER	GW SCREENED INTERVAL	FIELD TESTING	TESTING AND LABORATORY DATA
0			SAND FILL above concrete.						
		SM	Tan to gray, fine to medium SAND with trace to 5% fines and trace to 5% organic material.						
			Total depth = 2.5 feet below ground surface due to refusal on concrete.						
5									
10									
15									
20									
25									
30									

BORING METHOD: Direct Push
ELEVATION REFERENCE: NA
BOREHOLE DIAMETER:
REMARKS:
DRILL RIG: Geoprobe
GROUND SURFACE ELEVATION: NA
CONTRACTOR: Boart Longyear
START CARD/TAG ID: NA
LOGGED BY: S. Kranz
DRILLING DATES: 08/24/2005 - 08/24/2005

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LOG OF BORING LFEXT-17

DIRECT PUSH BORING 4-61M-110152.GPJ AMEC PORTLAND.GDT 12/28/05

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	VOLATILE READING (ppm)	GROUNDWATER	GW SCREENED INTERVAL	FIELD TESTING	TESTING AND LABORATORY DATA
0		SM	Tan to gray, fine to medium SAND with trace to 5% fines and trace to 5% organic material.						
5									
10			Total depth = 10 feet below ground surface.						
15									
20									
25									
30									

BORING METHOD: Direct Push

BOREHOLE DIAMETER:

DRILL RIG: Geoprobe

CONTRACTOR: Boart Longyear

LOGGED BY: S. Kranz

ELEVATION REFERENCE: NA

GROUND SURFACE ELEVATION: NA

START CARD/TAG ID: NA

DRILLING DATES: 08/24/2005 - 08/24/2005

REMARKS:

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LOG OF BORING LFEXT-18

DIRECT PUSH BORING 4-61M-110152.GPJ AMEC PORTLAND.GDT 12/28/05

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	VOLATILE READING (ppm)	GROUNDWATER	GW SCREENED INTERVAL	FIELD TESTING	TESTING AND LABORATORY DATA
0		SM	Tan to gray, fine to medium SAND with trace to 5% fines and trace to 5% organic material.						
5									
10									
15			Total depth = 15 feet below ground surface.						
20									
25									
30									

BORING METHOD: Direct Push
ELEVATION REFERENCE: NA
BOREHOLE DIAMETER:
REMARKS:
DRILL RIG: Geoprobe
GROUND SURFACE ELEVATION: NA
CONTRACTOR: Boart Longyear
START CARD/TAG ID: NA
LOGGED BY: S. Kranz
DRILLING DATES: 08/24/2005 - 08/24/2005

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LOG OF BORING LFEXT-19

DIRECT PUSH BORING 4-61M-110152.GPJ AMEC PORTLAND.GDT 12/28/05

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	VOLATILE READING (ppm)	GROUNDWATER	GW SCREENED INTERVAL	FIELD TESTING	TESTING AND LABORATORY DATA
0		SM	Tan to gray, fine to medium SAND with trace to 5% fines and trace to 5% organic material.						
5									
10									
		SM	Black SAND.						
		SM	Tan to gray, fine to medium SAND with trace to 5% fines and trace to 5% organic material.						
15									
20			Total depth = 20 feet below ground surface.						
25									
30									

BORING METHOD: Direct Push
ELEVATION REFERENCE: NA
BOREHOLE DIAMETER:
REMARKS:
DRILL RIG: Geoprobe
GROUND SURFACE ELEVATION: NA
CONTRACTOR: Boart Longyear
START CARD/TAG ID: NA
LOGGED BY: S. Kranz
DRILLING DATES: 08/24/2005 - 08/24/2005

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LOG OF BORING LFEXT-20

DIRECT PUSH BORING 4-61M-110152.GPJ AMEC PORTLAND.GDT 12/28/05

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	VOLATILE READING (ppm)	GROUNDWATER	GW SCREENED INTERVAL	FIELD TESTING	TESTING AND LABORATORY DATA
0		SM	Tan to gray, fine to medium SAND with trace to 5% fines and trace to 5% organic material.						
5									
10									
		SM	Black SAND.						
		SM	Tan to gray, fine to medium SAND with trace to 5% fines and trace to 5% organic material.						
15									
20									
25									
30									

BORING METHOD: Direct Push

ELEVATION REFERENCE: NA

BOREHOLE DIAMETER:

DRILL RIG: Geoprobe

GROUND SURFACE ELEVATION: NA

CONTRACTOR: Boart Longyear

START CARD/TAG ID: NA

LOGGED BY: S. Kranz

DRILLING DATES: 08/24/2005 - 08/24/2005

REMARKS:

DTW = 38.65 feet bgs.

Soils logged from 0-20 feet bgs; boring driven to 36-40 feet bgs and groundwater sample collected.

Camp Rilea

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LOG OF BORING LFEXT-21

DIRECT PUSH BORING 4-61M-110152.GPJ AMEC PORTLAND.GDT 12/28/05

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	VOLATILE READING (ppm)	GROUNDWATER	GW SCREENED INTERVAL	FIELD TESTING	TESTING AND LABORATORY DATA
30									
35									
40						▽			LFEXT21
45									
50									
55									
60									

BORING METHOD: Direct Push

BOREHOLE DIAMETER:

DRILL RIG: Geoprobe

CONTRACTOR: Boart Longyear

LOGGED BY: S. Kranz

ELEVATION REFERENCE: NA

GROUND SURFACE ELEVATION: NA

START CARD/TAG ID: NA

DRILLING DATES: 08/24/2005 - 08/24/2005

REMARKS:

DTW = 38.65 feet bgs.

Soils logged from 0-20 feet bgs; boring driven to 36-40 feet bgs and groundwater sample collected.

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LOG OF BORING LFEXT-21

DIRECT PUSH BORING 4-61M-110152.GPJ AMEC PORTLAND.GDT 12/28/05

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	VOLATILE READING (ppm)	GROUNDWATER	GW SCREENED INTERVAL	FIELD TESTING	TESTING AND LABORATORY DATA
0		SM	Tan to gray, fine to medium SAND with trace to 5% fines and trace to 5% organic material.						
5									
10			Total depth = 10 feet below ground surface.						
15									
20									
25									
30									

BORING METHOD: Direct Push

BOREHOLE DIAMETER:

DRILL RIG: Geoprobe

CONTRACTOR: Boart Longyear

LOGGED BY: S. Kranz

ELEVATION REFERENCE: NA

GROUND SURFACE ELEVATION: NA

START CARD/TAG ID: NA

DRILLING DATES: 08/24/2005 - 08/24/2005

REMARKS:

Camp Rilea

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LOG OF BORING LFEXT-22

DIRECT PUSH BORING 4-61M-110152.GPJ AMEC PORTLAND.GDT 12/28/05

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	VOLATILE READING (ppm)	GROUNDWATER	GW SCREENED INTERVAL	FIELD TESTING	TESTING AND LABORATORY DATA
0		SM	Tan to gray, fine to medium SAND with trace to 5% fines and trace to 5% organic material.						
5									
10			Total depth = 10 feet below ground surface.						
15									
20									
25									
30									

BORING METHOD: Direct Push

BOREHOLE DIAMETER:

DRILL RIG: Geoprobe

CONTRACTOR: Boart Longyear

LOGGED BY: S. Kranz

ELEVATION REFERENCE: NA

GROUND SURFACE ELEVATION: NA

START CARD/TAG ID: NA

DRILLING DATES: 08/24/2005 - 08/24/2005

REMARKS:

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LOG OF BORING LFEXT-23

DIRECT PUSH BORING 4-61M-110152.GPJ AMEC PORTLAND.GDT 12/28/05

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	VOLATILE READING (ppm)	GROUNDWATER	GW SCREENED INTERVAL	FIELD TESTING	TESTING AND LABORATORY DATA
0		SM	Tan to gray, fine to medium SAND with trace to 5% fines and trace to 5% organic material.						
5									
10			Total depth = 10 feet below ground surface.						
15									
20									
25									
30									

BORING METHOD: Direct Push

BOREHOLE DIAMETER:

DRILL RIG: Geoprobe

CONTRACTOR: Boart Longyear

LOGGED BY: S. Kranz

ELEVATION REFERENCE: NA

GROUND SURFACE ELEVATION: NA

START CARD/TAG ID: NA

DRILLING DATES: 08/24/2005 - 08/24/2005

REMARKS:

Camp Rilea

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LOG OF BORING LFEXT-24

DIRECT PUSH BORING 4-61M-110152.GPJ AMEC PORTLAND.GDT 12/28/05

DEPTH (feet bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	GROUND WATER	WATER CONTENT (percent)	FIELD TESTING	TESTING AND LABORATORY DATA
		SM	Loose, light brown, fine SAND with trace silt; dry.					
			Glass, metal, and other landfill debris from 2.5-3 feet below ground surface.					
5			Total depth = 3 feet below ground surface.					
10								
15								
20								
25								
30								

Station: **Logged By: S. Kranz**

Approximate Elevation:

Excavation Started: 8/24/05 **Excavation Completed: 8/24/05**

LOG OF TEST PIT TP-1

DEPTH (feet bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	GROUND WATER	WATER CONTENT (percent)	FIELD TESTING	TESTING AND LABORATORY DATA
		SM	Encountered metal debris at ground surface. Loose, light brown, fine SAND with trace silt; dry.					
			Total depth = 3 feet below ground surface.					
5								
10								
15								
20								
25								
30								

Station: **Logged By: S. Kranz**

Approximate Elevation:

Excavation Started: 8/24/05 **Excavation Completed: 8/24/05**

LOG OF TEST PIT TP-2

Camp Rilea

4-61M-110152

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LOGS OF TEST PITS

DEPTH (feet bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	GROUND WATER	WATER CONTENT (percent)	FIELD TESTING	TESTING AND LABORATORY DATA
		SM	SAND and some grass at surface. Loose, light brown, fine SAND with trace silt; dry. Plastic, glass, rags at 1.5-3 feet below ground surface.					
5			Steel pipe at 5 feet below ground surface. Tire at 5.7 feet below ground surface. Muffler and tire at 6 feet below ground surface.	TP-3				
10			Bottom of landfill debris at 6.5 feet below ground surface. Total depth = 8.8 feet below ground surface.					
15								
20								
25								
30								

Station: **Logged By: M. Kohlbecker**

Approximate Elevation:

Excavation Started: 9/20/05 **Excavation Completed: 9/20/05**

LOG OF TEST PIT TP-3

DEPTH (feet bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	GROUND WATER	WATER CONTENT (percent)	FIELD TESTING	TESTING AND LABORATORY DATA
		SM	GRAVEL at surface. Loose, light brown, fine SAND with trace silt; dry. Rope, heavy-duty fishing net and metal debris at 2 feet below ground surface. Cloth at 3 feet below ground surface.					
5			Bottom of landfill debris at 5 feet below ground surface. Total depth = 6 feet below ground surface.	TP-4				
10								
15								
20								
25								
30								

Station: **Logged By: M. Kohlbecker**

Approximate Elevation:

Excavation Started: 9/20/05 **Excavation Completed: 9/20/05**

LOG OF TEST PIT TP-4

Camp Rilea

4-61M-110152

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LOGS OF TEST PITS

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	VOLATILE READING (ppm)	GROUNDWATER	GW SCREENED INTERVAL	FIELD TESTING	TESTING AND LABORATORY DATA
0		SM	Loose, light brown, fine SAND with trace silt, minor rootlets throughout sample; dry.						
			Debris from 2-6 feet below ground surface (noted by driller but not observed).						
5			Gravel (1-inch layer) with rootlets throughout sample.						
			Red fabric at 6 feet below ground surface.						
10			Glass fragment at 11 feet below ground surface (possible slough from above).						
15									
20									
			Large (1-inch) glass fragment at 23 feet below ground surface. (Slough)						
25			Rootlets at 25.5 feet below ground surface.						
			Black, fine SAND (1-inch layer) with some silt, rootlets at 26.5 feet below ground surface.						
30									

BORING METHOD: Direct Push
ELEVATION REFERENCE: NA
BOREHOLE DIAMETER:
DRILL RIG: Geoprobe
GROUND SURFACE ELEVATION: NA
CONTRACTOR: Boart Longyear
START CARD/TAG ID: NA
LOGGED BY: M. Kohlbecker
DRILLING DATES: 09/20/2005 - 09/20/2005

REMARKS:
DTW = 36 feet bgs.

Camp Rilea

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LOG OF BORING TP-3G

DIRECT PUSH BORING 4-61M-110152.GPJ AMEC PORTLAND.GDT 12/28/05

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	VOLATILE READING (ppm)	GROUNDWATER	GW SCREENED INTERVAL	FIELD TESTING	TESTING AND LABORATORY DATA
30		SM	Loose, light brown, fine SAND with trace silt, minor rootlets throughout sample; dry.						
35						▽			GP-TP-3-GW-35
40			Total depth = 40 feet below ground surface. Backfilled hole with bentonite pellets.						
45									
50									
55									
60									

BORING METHOD: Direct Push
ELEVATION REFERENCE: NA
BOREHOLE DIAMETER:
DRILL RIG: Geoprobe
GROUND SURFACE ELEVATION: NA
CONTRACTOR: Boart Longyear
START CARD/TAG ID: NA
LOGGED BY: M. Kohlbecker
DRILLING DATES: 09/20/2005 - 09/20/2005

REMARKS:
DTW = 36 feet bgs.

Camp Rilea

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LOG OF BORING TP-3G

DIRECT PUSH BORING 4-61M-110152.GPJ AMEC PORTLAND.GDT 12/28/05

APPENDIX B

Laboratory Results and Chain-of-Custody Documents

Seattle 11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-8244
425.420.9200 fax 425.420.9210
Spokane East 11115 Montgomery, Suite B, Spokane, WA 99206-4776
509.924.9200 fax 509.924.9290
Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132
503.906.9200 fax 503.906.9210
Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711
541.383.9310 fax 541.382.7588
Anchorage 2000 W International Airport Road, Suite A-10, Anchorage, AK 99502-1119
907.563.9200 fax 907.563.9210

October 25, 2005

Scott Kranz
AMEC- Portland
7376 SW Durham Road
Portland, OR 97224

RE: Camp Rilea

Enclosed are the results of analyses for samples received by the laboratory on 09/21/05 17:25.
The following list is a summary of the NCA Work Orders contained in this report.
If you have any questions concerning this report, please feel free to contact me.

Work	Project	ProjectNumber
P5I0775	Camp Rilea	561M11015

Thank You,

Lisa Domenighini, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

North Creek Analytical, Inc.
Environmental Laboratory Network

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phone: (425) 420.9200 fax: (425) 420.9210
Spokane East 11115 Montgomery, Suite B, Spokane, WA 99206-4776
phone: (509) 924.9200 fax: (509) 924.9290
Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132
phone: (503) 906.9200 fax: (503) 906.9210
Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711
phone: (541) 383.9310 fax: 541.382.7588
Anchorage 2000 W International Airport Road, Suite A-10, Anchorage, AK 99502-1119
phone: (907) 563.9200 fax: (907) 563.9210

AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
A1-BP-13-S0-01	P5I0775-01	Soil	09/20/05 07:10	09/21/05 17:25
A1-BP-13-S0-02	P5I0775-02	Soil	09/20/05 07:30	09/21/05 17:25
A1-BP-11-S0-01	P5I0775-03	Soil	09/20/05 08:23	09/21/05 17:25
A1-BP-11-S0-02	P5I0775-04	Soil	09/20/05 08:31	09/21/05 17:25
A1-BP-09-GW-35	P5I0775-05	Water	09/20/05 10:15	09/21/05 17:25
A1-BP-14-S0-01	P5I0775-06	Soil	09/20/05 11:00	09/21/05 17:25
A1-BP-14-S0-02	P5I0775-07	Soil	09/20/05 11:00	09/21/05 17:25
A1-BP-14-S0-20	P5I0775-08	Soil	09/20/05 11:00	09/21/05 17:25
A1-BP-14-S0-04	P5I0775-09	Soil	09/20/05 11:00	09/21/05 17:25
A1-BP-14-S0-05	P5I0775-10	Soil	09/20/05 11:00	09/21/05 17:25
TP-3	P5I0775-11	Soil	09/19/05 11:25	09/21/05 17:25
TP-4	P5I0775-12	Soil	09/19/05 13:50	09/21/05 17:25
A1-BP-10-S0-01	P5I0775-15	Soil	09/19/05 15:12	09/21/05 17:25
A1-BP-10-S0-02	P5I0775-16	Soil	09/19/05 15:25	09/21/05 17:25
A1-BP-12-S0-01	P5I0775-17	Soil	09/19/05 15:50	09/21/05 17:25
A1-BP-12-S0-02	P5I0775-18	Soil	09/19/05 16:00	09/21/05 17:25
A1-BP-08-GW-35	P5I0775-19	Water	09/20/05 12:15	09/21/05 17:25
A1-BP-08-GW-53	P5I0775-20	Water	09/20/05 12:15	09/21/05 17:25
GP-TP-3-GW-35	P5I0775-22	Water	09/20/05 14:30	09/21/05 17:25

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Hydrocarbon Identification per NW-TPH Methodology

North Creek Analytical - Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-06 Soil A1-BP-14-S0-01 Sampled: 09/20/05 11:00										
Gasoline Range Hydrocarbons	NWTPH HCID	ND	-----	22.2	mg/kg dry	1x	5090949	09/23/05	09/23/05 23:03	
Diesel Range Hydrocarbons	"	ND	-----	55.4	"	"	"	"	"	
Heavy Oil Range Hydrocarbons	"	ND	-----	111	"	"	"	"	"	
Surrogate(s): 1-Chlorooctadecane		*Recovery: 65.3%*		*Limits: 50 - 150 %*		*"*			*"*	
P5I0775-07 Soil A1-BP-14-S0-02 Sampled: 09/20/05 11:00										
Gasoline Range Hydrocarbons	NWTPH HCID	ND	-----	31.1	mg/kg dry	1x	5090949	09/23/05	09/23/05 23:42	
Diesel Range Hydrocarbons	"	ND	-----	77.7	"	"	"	"	"	
Heavy Oil Range Hydrocarbons	"	ND	-----	155	"	"	"	"	"	
Surrogate(s): 1-Chlorooctadecane		*Recovery: 69.3%*		*Limits: 50 - 150 %*		*"*			*"*	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Total Metals per EPA 6000/7000 Series Methods

North Creek Analytical - Portland

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-01	**Soil**	**A1-BP-13-S0-01**	**Sampled: 09/20/05 07:10**								
Arsenic		EPA 6020	**7.67**	-----	0.508	mg/kg dry	1x	5090972	09/23/05	09/28/05 11:06	
Barium		"	**68.1**	-----	0.508	"	"	"	"	"	
Cadmium		"	ND	-----	0.508	"	"	"	"	"	
Chromium		"	**8.36**	-----	0.508	"	"	"	"	"	
Lead		"	**6.82**	-----	0.508	"	"	"	"	"	
Selenium		"	ND	-----	0.508	"	"	"	"	10/05/05 06:13	
Silver		"	ND	-----	0.508	"	"	"	"	09/28/05 11:06	
P5I0775-02	**Soil**	**A1-BP-13-S0-02**	**Sampled: 09/20/05 07:30**								
Arsenic		EPA 6020	**4.46**	-----	0.510	mg/kg dry	1x	5090972	09/23/05	09/28/05 11:13	
Barium		"	**39.9**	-----	0.510	"	"	"	"	"	
Cadmium		"	ND	-----	0.510	"	"	"	"	"	
Chromium		"	**8.82**	-----	0.510	"	"	"	"	"	
Lead		"	**31.0**	-----	0.510	"	"	"	"	"	
Selenium		"	ND	-----	0.510	"	"	"	"	10/05/05 06:20	
Silver		"	ND	-----	0.510	"	"	"	"	09/28/05 11:13	
P5I0775-03	**Soil**	**A1-BP-11-S0-01**	**Sampled: 09/20/05 08:23**								
Arsenic		EPA 6020	**4.54**	-----	0.561	mg/kg dry	1x	5090972	09/23/05	09/28/05 11:21	
Barium		"	**181**	-----	0.561	"	"	"	"	"	
Cadmium		"	ND	-----	0.561	"	"	"	"	"	
Chromium		"	**11.2**	-----	0.561	"	"	"	"	"	
Lead		"	**119**	-----	0.561	"	"	"	"	"	
Selenium		"	ND	-----	0.561	"	"	"	"	10/05/05 06:43	
Silver		"	ND	-----	0.561	"	"	"	"	09/28/05 11:21	
P5I0775-04	**Soil**	**A1-BP-11-S0-02**	**Sampled: 09/20/05 08:31**								
Arsenic		EPA 6020	**2.36**	-----	0.527	mg/kg dry	1x	5090972	09/23/05	09/28/05 11:28	
Barium		"	**17.7**	-----	0.527	"	"	"	"	"	
Cadmium		"	ND	-----	0.527	"	"	"	"	"	
Chromium		"	**7.45**	-----	0.527	"	"	"	"	"	
Lead		"	**12.6**	-----	0.527	"	"	"	"	"	
Selenium		"	ND	-----	0.527	"	"	"	"	10/05/05 06:50	
Silver		"	ND	-----	0.527	"	"	"	"	09/28/05 11:28	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Total Metals per EPA 6000/7000 Series Methods

North Creek Analytical - Portland

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-05	**Water**	**A1-BP-09-GW-35**	**Sampled: 09/20/05 10:15**								
Arsenic		EPA 6020	**0.0121**	-----	0.00100	mg/l	1x	5091241	09/29/05	10/05/05 18:10	
Barium		"	**0.0816**	-----	0.00100	"	"	"	"	"	
Cadmium		"	ND	-----	0.00100	"	"	"	"	"	
Chromium		"	**0.0230**	-----	0.00500	"	5x	"	"	10/11/05 00:07	**R-03**
Lead		"	**0.00883**	-----	0.00100	"	1x	"	"	10/05/05 18:10	
Selenium		"	ND	-----	0.00200	"	"	"	"	10/12/05 18:12	
Silver		"	ND	-----	0.00100	"	"	"	"	10/05/05 18:10	
P5I0775-06	**Soil**	**A1-BP-14-S0-01**	**Sampled: 09/20/05 11:00**								
Arsenic		EPA 6020	**19.1**	-----	0.548	mg/kg dry	1x	5090972	09/23/05	09/28/05 11:51	
Barium		"	**149**	-----	0.548	"	"	"	"	"	
Cadmium		"	ND	-----	0.548	"	"	"	"	"	
Chromium		"	**18.0**	-----	0.548	"	"	"	"	"	
Lead		"	**1180**	-----	5.37	"	9.8x	"	"	09/28/05 11:59	**R-02**
Selenium		"	ND	-----	0.548	"	1x	"	"	10/05/05 06:58	
Silver		"	ND	-----	0.548	"	"	"	"	09/28/05 11:51	
P5I0775-07	**Soil**	**A1-BP-14-S0-02**	**Sampled: 09/20/05 11:00**								
Arsenic		EPA 6020	**1700**	-----	6.69	mg/kg dry	9.06x	5090972	09/23/05	09/28/05 12:15	**R-02**
Barium		"	**2380**	-----	6.69	"	"	"	"	"	**R-02**
Cadmium		"	**4.06**	-----	0.739	"	1x	"	"	09/28/05 12:07	
Chromium		"	**247**	-----	0.739	"	"	"	"	"	
Lead		"	**976**	-----	6.69	"	9.06x	"	"	09/28/05 12:15	**R-02**
Selenium		"	ND	-----	0.739	"	1x	"	"	10/05/05 07:06	
Silver		"	ND	-----	0.739	"	"	"	"	09/28/05 12:07	
P5I0775-08	**Soil**	**A1-BP-14-S0-20**	**Sampled: 09/20/05 11:00**								
Arsenic		EPA 6020	**91.6**	-----	0.691	mg/kg dry	1x	5090976	09/23/05	09/28/05 04:33	
Barium		"	**335**	-----	0.691	"	"	"	"	"	
Cadmium		"	ND	-----	0.691	"	"	"	"	"	
Chromium		"	**49.9**	-----	0.691	"	"	"	"	"	
Lead		"	**412**	-----	0.691	"	"	"	"	"	
Selenium		"	ND	-----	0.691	"	"	"	"	10/22/05 03:10	
Silver		"	ND	-----	0.691	"	"	"	"	09/28/05 04:33	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Total Metals per EPA 6000/7000 Series Methods

North Creek Analytical - Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-11 Soil TP-3 Sampled: 09/19/05 11:25										
Arsenic	EPA 6020	**2.08**	-----	0.529	mg/kg dry	1x	5090976	09/23/05	09/28/05 05:58	
Barium	"	**11.5**	-----	0.529	"	"	"	"	"	
Cadmium	"	ND	-----	0.529	"	"	"	"	"	
Chromium	"	**8.68**	-----	0.529	"	"	"	"	"	
Lead	"	**1.47**	-----	0.529	"	"	"	"	"	
Selenium	"	ND	-----	0.529	"	"	"	"	10/22/05 04:35	
Silver	"	ND	-----	0.529	"	"	"	"	09/28/05 05:58	
P5I0775-12 Soil TP-4 Sampled: 09/19/05 13:50										
Arsenic	EPA 6020	**2.35**	-----	0.592	mg/kg dry	1x	5090976	09/23/05	09/28/05 22:43	
Barium	"	**11.5**	-----	0.592	"	"	"	"	09/28/05 12:22	
Cadmium	"	ND	-----	0.592	"	"	"	"	"	
Chromium	"	**8.81**	-----	0.592	"	"	"	"	"	
Lead	"	**1.70**	-----	0.592	"	"	"	"	"	
Selenium	"	ND	-----	0.592	"	"	"	"	10/22/05 04:59	
Silver	"	ND	-----	0.592	"	"	"	"	09/28/05 12:22	
P5I0775-15 Soil A1-BP-10-S0-01 Sampled: 09/19/05 15:12										
Arsenic	EPA 6020	**20.0**	-----	0.654	mg/kg dry	1x	5090976	09/23/05	09/28/05 12:30	
Barium	"	**170**	-----	0.654	"	"	"	"	"	
Cadmium	"	ND	-----	0.654	"	"	"	"	"	
Chromium	"	**20.8**	-----	0.654	"	"	"	"	"	
Lead	"	**164**	-----	0.654	"	"	"	"	"	
Selenium	"	ND	-----	0.654	"	"	"	"	10/22/05 05:11	
Silver	"	**0.681**	-----	0.654	"	"	"	"	09/28/05 12:30	
P5I0775-16 Soil A1-BP-10-S0-02 Sampled: 09/19/05 15:25										
Arsenic	EPA 6020	**5.10**	-----	0.556	mg/kg dry	1x	5090976	09/23/05	09/28/05 22:50	
Barium	"	**21.7**	-----	0.556	"	"	"	"	09/28/05 12:38	
Cadmium	"	ND	-----	0.556	"	"	"	"	"	
Chromium	"	**14.4**	-----	0.556	"	"	"	"	"	
Lead	"	**34.2**	-----	0.556	"	"	"	"	"	
Selenium	"	ND	-----	0.556	"	"	"	"	10/22/05 05:23	
Silver	"	ND	-----	0.556	"	"	"	"	09/28/05 12:38	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Total Metals per EPA 6000/7000 Series Methods

North Creek Analytical - Portland

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-17	**Soil**	**A1-BP-12-S0-01**	**Sampled: 09/19/05 15:50**								
Arsenic		EPA 6020	**2.56**	-----	0.564	mg/kg dry	1x	5090976	09/23/05	09/28/05 22:58	
Barium		"	**76.8**	-----	0.564	"	"	"	"	09/28/05 12:45	
Cadmium		"	ND	-----	0.564	"	"	"	"	"	
Chromium		"	**8.88**	-----	0.564	"	"	"	"	"	
Lead		"	**112**	-----	0.564	"	"	"	"	"	
Selenium		"	ND	-----	0.564	"	"	"	"	10/22/05 05:35	
Silver		"	ND	-----	0.564	"	"	"	"	09/28/05 12:45	
P5I0775-18	**Soil**	**A1-BP-12-S0-02**	**Sampled: 09/19/05 16:00**								
Arsenic		EPA 6020	**1.81**	-----	0.892	mg/kg dry	1x	5090976	09/23/05	09/28/05 23:06	
Barium		"	**50.0**	-----	0.892	"	"	"	"	09/28/05 12:53	
Cadmium		"	ND	-----	0.892	"	"	"	"	"	
Chromium		"	**11.8**	-----	0.892	"	"	"	"	"	
Lead		"	**160**	-----	0.892	"	"	"	"	"	
Selenium		"	ND	-----	0.892	"	"	"	"	10/22/05 05:47	
Silver		"	ND	-----	0.892	"	"	"	"	09/28/05 12:53	
P5I0775-19	**Water**	**A1-BP-08-GW-35**	**Sampled: 09/20/05 12:15**								
Arsenic		EPA 6020	**0.00809**	-----	0.00100	mg/l	1x	5091241	09/29/05	10/05/05 18:58	
Barium		"	**0.0649**	-----	0.00100	"	"	"	"	"	
Cadmium		"	ND	-----	0.00100	"	"	"	"	"	
Chromium		"	**0.0180**	-----	0.00500	"	5x	"	"	10/11/05 00:53	**R-03**
Lead		"	**0.00642**	-----	0.00100	"	1x	"	"	10/05/05 18:58	
Selenium		"	ND	-----	0.00200	"	"	"	"	10/12/05 18:54	
Silver		"	ND	-----	0.00100	"	"	"	"	10/05/05 18:58	
P5I0775-20	**Water**	**A1-BP-08-GW-53**	**Sampled: 09/20/05 12:15**								
Arsenic		EPA 6020	**0.00920**	-----	0.00100	mg/l	1x	5091241	09/29/05	10/05/05 19:21	
Barium		"	**0.0711**	-----	0.00100	"	"	"	"	"	
Cadmium		"	ND	-----	0.00100	"	"	"	"	"	
Chromium		"	**0.0206**	-----	0.00500	"	5x	"	"	10/11/05 01:16	**R-03**
Lead		"	**0.00695**	-----	0.00100	"	1x	"	"	10/05/05 19:21	
Selenium		"	ND	-----	0.00200	"	"	"	"	10/12/05 19:16	
Silver		"	ND	-----	0.00100	"	"	"	"	10/05/05 19:21	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Total Metals per EPA 6000/7000 Series Methods

North Creek Analytical - Portland

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-22	**Water**	**GP-TP-3-GW-35**	**Sampled: 09/20/05 14:30**								
Arsenic		EPA 6020	**0.0212**	-----	0.00100	mg/l	1x	5091241	09/29/05	10/05/05 19:28	
Barium		"	**0.203**	-----	0.00500	"	5x	"	"	10/11/05 01:24	**R-03**
Cadmium		"	ND	-----	0.00100	"	1x	"	"	10/05/05 19:28	
Chromium		"	**0.131**	-----	0.00500	"	5x	"	"	10/11/05 01:24	**R-03**
Lead		"	**0.0350**	-----	0.00500	"	"	"	"	"	**R-03**
Selenium		"	ND	-----	0.00200	"	1x	"	"	10/12/05 19:23	
Silver		"	ND	-----	0.00100	"	"	"	"	10/05/05 19:28	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Total Mercury per EPA Method 7470A

North Creek Analytical - Portland

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-05	**Water**	**A1-BP-09-GW-35**	**Sampled: 09/20/05 10:15**								
Mercury		EPA 7470A	ND	-----	0.000200	mg/l	1x	5090933	09/22/05	09/22/05 17:19	
P5I0775-19	**Water**	**A1-BP-08-GW-35**	**Sampled: 09/20/05 12:15**								
Mercury		EPA 7470A	ND	-----	0.000200	mg/l	1x	5090933	09/22/05	09/22/05 17:21	
P5I0775-20	**Water**	**A1-BP-08-GW-53**	**Sampled: 09/20/05 12:15**								
Mercury		EPA 7470A	ND	-----	0.000200	mg/l	1x	5090933	09/22/05	09/22/05 17:24	
P5I0775-22	**Water**	**GP-TP-3-GW-35**	**Sampled: 09/20/05 14:30**								
Mercury		EPA 7470A	ND	-----	0.000200	mg/l	1x	5090933	09/22/05	09/22/05 17:26	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Total Mercury per EPA Method 7471A

North Creek Analytical - Portland

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-01	**Soil**	**A1-BP-13-S0-01**	**Sampled: 09/20/05 07:10**								
Mercury		EPA 7471A	ND	-----	0.0978	mg/kg dry	1x	5090943	09/22/05	09/23/05 08:03	
P5I0775-02	**Soil**	**A1-BP-13-S0-02**	**Sampled: 09/20/05 07:30**								
Mercury		EPA 7471A	ND	-----	0.0644	mg/kg dry	1x	5090943	09/22/05	09/23/05 08:05	
P5I0775-03	**Soil**	**A1-BP-11-S0-01**	**Sampled: 09/20/05 08:23**								
Mercury		EPA 7471A	ND	-----	0.0859	mg/kg dry	1x	5090943	09/22/05	09/23/05 08:08	
P5I0775-04	**Soil**	**A1-BP-11-S0-02**	**Sampled: 09/20/05 08:31**								
Mercury		EPA 7471A	ND	-----	0.0782	mg/kg dry	1x	5090943	09/22/05	09/23/05 08:15	
P5I0775-06	**Soil**	**A1-BP-14-S0-01**	**Sampled: 09/20/05 11:00**								
Mercury		EPA 7471A	ND	-----	0.0893	mg/kg dry	1x	5090943	09/22/05	09/23/05 08:17	
P5I0775-07	**Soil**	**A1-BP-14-S0-02**	**Sampled: 09/20/05 11:00**								
Mercury		EPA 7471A	ND	-----	0.145	mg/kg dry	1x	5090943	09/22/05	09/23/05 08:19	
P5I0775-08	**Soil**	**A1-BP-14-S0-20**	**Sampled: 09/20/05 11:00**								
Mercury		EPA 7471A	ND	-----	0.0919	mg/kg dry	1x	5090943	09/22/05	09/23/05 08:22	
P5I0775-11	**Soil**	**TP-3**	**Sampled: 09/19/05 11:25**								
Mercury		EPA 7471A	ND	-----	0.103	mg/kg dry	1x	5090943	09/22/05	09/23/05 08:24	
P5I0775-12	**Soil**	**TP-4**	**Sampled: 09/19/05 13:50**								
Mercury		EPA 7471A	ND	-----	0.0814	mg/kg dry	1x	5090943	09/22/05	09/23/05 08:26	
P5I0775-15	**Soil**	**A1-BP-10-S0-01**	**Sampled: 09/19/05 15:12**								
Mercury		EPA 7471A	ND	-----	0.0934	mg/kg dry	1x	5090943	09/22/05	09/23/05 08:28	
P5I0775-16	**Soil**	**A1-BP-10-S0-02**	**Sampled: 09/19/05 15:25**								
Mercury		EPA 7471A	ND	-----	0.0729	mg/kg dry	1x	5090943	09/22/05	09/23/05 08:31	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Total Mercury per EPA Method 7471A

North Creek Analytical - Portland

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-17	**Soil**	**A1-BP-12-S0-01**	**Sampled: 09/19/05 15:50**								
Mercury		EPA 7471A	ND	-----	0.0797	mg/kg dry	1x	5090943	09/22/05	09/23/05 08:33	
P5I0775-18	**Soil**	**A1-BP-12-S0-02**	**Sampled: 09/19/05 16:00**								
Mercury		EPA 7471A	**0.225**	-----	0.0839	mg/kg dry	1x	5090943	09/22/05	09/23/05 08:35	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Polychlorinated Biphenyls per EPA Method 8082

North Creek Analytical - Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-01 Soil A1-BP-13-S0-01 Sampled: 09/20/05 07:10										
Aroclor 1016	EPA 8082	ND	-----	35.0	ug/kg dry	1x	5091034	09/26/05	09/27/05 11:28	
Aroclor 1221	"	ND	-----	70.3	"	"	"	"	"	
Aroclor 1232	"	ND	-----	35.0	"	"	"	"	"	
Aroclor 1242	"	ND	-----	35.0	"	"	"	"	"	
Aroclor 1248	"	ND	-----	35.0	"	"	"	"	"	
Aroclor 1254	"	ND	-----	35.0	"	"	"	"	"	
Aroclor 1260	"	ND	-----	35.0	"	"	"	"	"	
Surrogate(s): 2,4,5,6-Tetrachloro-m-xylene		*Recovery: 97.4%*		*Limits:*	*36 - 140 %*	"			"	
Decachlorobiphenyl		*85.4%*			*16 - 149 %*	"			"	
P5I0775-03 Soil A1-BP-11-S0-01 Sampled: 09/20/05 08:23										
Aroclor 1016	EPA 8082	ND	-----	36.4	ug/kg dry	1x	5091034	09/26/05	09/27/05 16:48	
Aroclor 1221	"	ND	-----	73.2	"	"	"	"	"	
Aroclor 1232	"	ND	-----	36.4	"	"	"	"	"	
Aroclor 1242	"	ND	-----	36.4	"	"	"	"	"	
Aroclor 1248	"	ND	-----	36.4	"	"	"	"	"	
Aroclor 1254	"	ND	-----	36.4	"	"	"	"	"	
Aroclor 1260	"	ND	-----	36.4	"	"	"	"	"	
Surrogate(s): 2,4,5,6-Tetrachloro-m-xylene		*Recovery: 97.0%*		*Limits:*	*36 - 140 %*	"			"	
Decachlorobiphenyl		*81.9%*			*16 - 149 %*	"			*09/27/05 16:26*	
P5I0775-06 Soil A1-BP-14-S0-01 Sampled: 09/20/05 11:00										
Aroclor 1016	EPA 8082	ND	-----	36.3	ug/kg dry	1x	5091034	09/26/05	09/27/05 16:26	
Aroclor 1221	"	ND	-----	73.1	"	"	"	"	"	
Aroclor 1232	"	ND	-----	36.3	"	"	"	"	"	
Aroclor 1242	"	ND	-----	36.3	"	"	"	"	"	
Aroclor 1248	"	ND	-----	36.3	"	"	"	"	"	
Aroclor 1254	"	ND	-----	36.3	"	"	"	"	"	
Aroclor 1260	"	ND	-----	36.3	"	"	"	"	"	
Surrogate(s): 2,4,5,6-Tetrachloro-m-xylene		*Recovery: 96.4%*		*Limits:*	*36 - 140 %*	"			"	
Decachlorobiphenyl		*86.5%*			*16 - 149 %*	"			*09/27/05 16:48*	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Polychlorinated Biphenyls per EPA Method 8082

North Creek Analytical - Portland

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-15	**Soil**	**A1-BP-10-S0-01**	**Sampled: 09/19/05 15:12**								
Aroclor 1016		EPA 8082	ND	-----	43.4	ug/kg dry	1x	5091034	09/26/05	09/27/05 17:34	
Aroclor 1221		"	ND	-----	87.4	"	"	"	"	"	
Aroclor 1232		"	ND	-----	43.4	"	"	"	"	"	
Aroclor 1242		"	ND	-----	43.4	"	"	"	"	"	
Aroclor 1248		"	ND	-----	43.4	"	"	"	"	"	
Aroclor 1254		"	ND	-----	43.4	"	"	"	"	"	
Aroclor 1260		"	ND	-----	43.4	"	"	"	"	"	
Surrogate(s):	*2,4,5,6-Tetrachloro-m-xylene*		*Recovery: 99.8%*		*Limits:*	*36 - 140 %*	*"*			*"*	
	Decachlorobiphenyl		*76.3%*			*16 - 149 %*	*"*			*09/27/05 17:11*	
P5I0775-17	**Soil**	**A1-BP-12-S0-01**	**Sampled: 09/19/05 15:50**								
Aroclor 1016		EPA 8082	ND	-----	35.9	ug/kg dry	1x	5091034	09/26/05	09/27/05 17:11	
Aroclor 1221		"	ND	-----	72.3	"	"	"	"	"	
Aroclor 1232		"	ND	-----	35.9	"	"	"	"	"	
Aroclor 1242		"	ND	-----	35.9	"	"	"	"	"	
Aroclor 1248		"	ND	-----	35.9	"	"	"	"	"	
Aroclor 1254		"	ND	-----	35.9	"	"	"	"	"	
Aroclor 1260		"	ND	-----	35.9	"	"	"	"	"	
Surrogate(s):	*2,4,5,6-Tetrachloro-m-xylene*		*Recovery: 89.7%*		*Limits:*	*36 - 140 %*	*"*			*"*	
	Decachlorobiphenyl		*74.7%*			*16 - 149 %*	*"*			*09/27/05 17:34*	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Volatile Organic Compounds per EPA Method 8260B

North Creek Analytical - Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-02 Soil A1-BP-13-S0-02 Sampled: 09/20/05 07:30										
Acetone	EPA 8260B	ND	-----	2540	ug/kg dry	1x	5090889	09/22/05	09/22/05 11:37	
Benzene	"	ND	-----	101	"	"	"	"	"	
Bromobenzene	"	ND	-----	101	"	"	"	"	"	
Bromochloromethane	"	ND	-----	101	"	"	"	"	"	
Bromodichloromethane	"	ND	-----	101	"	"	"	"	"	
Bromoform	"	ND	-----	101	"	"	"	"	"	
Bromomethane	"	ND	-----	507	"	"	"	"	"	
2-Butanone	"	ND	-----	1010	"	"	"	"	"	
n-Butylbenzene	"	ND	-----	507	"	"	"	"	"	
sec-Butylbenzene	"	ND	-----	101	"	"	"	"	"	
tert-Butylbenzene	"	ND	-----	101	"	"	"	"	"	
Carbon disulfide	"	ND	-----	1010	"	"	"	"	"	
Carbon tetrachloride	"	ND	-----	101	"	"	"	"	"	
Chlorobenzene	"	ND	-----	101	"	"	"	"	"	
Chloroethane	"	ND	-----	101	"	"	"	"	"	
Chloroform	"	ND	-----	101	"	"	"	"	"	
Chloromethane	"	ND	-----	507	"	"	"	"	"	
2-Chlorotoluene	"	ND	-----	101	"	"	"	"	"	
4-Chlorotoluene	"	ND	-----	101	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	"	ND	-----	507	"	"	"	"	"	
Dibromochloromethane	"	ND	-----	101	"	"	"	"	"	
1,2-Dibromoethane	"	ND	-----	101	"	"	"	"	"	
Dibromomethane	"	ND	-----	101	"	"	"	"	"	
1,2-Dichlorobenzene	"	ND	-----	101	"	"	"	"	"	
1,3-Dichlorobenzene	"	ND	-----	101	"	"	"	"	"	
1,4-Dichlorobenzene	"	ND	-----	101	"	"	"	"	"	
Dichlorodifluoromethane	"	ND	-----	507	"	"	"	"	"	
1,1-Dichloroethane	"	ND	-----	101	"	"	"	"	"	
1,2-Dichloroethane	"	ND	-----	101	"	"	"	"	"	
1,1-Dichloroethene	"	ND	-----	101	"	"	"	"	"	
cis-1,2-Dichloroethene	"	ND	-----	101	"	"	"	"	"	
trans-1,2-Dichloroethene	"	ND	-----	101	"	"	"	"	"	
1,2-Dichloropropane	"	ND	-----	101	"	"	"	"	"	
1,3-Dichloropropane	"	ND	-----	101	"	"	"	"	"	
2,2-Dichloropropane	"	ND	-----	101	"	"	"	"	"	
1,1-Dichloropropene	"	ND	-----	101	"	"	"	"	"	
cis-1,3-Dichloropropene	"	ND	-----	101	"	"	"	"	"	
trans-1,3-Dichloropropene	"	ND	-----	101	"	"	"	"	"	
Ethylbenzene	"	ND	-----	101	"	"	"	"	"	
Hexachlorobutadiene	"	ND	-----	406	"	"	"	"	"	
2-Hexanone	"	ND	-----	1010	"	"	"	"	"	
Isopropylbenzene	"	ND	-----	203	"	"	"	"	"	

North Creek Analytical - Portland

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Volatile Organic Compounds per EPA Method 8260B

North Creek Analytical - Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-02 Soil A1-BP-13-S0-02 Sampled: 09/20/05 07:30										
p-Isopropyltoluene	EPA 8260B	ND	-----	203	ug/kg dry	1x	5090889	09/22/05	09/22/05 11:37	
4-Methyl-2-pentanone	"	ND	-----	507	"	"	"	"	"	
Methyl tert-butyl ether	"	ND	-----	101	"	"	"	"	"	
Methylene chloride	"	ND	-----	507	"	"	"	"	"	
Naphthalene	"	ND	-----	203	"	"	"	"	"	
n-Propylbenzene	"	ND	-----	101	"	"	"	"	"	
Styrene	"	ND	-----	101	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	"	ND	-----	101	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	"	ND	-----	101	"	"	"	"	"	
Tetrachloroethene	"	ND	-----	101	"	"	"	"	"	
Toluene	"	ND	-----	101	"	"	"	"	"	
1,2,3-Trichlorobenzene	"	ND	-----	101	"	"	"	"	"	
1,2,4-Trichlorobenzene	"	ND	-----	101	"	"	"	"	"	
1,1,1-Trichloroethane	"	ND	-----	101	"	"	"	"	"	
1,1,2-Trichloroethane	"	ND	-----	101	"	"	"	"	"	
Trichloroethene	"	ND	-----	101	"	"	"	"	"	
Trichlorofluoromethane	"	ND	-----	101	"	"	"	"	"	
1,2,3-Trichloropropane	"	ND	-----	101	"	"	"	"	"	
1,2,4-Trimethylbenzene	"	ND	-----	101	"	"	"	"	"	
1,3,5-Trimethylbenzene	"	ND	-----	101	"	"	"	"	"	
Vinyl chloride	"	ND	-----	101	"	"	"	"	"	
o-Xylene	"	ND	-----	101	"	"	"	"	"	
m,p-Xylene	"	ND	-----	203	"	"	"	"	"	
Surrogate(s): 4-BFB		*Recovery: 92.1%*		*Limits: 42.6 - 130 %*		*"*			*"*	
1,2-DCA-d4		*123%*		*57.3 - 144 %*		*"*			*"*	
Dibromofluoromethane		*107%*		*45.5 - 130 %*		*"*			*"*	
Toluene-d8		*116%*		*42.1 - 144 %*		*"*			*"*	
P5I0775-04 Soil A1-BP-11-S0-02 Sampled: 09/20/05 08:31										
Acetone	EPA 8260B	ND	-----	2600	ug/kg dry	1x	5090889	09/22/05	09/24/05 14:07	
Benzene	"	ND	-----	104	"	"	"	"	"	
Bromobenzene	"	ND	-----	104	"	"	"	"	"	
Bromochloromethane	"	ND	-----	104	"	"	"	"	"	
Bromodichloromethane	"	ND	-----	104	"	"	"	"	"	
Bromoform	"	ND	-----	104	"	"	"	"	"	
Bromomethane	"	ND	-----	521	"	"	"	"	"	
2-Butanone	"	ND	-----	1040	"	"	"	"	"	
n-Butylbenzene	"	ND	-----	521	"	"	"	"	"	
sec-Butylbenzene	"	ND	-----	104	"	"	"	"	"	
tert-Butylbenzene	"	ND	-----	104	"	"	"	"	"	
Carbon disulfide	"	ND	-----	1040	"	"	"	"	"	
Carbon tetrachloride	"	ND	-----	104	"	"	"	"	"	

North Creek Analytical - Portland

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Volatile Organic Compounds per EPA Method 8260B

North Creek Analytical - Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-04 Soil A1-BP-11-S0-02 Sampled: 09/20/05 08:31										
Chlorobenzene	EPA 8260B	ND	-----	104	ug/kg dry	1x	5090889	09/22/05	09/24/05 14:07	
Chloroethane	"	ND	-----	104	"	"	"	"	"	
Chloroform	"	ND	-----	104	"	"	"	"	"	
Chloromethane	"	ND	-----	521	"	"	"	"	"	
2-Chlorotoluene	"	ND	-----	104	"	"	"	"	"	
4-Chlorotoluene	"	ND	-----	104	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	"	ND	-----	521	"	"	"	"	"	
Dibromochloromethane	"	ND	-----	104	"	"	"	"	"	
1,2-Dibromoethane	"	ND	-----	104	"	"	"	"	"	
Dibromomethane	"	ND	-----	104	"	"	"	"	"	
1,2-Dichlorobenzene	"	ND	-----	104	"	"	"	"	"	
1,3-Dichlorobenzene	"	ND	-----	104	"	"	"	"	"	
1,4-Dichlorobenzene	"	ND	-----	104	"	"	"	"	"	
Dichlorodifluoromethane	"	ND	-----	521	"	"	"	"	"	
1,1-Dichloroethane	"	ND	-----	104	"	"	"	"	"	
1,2-Dichloroethane	"	ND	-----	104	"	"	"	"	"	
1,1-Dichloroethene	"	ND	-----	104	"	"	"	"	"	
cis-1,2-Dichloroethene	"	ND	-----	104	"	"	"	"	"	
trans-1,2-Dichloroethene	"	ND	-----	104	"	"	"	"	"	
1,2-Dichloropropane	"	ND	-----	104	"	"	"	"	"	
1,3-Dichloropropane	"	ND	-----	104	"	"	"	"	"	
2,2-Dichloropropane	"	ND	-----	104	"	"	"	"	"	
1,1-Dichloropropene	"	ND	-----	104	"	"	"	"	"	
cis-1,3-Dichloropropene	"	ND	-----	104	"	"	"	"	"	
trans-1,3-Dichloropropene	"	ND	-----	104	"	"	"	"	"	
Ethylbenzene	"	ND	-----	104	"	"	"	"	"	
Hexachlorobutadiene	"	ND	-----	417	"	"	"	"	"	
2-Hexanone	"	ND	-----	1040	"	"	"	"	"	
Isopropylbenzene	"	ND	-----	208	"	"	"	"	"	
p-Isopropyltoluene	"	ND	-----	208	"	"	"	"	"	
4-Methyl-2-pentanone	"	ND	-----	521	"	"	"	"	"	
Methyl tert-butyl ether	"	ND	-----	104	"	"	"	"	"	
Methylene chloride	"	ND	-----	521	"	"	"	"	"	
Naphthalene	"	ND	-----	208	"	"	"	"	"	
n-Propylbenzene	"	ND	-----	104	"	"	"	"	"	
Styrene	"	ND	-----	104	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	"	ND	-----	104	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	"	ND	-----	104	"	"	"	"	"	
Tetrachloroethene	"	ND	-----	104	"	"	"	"	"	
Toluene	"	ND	-----	104	"	"	"	"	"	
1,2,3-Trichlorobenzene	"	ND	-----	104	"	"	"	"	"	
1,2,4-Trichlorobenzene	"	ND	-----	104	"	"	"	"	"	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Volatile Organic Compounds per EPA Method 8260B

North Creek Analytical - Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-04 Soil A1-BP-11-S0-02 Sampled: 09/20/05 08:31										
1,1,1-Trichloroethane	EPA 8260B	ND	-----	104	ug/kg dry	1x	5090889	09/22/05	09/24/05 14:07	
1,1,2-Trichloroethane	"	ND	-----	104	"	"	"	"	"	
Trichloroethene	"	ND	-----	104	"	"	"	"	"	
Trichlorofluoromethane	"	ND	-----	104	"	"	"	"	"	
1,2,3-Trichloropropane	"	ND	-----	104	"	"	"	"	"	
1,2,4-Trimethylbenzene	"	ND	-----	104	"	"	"	"	"	
1,3,5-Trimethylbenzene	"	ND	-----	104	"	"	"	"	"	
Vinyl chloride	"	ND	-----	104	"	"	"	"	"	
o-Xylene	"	ND	-----	104	"	"	"	"	"	
m,p-Xylene	"	ND	-----	208	"	"	"	"	"	
Surrogate(s): 4-BFB		*Recovery: 90.9%*		*Limits: 42.6 - 130 %*		"			"	
1,2-DCA-d4		*129%*		*57.3 - 144 %*		"			"	
Dibromofluoromethane		*93.3%*		*45.5 - 130 %*		"			"	
Toluene-d8		*120%*		*42.1 - 144 %*		"			"	
P5I0775-05 Water A1-BP-09-GW-35 Sampled: 09/20/05 10:15										
Acetone	EPA 8260B	ND	-----	25.0	ug/l	1x	5091023	09/25/05	09/25/05 18:53	
Benzene	"	ND	-----	1.00	"	"	"	"	"	
Bromobenzene	"	ND	-----	1.00	"	"	"	"	"	
Bromochloromethane	"	ND	-----	1.00	"	"	"	"	"	
Bromodichloromethane	"	ND	-----	1.00	"	"	"	"	"	
Bromoform	"	ND	-----	1.00	"	"	"	"	"	
Bromomethane	"	ND	-----	5.00	"	"	"	"	"	
2-Butanone	"	ND	-----	10.0	"	"	"	"	"	
n-Butylbenzene	"	ND	-----	5.00	"	"	"	"	"	
sec-Butylbenzene	"	ND	-----	1.00	"	"	"	"	"	
tert-Butylbenzene	"	ND	-----	1.00	"	"	"	"	"	
Carbon disulfide	"	ND	-----	10.0	"	"	"	"	"	
Carbon tetrachloride	"	ND	-----	1.00	"	"	"	"	"	
Chlorobenzene	"	ND	-----	1.00	"	"	"	"	"	
Chloroethane	"	ND	-----	1.00	"	"	"	"	"	
Chloroform	"	ND	-----	1.00	"	"	"	"	"	
Chloromethane	"	ND	-----	5.00	"	"	"	"	"	
2-Chlorotoluene	"	ND	-----	1.00	"	"	"	"	"	
4-Chlorotoluene	"	ND	-----	1.00	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	"	ND	-----	5.00	"	"	"	"	"	
Dibromochloromethane	"	ND	-----	1.00	"	"	"	"	"	
1,2-Dibromoethane	"	ND	-----	1.00	"	"	"	"	"	
Dibromomethane	"	ND	-----	1.00	"	"	"	"	"	
1,2-Dichlorobenzene	"	ND	-----	1.00	"	"	"	"	"	
1,3-Dichlorobenzene	"	ND	-----	1.00	"	"	"	"	"	
1,4-Dichlorobenzene	"	ND	-----	1.00	"	"	"	"	"	

North Creek Analytical - Portland

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Lisa Domenighini, Project Manager

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Volatile Organic Compounds per EPA Method 8260B

North Creek Analytical - Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-05 Water	**A1-BP-09-GW-35**	**Sampled: 09/20/05 10:15**								
Dichlorodifluoromethane	EPA 8260B	ND	-----	5.00	ug/l	1x	5091023	09/25/05	09/25/05 18:53	
1,1-Dichloroethane	"	ND	-----	1.00	"	"	"	"	"	
1,2-Dichloroethane	"	ND	-----	1.00	"	"	"	"	"	
1,1-Dichloroethene	"	ND	-----	1.00	"	"	"	"	"	
cis-1,2-Dichloroethene	"	ND	-----	1.00	"	"	"	"	"	
trans-1,2-Dichloroethene	"	ND	-----	1.00	"	"	"	"	"	
1,2-Dichloropropane	"	ND	-----	1.00	"	"	"	"	"	
1,3-Dichloropropane	"	ND	-----	1.00	"	"	"	"	"	
2,2-Dichloropropane	"	ND	-----	1.00	"	"	"	"	"	
1,1-Dichloropropene	"	ND	-----	1.00	"	"	"	"	"	
cis-1,3-Dichloropropene	"	ND	-----	1.00	"	"	"	"	"	
trans-1,3-Dichloropropene	"	ND	-----	1.00	"	"	"	"	"	
Ethylbenzene	"	ND	-----	1.00	"	"	"	"	"	
Hexachlorobutadiene	"	ND	-----	4.00	"	"	"	"	"	
2-Hexanone	"	ND	-----	10.0	"	"	"	"	"	
Isopropylbenzene	"	ND	-----	2.00	"	"	"	"	"	
p-Isopropyltoluene	"	ND	-----	2.00	"	"	"	"	"	
4-Methyl-2-pentanone	"	ND	-----	5.00	"	"	"	"	"	
Methyl tert-butyl ether	"	ND	-----	1.00	"	"	"	"	"	
Methylene chloride	"	ND	-----	5.00	"	"	"	"	"	
Naphthalene	"	ND	-----	2.00	"	"	"	"	"	
n-Propylbenzene	"	ND	-----	1.00	"	"	"	"	"	
Styrene	"	ND	-----	1.00	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	"	ND	-----	1.00	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	"	ND	-----	1.00	"	"	"	"	"	
Tetrachloroethene	"	ND	-----	1.00	"	"	"	"	"	
Toluene	"	ND	-----	1.00	"	"	"	"	"	
1,2,3-Trichlorobenzene	"	ND	-----	1.00	"	"	"	"	"	
1,2,4-Trichlorobenzene	"	ND	-----	1.00	"	"	"	"	"	
1,1,1-Trichloroethane	"	ND	-----	1.00	"	"	"	"	"	
1,1,2-Trichloroethane	"	ND	-----	1.00	"	"	"	"	"	
Trichloroethene	"	ND	-----	1.00	"	"	"	"	"	
Trichlorofluoromethane	"	ND	-----	1.00	"	"	"	"	"	
1,2,3-Trichloropropane	"	ND	-----	1.00	"	"	"	"	"	
1,2,4-Trimethylbenzene	"	ND	-----	1.00	"	"	"	"	"	
1,3,5-Trimethylbenzene	"	ND	-----	1.00	"	"	"	"	"	
Vinyl chloride	"	ND	-----	1.00	"	"	"	"	"	
o-Xylene	"	ND	-----	1.00	"	"	"	"	"	
m,p-Xylene	"	ND	-----	2.00	"	"	"	"	"	

Surrogate(s):	*4-BFB*	*Recovery: 93.0%*	*Limits: 75 - 120 %*	"	"
	1,2-DCA-d4	*99.5%*	*77 - 129 %*	"	"
	Dibromofluoromethane	*98.5%*	*80 - 121 %*	"	"

North Creek Analytical - Portland

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Volatile Organic Compounds per EPA Method 8260B

North Creek Analytical - Portland

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-05	**Water**	**A1-BP-09-GW-35**	**Sampled: 09/20/05 10:15**								
Toluene-d8			*84.5%*			*80 - 120 %*	*1x*			*09/25/05 18:53*	
P5I0775-07	**Soil**	**A1-BP-14-S0-02**	**Sampled: 09/20/05 11:00**								
Acetone		EPA 8260B	ND	-----	3640	ug/kg dry	1x	5090889	09/22/05	09/24/05 14:34	
Benzene		"	ND	-----	146	"	"	"	"	"	
Bromobenzene		"	ND	-----	146	"	"	"	"	"	
Bromochloromethane		"	ND	-----	146	"	"	"	"	"	
Bromodichloromethane		"	ND	-----	146	"	"	"	"	"	
Bromoform		"	ND	-----	146	"	"	"	"	"	
Bromomethane		"	ND	-----	728	"	"	"	"	"	
2-Butanone		"	ND	-----	1460	"	"	"	"	"	
n-Butylbenzene		"	ND	-----	728	"	"	"	"	"	
sec-Butylbenzene		"	ND	-----	146	"	"	"	"	"	
tert-Butylbenzene		"	ND	-----	146	"	"	"	"	"	
Carbon disulfide		"	ND	-----	1460	"	"	"	"	"	
Carbon tetrachloride		"	ND	-----	146	"	"	"	"	"	
Chlorobenzene		"	ND	-----	146	"	"	"	"	"	
Chloroethane		"	ND	-----	146	"	"	"	"	"	
Chloroform		"	ND	-----	146	"	"	"	"	"	
Chloromethane		"	ND	-----	728	"	"	"	"	"	
2-Chlorotoluene		"	ND	-----	146	"	"	"	"	"	
4-Chlorotoluene		"	ND	-----	146	"	"	"	"	"	
1,2-Dibromo-3-chloropropane		"	ND	-----	728	"	"	"	"	"	
Dibromochloromethane		"	ND	-----	146	"	"	"	"	"	
1,2-Dibromoethane		"	ND	-----	146	"	"	"	"	"	
Dibromomethane		"	ND	-----	146	"	"	"	"	"	
1,2-Dichlorobenzene		"	ND	-----	146	"	"	"	"	"	
1,3-Dichlorobenzene		"	ND	-----	146	"	"	"	"	"	
1,4-Dichlorobenzene		"	ND	-----	146	"	"	"	"	"	
Dichlorodifluoromethane		"	ND	-----	728	"	"	"	"	"	
1,1-Dichloroethane		"	ND	-----	146	"	"	"	"	"	
1,2-Dichloroethane		"	ND	-----	146	"	"	"	"	"	
1,1-Dichloroethene		"	ND	-----	146	"	"	"	"	"	
cis-1,2-Dichloroethene		"	ND	-----	146	"	"	"	"	"	
trans-1,2-Dichloroethene		"	ND	-----	146	"	"	"	"	"	
1,2-Dichloropropane		"	ND	-----	146	"	"	"	"	"	
1,3-Dichloropropane		"	ND	-----	146	"	"	"	"	"	
2,2-Dichloropropane		"	ND	-----	146	"	"	"	"	"	
1,1-Dichloropropene		"	ND	-----	146	"	"	"	"	"	
cis-1,3-Dichloropropene		"	ND	-----	146	"	"	"	"	"	
trans-1,3-Dichloropropene		"	ND	-----	146	"	"	"	"	"	
Ethylbenzene		"	ND	-----	146	"	"	"	"	"	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Volatile Organic Compounds per EPA Method 8260B

North Creek Analytical - Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-07 Soil A1-BP-14-S0-02 Sampled: 09/20/05 11:00										
Hexachlorobutadiene	EPA 8260B	ND	-----	582	ug/kg dry	1x	5090889	09/22/05	09/24/05 14:34	
2-Hexanone	"	ND	-----	1460	"	"	"	"	"	
Isopropylbenzene	"	ND	-----	291	"	"	"	"	"	
p-Isopropyltoluene	"	ND	-----	291	"	"	"	"	"	
4-Methyl-2-pentanone	"	ND	-----	728	"	"	"	"	"	
Methyl tert-butyl ether	"	ND	-----	146	"	"	"	"	"	
Methylene chloride	"	ND	-----	728	"	"	"	"	"	
Naphthalene	"	ND	-----	291	"	"	"	"	"	
n-Propylbenzene	"	ND	-----	146	"	"	"	"	"	
Styrene	"	ND	-----	146	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	"	ND	-----	146	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	"	ND	-----	146	"	"	"	"	"	
Tetrachloroethene	"	ND	-----	146	"	"	"	"	"	
Toluene	"	ND	-----	146	"	"	"	"	"	
1,2,3-Trichlorobenzene	"	ND	-----	146	"	"	"	"	"	
1,2,4-Trichlorobenzene	"	ND	-----	146	"	"	"	"	"	
1,1,1-Trichloroethane	"	ND	-----	146	"	"	"	"	"	
1,1,2-Trichloroethane	"	ND	-----	146	"	"	"	"	"	
Trichloroethene	"	ND	-----	146	"	"	"	"	"	
Trichlorofluoromethane	"	ND	-----	146	"	"	"	"	"	
1,2,3-Trichloropropane	"	ND	-----	146	"	"	"	"	"	
1,2,4-Trimethylbenzene	"	ND	-----	146	"	"	"	"	"	
1,3,5-Trimethylbenzene	"	ND	-----	146	"	"	"	"	"	
Vinyl chloride	"	ND	-----	146	"	"	"	"	"	
o-Xylene	"	ND	-----	146	"	"	"	"	"	
m,p-Xylene	"	ND	-----	291	"	"	"	"	"	
Surrogate(s): 4-BFB		*Recovery: 24.4%*		*Limits: 42.6 - 130 %*		*"*			*"*	***S-09***
1,2-DCA-d4		*94.8%*		*57.3 - 144 %*		*"*			*"*	
Dibromofluoromethane		*71.8%*		*45.5 - 130 %*		*"*			*"*	
Toluene-d8		*59.5%*		*42.1 - 144 %*		*"*			*"*	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Volatile Organic Compounds per EPA Method 8260B

North Creek Analytical - Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-08 Soil A1-BP-14-S0-20 Sampled: 09/20/05 11:00										
Acetone	EPA 8260B	ND	-----	3360	ug/kg dry	1x	5090889	09/22/05	09/24/05 15:01	
Benzene	"	ND	-----	135	"	"	"	"	"	
Bromobenzene	"	ND	-----	135	"	"	"	"	"	
Bromochloromethane	"	ND	-----	135	"	"	"	"	"	
Bromodichloromethane	"	ND	-----	135	"	"	"	"	"	
Bromoform	"	ND	-----	135	"	"	"	"	"	
Bromomethane	"	ND	-----	673	"	"	"	"	"	
2-Butanone	"	ND	-----	1350	"	"	"	"	"	
n-Butylbenzene	"	ND	-----	673	"	"	"	"	"	
sec-Butylbenzene	"	ND	-----	135	"	"	"	"	"	
tert-Butylbenzene	"	ND	-----	135	"	"	"	"	"	
Carbon disulfide	"	ND	-----	1350	"	"	"	"	"	
Carbon tetrachloride	"	ND	-----	135	"	"	"	"	"	
Chlorobenzene	"	ND	-----	135	"	"	"	"	"	
Chloroethane	"	ND	-----	135	"	"	"	"	"	
Chloroform	"	ND	-----	135	"	"	"	"	"	
Chloromethane	"	ND	-----	673	"	"	"	"	"	
2-Chlorotoluene	"	ND	-----	135	"	"	"	"	"	
4-Chlorotoluene	"	ND	-----	135	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	"	ND	-----	673	"	"	"	"	"	
Dibromochloromethane	"	ND	-----	135	"	"	"	"	"	
1,2-Dibromoethane	"	ND	-----	135	"	"	"	"	"	
Dibromomethane	"	ND	-----	135	"	"	"	"	"	
1,2-Dichlorobenzene	"	ND	-----	135	"	"	"	"	"	
1,3-Dichlorobenzene	"	ND	-----	135	"	"	"	"	"	
1,4-Dichlorobenzene	"	ND	-----	135	"	"	"	"	"	
Dichlorodifluoromethane	"	ND	-----	673	"	"	"	"	"	
1,1-Dichloroethane	"	ND	-----	135	"	"	"	"	"	
1,2-Dichloroethane	"	ND	-----	135	"	"	"	"	"	
1,1-Dichloroethene	"	ND	-----	135	"	"	"	"	"	
cis-1,2-Dichloroethene	"	ND	-----	135	"	"	"	"	"	
trans-1,2-Dichloroethene	"	ND	-----	135	"	"	"	"	"	
1,2-Dichloropropane	"	ND	-----	135	"	"	"	"	"	
1,3-Dichloropropane	"	ND	-----	135	"	"	"	"	"	
2,2-Dichloropropane	"	ND	-----	135	"	"	"	"	"	
1,1-Dichloropropene	"	ND	-----	135	"	"	"	"	"	
cis-1,3-Dichloropropene	"	ND	-----	135	"	"	"	"	"	
trans-1,3-Dichloropropene	"	ND	-----	135	"	"	"	"	"	
Ethylbenzene	"	ND	-----	135	"	"	"	"	"	
Hexachlorobutadiene	"	ND	-----	538	"	"	"	"	"	
2-Hexanone	"	ND	-----	1350	"	"	"	"	"	
Isopropylbenzene	"	ND	-----	269	"	"	"	"	"	

North Creek Analytical - Portland

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Volatile Organic Compounds per EPA Method 8260B

North Creek Analytical - Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-08 Soil A1-BP-14-S0-20 Sampled: 09/20/05 11:00										
p-Isopropyltoluene	EPA 8260B	ND	-----	269	ug/kg dry	1x	5090889	09/22/05	09/24/05 15:01	
4-Methyl-2-pentanone	"	ND	-----	673	"	"	"	"	"	
Methyl tert-butyl ether	"	ND	-----	135	"	"	"	"	"	
Methylene chloride	"	ND	-----	673	"	"	"	"	"	
Naphthalene	"	ND	-----	269	"	"	"	"	"	
n-Propylbenzene	"	ND	-----	135	"	"	"	"	"	
Styrene	"	ND	-----	135	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	"	ND	-----	135	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	"	ND	-----	135	"	"	"	"	"	
Tetrachloroethene	"	ND	-----	135	"	"	"	"	"	
Toluene	"	ND	-----	135	"	"	"	"	"	
1,2,3-Trichlorobenzene	"	ND	-----	135	"	"	"	"	"	
1,2,4-Trichlorobenzene	"	ND	-----	135	"	"	"	"	"	
1,1,1-Trichloroethane	"	ND	-----	135	"	"	"	"	"	
1,1,2-Trichloroethane	"	ND	-----	135	"	"	"	"	"	
Trichloroethene	"	ND	-----	135	"	"	"	"	"	
Trichlorofluoromethane	"	ND	-----	135	"	"	"	"	"	
1,2,3-Trichloropropane	"	ND	-----	135	"	"	"	"	"	
1,2,4-Trimethylbenzene	"	ND	-----	135	"	"	"	"	"	
1,3,5-Trimethylbenzene	"	ND	-----	135	"	"	"	"	"	
Vinyl chloride	"	ND	-----	135	"	"	"	"	"	
o-Xylene	"	ND	-----	135	"	"	"	"	"	
m,p-Xylene	"	ND	-----	269	"	"	"	"	"	
Surrogate(s): 4-BFB		*Recovery: 64.7%*		*Limits: 42.6 - 130 %*		*"*			*"*	
1,2-DCA-d4		*107%*		*57.3 - 144 %*		*"*			*"*	
Dibromofluoromethane		*82.5%*		*45.5 - 130 %*		*"*			*"*	
Toluene-d8		*94.4%*		*42.1 - 144 %*		*"*			*"*	
P5I0775-09 Soil A1-BP-14-S0-04 Sampled: 09/20/05 11:00										
Acetone	EPA 8260B	ND	-----	3430	ug/kg dry	1x	5090889	09/22/05	09/24/05 15:28	
Benzene	"	ND	-----	137	"	"	"	"	"	
Bromobenzene	"	ND	-----	137	"	"	"	"	"	
Bromochloromethane	"	ND	-----	137	"	"	"	"	"	
Bromodichloromethane	"	ND	-----	137	"	"	"	"	"	
Bromoform	"	ND	-----	137	"	"	"	"	"	
Bromomethane	"	ND	-----	686	"	"	"	"	"	
2-Butanone	"	ND	-----	1370	"	"	"	"	"	
n-Butylbenzene	"	ND	-----	686	"	"	"	"	"	
sec-Butylbenzene	"	ND	-----	137	"	"	"	"	"	
tert-Butylbenzene	"	ND	-----	137	"	"	"	"	"	
Carbon disulfide	"	ND	-----	1370	"	"	"	"	"	
Carbon tetrachloride	"	ND	-----	137	"	"	"	"	"	

North Creek Analytical - Portland

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Volatile Organic Compounds per EPA Method 8260B

North Creek Analytical - Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-09 Soil A1-BP-14-S0-04 Sampled: 09/20/05 11:00										
Chlorobenzene	EPA 8260B	ND	-----	137	ug/kg dry	1x	5090889	09/22/05	09/24/05 15:28	
Chloroethane	"	ND	-----	137	"	"	"	"	"	
Chloroform	"	ND	-----	137	"	"	"	"	"	
Chloromethane	"	ND	-----	686	"	"	"	"	"	
2-Chlorotoluene	"	ND	-----	137	"	"	"	"	"	
4-Chlorotoluene	"	ND	-----	137	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	"	ND	-----	686	"	"	"	"	"	
Dibromochloromethane	"	ND	-----	137	"	"	"	"	"	
1,2-Dibromoethane	"	ND	-----	137	"	"	"	"	"	
Dibromomethane	"	ND	-----	137	"	"	"	"	"	
1,2-Dichlorobenzene	"	ND	-----	137	"	"	"	"	"	
1,3-Dichlorobenzene	"	ND	-----	137	"	"	"	"	"	
1,4-Dichlorobenzene	"	ND	-----	137	"	"	"	"	"	
Dichlorodifluoromethane	"	ND	-----	686	"	"	"	"	"	
1,1-Dichloroethane	"	ND	-----	137	"	"	"	"	"	
1,2-Dichloroethane	"	ND	-----	137	"	"	"	"	"	
1,1-Dichloroethene	"	ND	-----	137	"	"	"	"	"	
cis-1,2-Dichloroethene	"	ND	-----	137	"	"	"	"	"	
trans-1,2-Dichloroethene	"	ND	-----	137	"	"	"	"	"	
1,2-Dichloropropane	"	ND	-----	137	"	"	"	"	"	
1,3-Dichloropropane	"	ND	-----	137	"	"	"	"	"	
2,2-Dichloropropane	"	ND	-----	137	"	"	"	"	"	
1,1-Dichloropropene	"	ND	-----	137	"	"	"	"	"	
cis-1,3-Dichloropropene	"	ND	-----	137	"	"	"	"	"	
trans-1,3-Dichloropropene	"	ND	-----	137	"	"	"	"	"	
Ethylbenzene	"	ND	-----	137	"	"	"	"	"	
Hexachlorobutadiene	"	ND	-----	548	"	"	"	"	"	
2-Hexanone	"	ND	-----	1370	"	"	"	"	"	
Isopropylbenzene	"	ND	-----	274	"	"	"	"	"	
p-Isopropyltoluene	"	ND	-----	274	"	"	"	"	"	
4-Methyl-2-pentanone	"	ND	-----	686	"	"	"	"	"	
Methyl tert-butyl ether	"	ND	-----	137	"	"	"	"	"	
Methylene chloride	"	ND	-----	686	"	"	"	"	"	
Naphthalene	"	ND	-----	274	"	"	"	"	"	
n-Propylbenzene	"	ND	-----	137	"	"	"	"	"	
Styrene	"	ND	-----	137	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	"	ND	-----	137	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	"	ND	-----	137	"	"	"	"	"	
Tetrachloroethene	"	ND	-----	137	"	"	"	"	"	
Toluene	"	ND	-----	137	"	"	"	"	"	
1,2,3-Trichlorobenzene	"	ND	-----	137	"	"	"	"	"	
1,2,4-Trichlorobenzene	"	ND	-----	137	"	"	"	"	"	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Volatile Organic Compounds per EPA Method 8260B

North Creek Analytical - Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-09 Soil A1-BP-14-S0-04 Sampled: 09/20/05 11:00										
1,1,1-Trichloroethane	EPA 8260B	ND	-----	137	ug/kg dry	1x	5090889	09/22/05	09/24/05 15:28	
1,1,2-Trichloroethane	"	ND	-----	137	"	"	"	"	"	
Trichloroethene	"	ND	-----	137	"	"	"	"	"	
Trichlorofluoromethane	"	ND	-----	137	"	"	"	"	"	
1,2,3-Trichloropropane	"	ND	-----	137	"	"	"	"	"	
1,2,4-Trimethylbenzene	"	ND	-----	137	"	"	"	"	"	
1,3,5-Trimethylbenzene	"	ND	-----	137	"	"	"	"	"	
Vinyl chloride	"	ND	-----	137	"	"	"	"	"	
o-Xylene	"	ND	-----	137	"	"	"	"	"	
m,p-Xylene	"	ND	-----	274	"	"	"	"	"	
Surrogate(s): 4-BFB		*Recovery: 36.9%*		*Limits: 42.6 - 130 %*		"			"	***S-09***
1,2-DCA-d4		*94.5%*		*57.3 - 144 %*		"			"	
Dibromofluoromethane		*71.9%*		*45.5 - 130 %*		"			"	
Toluene-d8		*71.5%*		*42.1 - 144 %*		"			"	
P5I0775-10 Soil A1-BP-14-S0-05 Sampled: 09/20/05 11:00										
Acetone	EPA 8260B	ND	-----	2650	ug/kg dry	1x	5090889	09/22/05	09/24/05 15:55	
Benzene	"	ND	-----	106	"	"	"	"	"	
Bromobenzene	"	ND	-----	106	"	"	"	"	"	
Bromochloromethane	"	ND	-----	106	"	"	"	"	"	
Bromodichloromethane	"	ND	-----	106	"	"	"	"	"	
Bromoform	"	ND	-----	106	"	"	"	"	"	
Bromomethane	"	ND	-----	530	"	"	"	"	"	
2-Butanone	"	ND	-----	1060	"	"	"	"	"	
n-Butylbenzene	"	ND	-----	530	"	"	"	"	"	
sec-Butylbenzene	"	ND	-----	106	"	"	"	"	"	
tert-Butylbenzene	"	ND	-----	106	"	"	"	"	"	
Carbon disulfide	"	ND	-----	1060	"	"	"	"	"	
Carbon tetrachloride	"	ND	-----	106	"	"	"	"	"	
Chlorobenzene	"	ND	-----	106	"	"	"	"	"	
Chloroethane	"	ND	-----	106	"	"	"	"	"	
Chloroform	"	ND	-----	106	"	"	"	"	"	
Chloromethane	"	ND	-----	530	"	"	"	"	"	
2-Chlorotoluene	"	ND	-----	106	"	"	"	"	"	
4-Chlorotoluene	"	ND	-----	106	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	"	ND	-----	530	"	"	"	"	"	
Dibromochloromethane	"	ND	-----	106	"	"	"	"	"	
1,2-Dibromoethane	"	ND	-----	106	"	"	"	"	"	
Dibromomethane	"	ND	-----	106	"	"	"	"	"	
1,2-Dichlorobenzene	"	ND	-----	106	"	"	"	"	"	
1,3-Dichlorobenzene	"	ND	-----	106	"	"	"	"	"	
1,4-Dichlorobenzene	"	ND	-----	106	"	"	"	"	"	

North Creek Analytical - Portland

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Volatile Organic Compounds per EPA Method 8260B

North Creek Analytical - Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-10 Soil A1-BP-14-S0-05 Sampled: 09/20/05 11:00										
Dichlorodifluoromethane	EPA 8260B	ND	-----	530	ug/kg dry	1x	5090889	09/22/05	09/24/05 15:55	
1,1-Dichloroethane	"	ND	-----	106	"	"	"	"	"	
1,2-Dichloroethane	"	ND	-----	106	"	"	"	"	"	
1,1-Dichloroethene	"	ND	-----	106	"	"	"	"	"	
cis-1,2-Dichloroethene	"	ND	-----	106	"	"	"	"	"	
trans-1,2-Dichloroethene	"	ND	-----	106	"	"	"	"	"	
1,2-Dichloropropane	"	ND	-----	106	"	"	"	"	"	
1,3-Dichloropropane	"	ND	-----	106	"	"	"	"	"	
2,2-Dichloropropane	"	ND	-----	106	"	"	"	"	"	
1,1-Dichloropropene	"	ND	-----	106	"	"	"	"	"	
cis-1,3-Dichloropropene	"	ND	-----	106	"	"	"	"	"	
trans-1,3-Dichloropropene	"	ND	-----	106	"	"	"	"	"	
Ethylbenzene	"	ND	-----	106	"	"	"	"	"	
Hexachlorobutadiene	"	ND	-----	424	"	"	"	"	"	
2-Hexanone	"	ND	-----	1060	"	"	"	"	"	
Isopropylbenzene	"	ND	-----	212	"	"	"	"	"	
p-Isopropyltoluene	"	ND	-----	212	"	"	"	"	"	
4-Methyl-2-pentanone	"	ND	-----	530	"	"	"	"	"	
Methyl tert-butyl ether	"	ND	-----	106	"	"	"	"	"	
Methylene chloride	"	ND	-----	530	"	"	"	"	"	
Naphthalene	"	ND	-----	212	"	"	"	"	"	
n-Propylbenzene	"	ND	-----	106	"	"	"	"	"	
Styrene	"	ND	-----	106	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	"	ND	-----	106	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	"	ND	-----	106	"	"	"	"	"	
Tetrachloroethene	"	ND	-----	106	"	"	"	"	"	
Toluene	"	ND	-----	106	"	"	"	"	"	
1,2,3-Trichlorobenzene	"	ND	-----	106	"	"	"	"	"	
1,2,4-Trichlorobenzene	"	ND	-----	106	"	"	"	"	"	
1,1,1-Trichloroethane	"	ND	-----	106	"	"	"	"	"	
1,1,2-Trichloroethane	"	ND	-----	106	"	"	"	"	"	
Trichloroethene	"	ND	-----	106	"	"	"	"	"	
Trichlorofluoromethane	"	ND	-----	106	"	"	"	"	"	
1,2,3-Trichloropropane	"	ND	-----	106	"	"	"	"	"	
1,2,4-Trimethylbenzene	"	ND	-----	106	"	"	"	"	"	
1,3,5-Trimethylbenzene	"	ND	-----	106	"	"	"	"	"	
Vinyl chloride	"	ND	-----	106	"	"	"	"	"	
o-Xylene	"	ND	-----	106	"	"	"	"	"	
m,p-Xylene	"	ND	-----	212	"	"	"	"	"	

Surrogate(s):	*4-BFB*	*Recovery: 84.9%*	*Limits: 42.6 - 130 %*	"	"
	1,2-DCA-d4	*120%*	*57.3 - 144 %*	"	"
	Dibromofluoromethane	*88.7%*	*45.5 - 130 %*	"	"

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Volatile Organic Compounds per EPA Method 8260B

North Creek Analytical - Portland

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-10	**Soil**	**A1-BP-14-S0-05**	**Sampled: 09/20/05 11:00**								
Toluene-d8			*110%*		*42.1 - 144 %*		*1x*			*09/24/05 15:55*	
P5I0775-11	**Soil**	**TP-3**	**Sampled: 09/19/05 11:25**								
Acetone		EPA 8260B	ND	-----	2670	ug/kg dry	1x	5090889	09/22/05	09/24/05 16:22	
Benzene		"	ND	-----	107	"	"	"	"	"	
Bromobenzene		"	ND	-----	107	"	"	"	"	"	
Bromochloromethane		"	ND	-----	107	"	"	"	"	"	
Bromodichloromethane		"	ND	-----	107	"	"	"	"	"	
Bromoform		"	ND	-----	107	"	"	"	"	"	
Bromomethane		"	ND	-----	534	"	"	"	"	"	
2-Butanone		"	ND	-----	1070	"	"	"	"	"	
n-Butylbenzene		"	ND	-----	534	"	"	"	"	"	
sec-Butylbenzene		"	ND	-----	107	"	"	"	"	"	
tert-Butylbenzene		"	ND	-----	107	"	"	"	"	"	
Carbon disulfide		"	ND	-----	1070	"	"	"	"	"	
Carbon tetrachloride		"	ND	-----	107	"	"	"	"	"	
Chlorobenzene		"	ND	-----	107	"	"	"	"	"	
Chloroethane		"	ND	-----	107	"	"	"	"	"	
Chloroform		"	ND	-----	107	"	"	"	"	"	
Chloromethane		"	ND	-----	534	"	"	"	"	"	
2-Chlorotoluene		"	ND	-----	107	"	"	"	"	"	
4-Chlorotoluene		"	ND	-----	107	"	"	"	"	"	
1,2-Dibromo-3-chloropropane		"	ND	-----	534	"	"	"	"	"	
Dibromochloromethane		"	ND	-----	107	"	"	"	"	"	
1,2-Dibromoethane		"	ND	-----	107	"	"	"	"	"	
Dibromomethane		"	ND	-----	107	"	"	"	"	"	
1,2-Dichlorobenzene		"	ND	-----	107	"	"	"	"	"	
1,3-Dichlorobenzene		"	ND	-----	107	"	"	"	"	"	
1,4-Dichlorobenzene		"	ND	-----	107	"	"	"	"	"	
Dichlorodifluoromethane		"	ND	-----	534	"	"	"	"	"	
1,1-Dichloroethane		"	ND	-----	107	"	"	"	"	"	
1,2-Dichloroethane		"	ND	-----	107	"	"	"	"	"	
1,1-Dichloroethene		"	ND	-----	107	"	"	"	"	"	
cis-1,2-Dichloroethene		"	ND	-----	107	"	"	"	"	"	
trans-1,2-Dichloroethene		"	ND	-----	107	"	"	"	"	"	
1,2-Dichloropropane		"	ND	-----	107	"	"	"	"	"	
1,3-Dichloropropane		"	ND	-----	107	"	"	"	"	"	
2,2-Dichloropropane		"	ND	-----	107	"	"	"	"	"	
1,1-Dichloropropene		"	ND	-----	107	"	"	"	"	"	
cis-1,3-Dichloropropene		"	ND	-----	107	"	"	"	"	"	
trans-1,3-Dichloropropene		"	ND	-----	107	"	"	"	"	"	
Ethylbenzene		"	ND	-----	107	"	"	"	"	"	

North Creek Analytical - Portland

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Lisa Domenighini, Project Manager

North Creek Analytical, Inc.
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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Volatile Organic Compounds per EPA Method 8260B

North Creek Analytical - Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-11 Soil TP-3 Sampled: 09/19/05 11:25										
Hexachlorobutadiene	EPA 8260B	ND	-----	427	ug/kg dry	1x	5090889	09/22/05	09/24/05 16:22	
2-Hexanone	"	ND	-----	1070	"	"	"	"	"	
Isopropylbenzene	"	ND	-----	213	"	"	"	"	"	
p-Isopropyltoluene	"	ND	-----	213	"	"	"	"	"	
4-Methyl-2-pentanone	"	ND	-----	534	"	"	"	"	"	
Methyl tert-butyl ether	"	ND	-----	107	"	"	"	"	"	
Methylene chloride	"	ND	-----	534	"	"	"	"	"	
Naphthalene	"	ND	-----	213	"	"	"	"	"	
n-Propylbenzene	"	ND	-----	107	"	"	"	"	"	
Styrene	"	ND	-----	107	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	"	ND	-----	107	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	"	ND	-----	107	"	"	"	"	"	
Tetrachloroethene	"	ND	-----	107	"	"	"	"	"	
Toluene	"	ND	-----	107	"	"	"	"	"	
1,2,3-Trichlorobenzene	"	ND	-----	107	"	"	"	"	"	
1,2,4-Trichlorobenzene	"	ND	-----	107	"	"	"	"	"	
1,1,1-Trichloroethane	"	ND	-----	107	"	"	"	"	"	
1,1,2-Trichloroethane	"	ND	-----	107	"	"	"	"	"	
Trichloroethene	"	ND	-----	107	"	"	"	"	"	
Trichlorofluoromethane	"	ND	-----	107	"	"	"	"	"	
1,2,3-Trichloropropane	"	ND	-----	107	"	"	"	"	"	
1,2,4-Trimethylbenzene	"	ND	-----	107	"	"	"	"	"	
1,3,5-Trimethylbenzene	"	ND	-----	107	"	"	"	"	"	
Vinyl chloride	"	ND	-----	107	"	"	"	"	"	
o-Xylene	"	ND	-----	107	"	"	"	"	"	
m,p-Xylene	"	ND	-----	213	"	"	"	"	"	
Surrogate(s): *4-BFB*		*Recovery: 92.5%*		*Limits: 42.6 - 130 %*		*"*			*"*	
1,2-DCA-d4		*125%*		*57.3 - 144 %*		*"*			*"*	
Dibromofluoromethane		*92.5%*		*45.5 - 130 %*		*"*			*"*	
Toluene-d8		*115%*		*42.1 - 144 %*		*"*			*"*	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Volatile Organic Compounds per EPA Method 8260B

North Creek Analytical - Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-12 Soil TP-4 Sampled: 09/19/05 13:50										
Acetone	EPA 8260B	ND	-----	2850	ug/kg dry	1x	5090889	09/22/05	09/24/05 16:49	
Benzene	"	ND	-----	114	"	"	"	"	"	
Bromobenzene	"	ND	-----	114	"	"	"	"	"	
Bromochloromethane	"	ND	-----	114	"	"	"	"	"	
Bromodichloromethane	"	ND	-----	114	"	"	"	"	"	
Bromoform	"	ND	-----	114	"	"	"	"	"	
Bromomethane	"	ND	-----	571	"	"	"	"	"	
2-Butanone	"	ND	-----	1140	"	"	"	"	"	
n-Butylbenzene	"	ND	-----	571	"	"	"	"	"	
sec-Butylbenzene	"	ND	-----	114	"	"	"	"	"	
tert-Butylbenzene	"	ND	-----	114	"	"	"	"	"	
Carbon disulfide	"	ND	-----	1140	"	"	"	"	"	
Carbon tetrachloride	"	ND	-----	114	"	"	"	"	"	
Chlorobenzene	"	ND	-----	114	"	"	"	"	"	
Chloroethane	"	ND	-----	114	"	"	"	"	"	
Chloroform	"	ND	-----	114	"	"	"	"	"	
Chloromethane	"	ND	-----	571	"	"	"	"	"	
2-Chlorotoluene	"	ND	-----	114	"	"	"	"	"	
4-Chlorotoluene	"	ND	-----	114	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	"	ND	-----	571	"	"	"	"	"	
Dibromochloromethane	"	ND	-----	114	"	"	"	"	"	
1,2-Dibromoethane	"	ND	-----	114	"	"	"	"	"	
Dibromomethane	"	ND	-----	114	"	"	"	"	"	
1,2-Dichlorobenzene	"	ND	-----	114	"	"	"	"	"	
1,3-Dichlorobenzene	"	ND	-----	114	"	"	"	"	"	
1,4-Dichlorobenzene	"	ND	-----	114	"	"	"	"	"	
Dichlorodifluoromethane	"	ND	-----	571	"	"	"	"	"	
1,1-Dichloroethane	"	ND	-----	114	"	"	"	"	"	
1,2-Dichloroethane	"	ND	-----	114	"	"	"	"	"	
1,1-Dichloroethene	"	ND	-----	114	"	"	"	"	"	
cis-1,2-Dichloroethene	"	ND	-----	114	"	"	"	"	"	
trans-1,2-Dichloroethene	"	ND	-----	114	"	"	"	"	"	
1,2-Dichloropropane	"	ND	-----	114	"	"	"	"	"	
1,3-Dichloropropane	"	ND	-----	114	"	"	"	"	"	
2,2-Dichloropropane	"	ND	-----	114	"	"	"	"	"	
1,1-Dichloropropene	"	ND	-----	114	"	"	"	"	"	
cis-1,3-Dichloropropene	"	ND	-----	114	"	"	"	"	"	
trans-1,3-Dichloropropene	"	ND	-----	114	"	"	"	"	"	
Ethylbenzene	"	ND	-----	114	"	"	"	"	"	
Hexachlorobutadiene	"	ND	-----	457	"	"	"	"	"	
2-Hexanone	"	ND	-----	1140	"	"	"	"	"	
Isopropylbenzene	"	ND	-----	228	"	"	"	"	"	

North Creek Analytical - Portland

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Volatile Organic Compounds per EPA Method 8260B

North Creek Analytical - Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-12 Soil TP-4 Sampled: 09/19/05 13:50										
p-Isopropyltoluene	EPA 8260B	ND	-----	228	ug/kg dry	1x	5090889	09/22/05	09/24/05 16:49	
4-Methyl-2-pentanone	"	ND	-----	571	"	"	"	"	"	
Methyl tert-butyl ether	"	ND	-----	114	"	"	"	"	"	
Methylene chloride	"	ND	-----	571	"	"	"	"	"	
Naphthalene	"	ND	-----	228	"	"	"	"	"	
n-Propylbenzene	"	ND	-----	114	"	"	"	"	"	
Styrene	"	ND	-----	114	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	"	ND	-----	114	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	"	ND	-----	114	"	"	"	"	"	
Tetrachloroethene	"	ND	-----	114	"	"	"	"	"	
Toluene	"	ND	-----	114	"	"	"	"	"	
1,2,3-Trichlorobenzene	"	ND	-----	114	"	"	"	"	"	
1,2,4-Trichlorobenzene	"	ND	-----	114	"	"	"	"	"	
1,1,1-Trichloroethane	"	ND	-----	114	"	"	"	"	"	
1,1,2-Trichloroethane	"	ND	-----	114	"	"	"	"	"	
Trichloroethene	"	ND	-----	114	"	"	"	"	"	
Trichlorofluoromethane	"	ND	-----	114	"	"	"	"	"	
1,2,3-Trichloropropane	"	ND	-----	114	"	"	"	"	"	
1,2,4-Trimethylbenzene	"	ND	-----	114	"	"	"	"	"	
1,3,5-Trimethylbenzene	"	ND	-----	114	"	"	"	"	"	
Vinyl chloride	"	ND	-----	114	"	"	"	"	"	
o-Xylene	"	ND	-----	114	"	"	"	"	"	
m,p-Xylene	"	ND	-----	228	"	"	"	"	"	
Surrogate(s): 4-BFB		*Recovery: 85.5%*		*Limits: 42.6 - 130 %*		*"*			*"*	
1,2-DCA-d4		*119%*		*57.3 - 144 %*		*"*			*"*	
Dibromofluoromethane		*85.1%*		*45.5 - 130 %*		*"*			*"*	
Toluene-d8		*107%*		*42.1 - 144 %*		*"*			*"*	
P5I0775-16 Soil A1-BP-10-S0-02 Sampled: 09/19/05 15:25										
Acetone	EPA 8260B	ND	-----	2590	ug/kg dry	1x	5090889	09/22/05	09/24/05 17:16	
Benzene	"	ND	-----	104	"	"	"	"	"	
Bromobenzene	"	ND	-----	104	"	"	"	"	"	
Bromochloromethane	"	ND	-----	104	"	"	"	"	"	
Bromodichloromethane	"	ND	-----	104	"	"	"	"	"	
Bromoform	"	ND	-----	104	"	"	"	"	"	
Bromomethane	"	ND	-----	518	"	"	"	"	"	
2-Butanone	"	ND	-----	1040	"	"	"	"	"	
n-Butylbenzene	"	ND	-----	518	"	"	"	"	"	
sec-Butylbenzene	"	ND	-----	104	"	"	"	"	"	
tert-Butylbenzene	"	ND	-----	104	"	"	"	"	"	
Carbon disulfide	"	ND	-----	1040	"	"	"	"	"	
Carbon tetrachloride	"	ND	-----	104	"	"	"	"	"	

North Creek Analytical - Portland

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Volatile Organic Compounds per EPA Method 8260B

North Creek Analytical - Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-16 Soil A1-BP-10-S0-02 Sampled: 09/19/05 15:25										
Chlorobenzene	EPA 8260B	ND	-----	104	ug/kg dry	1x	5090889	09/22/05	09/24/05 17:16	
Chloroethane	"	ND	-----	104	"	"	"	"	"	
Chloroform	"	ND	-----	104	"	"	"	"	"	
Chloromethane	"	ND	-----	518	"	"	"	"	"	
2-Chlorotoluene	"	ND	-----	104	"	"	"	"	"	
4-Chlorotoluene	"	ND	-----	104	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	"	ND	-----	518	"	"	"	"	"	
Dibromochloromethane	"	ND	-----	104	"	"	"	"	"	
1,2-Dibromoethane	"	ND	-----	104	"	"	"	"	"	
Dibromomethane	"	ND	-----	104	"	"	"	"	"	
1,2-Dichlorobenzene	"	ND	-----	104	"	"	"	"	"	
1,3-Dichlorobenzene	"	ND	-----	104	"	"	"	"	"	
1,4-Dichlorobenzene	"	ND	-----	104	"	"	"	"	"	
Dichlorodifluoromethane	"	ND	-----	518	"	"	"	"	"	
1,1-Dichloroethane	"	ND	-----	104	"	"	"	"	"	
1,2-Dichloroethane	"	ND	-----	104	"	"	"	"	"	
1,1-Dichloroethene	"	ND	-----	104	"	"	"	"	"	
cis-1,2-Dichloroethene	"	ND	-----	104	"	"	"	"	"	
trans-1,2-Dichloroethene	"	ND	-----	104	"	"	"	"	"	
1,2-Dichloropropane	"	ND	-----	104	"	"	"	"	"	
1,3-Dichloropropane	"	ND	-----	104	"	"	"	"	"	
2,2-Dichloropropane	"	ND	-----	104	"	"	"	"	"	
1,1-Dichloropropene	"	ND	-----	104	"	"	"	"	"	
cis-1,3-Dichloropropene	"	ND	-----	104	"	"	"	"	"	
trans-1,3-Dichloropropene	"	ND	-----	104	"	"	"	"	"	
Ethylbenzene	"	ND	-----	104	"	"	"	"	"	
Hexachlorobutadiene	"	ND	-----	415	"	"	"	"	"	
2-Hexanone	"	ND	-----	1040	"	"	"	"	"	
Isopropylbenzene	"	ND	-----	207	"	"	"	"	"	
p-Isopropyltoluene	"	ND	-----	207	"	"	"	"	"	
4-Methyl-2-pentanone	"	ND	-----	518	"	"	"	"	"	
Methyl tert-butyl ether	"	ND	-----	104	"	"	"	"	"	
Methylene chloride	"	ND	-----	518	"	"	"	"	"	
Naphthalene	"	ND	-----	207	"	"	"	"	"	
n-Propylbenzene	"	ND	-----	104	"	"	"	"	"	
Styrene	"	ND	-----	104	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	"	ND	-----	104	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	"	ND	-----	104	"	"	"	"	"	
Tetrachloroethene	"	ND	-----	104	"	"	"	"	"	
Toluene	"	ND	-----	104	"	"	"	"	"	
1,2,3-Trichlorobenzene	"	ND	-----	104	"	"	"	"	"	
1,2,4-Trichlorobenzene	"	ND	-----	104	"	"	"	"	"	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Volatile Organic Compounds per EPA Method 8260B

North Creek Analytical - Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-16 Soil A1-BP-10-S0-02 Sampled: 09/19/05 15:25										
1,1,1-Trichloroethane	EPA 8260B	ND	-----	104	ug/kg dry	1x	5090889	09/22/05	09/24/05 17:16	
1,1,2-Trichloroethane	"	ND	-----	104	"	"	"	"	"	
Trichloroethene	"	ND	-----	104	"	"	"	"	"	
Trichlorofluoromethane	"	ND	-----	104	"	"	"	"	"	
1,2,3-Trichloropropane	"	ND	-----	104	"	"	"	"	"	
1,2,4-Trimethylbenzene	"	ND	-----	104	"	"	"	"	"	
1,3,5-Trimethylbenzene	"	ND	-----	104	"	"	"	"	"	
Vinyl chloride	"	ND	-----	104	"	"	"	"	"	
o-Xylene	"	ND	-----	104	"	"	"	"	"	
m,p-Xylene	"	ND	-----	207	"	"	"	"	"	
Surrogate(s): 4-BFB		*Recovery: 80.2%*		*Limits: 42.6 - 130 %*		"			"	
1,2-DCA-d4		*116%*		*57.3 - 144 %*		"			"	
Dibromofluoromethane		*86.0%*		*45.5 - 130 %*		"			"	
Toluene-d8		*108%*		*42.1 - 144 %*		"			"	
P5I0775-18 Soil A1-BP-12-S0-02 Sampled: 09/19/05 16:00										
Acetone	EPA 8260B	ND	-----	4190	ug/kg dry	1x	5090889	09/22/05	09/24/05 17:43	
Benzene	"	ND	-----	168	"	"	"	"	"	
Bromobenzene	"	ND	-----	168	"	"	"	"	"	
Bromochloromethane	"	ND	-----	168	"	"	"	"	"	
Bromodichloromethane	"	ND	-----	168	"	"	"	"	"	
Bromoform	"	ND	-----	168	"	"	"	"	"	
Bromomethane	"	ND	-----	839	"	"	"	"	"	
2-Butanone	"	ND	-----	1680	"	"	"	"	"	
n-Butylbenzene	"	ND	-----	839	"	"	"	"	"	
sec-Butylbenzene	"	ND	-----	168	"	"	"	"	"	
tert-Butylbenzene	"	ND	-----	168	"	"	"	"	"	
Carbon disulfide	"	ND	-----	1680	"	"	"	"	"	
Carbon tetrachloride	"	ND	-----	168	"	"	"	"	"	
Chlorobenzene	"	ND	-----	168	"	"	"	"	"	
Chloroethane	"	ND	-----	168	"	"	"	"	"	
Chloroform	"	ND	-----	168	"	"	"	"	"	
Chloromethane	"	ND	-----	839	"	"	"	"	"	
2-Chlorotoluene	"	ND	-----	168	"	"	"	"	"	
4-Chlorotoluene	"	ND	-----	168	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	"	ND	-----	839	"	"	"	"	"	
Dibromochloromethane	"	ND	-----	168	"	"	"	"	"	
1,2-Dibromoethane	"	ND	-----	168	"	"	"	"	"	
Dibromomethane	"	ND	-----	168	"	"	"	"	"	
1,2-Dichlorobenzene	"	ND	-----	168	"	"	"	"	"	
1,3-Dichlorobenzene	"	ND	-----	168	"	"	"	"	"	
1,4-Dichlorobenzene	"	ND	-----	168	"	"	"	"	"	

North Creek Analytical - Portland

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Lisa Domenighini, Project Manager

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Volatile Organic Compounds per EPA Method 8260B

North Creek Analytical - Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-18 Soil A1-BP-12-S0-02 Sampled: 09/19/05 16:00										
Dichlorodifluoromethane	EPA 8260B	ND	-----	839	ug/kg dry	1x	5090889	09/22/05	09/24/05 17:43	
1,1-Dichloroethane	"	ND	-----	168	"	"	"	"	"	
1,2-Dichloroethane	"	ND	-----	168	"	"	"	"	"	
1,1-Dichloroethene	"	ND	-----	168	"	"	"	"	"	
cis-1,2-Dichloroethene	"	ND	-----	168	"	"	"	"	"	
trans-1,2-Dichloroethene	"	ND	-----	168	"	"	"	"	"	
1,2-Dichloropropane	"	ND	-----	168	"	"	"	"	"	
1,3-Dichloropropane	"	ND	-----	168	"	"	"	"	"	
2,2-Dichloropropane	"	ND	-----	168	"	"	"	"	"	
1,1-Dichloropropene	"	ND	-----	168	"	"	"	"	"	
cis-1,3-Dichloropropene	"	ND	-----	168	"	"	"	"	"	
trans-1,3-Dichloropropene	"	ND	-----	168	"	"	"	"	"	
Ethylbenzene	"	ND	-----	168	"	"	"	"	"	
Hexachlorobutadiene	"	ND	-----	671	"	"	"	"	"	
2-Hexanone	"	ND	-----	1680	"	"	"	"	"	
Isopropylbenzene	"	ND	-----	335	"	"	"	"	"	
p-Isopropyltoluene	"	ND	-----	335	"	"	"	"	"	
4-Methyl-2-pentanone	"	ND	-----	839	"	"	"	"	"	
Methyl tert-butyl ether	"	ND	-----	168	"	"	"	"	"	
Methylene chloride	"	ND	-----	839	"	"	"	"	"	
Naphthalene	"	ND	-----	335	"	"	"	"	"	
n-Propylbenzene	"	ND	-----	168	"	"	"	"	"	
Styrene	"	ND	-----	168	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	"	ND	-----	168	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	"	ND	-----	168	"	"	"	"	"	
Tetrachloroethene	"	ND	-----	168	"	"	"	"	"	
Toluene	"	ND	-----	168	"	"	"	"	"	
1,2,3-Trichlorobenzene	"	ND	-----	168	"	"	"	"	"	
1,2,4-Trichlorobenzene	"	ND	-----	168	"	"	"	"	"	
1,1,1-Trichloroethane	"	ND	-----	168	"	"	"	"	"	
1,1,2-Trichloroethane	"	ND	-----	168	"	"	"	"	"	
Trichloroethene	"	ND	-----	168	"	"	"	"	"	
Trichlorofluoromethane	"	ND	-----	168	"	"	"	"	"	
1,2,3-Trichloropropane	"	ND	-----	168	"	"	"	"	"	
1,2,4-Trimethylbenzene	"	ND	-----	168	"	"	"	"	"	
1,3,5-Trimethylbenzene	"	ND	-----	168	"	"	"	"	"	
Vinyl chloride	"	ND	-----	168	"	"	"	"	"	
o-Xylene	"	ND	-----	168	"	"	"	"	"	
m,p-Xylene	"	ND	-----	335	"	"	"	"	"	

Surrogate(s):	*4-BFB*	*Recovery: 72.5%*	*Limits: 42.6 - 130 %*	"	"
	1,2-DCA-d4	*105%*	*57.3 - 144 %*	"	"
	Dibromofluoromethane	*76.1%*	*45.5 - 130 %*	"	"

North Creek Analytical - Portland

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Lisa Domenighini, Project Manager

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Volatile Organic Compounds per EPA Method 8260B

North Creek Analytical - Portland

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-18	**Soil**	**A1-BP-12-S0-02**	**Sampled: 09/19/05 16:00**								
Toluene-d8			*97.3%*		*42.1 - 144 %*		*1x*			*09/24/05 17:43*	
P5I0775-19	**Water**	**A1-BP-08-GW-35**	**Sampled: 09/20/05 12:15**								
Acetone		EPA 8260B	ND	-----	25.0	ug/l	1x	5091023	09/25/05	09/25/05 19:20	
Benzene		"	ND	-----	1.00	"	"	"	"	"	
Bromobenzene		"	ND	-----	1.00	"	"	"	"	"	
Bromochloromethane		"	ND	-----	1.00	"	"	"	"	"	
Bromodichloromethane		"	ND	-----	1.00	"	"	"	"	"	
Bromoform		"	ND	-----	1.00	"	"	"	"	"	
Bromomethane		"	ND	-----	5.00	"	"	"	"	"	
2-Butanone		"	ND	-----	10.0	"	"	"	"	"	
n-Butylbenzene		"	ND	-----	5.00	"	"	"	"	"	
sec-Butylbenzene		"	ND	-----	1.00	"	"	"	"	"	
tert-Butylbenzene		"	ND	-----	1.00	"	"	"	"	"	
Carbon disulfide		"	ND	-----	10.0	"	"	"	"	"	
Carbon tetrachloride		"	ND	-----	1.00	"	"	"	"	"	
Chlorobenzene		"	ND	-----	1.00	"	"	"	"	"	
Chloroethane		"	ND	-----	1.00	"	"	"	"	"	
Chloroform		"	ND	-----	1.00	"	"	"	"	"	
Chloromethane		"	ND	-----	5.00	"	"	"	"	"	
2-Chlorotoluene		"	ND	-----	1.00	"	"	"	"	"	
4-Chlorotoluene		"	ND	-----	1.00	"	"	"	"	"	
1,2-Dibromo-3-chloropropane		"	ND	-----	5.00	"	"	"	"	"	
Dibromochloromethane		"	ND	-----	1.00	"	"	"	"	"	
1,2-Dibromoethane		"	ND	-----	1.00	"	"	"	"	"	
Dibromomethane		"	ND	-----	1.00	"	"	"	"	"	
1,2-Dichlorobenzene		"	ND	-----	1.00	"	"	"	"	"	
1,3-Dichlorobenzene		"	ND	-----	1.00	"	"	"	"	"	
1,4-Dichlorobenzene		"	ND	-----	1.00	"	"	"	"	"	
Dichlorodifluoromethane		"	ND	-----	5.00	"	"	"	"	"	
1,1-Dichloroethane		"	ND	-----	1.00	"	"	"	"	"	
1,2-Dichloroethane		"	ND	-----	1.00	"	"	"	"	"	
1,1-Dichloroethene		"	ND	-----	1.00	"	"	"	"	"	
cis-1,2-Dichloroethene		"	ND	-----	1.00	"	"	"	"	"	
trans-1,2-Dichloroethene		"	ND	-----	1.00	"	"	"	"	"	
1,2-Dichloropropane		"	ND	-----	1.00	"	"	"	"	"	
1,3-Dichloropropane		"	ND	-----	1.00	"	"	"	"	"	
2,2-Dichloropropane		"	ND	-----	1.00	"	"	"	"	"	
1,1-Dichloropropene		"	ND	-----	1.00	"	"	"	"	"	
cis-1,3-Dichloropropene		"	ND	-----	1.00	"	"	"	"	"	
trans-1,3-Dichloropropene		"	ND	-----	1.00	"	"	"	"	"	
Ethylbenzene		"	ND	-----	1.00	"	"	"	"	"	

North Creek Analytical - Portland

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Volatile Organic Compounds per EPA Method 8260B

North Creek Analytical - Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-19 Water	**A1-BP-08-GW-35**	**Sampled: 09/20/05 12:15**								
Hexachlorobutadiene	EPA 8260B	ND	-----	4.00	ug/l	1x	5091023	09/25/05	09/25/05 19:20	
2-Hexanone	"	ND	-----	10.0	"	"	"	"	"	
Isopropylbenzene	"	ND	-----	2.00	"	"	"	"	"	
p-Isopropyltoluene	"	ND	-----	2.00	"	"	"	"	"	
4-Methyl-2-pentanone	"	ND	-----	5.00	"	"	"	"	"	
Methyl tert-butyl ether	"	ND	-----	1.00	"	"	"	"	"	
Methylene chloride	"	ND	-----	5.00	"	"	"	"	"	
Naphthalene	"	ND	-----	2.00	"	"	"	"	"	
n-Propylbenzene	"	ND	-----	1.00	"	"	"	"	"	
Styrene	"	ND	-----	1.00	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	"	ND	-----	1.00	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	"	ND	-----	1.00	"	"	"	"	"	
Tetrachloroethene	"	ND	-----	1.00	"	"	"	"	"	
Toluene	"	ND	-----	1.00	"	"	"	"	"	
1,2,3-Trichlorobenzene	"	ND	-----	1.00	"	"	"	"	"	
1,2,4-Trichlorobenzene	"	ND	-----	1.00	"	"	"	"	"	
1,1,1-Trichloroethane	"	ND	-----	1.00	"	"	"	"	"	
1,1,2-Trichloroethane	"	ND	-----	1.00	"	"	"	"	"	
Trichloroethene	"	ND	-----	1.00	"	"	"	"	"	
Trichlorofluoromethane	"	ND	-----	1.00	"	"	"	"	"	
1,2,3-Trichloropropane	"	ND	-----	1.00	"	"	"	"	"	
1,2,4-Trimethylbenzene	"	ND	-----	1.00	"	"	"	"	"	
1,3,5-Trimethylbenzene	"	ND	-----	1.00	"	"	"	"	"	
Vinyl chloride	"	ND	-----	1.00	"	"	"	"	"	
o-Xylene	"	ND	-----	1.00	"	"	"	"	"	
m,p-Xylene	"	ND	-----	2.00	"	"	"	"	"	
Surrogate(s):	*4-BFB*	*Recovery: 94.5%*		*Limits: 75 - 120 %*		*"*			*"*	
	1,2-DCA-d4	*99.5%*		*77 - 129 %*		*"*			*"*	
	Dibromofluoromethane	*96.5%*		*80 - 121 %*		*"*			*"*	
	Toluene-d8	*84.5%*		*80 - 120 %*		*"*			*"*	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Volatile Organic Compounds per EPA Method 8260B

North Creek Analytical - Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-20 Water	**A1-BP-08-GW-53**	**Sampled: 09/20/05 12:15**								
Acetone	EPA 8260B	ND	-----	25.0	ug/l	1x	5091023	09/25/05	09/25/05 19:46	
Benzene	"	ND	-----	1.00	"	"	"	"	"	
Bromobenzene	"	ND	-----	1.00	"	"	"	"	"	
Bromochloromethane	"	ND	-----	1.00	"	"	"	"	"	
Bromodichloromethane	"	ND	-----	1.00	"	"	"	"	"	
Bromoform	"	ND	-----	1.00	"	"	"	"	"	
Bromomethane	"	ND	-----	5.00	"	"	"	"	"	
2-Butanone	"	ND	-----	10.0	"	"	"	"	"	
n-Butylbenzene	"	ND	-----	5.00	"	"	"	"	"	
sec-Butylbenzene	"	ND	-----	1.00	"	"	"	"	"	
tert-Butylbenzene	"	ND	-----	1.00	"	"	"	"	"	
Carbon disulfide	"	ND	-----	10.0	"	"	"	"	"	
Carbon tetrachloride	"	ND	-----	1.00	"	"	"	"	"	
Chlorobenzene	"	ND	-----	1.00	"	"	"	"	"	
Chloroethane	"	ND	-----	1.00	"	"	"	"	"	
Chloroform	"	ND	-----	1.00	"	"	"	"	"	
Chloromethane	"	ND	-----	5.00	"	"	"	"	"	
2-Chlorotoluene	"	ND	-----	1.00	"	"	"	"	"	
4-Chlorotoluene	"	ND	-----	1.00	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	"	ND	-----	5.00	"	"	"	"	"	
Dibromochloromethane	"	ND	-----	1.00	"	"	"	"	"	
1,2-Dibromoethane	"	ND	-----	1.00	"	"	"	"	"	
Dibromomethane	"	ND	-----	1.00	"	"	"	"	"	
1,2-Dichlorobenzene	"	ND	-----	1.00	"	"	"	"	"	
1,3-Dichlorobenzene	"	ND	-----	1.00	"	"	"	"	"	
1,4-Dichlorobenzene	"	ND	-----	1.00	"	"	"	"	"	
Dichlorodifluoromethane	"	ND	-----	5.00	"	"	"	"	"	
1,1-Dichloroethane	"	ND	-----	1.00	"	"	"	"	"	
1,2-Dichloroethane	"	ND	-----	1.00	"	"	"	"	"	
1,1-Dichloroethene	"	ND	-----	1.00	"	"	"	"	"	
cis-1,2-Dichloroethene	"	ND	-----	1.00	"	"	"	"	"	
trans-1,2-Dichloroethene	"	ND	-----	1.00	"	"	"	"	"	
1,2-Dichloropropane	"	ND	-----	1.00	"	"	"	"	"	
1,3-Dichloropropane	"	ND	-----	1.00	"	"	"	"	"	
2,2-Dichloropropane	"	ND	-----	1.00	"	"	"	"	"	
1,1-Dichloropropene	"	ND	-----	1.00	"	"	"	"	"	
cis-1,3-Dichloropropene	"	ND	-----	1.00	"	"	"	"	"	
trans-1,3-Dichloropropene	"	ND	-----	1.00	"	"	"	"	"	
Ethylbenzene	"	ND	-----	1.00	"	"	"	"	"	
Hexachlorobutadiene	"	ND	-----	4.00	"	"	"	"	"	
2-Hexanone	"	ND	-----	10.0	"	"	"	"	"	
Isopropylbenzene	"	ND	-----	2.00	"	"	"	"	"	

North Creek Analytical - Portland

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Volatile Organic Compounds per EPA Method 8260B

North Creek Analytical - Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-20 Water A1-BP-08-GW-53 Sampled: 09/20/05 12:15										
p-Isopropyltoluene	EPA 8260B	ND	-----	2.00	ug/l	1x	5091023	09/25/05	09/25/05 19:46	
4-Methyl-2-pentanone	"	ND	-----	5.00	"	"	"	"	"	
Methyl tert-butyl ether	"	ND	-----	1.00	"	"	"	"	"	
Methylene chloride	"	ND	-----	5.00	"	"	"	"	"	
Naphthalene	"	ND	-----	2.00	"	"	"	"	"	
n-Propylbenzene	"	ND	-----	1.00	"	"	"	"	"	
Styrene	"	ND	-----	1.00	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	"	ND	-----	1.00	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	"	ND	-----	1.00	"	"	"	"	"	
Tetrachloroethene	"	ND	-----	1.00	"	"	"	"	"	
Toluene	"	ND	-----	1.00	"	"	"	"	"	
1,2,3-Trichlorobenzene	"	ND	-----	1.00	"	"	"	"	"	
1,2,4-Trichlorobenzene	"	ND	-----	1.00	"	"	"	"	"	
1,1,1-Trichloroethane	"	ND	-----	1.00	"	"	"	"	"	
1,1,2-Trichloroethane	"	ND	-----	1.00	"	"	"	"	"	
Trichloroethene	"	ND	-----	1.00	"	"	"	"	"	
Trichlorofluoromethane	"	ND	-----	1.00	"	"	"	"	"	
1,2,3-Trichloropropane	"	ND	-----	1.00	"	"	"	"	"	
1,2,4-Trimethylbenzene	"	ND	-----	1.00	"	"	"	"	"	
1,3,5-Trimethylbenzene	"	ND	-----	1.00	"	"	"	"	"	
Vinyl chloride	"	ND	-----	1.00	"	"	"	"	"	
o-Xylene	"	ND	-----	1.00	"	"	"	"	"	
m,p-Xylene	"	ND	-----	2.00	"	"	"	"	"	
Surrogate(s): 4-BFB		*Recovery: 95.0%*		*Limits: 75 - 120 %*		*"*			*"*	
1,2-DCA-d4		*99.5%*		*77 - 129 %*		*"*			*"*	
Dibromofluoromethane		*96.5%*		*80 - 121 %*		*"*			*"*	
Toluene-d8		*94.0%*		*80 - 120 %*		*"*			*"*	
P5I0775-22 Water GP-TP-3-GW-35 Sampled: 09/20/05 14:30										
Acetone	EPA 8260B	ND	-----	25.0	ug/l	1x	5091023	09/25/05	09/25/05 20:13	
Benzene	"	ND	-----	1.00	"	"	"	"	"	
Bromobenzene	"	ND	-----	1.00	"	"	"	"	"	
Bromochloromethane	"	ND	-----	1.00	"	"	"	"	"	
Bromodichloromethane	"	ND	-----	1.00	"	"	"	"	"	
Bromoform	"	ND	-----	1.00	"	"	"	"	"	
Bromomethane	"	ND	-----	5.00	"	"	"	"	"	
2-Butanone	"	ND	-----	10.0	"	"	"	"	"	
n-Butylbenzene	"	ND	-----	5.00	"	"	"	"	"	
sec-Butylbenzene	"	ND	-----	1.00	"	"	"	"	"	
tert-Butylbenzene	"	ND	-----	1.00	"	"	"	"	"	
Carbon disulfide	"	ND	-----	10.0	"	"	"	"	"	
Carbon tetrachloride	"	ND	-----	1.00	"	"	"	"	"	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Volatile Organic Compounds per EPA Method 8260B

North Creek Analytical - Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-22 Water	**GP-TP-3-GW-35**	**Sampled: 09/20/05 14:30**								
Chlorobenzene	EPA 8260B	ND	-----	1.00	ug/l	1x	5091023	09/25/05	09/25/05 20:13	
Chloroethane	"	ND	-----	1.00	"	"	"	"	"	
Chloroform	"	ND	-----	1.00	"	"	"	"	"	
Chloromethane	"	ND	-----	5.00	"	"	"	"	"	
2-Chlorotoluene	"	ND	-----	1.00	"	"	"	"	"	
4-Chlorotoluene	"	ND	-----	1.00	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	"	ND	-----	5.00	"	"	"	"	"	
Dibromochloromethane	"	ND	-----	1.00	"	"	"	"	"	
1,2-Dibromoethane	"	ND	-----	1.00	"	"	"	"	"	
Dibromomethane	"	ND	-----	1.00	"	"	"	"	"	
1,2-Dichlorobenzene	"	ND	-----	1.00	"	"	"	"	"	
1,3-Dichlorobenzene	"	ND	-----	1.00	"	"	"	"	"	
1,4-Dichlorobenzene	"	ND	-----	1.00	"	"	"	"	"	
Dichlorodifluoromethane	"	ND	-----	5.00	"	"	"	"	"	
1,1-Dichloroethane	"	ND	-----	1.00	"	"	"	"	"	
1,2-Dichloroethane	"	ND	-----	1.00	"	"	"	"	"	
1,1-Dichloroethene	"	ND	-----	1.00	"	"	"	"	"	
cis-1,2-Dichloroethene	"	ND	-----	1.00	"	"	"	"	"	
trans-1,2-Dichloroethene	"	ND	-----	1.00	"	"	"	"	"	
1,2-Dichloropropane	"	ND	-----	1.00	"	"	"	"	"	
1,3-Dichloropropane	"	ND	-----	1.00	"	"	"	"	"	
2,2-Dichloropropane	"	ND	-----	1.00	"	"	"	"	"	
1,1-Dichloropropene	"	ND	-----	1.00	"	"	"	"	"	
cis-1,3-Dichloropropene	"	ND	-----	1.00	"	"	"	"	"	
trans-1,3-Dichloropropene	"	ND	-----	1.00	"	"	"	"	"	
Ethylbenzene	"	ND	-----	1.00	"	"	"	"	"	
Hexachlorobutadiene	"	ND	-----	4.00	"	"	"	"	"	
2-Hexanone	"	ND	-----	10.0	"	"	"	"	"	
Isopropylbenzene	"	ND	-----	2.00	"	"	"	"	"	
p-Isopropyltoluene	"	ND	-----	2.00	"	"	"	"	"	
4-Methyl-2-pentanone	"	ND	-----	5.00	"	"	"	"	"	
Methyl tert-butyl ether	"	ND	-----	1.00	"	"	"	"	"	
Methylene chloride	"	ND	-----	5.00	"	"	"	"	"	
Naphthalene	"	ND	-----	2.00	"	"	"	"	"	
n-Propylbenzene	"	ND	-----	1.00	"	"	"	"	"	
Styrene	"	ND	-----	1.00	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	"	ND	-----	1.00	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	"	ND	-----	1.00	"	"	"	"	"	
Tetrachloroethene	"	ND	-----	1.00	"	"	"	"	"	
Toluene	"	ND	-----	1.00	"	"	"	"	"	
1,2,3-Trichlorobenzene	"	ND	-----	1.00	"	"	"	"	"	
1,2,4-Trichlorobenzene	"	ND	-----	1.00	"	"	"	"	"	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Volatile Organic Compounds per EPA Method 8260B

North Creek Analytical - Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-22 Water	**GP-TP-3-GW-35**	**Sampled: 09/20/05 14:30**								
1,1,1-Trichloroethane	EPA 8260B	ND	-----	1.00	ug/l	1x	5091023	09/25/05	09/25/05 20:13	
1,1,2-Trichloroethane	"	ND	-----	1.00	"	"	"	"	"	
Trichloroethene	"	**7.46**	-----	1.00	"	"	"	"	"	
Trichlorofluoromethane	"	ND	-----	1.00	"	"	"	"	"	
1,2,3-Trichloropropane	"	ND	-----	1.00	"	"	"	"	"	
1,2,4-Trimethylbenzene	"	ND	-----	1.00	"	"	"	"	"	
1,3,5-Trimethylbenzene	"	ND	-----	1.00	"	"	"	"	"	
Vinyl chloride	"	ND	-----	1.00	"	"	"	"	"	
o-Xylene	"	ND	-----	1.00	"	"	"	"	"	
m,p-Xylene	"	ND	-----	2.00	"	"	"	"	"	

Surrogate(s):	*4-BFB*	*Recovery: 94.0%*	*Limits: 75 - 120 %*	"	"
	1,2-DCA-d4	*99.0%*	*77 - 129 %*	"	"
	Dibromofluoromethane	*99.0%*	*80 - 121 %*	"	"
	Toluene-d8	*87.5%*	*80 - 120 %*	"	"

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Semivolatile Organic Compounds per EPA Method 8270C

North Creek Analytical - Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-01RE1 Soil A1-BP-13-S0-01 Sampled: 09/20/05 07:10										
Acenaphthene	EPA 8270C	ND	-----	0.346	mg/kg dry	1x	5100017	10/03/05	10/05/05 00:52	
Acenaphthylene	"	ND	-----	0.346	"	"	"	"	"	
Anthracene	"	ND	-----	0.346	"	"	"	"	"	
Benzo (a) anthracene	"	ND	-----	0.346	"	"	"	"	"	
Benzo (a) pyrene	"	ND	-----	0.346	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	-----	0.346	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	-----	0.346	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	-----	0.346	"	"	"	"	"	
Benzoic Acid	"	ND	-----	1.05	"	"	"	"	"	
Benzyl alcohol	"	ND	-----	1.05	"	"	"	"	"	
4-Bromophenyl phenyl ether	"	ND	-----	0.346	"	"	"	"	"	
Butyl benzyl phthalate	"	ND	-----	0.346	"	"	"	"	"	
4-Chloro-3-methylphenol	"	ND	-----	0.346	"	"	"	"	"	
4-Chloroaniline	"	ND	-----	2.10	"	"	"	"	"	
Bis(2-chloroethoxy)methane	"	ND	-----	0.346	"	"	"	"	"	
Bis(2-chloroethyl)ether	"	ND	-----	0.346	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	"	ND	-----	0.346	"	"	"	"	"	
2-Chloronaphthalene	"	ND	-----	0.346	"	"	"	"	"	
2-Chlorophenol	"	ND	-----	0.346	"	"	"	"	"	
4-Chlorophenyl phenyl ether	"	ND	-----	0.346	"	"	"	"	"	
Chrysene	"	ND	-----	0.346	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	-----	1.05	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	-----	0.346	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	-----	0.346	"	"	"	"	"	
Dibenzofuran	"	ND	-----	0.346	"	"	"	"	"	
1,2-Dichlorobenzene	"	ND	-----	1.05	"	"	"	"	"	
1,3-Dichlorobenzene	"	ND	-----	1.05	"	"	"	"	"	
1,4-Dichlorobenzene	"	ND	-----	1.05	"	"	"	"	"	
3,3´-Dichlorobenzidine	"	ND	-----	1.05	"	"	"	"	"	
2,4-Dichlorophenol	"	ND	-----	0.346	"	"	"	"	"	
Diethyl phthalate	"	ND	-----	0.346	"	"	"	"	"	
2,4-Dimethylphenol	"	ND	-----	1.05	"	"	"	"	"	
Dimethyl phthalate	"	ND	-----	0.346	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	"	ND	-----	1.05	"	"	"	"	"	
2,4-Dinitrophenol	"	ND	-----	2.10	"	"	"	"	"	
2,4-Dinitrotoluene	"	ND	-----	0.524	"	"	"	"	"	
2,6-Dinitrotoluene	"	ND	-----	0.524	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	ND	-----	2.10	"	"	"	"	"	
Fluoranthene	"	ND	-----	0.346	"	"	"	"	"	
Fluorene	"	ND	-----	0.346	"	"	"	"	"	
Hexachlorobenzene	"	ND	-----	0.346	"	"	"	"	"	
Hexachlorobutadiene	"	ND	-----	1.05	"	"	"	"	"	

North Creek Analytical - Portland

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lisa Domenighini, Project Manager

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Semivolatile Organic Compounds per EPA Method 8270C

North Creek Analytical - Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-01RE1 Soil	**A1-BP-13-S0-01**	**Sampled: 09/20/05 07:10**								
Hexachlorocyclopentadiene	EPA 8270C	ND	-----	1.05	mg/kg dry	1x	5100017	10/03/05	10/05/05 00:52	
Hexachloroethane	"	ND	-----	1.05	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	-----	0.346	"	"	"	"	"	
Isophorone	"	ND	-----	0.346	"	"	"	"	"	
2-Methylnaphthalene	"	ND	-----	0.346	"	"	"	"	"	
2-Methylphenol	"	ND	-----	0.346	"	"	"	"	"	
3-,4-Methylphenol	"	ND	-----	0.346	"	"	"	"	"	
Naphthalene	"	ND	-----	0.346	"	"	"	"	"	
2-Nitroaniline	"	ND	-----	0.346	"	"	"	"	"	
3-Nitroaniline	"	ND	-----	1.05	"	"	"	"	"	
4-Nitroaniline	"	ND	-----	0.346	"	"	"	"	"	
Nitrobenzene	"	ND	-----	0.346	"	"	"	"	"	
2-Nitrophenol	"	ND	-----	0.346	"	"	"	"	"	
4-Nitrophenol	"	ND	-----	1.05	"	"	"	"	"	
N-Nitrosodi-n-propylamine	"	ND	-----	0.346	"	"	"	"	"	
N-Nitrosodiphenylamine	"	ND	-----	0.346	"	"	"	"	"	
Pentachlorophenol	"	ND	-----	1.05	"	"	"	"	"	
Phenanthrene	"	ND	-----	0.346	"	"	"	"	"	
Phenol	"	ND	-----	0.346	"	"	"	"	"	
Pyrene	"	ND	-----	0.346	"	"	"	"	"	
1,2,4-Trichlorobenzene	"	ND	-----	1.05	"	"	"	"	"	
2,4,5-Trichlorophenol	"	ND	-----	0.346	"	"	"	"	"	
2,4,6-Trichlorophenol	"	ND	-----	0.346	"	"	"	"	"	
Surrogate(s):	*2-Fluorobiphenyl*	*Recovery: 64.1%*		*Limits: 44 - 146 %*		"			"	
	2-Fluorophenol	*57.6%*		*42 - 126 %*		"			"	
	Nitrobenzene-d5	*61.8%*		*42 - 126 %*		"			"	
	Phenol-d6	*58.6%*		*42 - 131 %*		"			"	
	p-Terphenyl-d14	*68.3%*		*49 - 150 %*		"			"	
	2,4,6-Tribromophenol	*67.6%*		*48 - 119 %*		"			"	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Semivolatile Organic Compounds per EPA Method 8270C

North Creek Analytical - Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-02RE1 Soil A1-BP-13-S0-02 Sampled: 09/20/05 07:30										
Acenaphthene	EPA 8270C	ND	-----	0.337	mg/kg dry	1x	5100017	10/03/05	10/05/05 01:37	
Acenaphthylene	"	ND	-----	0.337	"	"	"	"	"	
Anthracene	"	ND	-----	0.337	"	"	"	"	"	
Benzo (a) anthracene	"	ND	-----	0.337	"	"	"	"	"	
Benzo (a) pyrene	"	ND	-----	0.337	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	-----	0.337	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	-----	0.337	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	-----	0.337	"	"	"	"	"	
Benzoic Acid	"	ND	-----	1.02	"	"	"	"	"	
Benzyl alcohol	"	ND	-----	1.02	"	"	"	"	"	
4-Bromophenyl phenyl ether	"	ND	-----	0.337	"	"	"	"	"	
Butyl benzyl phthalate	"	ND	-----	0.337	"	"	"	"	"	
4-Chloro-3-methylphenol	"	ND	-----	0.337	"	"	"	"	"	
4-Chloroaniline	"	ND	-----	2.04	"	"	"	"	"	
Bis(2-chloroethoxy)methane	"	ND	-----	0.337	"	"	"	"	"	
Bis(2-chloroethyl)ether	"	ND	-----	0.337	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	"	ND	-----	0.337	"	"	"	"	"	
2-Chloronaphthalene	"	ND	-----	0.337	"	"	"	"	"	
2-Chlorophenol	"	ND	-----	0.337	"	"	"	"	"	
4-Chlorophenyl phenyl ether	"	ND	-----	0.337	"	"	"	"	"	
Chrysene	"	ND	-----	0.337	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	-----	1.02	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	-----	0.337	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	-----	0.337	"	"	"	"	"	
Dibenzofuran	"	ND	-----	0.337	"	"	"	"	"	
1,2-Dichlorobenzene	"	ND	-----	1.02	"	"	"	"	"	
1,3-Dichlorobenzene	"	ND	-----	1.02	"	"	"	"	"	
1,4-Dichlorobenzene	"	ND	-----	1.02	"	"	"	"	"	
3,3´-Dichlorobenzidine	"	ND	-----	1.02	"	"	"	"	"	
2,4-Dichlorophenol	"	ND	-----	0.337	"	"	"	"	"	
Diethyl phthalate	"	ND	-----	0.337	"	"	"	"	"	
2,4-Dimethylphenol	"	ND	-----	1.02	"	"	"	"	"	
Dimethyl phthalate	"	ND	-----	0.337	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	"	ND	-----	1.02	"	"	"	"	"	
2,4-Dinitrophenol	"	ND	-----	2.04	"	"	"	"	"	
2,4-Dinitrotoluene	"	ND	-----	0.511	"	"	"	"	"	
2,6-Dinitrotoluene	"	ND	-----	0.511	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	ND	-----	2.04	"	"	"	"	"	
Fluoranthene	"	ND	-----	0.337	"	"	"	"	"	
Fluorene	"	ND	-----	0.337	"	"	"	"	"	
Hexachlorobenzene	"	ND	-----	0.337	"	"	"	"	"	
Hexachlorobutadiene	"	ND	-----	1.02	"	"	"	"	"	

North Creek Analytical - Portland

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Semivolatile Organic Compounds per EPA Method 8270C

North Creek Analytical - Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-02RE1 Soil A1-BP-13-S0-02 Sampled: 09/20/05 07:30										
Hexachlorocyclopentadiene	EPA 8270C	ND	-----	1.02	mg/kg dry	1x	5100017	10/03/05	10/05/05 01:37	
Hexachloroethane	"	ND	-----	1.02	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	-----	0.337	"	"	"	"	"	
Isophorone	"	ND	-----	0.337	"	"	"	"	"	
2-Methylnaphthalene	"	ND	-----	0.337	"	"	"	"	"	
2-Methylphenol	"	ND	-----	0.337	"	"	"	"	"	
3-,4-Methylphenol	"	ND	-----	0.337	"	"	"	"	"	
Naphthalene	"	ND	-----	0.337	"	"	"	"	"	
2-Nitroaniline	"	ND	-----	0.337	"	"	"	"	"	
3-Nitroaniline	"	ND	-----	1.02	"	"	"	"	"	
4-Nitroaniline	"	ND	-----	0.337	"	"	"	"	"	
Nitrobenzene	"	ND	-----	0.337	"	"	"	"	"	
2-Nitrophenol	"	ND	-----	0.337	"	"	"	"	"	
4-Nitrophenol	"	ND	-----	1.02	"	"	"	"	"	
N-Nitrosodi-n-propylamine	"	ND	-----	0.337	"	"	"	"	"	
N-Nitrosodiphenylamine	"	ND	-----	0.337	"	"	"	"	"	
Pentachlorophenol	"	ND	-----	1.02	"	"	"	"	"	
Phenanthrene	"	ND	-----	0.337	"	"	"	"	"	
Phenol	"	ND	-----	0.337	"	"	"	"	"	
Pyrene	"	ND	-----	0.337	"	"	"	"	"	
1,2,4-Trichlorobenzene	"	ND	-----	1.02	"	"	"	"	"	
2,4,5-Trichlorophenol	"	ND	-----	0.337	"	"	"	"	"	
2,4,6-Trichlorophenol	"	ND	-----	0.337	"	"	"	"	"	
Surrogate(s): 2-Fluorobiphenyl		*Recovery: 67.8%*		*Limits: 44 - 146 %*		"			"	
2-Fluorophenol		*56.4%*		*42 - 126 %*		"			"	
Nitrobenzene-d5		*63.5%*		*42 - 126 %*		"			"	
Phenol-d6		*60.3%*		*42 - 131 %*		"			"	
p-Terphenyl-d14		*70.6%*		*49 - 150 %*		"			"	
2,4,6-Tribromophenol		*71.2%*		*48 - 119 %*		"			"	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Semivolatile Organic Compounds per EPA Method 8270C

North Creek Analytical - Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-03 Soil A1-BP-11-S0-01 Sampled: 09/20/05 08:23										
Acenaphthene	EPA 8270C	ND	-----	0.361	mg/kg dry	1x	5090982	09/23/05	09/28/05 01:04	
Acenaphthylene	"	ND	-----	0.361	"	"	"	"	"	
Anthracene	"	ND	-----	0.361	"	"	"	"	"	
Benzo (a) anthracene	"	ND	-----	0.361	"	"	"	"	"	
Benzo (a) pyrene	"	ND	-----	0.361	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	-----	0.361	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	-----	0.361	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	-----	0.361	"	"	"	"	"	
Benzoic Acid	"	ND	-----	1.09	"	"	"	"	"	
Benzyl alcohol	"	ND	-----	1.09	"	"	"	"	"	
4-Bromophenyl phenyl ether	"	ND	-----	0.361	"	"	"	"	"	
Butyl benzyl phthalate	"	ND	-----	0.361	"	"	"	"	"	
4-Chloro-3-methylphenol	"	ND	-----	0.361	"	"	"	"	"	
4-Chloroaniline	"	ND	-----	2.19	"	"	"	"	"	
Bis(2-chloroethoxy)methane	"	ND	-----	0.361	"	"	"	"	"	
Bis(2-chloroethyl)ether	"	ND	-----	0.361	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	"	ND	-----	0.361	"	"	"	"	"	
2-Chloronaphthalene	"	ND	-----	0.361	"	"	"	"	"	
2-Chlorophenol	"	ND	-----	0.361	"	"	"	"	"	
4-Chlorophenyl phenyl ether	"	ND	-----	0.361	"	"	"	"	"	
Chrysene	"	ND	-----	0.361	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	-----	1.09	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	-----	0.361	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	-----	0.361	"	"	"	"	"	
Dibenzofuran	"	ND	-----	0.361	"	"	"	"	"	
1,2-Dichlorobenzene	"	ND	-----	1.09	"	"	"	"	"	
1,3-Dichlorobenzene	"	ND	-----	1.09	"	"	"	"	"	
1,4-Dichlorobenzene	"	ND	-----	1.09	"	"	"	"	"	
3,3´-Dichlorobenzidine	"	ND	-----	1.09	"	"	"	"	"	
2,4-Dichlorophenol	"	ND	-----	0.361	"	"	"	"	"	
Diethyl phthalate	"	ND	-----	0.361	"	"	"	"	"	
2,4-Dimethylphenol	"	ND	-----	1.09	"	"	"	"	"	
Dimethyl phthalate	"	ND	-----	0.361	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	"	ND	-----	1.09	"	"	"	"	"	
2,4-Dinitrophenol	"	ND	-----	2.19	"	"	"	"	"	
2,4-Dinitrotoluene	"	ND	-----	0.546	"	"	"	"	"	
2,6-Dinitrotoluene	"	ND	-----	0.546	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	ND	-----	2.19	"	"	"	"	"	
Fluoranthene	"	ND	-----	0.361	"	"	"	"	"	
Fluorene	"	ND	-----	0.361	"	"	"	"	"	
Hexachlorobenzene	"	ND	-----	0.361	"	"	"	"	"	
Hexachlorobutadiene	"	ND	-----	1.09	"	"	"	"	"	

North Creek Analytical - Portland

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Lisa Domenighini, Project Manager

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Semivolatile Organic Compounds per EPA Method 8270C

North Creek Analytical - Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-03 Soil A1-BP-11-S0-01 Sampled: 09/20/05 08:23										
Hexachlorocyclopentadiene	EPA 8270C	ND	-----	1.09	mg/kg dry	1x	5090982	09/23/05	09/28/05 01:04	
Hexachloroethane	"	ND	-----	1.09	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	-----	0.361	"	"	"	"	"	
Isophorone	"	ND	-----	0.361	"	"	"	"	"	
2-Methylnaphthalene	"	ND	-----	0.361	"	"	"	"	"	
2-Methylphenol	"	ND	-----	0.361	"	"	"	"	"	
3-,4-Methylphenol	"	ND	-----	0.361	"	"	"	"	"	
Naphthalene	"	ND	-----	0.361	"	"	"	"	"	
2-Nitroaniline	"	ND	-----	0.361	"	"	"	"	"	
3-Nitroaniline	"	ND	-----	1.09	"	"	"	"	"	
4-Nitroaniline	"	ND	-----	0.361	"	"	"	"	"	
Nitrobenzene	"	ND	-----	0.361	"	"	"	"	"	
2-Nitrophenol	"	ND	-----	0.361	"	"	"	"	"	
4-Nitrophenol	"	ND	-----	1.09	"	"	"	"	"	
N-Nitrosodi-n-propylamine	"	ND	-----	0.361	"	"	"	"	"	
N-Nitrosodiphenylamine	"	ND	-----	0.361	"	"	"	"	"	
Pentachlorophenol	"	ND	-----	1.09	"	"	"	"	"	
Phenanthrene	"	ND	-----	0.361	"	"	"	"	"	
Phenol	"	ND	-----	0.361	"	"	"	"	"	
Pyrene	"	ND	-----	0.361	"	"	"	"	"	
1,2,4-Trichlorobenzene	"	ND	-----	1.09	"	"	"	"	"	
2,4,5-Trichlorophenol	"	ND	-----	0.361	"	"	"	"	"	
2,4,6-Trichlorophenol	"	ND	-----	0.361	"	"	"	"	"	
Surrogate(s): 2-Fluorobiphenyl		*Recovery: 90.8%*		*Limits: 44 - 146 %*		"			"	
2-Fluorophenol		*104%*		*42 - 126 %*		"			"	
Nitrobenzene-d5		*84.6%*		*42 - 126 %*		"			"	
Phenol-d6		*90.5%*		*42 - 131 %*		"			"	
p-Terphenyl-d14		*106%*		*49 - 150 %*		"			"	
2,4,6-Tribromophenol		*92.1%*		*48 - 119 %*		"			"	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Semivolatile Organic Compounds per EPA Method 8270C

North Creek Analytical - Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-04 Soil A1-BP-11-S0-02 Sampled: 09/20/05 08:31										
Acenaphthene	EPA 8270C	ND	-----	0.350	mg/kg dry	1x	5090982	09/23/05	09/28/05 01:47	
Acenaphthylene	"	ND	-----	0.350	"	"	"	"	"	
Anthracene	"	ND	-----	0.350	"	"	"	"	"	
Benzo (a) anthracene	"	ND	-----	0.350	"	"	"	"	"	
Benzo (a) pyrene	"	ND	-----	0.350	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	-----	0.350	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	-----	0.350	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	-----	0.350	"	"	"	"	"	
Benzoic Acid	"	ND	-----	1.06	"	"	"	"	"	
Benzyl alcohol	"	ND	-----	1.06	"	"	"	"	"	
4-Bromophenyl phenyl ether	"	ND	-----	0.350	"	"	"	"	"	
Butyl benzyl phthalate	"	ND	-----	0.350	"	"	"	"	"	
4-Chloro-3-methylphenol	"	ND	-----	0.350	"	"	"	"	"	
4-Chloroaniline	"	ND	-----	2.12	"	"	"	"	"	
Bis(2-chloroethoxy)methane	"	ND	-----	0.350	"	"	"	"	"	
Bis(2-chloroethyl)ether	"	ND	-----	0.350	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	"	ND	-----	0.350	"	"	"	"	"	
2-Chloronaphthalene	"	ND	-----	0.350	"	"	"	"	"	
2-Chlorophenol	"	ND	-----	0.350	"	"	"	"	"	
4-Chlorophenyl phenyl ether	"	ND	-----	0.350	"	"	"	"	"	
Chrysene	"	ND	-----	0.350	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	-----	1.06	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	-----	0.350	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	-----	0.350	"	"	"	"	"	
Dibenzofuran	"	ND	-----	0.350	"	"	"	"	"	
1,2-Dichlorobenzene	"	ND	-----	1.06	"	"	"	"	"	
1,3-Dichlorobenzene	"	ND	-----	1.06	"	"	"	"	"	
1,4-Dichlorobenzene	"	ND	-----	1.06	"	"	"	"	"	
3,3´-Dichlorobenzidine	"	ND	-----	1.06	"	"	"	"	"	
2,4-Dichlorophenol	"	ND	-----	0.350	"	"	"	"	"	
Diethyl phthalate	"	ND	-----	0.350	"	"	"	"	"	
2,4-Dimethylphenol	"	ND	-----	1.06	"	"	"	"	"	
Dimethyl phthalate	"	ND	-----	0.350	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	"	ND	-----	1.06	"	"	"	"	"	
2,4-Dinitrophenol	"	ND	-----	2.12	"	"	"	"	"	
2,4-Dinitrotoluene	"	ND	-----	0.531	"	"	"	"	"	
2,6-Dinitrotoluene	"	ND	-----	0.531	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	ND	-----	2.12	"	"	"	"	"	
Fluoranthene	"	ND	-----	0.350	"	"	"	"	"	
Fluorene	"	ND	-----	0.350	"	"	"	"	"	
Hexachlorobenzene	"	ND	-----	0.350	"	"	"	"	"	
Hexachlorobutadiene	"	ND	-----	1.06	"	"	"	"	"	

North Creek Analytical - Portland

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Semivolatile Organic Compounds per EPA Method 8270C

North Creek Analytical - Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-04 Soil A1-BP-11-S0-02 Sampled: 09/20/05 08:31										
Hexachlorocyclopentadiene	EPA 8270C	ND	-----	1.06	mg/kg dry	1x	5090982	09/23/05	09/28/05 01:47	
Hexachloroethane	"	ND	-----	1.06	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	-----	0.350	"	"	"	"	"	
Isophorone	"	ND	-----	0.350	"	"	"	"	"	
2-Methylnaphthalene	"	ND	-----	0.350	"	"	"	"	"	
2-Methylphenol	"	ND	-----	0.350	"	"	"	"	"	
3-,4-Methylphenol	"	ND	-----	0.350	"	"	"	"	"	
Naphthalene	"	ND	-----	0.350	"	"	"	"	"	
2-Nitroaniline	"	ND	-----	0.350	"	"	"	"	"	
3-Nitroaniline	"	ND	-----	1.06	"	"	"	"	"	
4-Nitroaniline	"	ND	-----	0.350	"	"	"	"	"	
Nitrobenzene	"	ND	-----	0.350	"	"	"	"	"	
2-Nitrophenol	"	ND	-----	0.350	"	"	"	"	"	
4-Nitrophenol	"	ND	-----	1.06	"	"	"	"	"	
N-Nitrosodi-n-propylamine	"	ND	-----	0.350	"	"	"	"	"	
N-Nitrosodiphenylamine	"	ND	-----	0.350	"	"	"	"	"	
Pentachlorophenol	"	ND	-----	1.06	"	"	"	"	"	
Phenanthrene	"	ND	-----	0.350	"	"	"	"	"	
Phenol	"	ND	-----	0.350	"	"	"	"	"	
Pyrene	"	ND	-----	0.350	"	"	"	"	"	
1,2,4-Trichlorobenzene	"	ND	-----	1.06	"	"	"	"	"	
2,4,5-Trichlorophenol	"	ND	-----	0.350	"	"	"	"	"	
2,4,6-Trichlorophenol	"	ND	-----	0.350	"	"	"	"	"	
Surrogate(s): 2-Fluorobiphenyl		*Recovery: 92.8%*		*Limits:*	*44 - 146 %*	"			"	
2-Fluorophenol		*111%*			*42 - 126 %*	"			"	
Nitrobenzene-d5		*80.8%*			*42 - 126 %*	"			"	
Phenol-d6		*96.6%*			*42 - 131 %*	"			"	
p-Terphenyl-d14		*112%*			*49 - 150 %*	"			"	
2,4,6-Tribromophenol		*89.8%*			*48 - 119 %*	"			"	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Semivolatile Organic Compounds per EPA Method 8270C

North Creek Analytical - Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-05 Water	**A1-BP-09-GW-35**	**Sampled: 09/20/05 10:15**								
Acenaphthene	EPA 8270C	ND	-----	5.00	ug/l	1x	5091098	09/27/05	10/04/05 10:40	
Acenaphthylene	"	ND	-----	5.00	"	"	"	"	"	
Anthracene	"	ND	-----	5.00	"	"	"	"	"	
Benzo (a) anthracene	"	ND	-----	5.00	"	"	"	"	"	
Benzo (a) pyrene	"	ND	-----	5.00	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	-----	5.00	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	-----	5.00	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	-----	5.00	"	"	"	"	"	
Benzoic Acid	"	ND	-----	50.0	"	"	"	"	"	
Benzyl alcohol	"	ND	-----	10.0	"	"	"	"	"	
4-Bromophenyl phenyl ether	"	ND	-----	5.00	"	"	"	"	"	
Butyl benzyl phthalate	"	ND	-----	5.00	"	"	"	"	"	
4-Chloro-3-methylphenol	"	ND	-----	5.00	"	"	"	"	"	
4-Chloroaniline	"	ND	-----	20.0	"	"	"	"	"	
Bis(2-chloroethoxy)methane	"	ND	-----	10.0	"	"	"	"	"	
Bis(2-chloroethyl)ether	"	ND	-----	5.00	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	"	ND	-----	10.0	"	"	"	"	"	
2-Chloronaphthalene	"	ND	-----	5.00	"	"	"	"	"	
2-Chlorophenol	"	ND	-----	5.00	"	"	"	"	"	
4-Chlorophenyl phenyl ether	"	ND	-----	5.00	"	"	"	"	"	
Chrysene	"	ND	-----	5.00	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	-----	5.00	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	-----	5.00	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	-----	5.00	"	"	"	"	"	
Dibenzofuran	"	ND	-----	5.00	"	"	"	"	"	
1,2-Dichlorobenzene	"	ND	-----	5.00	"	"	"	"	"	
1,3-Dichlorobenzene	"	ND	-----	5.00	"	"	"	"	"	
1,4-Dichlorobenzene	"	ND	-----	5.00	"	"	"	"	"	
3,3´-Dichlorobenzidine	"	ND	-----	5.00	"	"	"	"	"	
2,4-Dichlorophenol	"	ND	-----	5.00	"	"	"	"	"	
Diethyl phthalate	"	ND	-----	5.00	"	"	"	"	"	
2,4-Dimethylphenol	"	ND	-----	10.0	"	"	"	"	"	
Dimethyl phthalate	"	ND	-----	5.00	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	"	ND	-----	10.0	"	"	"	"	"	
2,4-Dinitrophenol	"	ND	-----	25.0	"	"	"	"	"	
2,4-Dinitrotoluene	"	ND	-----	5.00	"	"	"	"	"	
2,6-Dinitrotoluene	"	ND	-----	5.00	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	ND	-----	10.0	"	"	"	"	"	**B-18**
Fluoranthene	"	ND	-----	5.00	"	"	"	"	"	
Fluorene	"	ND	-----	5.00	"	"	"	"	"	
Hexachlorobenzene	"	ND	-----	5.00	"	"	"	"	"	
Hexachlorobutadiene	"	ND	-----	10.0	"	"	"	"	"	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Semivolatile Organic Compounds per EPA Method 8270C

North Creek Analytical - Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-05 Water	**A1-BP-09-GW-35**	**Sampled: 09/20/05 10:15**								
Hexachlorocyclopentadiene	EPA 8270C	ND	-----	10.0	ug/l	1x	5091098	09/27/05	10/04/05 10:40	
Hexachloroethane	"	ND	-----	10.0	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	-----	5.00	"	"	"	"	"	
Isophorone	"	ND	-----	5.00	"	"	"	"	"	
2-Methylnaphthalene	"	ND	-----	5.00	"	"	"	"	"	
2-Methylphenol	"	ND	-----	10.0	"	"	"	"	"	
3-,4-Methylphenol	"	ND	-----	5.00	"	"	"	"	"	
Naphthalene	"	ND	-----	5.00	"	"	"	"	"	
2-Nitroaniline	"	ND	-----	5.00	"	"	"	"	"	
3-Nitroaniline	"	ND	-----	10.0	"	"	"	"	"	
4-Nitroaniline	"	ND	-----	10.0	"	"	"	"	"	
Nitrobenzene	"	ND	-----	5.00	"	"	"	"	"	
2-Nitrophenol	"	ND	-----	5.00	"	"	"	"	"	
4-Nitrophenol	"	ND	-----	25.0	"	"	"	"	"	
N-Nitrosodi-n-propylamine	"	ND	-----	10.0	"	"	"	"	"	
N-Nitrosodiphenylamine	"	ND	-----	5.00	"	"	"	"	"	
Pentachlorophenol	"	ND	-----	10.0	"	"	"	"	"	
Phenanthrene	"	ND	-----	5.00	"	"	"	"	"	
Phenol	"	ND	-----	5.00	"	"	"	"	"	
Pyrene	"	ND	-----	5.00	"	"	"	"	"	
1,2,4-Trichlorobenzene	"	ND	-----	5.00	"	"	"	"	"	
2,4,5-Trichlorophenol	"	ND	-----	5.00	"	"	"	"	"	
2,4,6-Trichlorophenol	"	ND	-----	5.00	"	"	"	"	"	
Surrogate(s):	*2-Fluorobiphenyl*	*Recovery: 72.0%*		*Limits: 28 - 118 %*		"			"	
	2-Fluorophenol	*66.1%*		*12 - 100 %*		"			"	
	Nitrobenzene-d5	*82.1%*		*37 - 124 %*		"			"	
	Phenol-d6	*71.3%*		*4 - 105 %*		"			"	
	p-Terphenyl-d14	*102%*		*44 - 140 %*		"			"	
	2,4,6-Tribromophenol	*95.3%*		*31 - 142 %*		"			"	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Semivolatile Organic Compounds per EPA Method 8270C

North Creek Analytical - Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-06 Soil A1-BP-14-S0-01 Sampled: 09/20/05 11:00										
Acenaphthene	EPA 8270C	ND	-----	0.365	mg/kg dry	1x	5090982	09/23/05	09/28/05 02:29	
Acenaphthylene	"	ND	-----	0.365	"	"	"	"	"	
Anthracene	"	ND	-----	0.365	"	"	"	"	"	
Benzo (a) anthracene	"	ND	-----	0.365	"	"	"	"	"	
Benzo (a) pyrene	"	ND	-----	0.365	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	-----	0.365	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	-----	0.365	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	-----	0.365	"	"	"	"	"	
Benzoic Acid	"	ND	-----	1.10	"	"	"	"	"	
Benzyl alcohol	"	ND	-----	1.10	"	"	"	"	"	
4-Bromophenyl phenyl ether	"	ND	-----	0.365	"	"	"	"	"	
Butyl benzyl phthalate	"	ND	-----	0.365	"	"	"	"	"	
4-Chloro-3-methylphenol	"	ND	-----	0.365	"	"	"	"	"	
4-Chloroaniline	"	ND	-----	2.21	"	"	"	"	"	
Bis(2-chloroethoxy)methane	"	ND	-----	0.365	"	"	"	"	"	
Bis(2-chloroethyl)ether	"	ND	-----	0.365	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	"	ND	-----	0.365	"	"	"	"	"	
2-Chloronaphthalene	"	ND	-----	0.365	"	"	"	"	"	
2-Chlorophenol	"	ND	-----	0.365	"	"	"	"	"	
4-Chlorophenyl phenyl ether	"	ND	-----	0.365	"	"	"	"	"	
Chrysene	"	ND	-----	0.365	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	-----	1.10	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	-----	0.365	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	-----	0.365	"	"	"	"	"	
Dibenzofuran	"	ND	-----	0.365	"	"	"	"	"	
1,2-Dichlorobenzene	"	ND	-----	1.10	"	"	"	"	"	
1,3-Dichlorobenzene	"	ND	-----	1.10	"	"	"	"	"	
1,4-Dichlorobenzene	"	ND	-----	1.10	"	"	"	"	"	
3,3´-Dichlorobenzidine	"	ND	-----	1.10	"	"	"	"	"	
2,4-Dichlorophenol	"	ND	-----	0.365	"	"	"	"	"	
Diethyl phthalate	"	ND	-----	0.365	"	"	"	"	"	
2,4-Dimethylphenol	"	ND	-----	1.10	"	"	"	"	"	
Dimethyl phthalate	"	ND	-----	0.365	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	"	ND	-----	1.10	"	"	"	"	"	
2,4-Dinitrophenol	"	ND	-----	2.21	"	"	"	"	"	
2,4-Dinitrotoluene	"	ND	-----	0.552	"	"	"	"	"	
2,6-Dinitrotoluene	"	ND	-----	0.552	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	ND	-----	2.21	"	"	"	"	"	
Fluoranthene	"	ND	-----	0.365	"	"	"	"	"	
Fluorene	"	ND	-----	0.365	"	"	"	"	"	
Hexachlorobenzene	"	ND	-----	0.365	"	"	"	"	"	
Hexachlorobutadiene	"	ND	-----	1.10	"	"	"	"	"	

North Creek Analytical - Portland

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lisa Domenighini, Project Manager

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Semivolatile Organic Compounds per EPA Method 8270C

North Creek Analytical - Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-06 Soil A1-BP-14-S0-01 Sampled: 09/20/05 11:00										
Hexachlorocyclopentadiene	EPA 8270C	ND	-----	1.10	mg/kg dry	1x	5090982	09/23/05	09/28/05 02:29	
Hexachloroethane	"	ND	-----	1.10	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	-----	0.365	"	"	"	"	"	
Isophorone	"	ND	-----	0.365	"	"	"	"	"	
2-Methylnaphthalene	"	ND	-----	0.365	"	"	"	"	"	
2-Methylphenol	"	ND	-----	0.365	"	"	"	"	"	
3-,4-Methylphenol	"	ND	-----	0.365	"	"	"	"	"	
Naphthalene	"	ND	-----	0.365	"	"	"	"	"	
2-Nitroaniline	"	ND	-----	0.365	"	"	"	"	"	
3-Nitroaniline	"	ND	-----	1.10	"	"	"	"	"	
4-Nitroaniline	"	ND	-----	0.365	"	"	"	"	"	
Nitrobenzene	"	ND	-----	0.365	"	"	"	"	"	
2-Nitrophenol	"	ND	-----	0.365	"	"	"	"	"	
4-Nitrophenol	"	ND	-----	1.10	"	"	"	"	"	
N-Nitrosodi-n-propylamine	"	ND	-----	0.365	"	"	"	"	"	
N-Nitrosodiphenylamine	"	ND	-----	0.365	"	"	"	"	"	
Pentachlorophenol	"	ND	-----	1.10	"	"	"	"	"	
Phenanthrene	"	ND	-----	0.365	"	"	"	"	"	
Phenol	"	ND	-----	0.365	"	"	"	"	"	
Pyrene	"	ND	-----	0.365	"	"	"	"	"	
1,2,4-Trichlorobenzene	"	ND	-----	1.10	"	"	"	"	"	
2,4,5-Trichlorophenol	"	ND	-----	0.365	"	"	"	"	"	
2,4,6-Trichlorophenol	"	ND	-----	0.365	"	"	"	"	"	
Surrogate(s): 2-Fluorobiphenyl		*Recovery: 69.6%*		*Limits: 44 - 146 %*		"			"	
2-Fluorophenol		*73.2%*		*42 - 126 %*		"			"	
Nitrobenzene-d5		*63.8%*		*42 - 126 %*		"			"	
Phenol-d6		*68.3%*		*42 - 131 %*		"			"	
p-Terphenyl-d14		*109%*		*49 - 150 %*		"			"	
2,4,6-Tribromophenol		*79.7%*		*48 - 119 %*		"			"	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Semivolatile Organic Compounds per EPA Method 8270C

North Creek Analytical - Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-07 Soil A1-BP-14-S0-02 Sampled: 09/20/05 11:00										
Acenaphthene	EPA 8270C	ND	-----	0.491	mg/kg dry	1x	5090982	09/23/05	09/28/05 23:55	
Acenaphthylene	"	ND	-----	0.491	"	"	"	"	"	
Anthracene	"	ND	-----	0.491	"	"	"	"	"	
Benzo (a) anthracene	"	ND	-----	0.491	"	"	"	"	"	
Benzo (a) pyrene	"	ND	-----	0.491	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	-----	0.491	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	-----	0.491	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	-----	0.491	"	"	"	"	"	
Benzoic Acid	"	ND	-----	1.49	"	"	"	"	"	
Benzyl alcohol	"	ND	-----	1.49	"	"	"	"	"	
4-Bromophenyl phenyl ether	"	ND	-----	0.491	"	"	"	"	"	
Butyl benzyl phthalate	"	ND	-----	0.491	"	"	"	"	"	
4-Chloro-3-methylphenol	"	ND	-----	0.491	"	"	"	"	"	
4-Chloroaniline	"	ND	-----	2.97	"	"	"	"	"	
Bis(2-chloroethoxy)methane	"	ND	-----	0.491	"	"	"	"	"	
Bis(2-chloroethyl)ether	"	ND	-----	0.491	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	"	ND	-----	0.491	"	"	"	"	"	
2-Chloronaphthalene	"	ND	-----	0.491	"	"	"	"	"	
2-Chlorophenol	"	ND	-----	0.491	"	"	"	"	"	
4-Chlorophenyl phenyl ether	"	ND	-----	0.491	"	"	"	"	"	
Chrysene	"	ND	-----	0.491	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	-----	1.49	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	-----	0.491	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	-----	0.491	"	"	"	"	"	
Dibenzofuran	"	ND	-----	0.491	"	"	"	"	"	
1,2-Dichlorobenzene	"	ND	-----	1.49	"	"	"	"	"	
1,3-Dichlorobenzene	"	ND	-----	1.49	"	"	"	"	"	
1,4-Dichlorobenzene	"	ND	-----	1.49	"	"	"	"	"	
3,3´-Dichlorobenzidine	"	ND	-----	1.49	"	"	"	"	"	
2,4-Dichlorophenol	"	ND	-----	0.491	"	"	"	"	"	
Diethyl phthalate	"	ND	-----	0.491	"	"	"	"	"	
2,4-Dimethylphenol	"	ND	-----	1.49	"	"	"	"	"	
Dimethyl phthalate	"	ND	-----	0.491	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	"	ND	-----	1.49	"	"	"	"	"	
2,4-Dinitrophenol	"	ND	-----	2.97	"	"	"	"	"	
2,4-Dinitrotoluene	"	ND	-----	0.743	"	"	"	"	"	
2,6-Dinitrotoluene	"	ND	-----	0.743	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	ND	-----	2.97	"	"	"	"	"	
Fluoranthene	"	ND	-----	0.491	"	"	"	"	"	
Fluorene	"	ND	-----	0.491	"	"	"	"	"	
Hexachlorobenzene	"	ND	-----	0.491	"	"	"	"	"	
Hexachlorobutadiene	"	ND	-----	1.49	"	"	"	"	"	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Semivolatile Organic Compounds per EPA Method 8270C

North Creek Analytical - Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-07 Soil A1-BP-14-S0-02 Sampled: 09/20/05 11:00										
Hexachlorocyclopentadiene	EPA 8270C	ND	-----	1.49	mg/kg dry	1x	5090982	09/23/05	09/28/05 23:55	
Hexachloroethane	"	ND	-----	1.49	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	-----	0.491	"	"	"	"	"	
Isophorone	"	ND	-----	0.491	"	"	"	"	"	
2-Methylnaphthalene	"	ND	-----	0.491	"	"	"	"	"	
2-Methylphenol	"	ND	-----	0.491	"	"	"	"	"	
3-,4-Methylphenol	"	ND	-----	0.491	"	"	"	"	"	
Naphthalene	"	ND	-----	0.491	"	"	"	"	"	
2-Nitroaniline	"	ND	-----	0.491	"	"	"	"	"	
3-Nitroaniline	"	ND	-----	1.49	"	"	"	"	"	
4-Nitroaniline	"	ND	-----	0.491	"	"	"	"	"	
Nitrobenzene	"	ND	-----	0.491	"	"	"	"	"	
2-Nitrophenol	"	ND	-----	0.491	"	"	"	"	"	
4-Nitrophenol	"	ND	-----	1.49	"	"	"	"	"	
N-Nitrosodi-n-propylamine	"	ND	-----	0.491	"	"	"	"	"	
N-Nitrosodiphenylamine	"	ND	-----	0.491	"	"	"	"	"	
Pentachlorophenol	"	ND	-----	1.49	"	"	"	"	"	
Phenanthrene	"	ND	-----	0.491	"	"	"	"	"	
Phenol	"	ND	-----	0.491	"	"	"	"	"	
Pyrene	"	ND	-----	0.491	"	"	"	"	"	
1,2,4-Trichlorobenzene	"	ND	-----	1.49	"	"	"	"	"	
2,4,5-Trichlorophenol	"	ND	-----	0.491	"	"	"	"	"	
2,4,6-Trichlorophenol	"	ND	-----	0.491	"	"	"	"	"	
Surrogate(s): 2-Fluorobiphenyl		*Recovery: 99.7%*		*Limits: 44 - 146 %*		"			"	
2-Fluorophenol		*91.8%*		*42 - 126 %*		"			"	
Nitrobenzene-d5		*82.8%*		*42 - 126 %*		"			"	
Phenol-d6		*89.8%*		*42 - 131 %*		"			"	
p-Terphenyl-d14		*110%*		*49 - 150 %*		"			"	
2,4,6-Tribromophenol		*74.6%*		*48 - 119 %*		"			"	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Semivolatile Organic Compounds per EPA Method 8270C

North Creek Analytical - Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-08 Soil A1-BP-14-S0-20 Sampled: 09/20/05 11:00										
Acenaphthene	EPA 8270C	ND	-----	0.456	mg/kg dry	1x	5090982	09/23/05	09/29/05 00:38	
Acenaphthylene	"	ND	-----	0.456	"	"	"	"	"	
Anthracene	"	ND	-----	0.456	"	"	"	"	"	
Benzo (a) anthracene	"	ND	-----	0.456	"	"	"	"	"	
Benzo (a) pyrene	"	ND	-----	0.456	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	-----	0.456	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	-----	0.456	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	-----	0.456	"	"	"	"	"	
Benzoic Acid	"	ND	-----	1.38	"	"	"	"	"	
Benzyl alcohol	"	ND	-----	1.38	"	"	"	"	"	
4-Bromophenyl phenyl ether	"	ND	-----	0.456	"	"	"	"	"	
Butyl benzyl phthalate	"	ND	-----	0.456	"	"	"	"	"	
4-Chloro-3-methylphenol	"	ND	-----	0.456	"	"	"	"	"	
4-Chloroaniline	"	ND	-----	2.76	"	"	"	"	"	
Bis(2-chloroethoxy)methane	"	ND	-----	0.456	"	"	"	"	"	
Bis(2-chloroethyl)ether	"	ND	-----	0.456	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	"	ND	-----	0.456	"	"	"	"	"	
2-Chloronaphthalene	"	ND	-----	0.456	"	"	"	"	"	
2-Chlorophenol	"	ND	-----	0.456	"	"	"	"	"	
4-Chlorophenyl phenyl ether	"	ND	-----	0.456	"	"	"	"	"	
Chrysene	"	ND	-----	0.456	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	-----	1.38	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	-----	0.456	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	-----	0.456	"	"	"	"	"	
Dibenzofuran	"	ND	-----	0.456	"	"	"	"	"	
1,2-Dichlorobenzene	"	ND	-----	1.38	"	"	"	"	"	
1,3-Dichlorobenzene	"	ND	-----	1.38	"	"	"	"	"	
1,4-Dichlorobenzene	"	ND	-----	1.38	"	"	"	"	"	
3,3´-Dichlorobenzidine	"	ND	-----	1.38	"	"	"	"	"	
2,4-Dichlorophenol	"	ND	-----	0.456	"	"	"	"	"	
Diethyl phthalate	"	ND	-----	0.456	"	"	"	"	"	
2,4-Dimethylphenol	"	ND	-----	1.38	"	"	"	"	"	
Dimethyl phthalate	"	ND	-----	0.456	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	"	ND	-----	1.38	"	"	"	"	"	
2,4-Dinitrophenol	"	ND	-----	2.76	"	"	"	"	"	
2,4-Dinitrotoluene	"	ND	-----	0.691	"	"	"	"	"	
2,6-Dinitrotoluene	"	ND	-----	0.691	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	ND	-----	2.76	"	"	"	"	"	
Fluoranthene	"	ND	-----	0.456	"	"	"	"	"	
Fluorene	"	ND	-----	0.456	"	"	"	"	"	
Hexachlorobenzene	"	ND	-----	0.456	"	"	"	"	"	
Hexachlorobutadiene	"	ND	-----	1.38	"	"	"	"	"	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Semivolatile Organic Compounds per EPA Method 8270C

North Creek Analytical - Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-08 Soil A1-BP-14-S0-20 Sampled: 09/20/05 11:00										
Hexachlorocyclopentadiene	EPA 8270C	ND	-----	1.38	mg/kg dry	1x	5090982	09/23/05	09/29/05 00:38	
Hexachloroethane	"	ND	-----	1.38	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	-----	0.456	"	"	"	"	"	
Isophorone	"	ND	-----	0.456	"	"	"	"	"	
2-Methylnaphthalene	"	ND	-----	0.456	"	"	"	"	"	
2-Methylphenol	"	ND	-----	0.456	"	"	"	"	"	
3-,4-Methylphenol	"	ND	-----	0.456	"	"	"	"	"	
Naphthalene	"	ND	-----	0.456	"	"	"	"	"	
2-Nitroaniline	"	ND	-----	0.456	"	"	"	"	"	
3-Nitroaniline	"	ND	-----	1.38	"	"	"	"	"	
4-Nitroaniline	"	ND	-----	0.456	"	"	"	"	"	
Nitrobenzene	"	ND	-----	0.456	"	"	"	"	"	
2-Nitrophenol	"	ND	-----	0.456	"	"	"	"	"	
4-Nitrophenol	"	ND	-----	1.38	"	"	"	"	"	
N-Nitrosodi-n-propylamine	"	ND	-----	0.456	"	"	"	"	"	
N-Nitrosodiphenylamine	"	ND	-----	0.456	"	"	"	"	"	
Pentachlorophenol	"	ND	-----	1.38	"	"	"	"	"	
Phenanthrene	"	ND	-----	0.456	"	"	"	"	"	
Phenol	"	ND	-----	0.456	"	"	"	"	"	
Pyrene	"	ND	-----	0.456	"	"	"	"	"	
1,2,4-Trichlorobenzene	"	ND	-----	1.38	"	"	"	"	"	
2,4,5-Trichlorophenol	"	ND	-----	0.456	"	"	"	"	"	
2,4,6-Trichlorophenol	"	ND	-----	0.456	"	"	"	"	"	
Surrogate(s): 2-Fluorobiphenyl		*Recovery: 88.4%*		*Limits: 44 - 146 %*		"			"	
2-Fluorophenol		*103%*		*42 - 126 %*		"			"	
Nitrobenzene-d5		*79.1%*		*42 - 126 %*		"			"	
Phenol-d6		*92.3%*		*42 - 131 %*		"			"	
p-Terphenyl-d14		*118%*		*49 - 150 %*		"			"	
2,4,6-Tribromophenol		*91.5%*		*48 - 119 %*		"			"	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Semivolatile Organic Compounds per EPA Method 8270C

North Creek Analytical - Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-11 Soil TP-3 Sampled: 09/19/05 11:25										
Acenaphthene	EPA 8270C	ND	-----	0.349	mg/kg dry	1x	5090982	09/23/05	09/28/05 04:38	
Acenaphthylene	"	ND	-----	0.349	"	"	"	"	"	
Anthracene	"	ND	-----	0.349	"	"	"	"	"	
Benzo (a) anthracene	"	ND	-----	0.349	"	"	"	"	"	
Benzo (a) pyrene	"	ND	-----	0.349	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	-----	0.349	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	-----	0.349	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	-----	0.349	"	"	"	"	"	
Benzoic Acid	"	ND	-----	1.06	"	"	"	"	"	
Benzyl alcohol	"	ND	-----	1.06	"	"	"	"	"	
4-Bromophenyl phenyl ether	"	ND	-----	0.349	"	"	"	"	"	
Butyl benzyl phthalate	"	ND	-----	0.349	"	"	"	"	"	
4-Chloro-3-methylphenol	"	ND	-----	0.349	"	"	"	"	"	
4-Chloroaniline	"	ND	-----	2.11	"	"	"	"	"	
Bis(2-chloroethoxy)methane	"	ND	-----	0.349	"	"	"	"	"	
Bis(2-chloroethyl)ether	"	ND	-----	0.349	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	"	ND	-----	0.349	"	"	"	"	"	
2-Chloronaphthalene	"	ND	-----	0.349	"	"	"	"	"	
2-Chlorophenol	"	ND	-----	0.349	"	"	"	"	"	
4-Chlorophenyl phenyl ether	"	ND	-----	0.349	"	"	"	"	"	
Chrysene	"	ND	-----	0.349	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	-----	1.06	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	-----	0.349	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	-----	0.349	"	"	"	"	"	
Dibenzofuran	"	ND	-----	0.349	"	"	"	"	"	
1,2-Dichlorobenzene	"	ND	-----	1.06	"	"	"	"	"	
1,3-Dichlorobenzene	"	ND	-----	1.06	"	"	"	"	"	
1,4-Dichlorobenzene	"	ND	-----	1.06	"	"	"	"	"	
3,3´-Dichlorobenzidine	"	ND	-----	1.06	"	"	"	"	"	
2,4-Dichlorophenol	"	ND	-----	0.349	"	"	"	"	"	
Diethyl phthalate	"	ND	-----	0.349	"	"	"	"	"	
2,4-Dimethylphenol	"	ND	-----	1.06	"	"	"	"	"	
Dimethyl phthalate	"	ND	-----	0.349	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	"	ND	-----	1.06	"	"	"	"	"	
2,4-Dinitrophenol	"	ND	-----	2.11	"	"	"	"	"	
2,4-Dinitrotoluene	"	ND	-----	0.529	"	"	"	"	"	
2,6-Dinitrotoluene	"	ND	-----	0.529	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	ND	-----	2.11	"	"	"	"	"	
Fluoranthene	"	ND	-----	0.349	"	"	"	"	"	
Fluorene	"	ND	-----	0.349	"	"	"	"	"	
Hexachlorobenzene	"	ND	-----	0.349	"	"	"	"	"	
Hexachlorobutadiene	"	ND	-----	1.06	"	"	"	"	"	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Semivolatile Organic Compounds per EPA Method 8270C

North Creek Analytical - Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-11 Soil TP-3 Sampled: 09/19/05 11:25										
Hexachlorocyclopentadiene	EPA 8270C	ND	-----	1.06	mg/kg dry	1x	5090982	09/23/05	09/28/05 04:38	
Hexachloroethane	"	ND	-----	1.06	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	-----	0.349	"	"	"	"	"	
Isophorone	"	ND	-----	0.349	"	"	"	"	"	
2-Methylnaphthalene	"	ND	-----	0.349	"	"	"	"	"	
2-Methylphenol	"	ND	-----	0.349	"	"	"	"	"	
3-,4-Methylphenol	"	ND	-----	0.349	"	"	"	"	"	
Naphthalene	"	ND	-----	0.349	"	"	"	"	"	
2-Nitroaniline	"	ND	-----	0.349	"	"	"	"	"	
3-Nitroaniline	"	ND	-----	1.06	"	"	"	"	"	
4-Nitroaniline	"	ND	-----	0.349	"	"	"	"	"	
Nitrobenzene	"	ND	-----	0.349	"	"	"	"	"	
2-Nitrophenol	"	ND	-----	0.349	"	"	"	"	"	
4-Nitrophenol	"	ND	-----	1.06	"	"	"	"	"	
N-Nitrosodi-n-propylamine	"	ND	-----	0.349	"	"	"	"	"	
N-Nitrosodiphenylamine	"	ND	-----	0.349	"	"	"	"	"	
Pentachlorophenol	"	ND	-----	1.06	"	"	"	"	"	
Phenanthrene	"	ND	-----	0.349	"	"	"	"	"	
Phenol	"	ND	-----	0.349	"	"	"	"	"	
Pyrene	"	ND	-----	0.349	"	"	"	"	"	
1,2,4-Trichlorobenzene	"	ND	-----	1.06	"	"	"	"	"	
2,4,5-Trichlorophenol	"	ND	-----	0.349	"	"	"	"	"	
2,4,6-Trichlorophenol	"	ND	-----	0.349	"	"	"	"	"	
Surrogate(s): 2-Fluorobiphenyl		*Recovery: 88.3%*		*Limits:*	*44 - 146 %*	"			"	
2-Fluorophenol		*112%*			*42 - 126 %*	"			"	
Nitrobenzene-d5		*67.0%*			*42 - 126 %*	"			"	
Phenol-d6		*104%*			*42 - 131 %*	"			"	
p-Terphenyl-d14		*125%*			*49 - 150 %*	"			"	
2,4,6-Tribromophenol		*79.0%*			*48 - 119 %*	"			"	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Semivolatile Organic Compounds per EPA Method 8270C

North Creek Analytical - Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-12 Soil TP-4 Sampled: 09/19/05 13:50										
Acenaphthene	EPA 8270C	ND	-----	0.384	mg/kg dry	1x	5090982	09/23/05	09/28/05 05:21	
Acenaphthylene	"	ND	-----	0.384	"	"	"	"	"	
Anthracene	"	ND	-----	0.384	"	"	"	"	"	
Benzo (a) anthracene	"	ND	-----	0.384	"	"	"	"	"	
Benzo (a) pyrene	"	ND	-----	0.384	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	-----	0.384	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	-----	0.384	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	-----	0.384	"	"	"	"	"	
Benzoic Acid	"	ND	-----	1.16	"	"	"	"	"	
Benzyl alcohol	"	ND	-----	1.16	"	"	"	"	"	
4-Bromophenyl phenyl ether	"	ND	-----	0.384	"	"	"	"	"	
Butyl benzyl phthalate	"	ND	-----	0.384	"	"	"	"	"	
4-Chloro-3-methylphenol	"	ND	-----	0.384	"	"	"	"	"	
4-Chloroaniline	"	ND	-----	2.33	"	"	"	"	"	
Bis(2-chloroethoxy)methane	"	ND	-----	0.384	"	"	"	"	"	
Bis(2-chloroethyl)ether	"	ND	-----	0.384	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	"	ND	-----	0.384	"	"	"	"	"	
2-Chloronaphthalene	"	ND	-----	0.384	"	"	"	"	"	
2-Chlorophenol	"	ND	-----	0.384	"	"	"	"	"	
4-Chlorophenyl phenyl ether	"	ND	-----	0.384	"	"	"	"	"	
Chrysene	"	ND	-----	0.384	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	-----	1.16	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	-----	0.384	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	-----	0.384	"	"	"	"	"	
Dibenzofuran	"	ND	-----	0.384	"	"	"	"	"	
1,2-Dichlorobenzene	"	ND	-----	1.16	"	"	"	"	"	
1,3-Dichlorobenzene	"	ND	-----	1.16	"	"	"	"	"	
1,4-Dichlorobenzene	"	ND	-----	1.16	"	"	"	"	"	
3,3´-Dichlorobenzidine	"	ND	-----	1.16	"	"	"	"	"	
2,4-Dichlorophenol	"	ND	-----	0.384	"	"	"	"	"	
Diethyl phthalate	"	ND	-----	0.384	"	"	"	"	"	
2,4-Dimethylphenol	"	ND	-----	1.16	"	"	"	"	"	
Dimethyl phthalate	"	ND	-----	0.384	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	"	ND	-----	1.16	"	"	"	"	"	
2,4-Dinitrophenol	"	ND	-----	2.33	"	"	"	"	"	
2,4-Dinitrotoluene	"	ND	-----	0.582	"	"	"	"	"	
2,6-Dinitrotoluene	"	ND	-----	0.582	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	ND	-----	2.33	"	"	"	"	"	
Fluoranthene	"	ND	-----	0.384	"	"	"	"	"	
Fluorene	"	ND	-----	0.384	"	"	"	"	"	
Hexachlorobenzene	"	ND	-----	0.384	"	"	"	"	"	
Hexachlorobutadiene	"	ND	-----	1.16	"	"	"	"	"	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Semivolatile Organic Compounds per EPA Method 8270C

North Creek Analytical - Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-12 Soil TP-4 Sampled: 09/19/05 13:50										
Hexachlorocyclopentadiene	EPA 8270C	ND	-----	1.16	mg/kg dry	1x	5090982	09/23/05	09/28/05 05:21	
Hexachloroethane	"	ND	-----	1.16	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	-----	0.384	"	"	"	"	"	
Isophorone	"	ND	-----	0.384	"	"	"	"	"	
2-Methylnaphthalene	"	ND	-----	0.384	"	"	"	"	"	
2-Methylphenol	"	ND	-----	0.384	"	"	"	"	"	
3-,4-Methylphenol	"	ND	-----	0.384	"	"	"	"	"	
Naphthalene	"	ND	-----	0.384	"	"	"	"	"	
2-Nitroaniline	"	ND	-----	0.384	"	"	"	"	"	
3-Nitroaniline	"	ND	-----	1.16	"	"	"	"	"	
4-Nitroaniline	"	ND	-----	0.384	"	"	"	"	"	
Nitrobenzene	"	ND	-----	0.384	"	"	"	"	"	
2-Nitrophenol	"	ND	-----	0.384	"	"	"	"	"	
4-Nitrophenol	"	ND	-----	1.16	"	"	"	"	"	
N-Nitrosodi-n-propylamine	"	ND	-----	0.384	"	"	"	"	"	
N-Nitrosodiphenylamine	"	ND	-----	0.384	"	"	"	"	"	
Pentachlorophenol	"	ND	-----	1.16	"	"	"	"	"	
Phenanthrene	"	ND	-----	0.384	"	"	"	"	"	
Phenol	"	ND	-----	0.384	"	"	"	"	"	
Pyrene	"	ND	-----	0.384	"	"	"	"	"	
1,2,4-Trichlorobenzene	"	ND	-----	1.16	"	"	"	"	"	
2,4,5-Trichlorophenol	"	ND	-----	0.384	"	"	"	"	"	
2,4,6-Trichlorophenol	"	ND	-----	0.384	"	"	"	"	"	

Surrogate(s):	*2-Fluorobiphenyl*	*Recovery: 80.1%*	*Limits: 44 - 146 %*	"	"
	2-Fluorophenol	*100%*	*42 - 126 %*	"	"
	Nitrobenzene-d5	*64.6%*	*42 - 126 %*	"	"
	Phenol-d6	*97.8%*	*42 - 131 %*	"	"
	p-Terphenyl-d14	*126%*	*49 - 150 %*	"	"
	2,4,6-Tribromophenol	*77.0%*	*48 - 119 %*	"	"

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Semivolatile Organic Compounds per EPA Method 8270C

North Creek Analytical - Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-15 Soil A1-BP-10-S0-01 Sampled: 09/19/05 15:12										
Acenaphthene	EPA 8270C	ND	-----	0.428	mg/kg dry	1x	5090982	09/23/05	09/28/05 19:29	
Acenaphthylene	"	ND	-----	0.428	"	"	"	"	"	
Anthracene	"	ND	-----	0.428	"	"	"	"	"	
Benzo (a) anthracene	"	ND	-----	0.428	"	"	"	"	"	
Benzo (a) pyrene	"	ND	-----	0.428	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	-----	0.428	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	-----	0.428	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	-----	0.428	"	"	"	"	"	
Benzoic Acid	"	ND	-----	1.30	"	"	"	"	"	
Benzyl alcohol	"	ND	-----	1.30	"	"	"	"	"	
4-Bromophenyl phenyl ether	"	ND	-----	0.428	"	"	"	"	"	
Butyl benzyl phthalate	"	ND	-----	0.428	"	"	"	"	"	
4-Chloro-3-methylphenol	"	ND	-----	0.428	"	"	"	"	"	
4-Chloroaniline	"	ND	-----	2.60	"	"	"	"	"	
Bis(2-chloroethoxy)methane	"	ND	-----	0.428	"	"	"	"	"	
Bis(2-chloroethyl)ether	"	ND	-----	0.428	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	"	ND	-----	0.428	"	"	"	"	"	
2-Chloronaphthalene	"	ND	-----	0.428	"	"	"	"	"	
2-Chlorophenol	"	ND	-----	0.428	"	"	"	"	"	
4-Chlorophenyl phenyl ether	"	ND	-----	0.428	"	"	"	"	"	
Chrysene	"	ND	-----	0.428	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	-----	1.30	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	-----	0.428	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	-----	0.428	"	"	"	"	"	
Dibenzofuran	"	ND	-----	0.428	"	"	"	"	"	
1,2-Dichlorobenzene	"	ND	-----	1.30	"	"	"	"	"	
1,3-Dichlorobenzene	"	ND	-----	1.30	"	"	"	"	"	
1,4-Dichlorobenzene	"	ND	-----	1.30	"	"	"	"	"	
3,3´-Dichlorobenzidine	"	ND	-----	1.30	"	"	"	"	"	
2,4-Dichlorophenol	"	ND	-----	0.428	"	"	"	"	"	
Diethyl phthalate	"	ND	-----	0.428	"	"	"	"	"	
2,4-Dimethylphenol	"	ND	-----	1.30	"	"	"	"	"	
Dimethyl phthalate	"	ND	-----	0.428	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	"	ND	-----	1.30	"	"	"	"	"	
2,4-Dinitrophenol	"	ND	-----	2.60	"	"	"	"	"	
2,4-Dinitrotoluene	"	ND	-----	0.649	"	"	"	"	"	
2,6-Dinitrotoluene	"	ND	-----	0.649	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	ND	-----	2.60	"	"	"	"	"	
Fluoranthene	"	ND	-----	0.428	"	"	"	"	"	
Fluorene	"	ND	-----	0.428	"	"	"	"	"	
Hexachlorobenzene	"	ND	-----	0.428	"	"	"	"	"	
Hexachlorobutadiene	"	ND	-----	1.30	"	"	"	"	"	

North Creek Analytical - Portland

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lisa Domenighini, Project Manager

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Semivolatile Organic Compounds per EPA Method 8270C

North Creek Analytical - Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-15 Soil A1-BP-10-S0-01 Sampled: 09/19/05 15:12										
Hexachlorocyclopentadiene	EPA 8270C	ND	-----	1.30	mg/kg dry	1x	5090982	09/23/05	09/28/05 19:29	
Hexachloroethane	"	ND	-----	1.30	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	-----	0.428	"	"	"	"	"	
Isophorone	"	ND	-----	0.428	"	"	"	"	"	
2-Methylnaphthalene	"	ND	-----	0.428	"	"	"	"	"	
2-Methylphenol	"	ND	-----	0.428	"	"	"	"	"	
3-,4-Methylphenol	"	ND	-----	0.428	"	"	"	"	"	
Naphthalene	"	ND	-----	0.428	"	"	"	"	"	
2-Nitroaniline	"	ND	-----	0.428	"	"	"	"	"	
3-Nitroaniline	"	ND	-----	1.30	"	"	"	"	"	
4-Nitroaniline	"	ND	-----	0.428	"	"	"	"	"	
Nitrobenzene	"	ND	-----	0.428	"	"	"	"	"	
2-Nitrophenol	"	ND	-----	0.428	"	"	"	"	"	
4-Nitrophenol	"	ND	-----	1.30	"	"	"	"	"	
N-Nitrosodi-n-propylamine	"	ND	-----	0.428	"	"	"	"	"	
N-Nitrosodiphenylamine	"	ND	-----	0.428	"	"	"	"	"	
Pentachlorophenol	"	ND	-----	1.30	"	"	"	"	"	
Phenanthrene	"	ND	-----	0.428	"	"	"	"	"	
Phenol	"	ND	-----	0.428	"	"	"	"	"	
Pyrene	"	ND	-----	0.428	"	"	"	"	"	
1,2,4-Trichlorobenzene	"	ND	-----	1.30	"	"	"	"	"	
2,4,5-Trichlorophenol	"	ND	-----	0.428	"	"	"	"	"	
2,4,6-Trichlorophenol	"	ND	-----	0.428	"	"	"	"	"	
Surrogate(s): 2-Fluorobiphenyl		*Recovery: 91.4%*		*Limits: 44 - 146 %*		"			"	
2-Fluorophenol		*112%*		*42 - 126 %*		"			"	
Nitrobenzene-d5		*88.6%*		*42 - 126 %*		"			"	
Phenol-d6		*97.5%*		*42 - 131 %*		"			"	
p-Terphenyl-d14		*122%*		*49 - 150 %*		"			"	
2,4,6-Tribromophenol		*121%*		*48 - 119 %*		"			"	***S-08***

North Creek Analytical - Portland

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Lisa Domenighini, Project Manager

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Semivolatile Organic Compounds per EPA Method 8270C

North Creek Analytical - Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-16 Soil A1-BP-10-S0-02 Sampled: 09/19/05 15:25										
Acenaphthene	EPA 8270C	ND	-----	0.350	mg/kg dry	1x	5090982	09/23/05	09/28/05 21:47	
Acenaphthylene	"	ND	-----	0.350	"	"	"	"	"	
Anthracene	"	ND	-----	0.350	"	"	"	"	"	
Benzo (a) anthracene	"	ND	-----	0.350	"	"	"	"	"	
Benzo (a) pyrene	"	ND	-----	0.350	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	-----	0.350	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	-----	0.350	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	-----	0.350	"	"	"	"	"	
Benzoic Acid	"	ND	-----	1.06	"	"	"	"	"	
Benzyl alcohol	"	ND	-----	1.06	"	"	"	"	"	
4-Bromophenyl phenyl ether	"	ND	-----	0.350	"	"	"	"	"	
Butyl benzyl phthalate	"	ND	-----	0.350	"	"	"	"	"	
4-Chloro-3-methylphenol	"	ND	-----	0.350	"	"	"	"	"	
4-Chloroaniline	"	ND	-----	2.12	"	"	"	"	"	
Bis(2-chloroethoxy)methane	"	ND	-----	0.350	"	"	"	"	"	
Bis(2-chloroethyl)ether	"	ND	-----	0.350	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	"	ND	-----	0.350	"	"	"	"	"	
2-Chloronaphthalene	"	ND	-----	0.350	"	"	"	"	"	
2-Chlorophenol	"	ND	-----	0.350	"	"	"	"	"	
4-Chlorophenyl phenyl ether	"	ND	-----	0.350	"	"	"	"	"	
Chrysene	"	ND	-----	0.350	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	-----	1.06	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	-----	0.350	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	-----	0.350	"	"	"	"	"	
Dibenzofuran	"	ND	-----	0.350	"	"	"	"	"	
1,2-Dichlorobenzene	"	ND	-----	1.06	"	"	"	"	"	
1,3-Dichlorobenzene	"	ND	-----	1.06	"	"	"	"	"	
1,4-Dichlorobenzene	"	ND	-----	1.06	"	"	"	"	"	
3,3´-Dichlorobenzidine	"	ND	-----	1.06	"	"	"	"	"	
2,4-Dichlorophenol	"	ND	-----	0.350	"	"	"	"	"	
Diethyl phthalate	"	ND	-----	0.350	"	"	"	"	"	
2,4-Dimethylphenol	"	ND	-----	1.06	"	"	"	"	"	
Dimethyl phthalate	"	ND	-----	0.350	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	"	ND	-----	1.06	"	"	"	"	"	
2,4-Dinitrophenol	"	ND	-----	2.12	"	"	"	"	"	
2,4-Dinitrotoluene	"	ND	-----	0.531	"	"	"	"	"	
2,6-Dinitrotoluene	"	ND	-----	0.531	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	ND	-----	2.12	"	"	"	"	"	
Fluoranthene	"	ND	-----	0.350	"	"	"	"	"	
Fluorene	"	ND	-----	0.350	"	"	"	"	"	
Hexachlorobenzene	"	ND	-----	0.350	"	"	"	"	"	
Hexachlorobutadiene	"	ND	-----	1.06	"	"	"	"	"	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Semivolatile Organic Compounds per EPA Method 8270C

North Creek Analytical - Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-16 Soil A1-BP-10-S0-02 Sampled: 09/19/05 15:25										
Hexachlorocyclopentadiene	EPA 8270C	ND	-----	1.06	mg/kg dry	1x	5090982	09/23/05	09/28/05 21:47	
Hexachloroethane	"	ND	-----	1.06	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	-----	0.350	"	"	"	"	"	
Isophorone	"	ND	-----	0.350	"	"	"	"	"	
2-Methylnaphthalene	"	ND	-----	0.350	"	"	"	"	"	
2-Methylphenol	"	ND	-----	0.350	"	"	"	"	"	
3-,4-Methylphenol	"	ND	-----	0.350	"	"	"	"	"	
Naphthalene	"	ND	-----	0.350	"	"	"	"	"	
2-Nitroaniline	"	ND	-----	0.350	"	"	"	"	"	
3-Nitroaniline	"	ND	-----	1.06	"	"	"	"	"	
4-Nitroaniline	"	ND	-----	0.350	"	"	"	"	"	
Nitrobenzene	"	ND	-----	0.350	"	"	"	"	"	
2-Nitrophenol	"	ND	-----	0.350	"	"	"	"	"	
4-Nitrophenol	"	ND	-----	1.06	"	"	"	"	"	
N-Nitrosodi-n-propylamine	"	ND	-----	0.350	"	"	"	"	"	
N-Nitrosodiphenylamine	"	ND	-----	0.350	"	"	"	"	"	
Pentachlorophenol	"	ND	-----	1.06	"	"	"	"	"	
Phenanthrene	"	ND	-----	0.350	"	"	"	"	"	
Phenol	"	ND	-----	0.350	"	"	"	"	"	
Pyrene	"	ND	-----	0.350	"	"	"	"	"	
1,2,4-Trichlorobenzene	"	ND	-----	1.06	"	"	"	"	"	
2,4,5-Trichlorophenol	"	ND	-----	0.350	"	"	"	"	"	
2,4,6-Trichlorophenol	"	ND	-----	0.350	"	"	"	"	"	
Surrogate(s): 2-Fluorobiphenyl		*Recovery: 96.6%*		*Limits:*	*44 - 146 %*	"			"	
2-Fluorophenol		*101%*			*42 - 126 %*	"			"	
Nitrobenzene-d5		*87.2%*			*42 - 126 %*	"			"	
Phenol-d6		*92.8%*			*42 - 131 %*	"			"	
p-Terphenyl-d14		*120%*			*49 - 150 %*	"			"	
2,4,6-Tribromophenol		*106%*			*48 - 119 %*	"			"	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Semivolatile Organic Compounds per EPA Method 8270C

North Creek Analytical - Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-17 Soil A1-BP-12-S0-01 Sampled: 09/19/05 15:50										
Acenaphthene	EPA 8270C	ND	-----	0.352	mg/kg dry	1x	5090982	09/23/05	09/28/05 22:30	
Acenaphthylene	"	ND	-----	0.352	"	"	"	"	"	
Anthracene	"	ND	-----	0.352	"	"	"	"	"	
Benzo (a) anthracene	"	ND	-----	0.352	"	"	"	"	"	
Benzo (a) pyrene	"	ND	-----	0.352	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	-----	0.352	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	-----	0.352	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	-----	0.352	"	"	"	"	"	
Benzoic Acid	"	ND	-----	1.07	"	"	"	"	"	
Benzyl alcohol	"	ND	-----	1.07	"	"	"	"	"	
4-Bromophenyl phenyl ether	"	ND	-----	0.352	"	"	"	"	"	
Butyl benzyl phthalate	"	ND	-----	0.352	"	"	"	"	"	
4-Chloro-3-methylphenol	"	ND	-----	0.352	"	"	"	"	"	
4-Chloroaniline	"	ND	-----	2.14	"	"	"	"	"	
Bis(2-chloroethoxy)methane	"	ND	-----	0.352	"	"	"	"	"	
Bis(2-chloroethyl)ether	"	ND	-----	0.352	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	"	ND	-----	0.352	"	"	"	"	"	
2-Chloronaphthalene	"	ND	-----	0.352	"	"	"	"	"	
2-Chlorophenol	"	ND	-----	0.352	"	"	"	"	"	
4-Chlorophenyl phenyl ether	"	ND	-----	0.352	"	"	"	"	"	
Chrysene	"	ND	-----	0.352	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	-----	1.07	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	-----	0.352	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	-----	0.352	"	"	"	"	"	
Dibenzofuran	"	ND	-----	0.352	"	"	"	"	"	
1,2-Dichlorobenzene	"	ND	-----	1.07	"	"	"	"	"	
1,3-Dichlorobenzene	"	ND	-----	1.07	"	"	"	"	"	
1,4-Dichlorobenzene	"	ND	-----	1.07	"	"	"	"	"	
3,3´-Dichlorobenzidine	"	ND	-----	1.07	"	"	"	"	"	
2,4-Dichlorophenol	"	ND	-----	0.352	"	"	"	"	"	
Diethyl phthalate	"	ND	-----	0.352	"	"	"	"	"	
2,4-Dimethylphenol	"	ND	-----	1.07	"	"	"	"	"	
Dimethyl phthalate	"	ND	-----	0.352	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	"	ND	-----	1.07	"	"	"	"	"	
2,4-Dinitrophenol	"	ND	-----	2.14	"	"	"	"	"	
2,4-Dinitrotoluene	"	ND	-----	0.534	"	"	"	"	"	
2,6-Dinitrotoluene	"	ND	-----	0.534	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	ND	-----	2.14	"	"	"	"	"	
Fluoranthene	"	ND	-----	0.352	"	"	"	"	"	
Fluorene	"	ND	-----	0.352	"	"	"	"	"	
Hexachlorobenzene	"	ND	-----	0.352	"	"	"	"	"	
Hexachlorobutadiene	"	ND	-----	1.07	"	"	"	"	"	

North Creek Analytical - Portland

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Semivolatile Organic Compounds per EPA Method 8270C

North Creek Analytical - Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-17 Soil A1-BP-12-S0-01 Sampled: 09/19/05 15:50										
Hexachlorocyclopentadiene	EPA 8270C	ND	-----	1.07	mg/kg dry	1x	5090982	09/23/05	09/28/05 22:30	
Hexachloroethane	"	ND	-----	1.07	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	-----	0.352	"	"	"	"	"	
Isophorone	"	ND	-----	0.352	"	"	"	"	"	
2-Methylnaphthalene	"	ND	-----	0.352	"	"	"	"	"	
2-Methylphenol	"	ND	-----	0.352	"	"	"	"	"	
3-,4-Methylphenol	"	ND	-----	0.352	"	"	"	"	"	
Naphthalene	"	ND	-----	0.352	"	"	"	"	"	
2-Nitroaniline	"	ND	-----	0.352	"	"	"	"	"	
3-Nitroaniline	"	ND	-----	1.07	"	"	"	"	"	
4-Nitroaniline	"	ND	-----	0.352	"	"	"	"	"	
Nitrobenzene	"	ND	-----	0.352	"	"	"	"	"	
2-Nitrophenol	"	ND	-----	0.352	"	"	"	"	"	
4-Nitrophenol	"	ND	-----	1.07	"	"	"	"	"	
N-Nitrosodi-n-propylamine	"	ND	-----	0.352	"	"	"	"	"	
N-Nitrosodiphenylamine	"	ND	-----	0.352	"	"	"	"	"	
Pentachlorophenol	"	ND	-----	1.07	"	"	"	"	"	
Phenanthrene	"	ND	-----	0.352	"	"	"	"	"	
Phenol	"	ND	-----	0.352	"	"	"	"	"	
Pyrene	"	ND	-----	0.352	"	"	"	"	"	
1,2,4-Trichlorobenzene	"	ND	-----	1.07	"	"	"	"	"	
2,4,5-Trichlorophenol	"	ND	-----	0.352	"	"	"	"	"	
2,4,6-Trichlorophenol	"	ND	-----	0.352	"	"	"	"	"	
Surrogate(s): 2-Fluorobiphenyl		*Recovery: 88.4%*		*Limits: 44 - 146 %*		"			"	
2-Fluorophenol		*110%*		*42 - 126 %*		"			"	
Nitrobenzene-d5		*84.3%*		*42 - 126 %*		"			"	
Phenol-d6		*99.8%*		*42 - 131 %*		"			"	
p-Terphenyl-d14		*125%*		*49 - 150 %*		"			"	
2,4,6-Tribromophenol		*104%*		*48 - 119 %*		"			"	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Semivolatile Organic Compounds per EPA Method 8270C

North Creek Analytical - Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-18 Soil A1-BP-12-S0-02 Sampled: 09/19/05 16:00										
Acenaphthene	EPA 8270C	ND	-----	0.562	mg/kg dry	1x	5090982	09/23/05	09/28/05 23:13	
Acenaphthylene	"	ND	-----	0.562	"	"	"	"	"	
Anthracene	"	ND	-----	0.562	"	"	"	"	"	
Benzo (a) anthracene	"	ND	-----	0.562	"	"	"	"	"	
Benzo (a) pyrene	"	ND	-----	0.562	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	-----	0.562	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	-----	0.562	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	-----	0.562	"	"	"	"	"	
Benzoic Acid	"	ND	-----	1.70	"	"	"	"	"	
Benzyl alcohol	"	ND	-----	1.70	"	"	"	"	"	
4-Bromophenyl phenyl ether	"	ND	-----	0.562	"	"	"	"	"	
Butyl benzyl phthalate	"	ND	-----	0.562	"	"	"	"	"	
4-Chloro-3-methylphenol	"	ND	-----	0.562	"	"	"	"	"	
4-Chloroaniline	"	ND	-----	3.41	"	"	"	"	"	
Bis(2-chloroethoxy)methane	"	ND	-----	0.562	"	"	"	"	"	
Bis(2-chloroethyl)ether	"	ND	-----	0.562	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	"	ND	-----	0.562	"	"	"	"	"	
2-Chloronaphthalene	"	ND	-----	0.562	"	"	"	"	"	
2-Chlorophenol	"	ND	-----	0.562	"	"	"	"	"	
4-Chlorophenyl phenyl ether	"	ND	-----	0.562	"	"	"	"	"	
Chrysene	"	ND	-----	0.562	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	-----	1.70	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	-----	0.562	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	-----	0.562	"	"	"	"	"	
Dibenzofuran	"	ND	-----	0.562	"	"	"	"	"	
1,2-Dichlorobenzene	"	ND	-----	1.70	"	"	"	"	"	
1,3-Dichlorobenzene	"	ND	-----	1.70	"	"	"	"	"	
1,4-Dichlorobenzene	"	ND	-----	1.70	"	"	"	"	"	
3,3´-Dichlorobenzidine	"	ND	-----	1.70	"	"	"	"	"	
2,4-Dichlorophenol	"	ND	-----	0.562	"	"	"	"	"	
Diethyl phthalate	"	ND	-----	0.562	"	"	"	"	"	
2,4-Dimethylphenol	"	ND	-----	1.70	"	"	"	"	"	
Dimethyl phthalate	"	ND	-----	0.562	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	"	ND	-----	1.70	"	"	"	"	"	
2,4-Dinitrophenol	"	ND	-----	3.41	"	"	"	"	"	
2,4-Dinitrotoluene	"	ND	-----	0.852	"	"	"	"	"	
2,6-Dinitrotoluene	"	ND	-----	0.852	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	ND	-----	3.41	"	"	"	"	"	
Fluoranthene	"	ND	-----	0.562	"	"	"	"	"	
Fluorene	"	ND	-----	0.562	"	"	"	"	"	
Hexachlorobenzene	"	ND	-----	0.562	"	"	"	"	"	
Hexachlorobutadiene	"	ND	-----	1.70	"	"	"	"	"	

North Creek Analytical - Portland

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Semivolatile Organic Compounds per EPA Method 8270C

North Creek Analytical - Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-18 Soil A1-BP-12-S0-02 Sampled: 09/19/05 16:00										
Hexachlorocyclopentadiene	EPA 8270C	ND	-----	1.70	mg/kg dry	1x	5090982	09/23/05	09/28/05 23:13	
Hexachloroethane	"	ND	-----	1.70	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	-----	0.562	"	"	"	"	"	
Isophorone	"	ND	-----	0.562	"	"	"	"	"	
2-Methylnaphthalene	"	ND	-----	0.562	"	"	"	"	"	
2-Methylphenol	"	ND	-----	0.562	"	"	"	"	"	
3-,4-Methylphenol	"	ND	-----	0.562	"	"	"	"	"	
Naphthalene	"	ND	-----	0.562	"	"	"	"	"	
2-Nitroaniline	"	ND	-----	0.562	"	"	"	"	"	
3-Nitroaniline	"	ND	-----	1.70	"	"	"	"	"	
4-Nitroaniline	"	ND	-----	0.562	"	"	"	"	"	
Nitrobenzene	"	ND	-----	0.562	"	"	"	"	"	
2-Nitrophenol	"	ND	-----	0.562	"	"	"	"	"	
4-Nitrophenol	"	ND	-----	1.70	"	"	"	"	"	
N-Nitrosodi-n-propylamine	"	ND	-----	0.562	"	"	"	"	"	
N-Nitrosodiphenylamine	"	ND	-----	0.562	"	"	"	"	"	
Pentachlorophenol	"	ND	-----	1.70	"	"	"	"	"	
Phenanthrene	"	ND	-----	0.562	"	"	"	"	"	
Phenol	"	ND	-----	0.562	"	"	"	"	"	
Pyrene	"	ND	-----	0.562	"	"	"	"	"	
1,2,4-Trichlorobenzene	"	ND	-----	1.70	"	"	"	"	"	
2,4,5-Trichlorophenol	"	ND	-----	0.562	"	"	"	"	"	
2,4,6-Trichlorophenol	"	ND	-----	0.562	"	"	"	"	"	
Surrogate(s): 2-Fluorobiphenyl		*Recovery: 86.6%*		*Limits: 44 - 146 %*		"			"	
2-Fluorophenol		*91.1%*		*42 - 126 %*		"			"	
Nitrobenzene-d5		*74.9%*		*42 - 126 %*		"			"	
Phenol-d6		*87.8%*		*42 - 131 %*		"			"	
p-Terphenyl-d14		*123%*		*49 - 150 %*		"			"	
2,4,6-Tribromophenol		*98.0%*		*48 - 119 %*		"			"	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Semivolatile Organic Compounds per EPA Method 8270C

North Creek Analytical - Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-19 Water	**A1-BP-08-GW-35**	**Sampled: 09/20/05 12:15**								
Acenaphthene	EPA 8270C	ND	-----	5.00	ug/l	1x	5091098	09/27/05	10/04/05 11:25	
Acenaphthylene	"	ND	-----	5.00	"	"	"	"	"	
Anthracene	"	ND	-----	5.00	"	"	"	"	"	
Benzo (a) anthracene	"	ND	-----	5.00	"	"	"	"	"	
Benzo (a) pyrene	"	ND	-----	5.00	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	-----	5.00	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	-----	5.00	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	-----	5.00	"	"	"	"	"	
Benzoic Acid	"	ND	-----	50.0	"	"	"	"	"	
Benzyl alcohol	"	ND	-----	10.0	"	"	"	"	"	
4-Bromophenyl phenyl ether	"	ND	-----	5.00	"	"	"	"	"	
Butyl benzyl phthalate	"	ND	-----	5.00	"	"	"	"	"	
4-Chloro-3-methylphenol	"	ND	-----	5.00	"	"	"	"	"	
4-Chloroaniline	"	ND	-----	20.0	"	"	"	"	"	
Bis(2-chloroethoxy)methane	"	ND	-----	10.0	"	"	"	"	"	
Bis(2-chloroethyl)ether	"	ND	-----	5.00	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	"	ND	-----	10.0	"	"	"	"	"	
2-Chloronaphthalene	"	ND	-----	5.00	"	"	"	"	"	
2-Chlorophenol	"	ND	-----	5.00	"	"	"	"	"	
4-Chlorophenyl phenyl ether	"	ND	-----	5.00	"	"	"	"	"	
Chrysene	"	ND	-----	5.00	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	-----	5.00	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	-----	5.00	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	-----	5.00	"	"	"	"	"	
Dibenzofuran	"	ND	-----	5.00	"	"	"	"	"	
1,2-Dichlorobenzene	"	ND	-----	5.00	"	"	"	"	"	
1,3-Dichlorobenzene	"	ND	-----	5.00	"	"	"	"	"	
1,4-Dichlorobenzene	"	ND	-----	5.00	"	"	"	"	"	
3,3´-Dichlorobenzidine	"	ND	-----	5.00	"	"	"	"	"	
2,4-Dichlorophenol	"	ND	-----	5.00	"	"	"	"	"	
Diethyl phthalate	"	ND	-----	5.00	"	"	"	"	"	
2,4-Dimethylphenol	"	ND	-----	10.0	"	"	"	"	"	
Dimethyl phthalate	"	ND	-----	5.00	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	"	ND	-----	10.0	"	"	"	"	"	
2,4-Dinitrophenol	"	ND	-----	25.0	"	"	"	"	"	
2,4-Dinitrotoluene	"	ND	-----	5.00	"	"	"	"	"	
2,6-Dinitrotoluene	"	ND	-----	5.00	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	ND	-----	10.0	"	"	"	"	"	**B-18**
Fluoranthene	"	ND	-----	5.00	"	"	"	"	"	
Fluorene	"	ND	-----	5.00	"	"	"	"	"	
Hexachlorobenzene	"	ND	-----	5.00	"	"	"	"	"	
Hexachlorobutadiene	"	ND	-----	10.0	"	"	"	"	"	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Semivolatile Organic Compounds per EPA Method 8270C

North Creek Analytical - Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-19 Water	**A1-BP-08-GW-35**	**Sampled: 09/20/05 12:15**								
Hexachlorocyclopentadiene	EPA 8270C	ND	-----	10.0	ug/l	1x	5091098	09/27/05	10/04/05 11:25	
Hexachloroethane	"	ND	-----	10.0	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	-----	5.00	"	"	"	"	"	
Isophorone	"	ND	-----	5.00	"	"	"	"	"	
2-Methylnaphthalene	"	ND	-----	5.00	"	"	"	"	"	
2-Methylphenol	"	ND	-----	10.0	"	"	"	"	"	
3-,4-Methylphenol	"	ND	-----	5.00	"	"	"	"	"	
Naphthalene	"	ND	-----	5.00	"	"	"	"	"	
2-Nitroaniline	"	ND	-----	5.00	"	"	"	"	"	
3-Nitroaniline	"	ND	-----	10.0	"	"	"	"	"	
4-Nitroaniline	"	ND	-----	10.0	"	"	"	"	"	
Nitrobenzene	"	ND	-----	5.00	"	"	"	"	"	
2-Nitrophenol	"	ND	-----	5.00	"	"	"	"	"	
4-Nitrophenol	"	ND	-----	25.0	"	"	"	"	"	
N-Nitrosodi-n-propylamine	"	ND	-----	10.0	"	"	"	"	"	
N-Nitrosodiphenylamine	"	ND	-----	5.00	"	"	"	"	"	
Pentachlorophenol	"	ND	-----	10.0	"	"	"	"	"	
Phenanthrene	"	ND	-----	5.00	"	"	"	"	"	
Phenol	"	ND	-----	5.00	"	"	"	"	"	
Pyrene	"	ND	-----	5.00	"	"	"	"	"	
1,2,4-Trichlorobenzene	"	ND	-----	5.00	"	"	"	"	"	
2,4,5-Trichlorophenol	"	ND	-----	5.00	"	"	"	"	"	
2,4,6-Trichlorophenol	"	ND	-----	5.00	"	"	"	"	"	
Surrogate(s):	*2-Fluorobiphenyl*	*Recovery: 53.5%*		*Limits: 28 - 118 %*		*"*			*"*	
	2-Fluorophenol	*44.8%*		*12 - 100 %*		*"*			*"*	
	Nitrobenzene-d5	*54.9%*		*37 - 124 %*		*"*			*"*	
	Phenol-d6	*49.5%*		*4 - 105 %*		*"*			*"*	
	p-Terphenyl-d14	*77.2%*		*44 - 140 %*		*"*			*"*	
	2,4,6-Tribromophenol	*68.0%*		*31 - 142 %*		*"*			*"*	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Percent Dry Weight (Solids) per Standard Methods

North Creek Analytical - Portland

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-01	**Soil**	**A1-BP-13-S0-01**	**Sampled: 09/20/05 07:10**								
% Solids		NCA SOP	**94.7**	-----	1.00	% by Weight	1x	5091132	09/27/05	09/28/05 11:12	
P5I0775-02	**Soil**	**A1-BP-13-S0-02**	**Sampled: 09/20/05 07:30**								
% Solids		NCA SOP	**97.0**	-----	1.00	% by Weight	1x	5091132	09/27/05	09/28/05 11:12	
P5I0775-03	**Soil**	**A1-BP-11-S0-01**	**Sampled: 09/20/05 08:23**								
% Solids		NCA SOP	**90.9**	-----	1.00	% by Weight	1x	5091132	09/27/05	09/28/05 11:12	
P5I0775-04	**Soil**	**A1-BP-11-S0-02**	**Sampled: 09/20/05 08:31**								
% Solids		NCA SOP	**94.0**	-----	1.00	% by Weight	1x	5091132	09/27/05	09/28/05 11:12	
P5I0775-06	**Soil**	**A1-BP-14-S0-01**	**Sampled: 09/20/05 11:00**								
% Solids		NCA SOP	**90.3**	-----	1.00	% by Weight	1x	5091132	09/27/05	09/28/05 11:12	
P5I0775-07	**Soil**	**A1-BP-14-S0-02**	**Sampled: 09/20/05 11:00**								
% Solids		NCA SOP	**66.3**	-----	1.00	% by Weight	1x	5091132	09/27/05	09/28/05 11:12	
P5I0775-08	**Soil**	**A1-BP-14-S0-20**	**Sampled: 09/20/05 11:00**								
% Solids		NCA SOP	**71.6**	-----	1.00	% by Weight	1x	5091132	09/27/05	09/28/05 11:12	
P5I0775-09	**Soil**	**A1-BP-14-S0-04**	**Sampled: 09/20/05 11:00**								
% Solids		NCA SOP	**72.5**	-----	1.00	% by Weight	1x	5091132	09/27/05	09/28/05 11:12	
P5I0775-10	**Soil**	**A1-BP-14-S0-05**	**Sampled: 09/20/05 11:00**								
% Solids		NCA SOP	**92.8**	-----	1.00	% by Weight	1x	5091132	09/27/05	09/28/05 11:12	
P5I0775-11	**Soil**	**TP-3**	**Sampled: 09/19/05 11:25**								
% Solids		NCA SOP	**93.5**	-----	1.00	% by Weight	1x	5091132	09/27/05	09/28/05 11:12	
P5I0775-12	**Soil**	**TP-4**	**Sampled: 09/19/05 13:50**								
% Solids		NCA SOP	**85.3**	-----	1.00	% by Weight	1x	5091132	09/27/05	09/28/05 11:12	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Percent Dry Weight (Solids) per Standard Methods

North Creek Analytical - Portland

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-15	**Soil**	**A1-BP-10-S0-01**	**Sampled: 09/19/05 15:12**								
% Solids		NCA SOP	**76.5**	-----	1.00	% by Weight	1x	5091132	09/27/05	09/28/05 11:12	
P5I0775-16	**Soil**	**A1-BP-10-S0-02**	**Sampled: 09/19/05 15:25**								
% Solids		NCA SOP	**92.7**	-----	1.00	% by Weight	1x	5091132	09/27/05	09/28/05 11:12	
P5I0775-17	**Soil**	**A1-BP-12-S0-01**	**Sampled: 09/19/05 15:50**								
% Solids		NCA SOP	**92.3**	-----	1.00	% by Weight	1x	5091132	09/27/05	09/28/05 11:12	
P5I0775-18	**Soil**	**A1-BP-12-S0-02**	**Sampled: 09/19/05 16:00**								
% Solids		NCA SOP	**58.4**	-----	1.00	% by Weight	1x	5091132	09/27/05	09/28/05 11:12	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

General Chemistry Parameters

TestAmerica Analytical - Nashville

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-01	**Soil**	**A1-BP-13-S0-01**	**Sampled: 09/20/05 07:10**								
% Dry Solids		CLP	**94.7**	-----	1.00	%	1x	5103845	10/25/05	10/25/05 14:31	
P5I0775-02	**Soil**	**A1-BP-13-S0-02**	**Sampled: 09/20/05 07:30**								
% Dry Solids		CLP	**97.0**	-----	1.00	%	1x	5103845	10/25/05	10/25/05 14:31	
P5I0775-03	**Soil**	**A1-BP-11-S0-01**	**Sampled: 09/20/05 08:23**								
% Dry Solids		CLP	**90.9**	-----	1.00	%	1x	5103845	10/25/05	10/25/05 14:31	
P5I0775-04	**Soil**	**A1-BP-11-S0-02**	**Sampled: 09/20/05 08:31**								
% Dry Solids		CLP	**94.0**	-----	1.00	%	1x	5103845	10/25/05	10/25/05 14:31	
P5I0775-06	**Soil**	**A1-BP-14-S0-01**	**Sampled: 09/20/05 11:00**								
% Dry Solids		CLP	**90.3**	-----	1.00	%	1x	5103845	10/25/05	10/25/05 14:31	
P5I0775-07	**Soil**	**A1-BP-14-S0-02**	**Sampled: 09/20/05 11:00**								
% Dry Solids		CLP	**66.3**	-----	1.00	%	1x	5103845	10/25/05	10/25/05 14:31	
P5I0775-08	**Soil**	**A1-BP-14-S0-20**	**Sampled: 09/20/05 11:00**								
% Dry Solids		CLP	**71.6**	-----	1.00	%	1x	5103845	10/25/05	10/25/05 14:31	
P5I0775-09	**Soil**	**A1-BP-14-S0-04**	**Sampled: 09/20/05 11:00**								
% Dry Solids		CLP	**72.5**	-----	1.00	%	1x	5103845	10/25/05	10/25/05 14:31	
P5I0775-10	**Soil**	**A1-BP-14-S0-05**	**Sampled: 09/20/05 11:00**								
% Dry Solids		CLP	**92.8**	-----	1.00	%	1x	5103845	10/25/05	10/25/05 14:31	
P5I0775-11	**Soil**	**TP-3**	**Sampled: 09/19/05 11:25**								
% Dry Solids		CLP	**93.5**	-----	1.00	%	1x	5103845	10/25/05	10/25/05 14:31	
P5I0775-12	**Soil**	**TP-4**	**Sampled: 09/19/05 13:50**								
% Dry Solids		CLP	**85.4**	-----	1.00	%	1x	5103845	10/25/05	10/25/05 14:31	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

General Chemistry Parameters

TestAmerica Analytical - Nashville

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-15	**Soil**	**A1-BP-10-S0-01**	**Sampled: 09/19/05 15:12**								
% Dry Solids		CLP	**76.5**	-----	1.00	%	1x	5103845	10/25/05	10/25/05 14:31	
P5I0775-16	**Soil**	**A1-BP-10-S0-02**	**Sampled: 09/19/05 15:25**								
% Dry Solids		CLP	**92.7**	-----	1.00	%	1x	5103845	10/25/05	10/25/05 14:31	
P5I0775-17	**Soil**	**A1-BP-12-S0-01**	**Sampled: 09/19/05 15:50**								
% Dry Solids		CLP	**92.3**	-----	1.00	%	1x	5103845	10/25/05	10/25/05 14:31	
P5I0775-18	**Soil**	**A1-BP-12-S0-02**	**Sampled: 09/19/05 16:00**								
% Dry Solids		CLP	**58.4**	-----	1.00	%	1x	5103845	10/25/05	10/25/05 14:31	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Explosive Compounds by EPA Method 8330

TestAmerica Analytical - Nashville

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-01 Soil A1-BP-13-S0-01 Sampled: 09/20/05 07:10										
1,3,5-Trinitrobenzene	SW846 8330	ND	-----	1.07	mg/kg dry	1x	5094625	09/30/05	10/09/05 23:05	
1,3-Dinitrobenzene	"	ND	-----	1.07	"	"	"	"	"	
2,4,6-Trinitrotoluene	"	ND	-----	1.07	"	"	"	"	"	
2,4-Dinitrotoluene	"	ND	-----	1.07	"	"	"	"	"	
2,6-Dinitrotoluene	"	ND	-----	1.07	"	"	"	"	"	
2-Amino-4,6-dinitrotoluene	"	ND	-----	1.07	"	"	"	"	"	
2-Nitrotoluene	"	ND	-----	1.07	"	"	"	"	"	
3-Nitrotoluene	"	ND	-----	1.07	"	"	"	"	"	
4-Amino-2,6-dinitrotoluene	"	ND	-----	1.07	"	"	"	"	"	
4-Nitrotoluene	"	ND	-----	1.07	"	"	"	"	"	
Hexahydro-1,3,5-trinitro-1,3,5-triazine	"	ND	-----	1.07	"	"	"	"	"	
Nitrobenzene	"	ND	-----	1.07	"	"	"	"	"	
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetra	"	ND	-----	1.07	"	"	"	"	"	
Tetryl	"	ND	-----	1.07	"	"	"	"	"	
Surrogate(s): 1,2-Dinitrobenzene		*Recovery: 104%*		*Limits: 64 - 140 %*		"			"	
P5I0775-02 Soil A1-BP-13-S0-02 Sampled: 09/20/05 07:30										
1,3,5-Trinitrobenzene	SW846 8330	ND	-----	1.05	mg/kg dry	1x	5094625	09/30/05	10/09/05 23:38	
1,3-Dinitrobenzene	"	ND	-----	1.05	"	"	"	"	"	
2,4,6-Trinitrotoluene	"	ND	-----	1.05	"	"	"	"	"	
2,4-Dinitrotoluene	"	ND	-----	1.05	"	"	"	"	"	
2,6-Dinitrotoluene	"	ND	-----	1.05	"	"	"	"	"	
2-Amino-4,6-dinitrotoluene	"	ND	-----	1.05	"	"	"	"	"	
2-Nitrotoluene	"	ND	-----	1.05	"	"	"	"	"	
3-Nitrotoluene	"	ND	-----	1.05	"	"	"	"	"	
4-Amino-2,6-dinitrotoluene	"	ND	-----	1.05	"	"	"	"	"	
4-Nitrotoluene	"	ND	-----	1.05	"	"	"	"	"	
Hexahydro-1,3,5-trinitro-1,3,5-triazine	"	ND	-----	1.05	"	"	"	"	"	
Nitrobenzene	"	ND	-----	1.05	"	"	"	"	"	
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetra	"	ND	-----	1.05	"	"	"	"	"	
Tetryl	"	ND	-----	1.05	"	"	"	"	"	
Surrogate(s): 1,2-Dinitrobenzene		*Recovery: 74%*		*Limits: 64 - 140 %*		"			"	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Explosive Compounds by EPA Method 8330

TestAmerica Analytical - Nashville

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-03 Soil A1-BP-11-S0-01 Sampled: 09/20/05 08:23										
1,3,5-Trinitrobenzene	SW846 8330	ND	-----	1.07	mg/kg dry	1x	5094625	09/30/05	10/10/05 00:45	
1,3-Dinitrobenzene	"	ND	-----	1.07	"	"	"	"	"	
2,4,6-Trinitrotoluene	"	ND	-----	1.07	"	"	"	"	"	
2,4-Dinitrotoluene	"	ND	-----	1.07	"	"	"	"	"	
2,6-Dinitrotoluene	"	ND	-----	1.07	"	"	"	"	"	
2-Amino-4,6-dinitrotoluene	"	ND	-----	1.07	"	"	"	"	"	
2-Nitrotoluene	"	ND	-----	1.07	"	"	"	"	"	
3-Nitrotoluene	"	ND	-----	1.07	"	"	"	"	"	
4-Amino-2,6-dinitrotoluene	"	ND	-----	1.07	"	"	"	"	"	
4-Nitrotoluene	"	ND	-----	1.07	"	"	"	"	"	
Hexahydro-1,3,5-trinitro-1,3,5-triazine	"	ND	-----	1.07	"	"	"	"	"	
Nitrobenzene	"	ND	-----	1.07	"	"	"	"	"	
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetra	"	ND	-----	1.07	"	"	"	"	"	
Tetryl	"	ND	-----	1.07	"	"	"	"	"	
Surrogate(s): 1,2-Dinitrobenzene		*Recovery: 102%*		*Limits: 64 - 140 %*		"			"	
P5I0775-04 Soil A1-BP-11-S0-02 Sampled: 09/20/05 08:31										
1,3,5-Trinitrobenzene	SW846 8330	ND	-----	1.10	mg/kg dry	1x	5094625	09/30/05	10/10/05 01:18	
1,3-Dinitrobenzene	"	ND	-----	1.10	"	"	"	"	"	
2,4,6-Trinitrotoluene	"	ND	-----	1.10	"	"	"	"	"	
2,4-Dinitrotoluene	"	ND	-----	1.10	"	"	"	"	"	
2,6-Dinitrotoluene	"	ND	-----	1.10	"	"	"	"	"	
2-Amino-4,6-dinitrotoluene	"	ND	-----	1.10	"	"	"	"	"	
2-Nitrotoluene	"	ND	-----	1.10	"	"	"	"	"	
3-Nitrotoluene	"	ND	-----	1.10	"	"	"	"	"	
4-Amino-2,6-dinitrotoluene	"	ND	-----	1.10	"	"	"	"	"	
4-Nitrotoluene	"	ND	-----	1.10	"	"	"	"	"	
Hexahydro-1,3,5-trinitro-1,3,5-triazine	"	ND	-----	1.10	"	"	"	"	"	
Nitrobenzene	"	ND	-----	1.10	"	"	"	"	"	
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetra	"	ND	-----	1.10	"	"	"	"	"	
Tetryl	"	ND	-----	1.10	"	"	"	"	"	
Surrogate(s): 1,2-Dinitrobenzene		*Recovery: 103%*		*Limits: 64 - 140 %*		"			"	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Explosive Compounds by EPA Method 8330

TestAmerica Analytical - Nashville

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-06 Soil A1-BP-14-S0-01 Sampled: 09/20/05 11:00										
1,3,5-Trinitrobenzene	SW846 8330	ND	-----	1.09	mg/kg dry	1x	5094625	09/30/05	10/10/05 01:52	
1,3-Dinitrobenzene	"	ND	-----	1.09	"	"	"	"	"	
2,4,6-Trinitrotoluene	"	ND	-----	1.09	"	"	"	"	"	
2,4-Dinitrotoluene	"	ND	-----	1.09	"	"	"	"	"	
2,6-Dinitrotoluene	"	ND	-----	1.09	"	"	"	"	"	
2-Amino-4,6-dinitrotoluene	"	ND	-----	1.09	"	"	"	"	"	
2-Nitrotoluene	"	ND	-----	1.09	"	"	"	"	"	
3-Nitrotoluene	"	ND	-----	1.09	"	"	"	"	"	
4-Amino-2,6-dinitrotoluene	"	ND	-----	1.09	"	"	"	"	"	
4-Nitrotoluene	"	ND	-----	1.09	"	"	"	"	"	
Hexahydro-1,3,5-trinitro-1,3,5-triazine	"	ND	-----	1.09	"	"	"	"	"	
Nitrobenzene	"	ND	-----	1.09	"	"	"	"	"	
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetra	"	ND	-----	1.09	"	"	"	"	"	
Tetryl	"	ND	-----	1.09	"	"	"	"	"	
Surrogate(s): 1,2-Dinitrobenzene		*Recovery: 85%*		*Limits: 64 - 140 %*		"			"	
P5I0775-07 Soil A1-BP-14-S0-02 Sampled: 09/20/05 11:00										
1,3,5-Trinitrobenzene	SW846 8330	ND	-----	1.49	mg/kg dry	1x	5094625	09/30/05	10/10/05 02:25	
1,3-Dinitrobenzene	"	ND	-----	1.49	"	"	"	"	"	
2,4,6-Trinitrotoluene	"	ND	-----	1.49	"	"	"	"	"	
2,4-Dinitrotoluene	"	ND	-----	1.49	"	"	"	"	"	
2,6-Dinitrotoluene	"	ND	-----	1.49	"	"	"	"	"	
2-Amino-4,6-dinitrotoluene	"	ND	-----	1.49	"	"	"	"	"	
2-Nitrotoluene	"	ND	-----	1.49	"	"	"	"	"	
3-Nitrotoluene	"	ND	-----	1.49	"	"	"	"	"	
4-Amino-2,6-dinitrotoluene	"	ND	-----	1.49	"	"	"	"	"	
4-Nitrotoluene	"	ND	-----	1.49	"	"	"	"	"	
Hexahydro-1,3,5-trinitro-1,3,5-triazine	"	ND	-----	1.49	"	"	"	"	"	
Nitrobenzene	"	ND	-----	1.49	"	"	"	"	"	
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetra	"	ND	-----	1.49	"	"	"	"	"	
Tetryl	"	ND	-----	1.49	"	"	"	"	"	
Surrogate(s): 1,2-Dinitrobenzene		*Recovery: 100%*		*Limits: 64 - 140 %*		"			"	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Explosive Compounds by EPA Method 8330

TestAmerica Analytical - Nashville

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-08 Soil A1-BP-14-S0-20 Sampled: 09/20/05 11:00										
1,3,5-Trinitrobenzene	SW846 8330	ND	-----	1.43	mg/kg dry	1x	5094625	09/30/05	10/10/05 02:59	
1,3-Dinitrobenzene	"	ND	-----	1.43	"	"	"	"	"	
2,4,6-Trinitrotoluene	"	ND	-----	1.43	"	"	"	"	"	
2,4-Dinitrotoluene	"	ND	-----	1.43	"	"	"	"	"	
2,6-Dinitrotoluene	"	ND	-----	1.43	"	"	"	"	"	
2-Amino-4,6-dinitrotoluene	"	ND	-----	1.43	"	"	"	"	"	
2-Nitrotoluene	"	ND	-----	1.43	"	"	"	"	"	
3-Nitrotoluene	"	ND	-----	1.43	"	"	"	"	"	
4-Amino-2,6-dinitrotoluene	"	ND	-----	1.43	"	"	"	"	"	
4-Nitrotoluene	"	ND	-----	1.43	"	"	"	"	"	
Hexahydro-1,3,5-trinitro-1,3,5-triazine	"	ND	-----	1.43	"	"	"	"	"	
Nitrobenzene	"	ND	-----	1.43	"	"	"	"	"	
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetra	"	ND	-----	1.43	"	"	"	"	"	
Tetryl	"	ND	-----	1.43	"	"	"	"	"	
Surrogate(s): 1,2-Dinitrobenzene		*Recovery: 104%*		*Limits: 64 - 140 %*		"			"	
P5I0775-09 Soil A1-BP-14-S0-04 Sampled: 09/20/05 11:00										
1,3,5-Trinitrobenzene	SW846 8330	ND	-----	1.39	mg/kg dry	1x	5094625	09/30/05	10/10/05 03:32	
1,3-Dinitrobenzene	"	ND	-----	1.39	"	"	"	"	"	
2,4,6-Trinitrotoluene	"	ND	-----	1.39	"	"	"	"	"	
2,4-Dinitrotoluene	"	ND	-----	1.39	"	"	"	"	"	
2,6-Dinitrotoluene	"	ND	-----	1.39	"	"	"	"	"	
2-Amino-4,6-dinitrotoluene	"	ND	-----	1.39	"	"	"	"	"	
2-Nitrotoluene	"	ND	-----	1.39	"	"	"	"	"	
3-Nitrotoluene	"	ND	-----	1.39	"	"	"	"	"	
4-Amino-2,6-dinitrotoluene	"	ND	-----	1.39	"	"	"	"	"	
4-Nitrotoluene	"	ND	-----	1.39	"	"	"	"	"	
Hexahydro-1,3,5-trinitro-1,3,5-triazine	"	ND	-----	1.39	"	"	"	"	"	
Nitrobenzene	"	ND	-----	1.39	"	"	"	"	"	
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetra	"	ND	-----	1.39	"	"	"	"	"	
Tetryl	"	ND	-----	1.39	"	"	"	"	"	
Surrogate(s): 1,2-Dinitrobenzene		*Recovery: 103%*		*Limits: 64 - 140 %*		"			"	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Explosive Compounds by EPA Method 8330

TestAmerica Analytical - Nashville

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-10 Soil A1-BP-14-S0-05 Sampled: 09/20/05 11:00										
1,3,5-Trinitrobenzene	SW846 8330	ND	-----	1.11	mg/kg dry	1x	5094625	09/30/05	10/10/05 04:06	
1,3-Dinitrobenzene	"	ND	-----	1.11	"	"	"	"	"	
2,4,6-Trinitrotoluene	"	ND	-----	1.11	"	"	"	"	"	
2,4-Dinitrotoluene	"	ND	-----	1.11	"	"	"	"	"	
2,6-Dinitrotoluene	"	ND	-----	1.11	"	"	"	"	"	
2-Amino-4,6-dinitrotoluene	"	ND	-----	1.11	"	"	"	"	"	
2-Nitrotoluene	"	ND	-----	1.11	"	"	"	"	"	
3-Nitrotoluene	"	ND	-----	1.11	"	"	"	"	"	
4-Amino-2,6-dinitrotoluene	"	ND	-----	1.11	"	"	"	"	"	
4-Nitrotoluene	"	ND	-----	1.11	"	"	"	"	"	
Hexahydro-1,3,5-trinitro-1,3,5-triazine	"	ND	-----	1.11	"	"	"	"	"	
Nitrobenzene	"	ND	-----	1.11	"	"	"	"	"	
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetra	"	ND	-----	1.11	"	"	"	"	"	
Tetryl	"	ND	-----	1.11	"	"	"	"	"	
Surrogate(s): 1,2-Dinitrobenzene		*Recovery: 101%*		*Limits: 64 - 140 %*		"			"	
P5I0775-11 Soil TP-3 Sampled: 09/19/05 11:25										
1,3,5-Trinitrobenzene	SW846 8330	ND	-----	1.09	mg/kg dry	1x	5094625	09/30/05	10/10/05 04:39	
1,3-Dinitrobenzene	"	ND	-----	1.09	"	"	"	"	"	
2,4,6-Trinitrotoluene	"	ND	-----	1.09	"	"	"	"	"	
2,4-Dinitrotoluene	"	ND	-----	1.09	"	"	"	"	"	
2,6-Dinitrotoluene	"	ND	-----	1.09	"	"	"	"	"	
2-Amino-4,6-dinitrotoluene	"	ND	-----	1.09	"	"	"	"	"	
2-Nitrotoluene	"	ND	-----	1.09	"	"	"	"	"	
3-Nitrotoluene	"	ND	-----	1.09	"	"	"	"	"	
4-Amino-2,6-dinitrotoluene	"	ND	-----	1.09	"	"	"	"	"	
4-Nitrotoluene	"	ND	-----	1.09	"	"	"	"	"	
Hexahydro-1,3,5-trinitro-1,3,5-triazine	"	ND	-----	1.09	"	"	"	"	"	
Nitrobenzene	"	ND	-----	1.09	"	"	"	"	"	
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetra	"	ND	-----	1.09	"	"	"	"	"	
Tetryl	"	ND	-----	1.09	"	"	"	"	"	
Surrogate(s): 1,2-Dinitrobenzene		*Recovery: 103%*		*Limits: 64 - 140 %*		"			"	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Explosive Compounds by EPA Method 8330

TestAmerica Analytical - Nashville

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-12 Soil TP-4 Sampled: 09/19/05 13:50										
1,3,5-Trinitrobenzene	SW846 8330	ND	-----	1.19	mg/kg dry	1x	5094625	09/30/05	10/10/05 05:13	
1,3-Dinitrobenzene	"	ND	-----	1.19	"	"	"	"	"	
2,4,6-Trinitrotoluene	"	ND	-----	1.19	"	"	"	"	"	
2,4-Dinitrotoluene	"	ND	-----	1.19	"	"	"	"	"	
2,6-Dinitrotoluene	"	ND	-----	1.19	"	"	"	"	"	
2-Amino-4,6-dinitrotoluene	"	ND	-----	1.19	"	"	"	"	"	
2-Nitrotoluene	"	ND	-----	1.19	"	"	"	"	"	
3-Nitrotoluene	"	ND	-----	1.19	"	"	"	"	"	
4-Amino-2,6-dinitrotoluene	"	ND	-----	1.19	"	"	"	"	"	
4-Nitrotoluene	"	ND	-----	1.19	"	"	"	"	"	
Hexahydro-1,3,5-trinitro-1,3,5-triazine	"	ND	-----	1.19	"	"	"	"	"	
Nitrobenzene	"	ND	-----	1.19	"	"	"	"	"	
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetra	"	ND	-----	1.19	"	"	"	"	"	
Tetryl	"	ND	-----	1.19	"	"	"	"	"	
Surrogate(s): 1,2-Dinitrobenzene		*Recovery: 103%*		*Limits: 64 - 140 %*		"			"	
P5I0775-15 Soil A1-BP-10-S0-01 Sampled: 09/19/05 15:12										
1,3,5-Trinitrobenzene	SW846 8330	ND	-----	1.28	mg/kg dry	1x	5094625	09/30/05	10/10/05 05:46	
1,3-Dinitrobenzene	"	ND	-----	1.28	"	"	"	"	"	
2,4,6-Trinitrotoluene	"	ND	-----	1.28	"	"	"	"	"	
2,4-Dinitrotoluene	"	ND	-----	1.28	"	"	"	"	"	
2,6-Dinitrotoluene	"	ND	-----	1.28	"	"	"	"	"	
2-Amino-4,6-dinitrotoluene	"	ND	-----	1.28	"	"	"	"	"	
2-Nitrotoluene	"	ND	-----	1.28	"	"	"	"	"	
3-Nitrotoluene	"	ND	-----	1.28	"	"	"	"	"	
4-Amino-2,6-dinitrotoluene	"	ND	-----	1.28	"	"	"	"	"	
4-Nitrotoluene	"	ND	-----	1.28	"	"	"	"	"	
Hexahydro-1,3,5-trinitro-1,3,5-triazine	"	ND	-----	1.28	"	"	"	"	"	
Nitrobenzene	"	ND	-----	1.28	"	"	"	"	"	
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetra	"	ND	-----	1.28	"	"	"	"	"	
Tetryl	"	ND	-----	1.28	"	"	"	"	"	
Surrogate(s): 1,2-Dinitrobenzene		*Recovery: 103%*		*Limits: 64 - 140 %*		"			"	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Explosive Compounds by EPA Method 8330

TestAmerica Analytical - Nashville

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-16 Soil A1-BP-10-S0-02 Sampled: 09/19/05 15:25										
1,3,5-Trinitrobenzene	SW846 8330	ND	-----	1.06	mg/kg dry	1x	5094625	09/30/05	10/10/05 06:53	
1,3-Dinitrobenzene	"	ND	-----	1.06	"	"	"	"	"	
2,4,6-Trinitrotoluene	"	ND	-----	1.06	"	"	"	"	"	
2,4-Dinitrotoluene	"	ND	-----	1.06	"	"	"	"	"	
2,6-Dinitrotoluene	"	ND	-----	1.06	"	"	"	"	"	
2-Amino-4,6-dinitrotoluene	"	ND	-----	1.06	"	"	"	"	"	
2-Nitrotoluene	"	ND	-----	1.06	"	"	"	"	"	
3-Nitrotoluene	"	ND	-----	1.06	"	"	"	"	"	
4-Amino-2,6-dinitrotoluene	"	ND	-----	1.06	"	"	"	"	"	
4-Nitrotoluene	"	ND	-----	1.06	"	"	"	"	"	
Hexahydro-1,3,5-trinitro-1,3,5-triazine	"	ND	-----	1.06	"	"	"	"	"	
Nitrobenzene	"	ND	-----	1.06	"	"	"	"	"	
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetra	"	ND	-----	1.06	"	"	"	"	"	
Tetryl	"	ND	-----	1.06	"	"	"	"	"	
Surrogate(s): 1,2-Dinitrobenzene		*Recovery: 105%*		*Limits: 64 - 140 %*		"			"	
P5I0775-17 Soil A1-BP-12-S0-01 Sampled: 09/19/05 15:50										
1,3,5-Trinitrobenzene	SW846 8330	ND	-----	1.11	mg/kg dry	1x	5094625	09/30/05	10/10/05 07:26	
1,3-Dinitrobenzene	"	ND	-----	1.11	"	"	"	"	"	
2,4,6-Trinitrotoluene	"	ND	-----	1.11	"	"	"	"	"	
2,4-Dinitrotoluene	"	ND	-----	1.11	"	"	"	"	"	
2,6-Dinitrotoluene	"	ND	-----	1.11	"	"	"	"	"	
2-Amino-4,6-dinitrotoluene	"	ND	-----	1.11	"	"	"	"	"	
2-Nitrotoluene	"	ND	-----	1.11	"	"	"	"	"	
3-Nitrotoluene	"	ND	-----	1.11	"	"	"	"	"	
4-Amino-2,6-dinitrotoluene	"	ND	-----	1.11	"	"	"	"	"	
4-Nitrotoluene	"	ND	-----	1.11	"	"	"	"	"	
Hexahydro-1,3,5-trinitro-1,3,5-triazine	"	ND	-----	1.11	"	"	"	"	"	
Nitrobenzene	"	ND	-----	1.11	"	"	"	"	"	
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetra	"	ND	-----	1.11	"	"	"	"	"	
Tetryl	"	ND	-----	1.11	"	"	"	"	"	
Surrogate(s): 1,2-Dinitrobenzene		*Recovery: 103%*		*Limits: 64 - 140 %*		"			"	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Explosive Compounds by EPA Method 8330

TestAmerica Analytical - Nashville

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
P5I0775-18 Soil A1-BP-12-S0-02 Sampled: 09/19/05 16:00										
1,3,5-Trinitrobenzene	SW846 8330	ND	-----	1.76	mg/kg dry	1x	5094625	09/30/05	10/10/05 08:00	
1,3-Dinitrobenzene	"	ND	-----	1.76	"	"	"	"	"	
2,4,6-Trinitrotoluene	"	ND	-----	1.76	"	"	"	"	"	
2,4-Dinitrotoluene	"	ND	-----	1.76	"	"	"	"	"	
2,6-Dinitrotoluene	"	ND	-----	1.76	"	"	"	"	"	
2-Amino-4,6-dinitrotoluene	"	ND	-----	1.76	"	"	"	"	"	
2-Nitrotoluene	"	ND	-----	1.76	"	"	"	"	"	
3-Nitrotoluene	"	ND	-----	1.76	"	"	"	"	"	
4-Amino-2,6-dinitrotoluene	"	ND	-----	1.76	"	"	"	"	"	
4-Nitrotoluene	"	ND	-----	1.76	"	"	"	"	"	
Hexahydro-1,3,5-trinitro-1,3,5-triazine	"	ND	-----	1.76	"	"	"	"	"	
Nitrobenzene	"	ND	-----	1.76	"	"	"	"	"	
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetra	"	ND	-----	1.76	"	"	"	"	"	
Tetryl	"	ND	-----	1.76	"	"	"	"	"	
Surrogate(s): 1,2-Dinitrobenzene		*Recovery: 99%*		*Limits: 64 - 140 %*		"			"	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Hydrocarbon Identification per NW-TPH Methodology - Laboratory Quality Control Results

North Creek Analytical - Portland

QC Batch: 5090949 **Soil Preparation Method: EPA 3550 Fuels**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (5090949-BLK1)								Extracted: 09/23/05 11:00						
Gasoline Range Hydrocarbons	NWTPH HCID	ND	---	20.0	mg/kg	1x	--	--	--	--	--	--	09/24/05 13:38	
Diesel Range Hydrocarbons	"	ND	---	50.0	"	"	--	--	--	--	--	--	"	
Heavy Oil Range Hydrocarbons	"	ND	---	100	"	"	--	--	--	--	--	--	"	
Surrogate(s): 1-Chlorooctadecane		*Recovery: 89.0%*			*Limits: 50-150%*	*"*							*09/24/05 13:38*	
Duplicate (5090949-DUP1)							QC Source: P5I0824-01			Extracted: 09/23/05 11:00				
Gasoline Range Hydrocarbons	NWTPH HCID	ND	---	23.8	mg/kg dry	1x	ND	--	--	--	NR	(50)	09/23/05 14:10	
Diesel Range Hydrocarbons	"	ND	---	59.5	"	"	ND	--	--	--	NR	"	"	
Heavy Oil Range Hydrocarbons	"	ND	---	119	"	"	ND	--	--	--	NR	"	"	
Surrogate(s): 1-Chlorooctadecane		*Recovery: 72.8%*			*Limits: 50-150%*	*"*							*09/23/05 14:10*	
Duplicate (5090949-DUP2)							QC Source: P5I0824-02			Extracted: 09/23/05 11:00				
Gasoline Range Hydrocarbons	NWTPH HCID	ND	---	23.1	mg/kg dry	1x	ND	--	--	--	NR	(50)	09/23/05 14:49	
Diesel Range Hydrocarbons	"	ND	---	57.8	"	"	ND	--	--	--	NR	"	"	
Heavy Oil Range Hydrocarbons	"	ND	---	116	"	"	ND	--	--	--	NR	"	"	
Surrogate(s): 1-Chlorooctadecane		*Recovery: 63.6%*			*Limits: 50-150%*	*"*							*09/23/05 14:49*	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Total Metals per EPA 6000/7000 Series Methods - Laboratory Quality Control Results

North Creek Analytical - Portland

QC Batch: 5090972 **Soil Preparation Method: EPA 3050**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (5090972-BLK1)								Extracted: 09/23/05 10:48						
Arsenic	EPA 6020	ND	---	0.510	mg/kg	1x	--	--	--	--	--	--	09/28/05 01:28	
Barium	"	ND	---	0.510	"	"	--	--	--	--	--	--	"	
Cadmium	"	ND	---	0.510	"	"	--	--	--	--	--	--	"	
Chromium	"	ND	---	0.510	"	"	--	--	--	--	--	--	"	
Lead	"	ND	---	0.510	"	"	--	--	--	--	--	--	"	
Selenium	"	ND	---	0.510	"	"	--	--	--	--	--	--	10/05/05 03:49	
Silver	"	ND	---	0.510	"	"	--	--	--	--	--	--	09/28/05 01:28	
LCS (5090972-BS1)								Extracted: 09/23/05 10:48						
Arsenic	EPA 6020	10.3	---	0.521	mg/kg	1x	--	10.4	99.0%	(80-120)	--	--	09/28/05 01:36	
Barium	"	10.7	---	0.521	"	"	--	"	103%	"	--	--	"	
Cadmium	"	10.3	---	0.521	"	"	--	"	99.0%	"	--	--	"	
Chromium	"	10.4	---	0.521	"	"	--	"	100%	"	--	--	"	
Lead	"	10.6	---	0.521	"	"	--	"	102%	"	--	--	"	
Selenium	"	4.98	---	0.521	"	"	--	5.21	95.6%	"	--	--	10/05/05 03:57	
Silver	"	5.12	---	0.521	"	"	--	"	98.3%	"	--	--	09/28/05 01:36	
Duplicate (5090972-DUP1)				QC Source: P5I0428-01				Extracted: 09/23/05 10:48						
Arsenic	EPA 6020	2.60	---	0.602	mg/kg dry	1x	2.45	--	--	--	5.94%	(40)	09/28/05 02:06	
Barium	"	130	---	0.602	"	"	113	--	--	--	14.0%	"	"	
Cadmium	"	ND	---	6.30	"	10.45x	ND	--	--	--	NR	"	09/28/05 02:14	
Chromium	"	15.0	---	0.602	"	1x	15.6	--	--	--	3.92%	"	09/28/05 02:06	
Lead	"	5.67	---	0.602	"	"	5.74	--	--	--	1.23%	"	"	
Selenium	"	ND	---	0.602	"	"	ND	--	--	--	NR	"	10/05/05 04:12	
Silver	"	ND	---	0.602	"	"	ND	--	--	--	22.6%	"	09/28/05 02:06	
Matrix Spike (5090972-MS1)				QC Source: P5I0428-01				Extracted: 09/23/05 10:48						
Arsenic	EPA 6020	12.4	---	0.579	mg/kg dry	1x	2.45	11.6	85.8%	(75-125)	--	--	09/28/05 02:45	
Barium	"	136	---	0.579	"	"	113	"	198%	"	--	--	"	Q-14
Cadmium	"	9.29	---	0.579	"	"	ND	"	80.1%	"	--	--	"	
Chromium	"	25.9	---	0.579	"	"	15.6	"	88.8%	"	--	--	"	
Lead	"	18.3	---	0.579	"	"	5.74	"	108%	"	--	--	"	
Selenium	"	6.09	---	0.579	"	"	ND	5.79	105%	"	--	--	10/05/05 04:27	
Silver	"	5.93	---	0.579	"	"	0.102	"	101%	"	--	--	09/28/05 02:45	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Total Metals per EPA 6000/7000 Series Methods - Laboratory Quality Control Results

North Creek Analytical - Portland

QC Batch: 5090972 **Soil Preparation Method: EPA 3050**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Matrix Spike (5090972-MS2)				QC Source: P5I0428-02				Extracted: 09/23/05 10:48						
Arsenic	EPA 6020	13.6	---	0.626	mg/kg dry	1x	2.63	12.5	87.8%	(75-125)	--	--	09/28/05 03:24	
Barium	"	109	---	0.626	"	"	112	"	NR	"	--	--	"	Q-14
Cadmium	"	10.1	---	0.626	"	"	ND	"	80.8%	"	--	--	"	
Chromium	"	21.7	---	0.626	"	"	10.6	"	88.8%	"	--	--	"	
Lead	"	16.2	---	0.626	"	"	4.16	"	96.3%	"	--	--	"	
Selenium	"	5.92	---	0.626	"	"	ND	6.26	94.6%	"	--	--	10/05/05 04:50	
Silver	"	6.27	---	0.626	"	"	0.112	"	98.4%	"	--	--	09/28/05 03:24	
Post Spike (5090972-PS1)				QC Source: P5I0428-01				Extracted: 09/23/05 10:48						
Arsenic	EPA 6020	0.231	---		ug/ml	1x	0.0403	0.200	95.4%	(75-125)	--	--	09/28/05 03:00	
Barium	"	2.18	---		"	"	1.86	"	160%	"	--	--	"	Q-14
Cadmium	"	0.154	---		"	"	-0.0177	"	85.8%	"	--	--	"	
Chromium	"	0.433	---		"	"	0.256	"	88.5%	"	--	--	"	
Lead	"	0.283	---		"	"	0.0943	"	94.3%	"	--	--	"	
Selenium	"	0.0939	---		"	"	0.00118	0.100	92.7%	"	--	--	10/05/05 04:35	
Silver	"	0.100	---		"	"	0.00167	"	98.3%	"	--	--	09/28/05 03:00	

QC Batch: 5090976 **Soil Preparation Method: EPA 3050**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (5090976-BLK1)								Extracted: 09/23/05 10:58						
Arsenic	EPA 6020	ND	---	0.515	mg/kg	1x	--	--	--	--	--	--	09/28/05 04:10	
Barium	"	ND	---	0.515	"	"	--	--	--	--	--	--	"	
Cadmium	"	ND	---	0.515	"	"	--	--	--	--	--	--	"	
Chromium	"	ND	---	0.515	"	"	--	--	--	--	--	--	"	
Lead	"	ND	---	0.515	"	"	--	--	--	--	--	--	"	
Selenium	"	ND	---	0.515	"	"	--	--	--	--	--	--	10/22/05 02:34	
Silver	"	ND	---	0.515	"	"	--	--	--	--	--	--	09/28/05 04:10	
LCS (5090976-BS1)								Extracted: 09/23/05 10:58						
Arsenic	EPA 6020	10.0	---	0.521	mg/kg	1x	--	10.4	96.2%	(80-120)	--	--	09/28/05 04:17	
Barium	"	10.8	---	0.521	"	"	--	"	104%	"	--	--	"	
Cadmium	"	10.4	---	0.521	"	"	--	"	100%	"	--	--	"	
Chromium	"	10.5	---	0.521	"	"	--	"	101%	"	--	--	"	
Lead	"	10.5	---	0.521	"	"	--	"	101%	"	--	--	"	
Selenium	"	5.09	---	0.521	"	"	--	5.21	97.7%	"	--	--	10/22/05 19:13	
Silver	"	5.12	---	0.521	"	"	--	"	98.3%	"	--	--	09/28/05 04:17	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Total Metals per EPA 6000/7000 Series Methods - Laboratory Quality Control Results

North Creek Analytical - Portland

QC Batch: 5090976 **Soil Preparation Method: EPA 3050**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Duplicate (5090976-DUP1)				QC Source: P5I0775-08				Extracted: 09/23/05 10:58						
Arsenic	EPA 6020	91.7	---	0.678	mg/kg dry	1x	91.6	--	--	--	0.109%	(40)	09/28/05 04:48	
Barium	"	304	---	0.678	"	"	335	--	--	--	9.70%	"	"	
Cadmium	"	ND	---	0.678	"	"	ND	--	--	--	NR	"	"	
Chromium	"	57.7	---	0.678	"	"	49.9	--	--	--	14.5%	"	"	
Lead	"	503	---	0.678	"	"	412	--	--	--	19.9%	"	"	
Selenium	"	ND	---	0.678	"	"	ND	--	--	--	NR	"	10/22/05 03:22	
Silver	"	ND	---	0.678	"	"	ND	--	--	--	NR	"	09/28/05 04:48	
Matrix Spike (5090976-MS1)				QC Source: P5I0775-08				Extracted: 09/23/05 10:58						
Arsenic	EPA 6020	66.4	---	0.698	mg/kg dry	1x	91.6	14.0	NR	(75-125)	--	--	09/28/05 05:11	Q-02
Barium	"	175	---	0.698	"	"	335	"	NR	"	--	--	"	Q-02
Cadmium	"	13.4	---	0.698	"	"	ND	"	95.7%	"	--	--	"	
Chromium	"	56.7	---	0.698	"	"	49.9	"	48.6%	"	--	--	"	Q-02
Lead	"	451	---	0.698	"	"	412	"	279%	"	--	--	"	Q-02
Selenium	"	5.24	---	0.698	"	"	ND	6.98	75.1%	"	--	--	10/22/05 04:11	
Silver	"	6.70	---	0.698	"	"	ND	"	96.0%	"	--	--	09/28/05 05:11	
Matrix Spike (5090976-MS2)				QC Source: P5I0775-11				Extracted: 09/23/05 10:58						
Arsenic	EPA 6020	12.0	---	0.524	mg/kg dry	1x	2.08	10.5	94.5%	(75-125)	--	--	09/28/05 06:06	
Barium	"	22.5	---	0.524	"	"	11.5	"	105%	"	--	--	"	
Cadmium	"	10.2	---	0.524	"	"	ND	"	97.1%	"	--	--	"	
Chromium	"	18.4	---	0.524	"	"	8.68	"	92.6%	"	--	--	"	
Lead	"	11.7	---	0.524	"	"	1.47	"	97.4%	"	--	--	"	
Selenium	"	4.27	---	0.524	"	"	ND	5.24	81.5%	"	--	--	10/22/05 04:47	
Silver	"	5.15	---	0.524	"	"	ND	"	98.3%	"	--	--	09/28/05 06:06	
Post Spike (5090976-PS1)				QC Source: P5I0775-08				Extracted: 09/23/05 10:58						
Arsenic	EPA 6020	1.43	---		ug/ml	1x	1.38	0.200	25.0%	(75-125)	--	--	09/28/05 05:42	Q-02
Barium	"	4.69	---		"	"	5.03	"	NR	"	--	--	"	Q-02
Cadmium	"	0.196	---		"	"	-0.00415	"	100%	"	--	--	"	
Chromium	"	0.968	---		"	"	0.751	"	108%	"	--	--	"	
Lead	"	5.55	---		"	"	6.20	"	NR	"	--	--	"	Q-02
Selenium	"	0.0754	---		"	"	0.00112	0.100	74.3%	"	--	--	10/22/05 04:23	Q-14
Silver	"	0.0988	---		"	"	0.000821	"	98.0%	"	--	--	09/28/05 05:42	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Total Metals per EPA 6000/7000 Series Methods - Laboratory Quality Control Results

North Creek Analytical - Portland

QC Batch: 5091241 **Water Preparation Method: EPA 200/3005**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (5091241-BLK1)								Extracted: 09/29/05 11:05						
Arsenic	EPA 6020	ND	---	0.00100	mg/l	1x	--	--	--	--	--	--	10/05/05 17:24	
Barium	"	ND	---	0.00100	"	"	--	--	--	--	--	--	"	
Cadmium	"	ND	---	0.00100	"	"	--	--	--	--	--	--	"	
Chromium	"	ND	---	0.00100	"	"	--	--	--	--	--	--	10/10/05 23:52	
Lead	"	ND	---	0.00100	"	"	--	--	--	--	--	--	10/05/05 17:24	
Selenium	"	ND	---	0.00200	"	"	--	--	--	--	--	--	10/12/05 17:57	
Silver	"	ND	---	0.00100	"	"	--	--	--	--	--	--	10/05/05 17:24	
LCS (5091241-BS1)								Extracted: 09/29/05 11:05						
Arsenic	EPA 6020	0.0998	---	0.00100	mg/l	1x	--	0.100	99.8%	(80-120)	--	--	10/05/05 17:24	
Barium	"	0.0983	---	0.00100	"	"	--	"	98.3%	"	--	--	10/05/05 17:32	
Cadmium	"	0.0956	---	0.00100	"	"	--	"	95.6%	"	--	--	"	
Chromium	"	0.0936	---	0.00100	"	"	--	"	93.6%	"	--	--	10/11/05 00:00	
Lead	"	0.0937	---	0.00100	"	"	--	"	93.7%	"	--	--	10/05/05 17:32	
Selenium	"	0.0493	---	0.0200	"	10x	--	0.0500	98.6%	"	--	--	10/12/05 18:04	
Silver	"	0.0492	---	0.00100	"	1x	--	"	98.4%	"	--	--	10/05/05 17:32	
Duplicate (5091241-DUP1)				QC Source: P5I0775-05					Extracted: 09/29/05 11:05					
Arsenic	EPA 6020	0.0122	---	0.00100	mg/l	1x	0.0121	--	--	--	0.823%	(20)	10/05/05 18:18	
Barium	"	0.0907	---	0.00100	"	"	0.0816	--	--	--	10.6%	"	"	
Cadmium	"	ND	---	0.00100	"	"	ND	--	--	--	NR	"	"	
Chromium	"	0.0237	---	0.00500	"	5x	0.0230	--	--	--	3.00%	"	10/11/05 00:30	
Lead	"	0.00861	---	0.00100	"	1x	0.00883	--	--	--	2.52%	"	10/05/05 18:18	
Selenium	"	ND	---	0.00200	"	"	ND	--	--	--	NR	"	10/12/05 18:19	
Silver	"	ND	---	0.00100	"	"	ND	--	--	--	NR	"	10/05/05 18:18	
Matrix Spike (5091241-MS1)				QC Source: P5I0775-05					Extracted: 09/29/05 11:05					
Arsenic	EPA 6020	0.110	---	0.00100	mg/l	1x	0.0121	0.100	97.9%	(75-125)	--	--	10/05/05 18:35	
Barium	"	0.173	---	0.00100	"	"	0.0816	"	91.4%	"	--	--	"	
Cadmium	"	0.102	---	0.00100	"	"	ND	"	102%	"	--	--	"	
Chromium	"	0.114	---	0.00500	"	5x	0.0230	"	91.0%	"	--	--	10/11/05 00:46	
Lead	"	0.0964	---	0.00100	"	1x	0.00883	"	87.6%	"	--	--	10/05/05 18:35	
Selenium	"	0.0443	---	0.0200	"	10x	ND	0.0500	88.6%	"	--	--	10/12/05 18:26	
Silver	"	0.0488	---	0.00100	"	1x	ND	"	97.6%	"	--	--	10/05/05 18:35	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Total Metals per EPA 6000/7000 Series Methods - Laboratory Quality Control Results

North Creek Analytical - Portland

QC Batch: 5091241 **Water Preparation Method: EPA 200/3005**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Matrix Spike (5091241-MS2)				QC Source: P5I0775-19				Extracted: 09/29/05 11:05						
Arsenic	EPA 6020	0.105	---	0.00100	mg/l	1x	0.00809	0.100	96.9%	(75-125)	--	--	10/05/05 19:05	
Barium	"	0.147	---	0.00100	"	"	0.0649	"	82.1%	"	--	--	"	
Cadmium	"	0.0943	---	0.00100	"	"	ND	"	94.3%	"	--	--	"	
Chromium	"	0.116	---	0.00500	"	5x	0.0180	"	98.0%	"	--	--	10/11/05 01:01	
Lead	"	0.0912	---	0.00100	"	1x	0.00642	"	84.8%	"	--	--	10/05/05 19:05	
Selenium	"	0.0511	---	0.0200	"	10x	ND	0.0500	102%	"	--	--	10/13/05 11:17	
Silver	"	0.0467	---	0.00100	"	1x	ND	"	93.4%	"	--	--	10/05/05 19:05	
Post Spike (5091241-PS1)				QC Source: P5I0775-19				Extracted: 09/29/05 11:05						
Arsenic	EPA 6020	0.112	---		ug/ml	1x	0.00809	0.100	104%	(75-125)	--	--	10/05/05 19:13	
Barium	"	0.162	---		"	"	0.0649	"	97.1%	"	--	--	"	
Cadmium	"	0.0986	---		"	"	-0.000131	"	98.7%	"	--	--	"	
Chromium	"	0.116	---		"	5x	0.0180	"	98.0%	"	--	--	10/11/05 01:08	
Lead	"	0.0943	---		"	1x	0.00642	"	87.9%	"	--	--	10/05/05 19:13	
Selenium	"	0.0523	---		"	10x	0.000160	0.0500	104%	"	--	--	10/13/05 11:30	
Silver	"	0.0488	---		"	1x	0.0000380	"	97.5%	"	--	--	10/05/05 19:13	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Total Mercury per EPA Method 7470A - Laboratory Quality Control Results

North Creek Analytical - Portland

QC Batch: 5090933 **Water Preparation Method: EPA 7470A**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (5090933-BLK1)								**Extracted: 09/22/05 14:18**						
Mercury	EPA 7470A	ND	---	0.000200	mg/l	1x	--	--	--	--	--	--	09/22/05 16:40	
LCS (5090933-BS1)								**Extracted: 09/22/05 14:18**						
Mercury	EPA 7470A	0.00541	---	0.000200	mg/l	1x	--	0.00500	108%	(85-115)	--	--	09/22/05 16:42	
LCS Dup (5090933-BSD1)								**Extracted: 09/22/05 14:18**						
Mercury	EPA 7470A	0.00558	---	0.000200	mg/l	1x	--	0.00500	112%	(85-115)	3.09%	(20)	09/22/05 16:45	
Duplicate (5090933-DUP1)				**QC Source: P5I0752-01**				**Extracted: 09/22/05 14:18**						
Mercury	EPA 7470A	ND	---	0.000200	mg/l	1x	ND	--	--	--	NR	(20)	09/22/05 16:47	
Matrix Spike (5090933-MS1)				**QC Source: P5I0752-01**				**Extracted: 09/22/05 14:18**						
Mercury	EPA 7470A	0.00526	---	0.000200	mg/l	1x	ND	0.00500	105%	(75-125)	--	--	09/22/05 16:50	
Matrix Spike Dup (5090933-MSD1)				**QC Source: P5I0752-01**				**Extracted: 09/22/05 14:18**						
Mercury	EPA 7470A	0.00512	---	0.000200	mg/l	1x	ND	0.00500	102%	(75-125)	2.70%	(20)	09/22/05 16:52	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Total Mercury per EPA Method 7471A - Laboratory Quality Control Results

North Creek Analytical - Portland

QC Batch: 5090943 **Soil Preparation Method: EPA 7471A**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (5090943-BLK1)									**Extracted: 09/22/05 17:25**					
Mercury	EPA 7471A	ND	---	0.100	mg/kg	1x	--	--	--	--	--	--	09/23/05 07:45	
LCS (5090943-BS1)									**Extracted: 09/22/05 17:25**					
Mercury	EPA 7471A	1.03	---	0.100	mg/kg	1x	--	1.00	103%	(80-120)	--	--	09/23/05 07:47	
LCS Dup (5090943-BSD1)									**Extracted: 09/22/05 17:25**					
Mercury	EPA 7471A	1.03	---	0.100	mg/kg	1x	--	1.00	103%	(80-120)	0.00%	(20)	09/23/05 07:50	
Duplicate (5090943-DUP1)				**QC Source: P5I0774-08**					**Extracted: 09/22/05 17:25**					
Mercury	EPA 7471A	ND	---	0.0741	mg/kg dry	1x	ND	--	--	--	NR	(40)	09/23/05 07:53	
Matrix Spike (5090943-MS1)				**QC Source: P5I0774-08**					**Extracted: 09/22/05 17:25**					
Mercury	EPA 7471A	0.758	---	0.0763	mg/kg dry	1x	ND	0.763	99.3%	(75-125)	--	--	09/23/05 07:55	
Matrix Spike Dup (5090943-MSD1)				**QC Source: P5I0774-08**					**Extracted: 09/22/05 17:25**					
Mercury	EPA 7471A	0.793	---	0.0786	mg/kg dry	1x	ND	0.786	101%	(75-125)	4.51%	(40)	09/23/05 07:58	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Polychlorinated Biphenyls per EPA Method 8082 - Laboratory Quality Control Results

North Creek Analytical - Portland

QC Batch: 5091034 **Soil Preparation Method: EPA 3550**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (5091034-BLK1)								**Extracted: 09/26/05 12:28**						
Aroclor 1016	EPA 8082	ND	---	32.9	ug/kg	1x	--	--	--	--	--	--	09/27/05 13:00	
Aroclor 1221	"	ND	---	66.2	"	"	--	--	--	--	--	--	"	
Aroclor 1232	"	ND	---	32.9	"	"	--	--	--	--	--	--	"	
Aroclor 1242	"	ND	---	32.9	"	"	--	--	--	--	--	--	"	
Aroclor 1248	"	ND	---	32.9	"	"	--	--	--	--	--	--	"	
Aroclor 1254	"	ND	---	32.9	"	"	--	--	--	--	--	--	"	
Aroclor 1260	"	ND	---	32.9	"	"	--	--	--	--	--	--	"	
Surrogate(s): 2,4,5,6-Tetrachloro-m-xylene		*Recovery: 93.3%*			*Limits: 36-140%*	"							*09/27/05 13:00*	
Decachlorobiphenyl		*105%*			*16-149%*	"							"	
LCS (5091034-BS1)								**Extracted: 09/26/05 12:28**						
Aroclor 1016	EPA 8082	354	---	33.0	ug/kg	1x	--	330	107%	(57-135)	--	--	09/27/05 13:22	
Aroclor 1260	"	345	---	33.0	"	"	--	"	105%	(60-135)	--	--	"	
Surrogate(s): 2,4,5,6-Tetrachloro-m-xylene		*Recovery: 99.7%*			*Limits: 36-140%*	"							*09/27/05 13:22*	
Decachlorobiphenyl		*114%*			*16-149%*	"							"	
Matrix Spike (5091034-MS1)				**QC Source: P5I0775-01**				**Extracted: 09/26/05 12:28**						
Aroclor 1016	EPA 8082	363	---	35.2	ug/kg dry	1x	ND	352	103%	(37-145)	--	--	09/27/05 12:14	
Aroclor 1260	"	345	---	35.2	"	"	ND	"	98.0%	(25-144)	--	--	"	
Surrogate(s): 2,4,5,6-Tetrachloro-m-xylene		*Recovery: 96.6%*			*Limits: 36-140%*	"							*09/27/05 12:14*	
Decachlorobiphenyl		*103%*			*16-149%*	"							"	
Matrix Spike Dup (5091034-MSD1)				**QC Source: P5I0775-01**				**Extracted: 09/26/05 12:28**						
Aroclor 1016	EPA 8082	380	---	34.8	ug/kg dry	1x	ND	348	109%	(37-145)	4.58%	(26)	09/27/05 12:37	
Aroclor 1260	"	348	---	34.8	"	"	ND	"	100%	(25-144)	0.866%	(30)	"	
Surrogate(s): 2,4,5,6-Tetrachloro-m-xylene		*Recovery: 101%*			*Limits: 36-140%*	"							*09/27/05 12:37*	
Decachlorobiphenyl		*108%*			*16-149%*	"							"	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Volatile Organic Compounds per EPA Method 8260B - Laboratory Quality Control Results

North Creek Analytical - Portland

QC Batch: 5090889 **Soil Preparation Method: EPA 5035 Modified**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (5090889-BLK1)								Extracted: 09/22/05 08:50						
Acetone	EPA 8260B	ND	---	2490	ug/kg	1x	--	--	--	--	--	--	09/22/05 12:32	
Benzene	"	ND	---	99.6	"	"	--	--	--	--	--	--	"	
Bromobenzene	"	ND	---	99.6	"	"	--	--	--	--	--	--	"	
Bromochloromethane	"	ND	---	99.6	"	"	--	--	--	--	--	--	"	
Bromodichloromethane	"	ND	---	99.6	"	"	--	--	--	--	--	--	"	
Bromoform	"	ND	---	99.6	"	"	--	--	--	--	--	--	"	
Bromomethane	"	ND	---	498	"	"	--	--	--	--	--	--	"	
2-Butanone	"	ND	---	996	"	"	--	--	--	--	--	--	"	
n-Butylbenzene	"	ND	---	498	"	"	--	--	--	--	--	--	"	
sec-Butylbenzene	"	ND	---	99.6	"	"	--	--	--	--	--	--	"	
tert-Butylbenzene	"	ND	---	99.6	"	"	--	--	--	--	--	--	"	
Carbon disulfide	"	ND	---	996	"	"	--	--	--	--	--	--	"	
Carbon tetrachloride	"	ND	---	99.6	"	"	--	--	--	--	--	--	"	
Chlorobenzene	"	ND	---	99.6	"	"	--	--	--	--	--	--	"	
Chloroethane	"	ND	---	99.6	"	"	--	--	--	--	--	--	"	
Chloroform	"	ND	---	99.6	"	"	--	--	--	--	--	--	"	
Chloromethane	"	ND	---	498	"	"	--	--	--	--	--	--	"	
2-Chlorotoluene	"	ND	---	99.6	"	"	--	--	--	--	--	--	"	
4-Chlorotoluene	"	ND	---	99.6	"	"	--	--	--	--	--	--	"	
1,2-Dibromo-3-chloropropane	"	ND	---	498	"	"	--	--	--	--	--	--	"	
Dibromochloromethane	"	ND	---	99.6	"	"	--	--	--	--	--	--	"	
1,2-Dibromoethane	"	ND	---	99.6	"	"	--	--	--	--	--	--	"	
Dibromomethane	"	ND	---	99.6	"	"	--	--	--	--	--	--	"	
1,2-Dichlorobenzene	"	ND	---	99.6	"	"	--	--	--	--	--	--	"	
1,3-Dichlorobenzene	"	ND	---	99.6	"	"	--	--	--	--	--	--	"	
1,4-Dichlorobenzene	"	ND	---	99.6	"	"	--	--	--	--	--	--	"	
Dichlorodifluoromethane	"	ND	---	498	"	"	--	--	--	--	--	--	"	
1,1-Dichloroethane	"	ND	---	99.6	"	"	--	--	--	--	--	--	"	
1,2-Dichloroethane	"	ND	---	99.6	"	"	--	--	--	--	--	--	"	
1,1-Dichloroethene	"	ND	---	99.6	"	"	--	--	--	--	--	--	"	
cis-1,2-Dichloroethene	"	ND	---	99.6	"	"	--	--	--	--	--	--	"	
trans-1,2-Dichloroethene	"	ND	---	99.6	"	"	--	--	--	--	--	--	"	
1,2-Dichloropropane	"	ND	---	99.6	"	"	--	--	--	--	--	--	"	
1,3-Dichloropropane	"	ND	---	99.6	"	"	--	--	--	--	--	--	"	
2,2-Dichloropropane	"	ND	---	99.6	"	"	--	--	--	--	--	--	"	
1,1-Dichloropropene	"	ND	---	99.6	"	"	--	--	--	--	--	--	"	
cis-1,3-Dichloropropene	"	ND	---	99.6	"	"	--	--	--	--	--	--	"	
trans-1,3-Dichloropropene	"	ND	---	99.6	"	"	--	--	--	--	--	--	"	
Ethylbenzene	"	ND	---	99.6	"	"	--	--	--	--	--	--	"	
Hexachlorobutadiene	"	ND	---	398	"	"	--	--	--	--	--	--	"	
2-Hexanone	"	ND	---	996	"	"	--	--	--	--	--	--	"	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Volatile Organic Compounds per EPA Method 8260B - Laboratory Quality Control Results

North Creek Analytical - Portland

QC Batch: 5090889 **Soil Preparation Method: EPA 5035 Modified**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (5090889-BLK1)									Extracted: 09/22/05 08:50					
Isopropylbenzene	EPA 8260B	ND	---	199	ug/kg	1x	--	--	--	--	--	--	09/22/05 12:32	
p-Isopropyltoluene	"	ND	---	199	"	"	--	--	--	--	--	--	"	
4-Methyl-2-pentanone	"	ND	---	498	"	"	--	--	--	--	--	--	"	
Methyl tert-butyl ether	"	ND	---	99.6	"	"	--	--	--	--	--	--	"	
Methylene chloride	"	ND	---	498	"	"	--	--	--	--	--	--	"	
Naphthalene	"	ND	---	199	"	"	--	--	--	--	--	--	"	
n-Propylbenzene	"	ND	---	99.6	"	"	--	--	--	--	--	--	"	
Styrene	"	ND	---	99.6	"	"	--	--	--	--	--	--	"	
1,1,1,2-Tetrachloroethane	"	ND	---	99.6	"	"	--	--	--	--	--	--	"	
1,1,2,2-Tetrachloroethane	"	ND	---	99.6	"	"	--	--	--	--	--	--	"	
Tetrachloroethene	"	ND	---	99.6	"	"	--	--	--	--	--	--	"	
Toluene	"	ND	---	99.6	"	"	--	--	--	--	--	--	"	
1,2,3-Trichlorobenzene	"	ND	---	99.6	"	"	--	--	--	--	--	--	"	
1,2,4-Trichlorobenzene	"	ND	---	99.6	"	"	--	--	--	--	--	--	"	
1,1,1-Trichloroethane	"	ND	---	99.6	"	"	--	--	--	--	--	--	"	
1,1,2-Trichloroethane	"	ND	---	99.6	"	"	--	--	--	--	--	--	"	
Trichloroethene	"	ND	---	99.6	"	"	--	--	--	--	--	--	"	
Trichlorofluoromethane	"	ND	---	99.6	"	"	--	--	--	--	--	--	"	
1,2,3-Trichloropropane	"	ND	---	99.6	"	"	--	--	--	--	--	--	"	
1,2,4-Trimethylbenzene	"	ND	---	99.6	"	"	--	--	--	--	--	--	"	
1,3,5-Trimethylbenzene	"	ND	---	99.6	"	"	--	--	--	--	--	--	"	
Vinyl chloride	"	ND	---	99.6	"	"	--	--	--	--	--	--	"	
o-Xylene	"	ND	---	99.6	"	"	--	--	--	--	--	--	"	
m,p-Xylene	"	ND	---	199	"	"	--	--	--	--	--	--	"	

Surrogate(s):		*Recovery:*	*Limits:*		
	4-BFB	*90.5%*	*42.6-130%*	*"*	*09/22/05 12:32*
	1,2-DCA-d4	*127%*	*57.3-144%*	*"*	*"*
	Dibromofluoromethane	*106%*	*45.5-130%*	*"*	*"*
	Toluene-d8	*117%*	*42.1-144%*	*"*	*"*

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Volatile Organic Compounds per EPA Method 8260B - Laboratory Quality Control Results

North Creek Analytical - Portland

QC Batch: 5090889 **Soil Preparation Method: EPA 5035 Modified**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS (5090889-BS1)									Extracted: 09/22/05 08:50					
Benzene	EPA 8260B	2250	---	99.8	ug/kg	1x	--	2000	112%	(81.9-125)	--	--	09/22/05 09:49	
Chlorobenzene	"	2160	---	99.8	"	"	--	"	108%	(79.2-125)	--	--	"	
1,1-Dichloroethene	"	1810	---	99.8	"	"	--	"	90.5%	(66.1-125)	--	--	"	
Toluene	"	2030	---	99.8	"	"	--	"	102%	(80-125)	--	--	"	
Trichloroethene	"	2060	---	99.8	"	"	--	"	103%	(76-125)	--	--	"	
Surrogate(s): 4-BFB		*Recovery:*	*93.0%*		*Limits:*	*42.6-130%*	"						*09/22/05 09:49*	
1,2-DCA-d4			*110%*			*57.3-144%*	"						"	
Dibromofluoromethane			*108%*			*45.5-130%*	"						"	
Toluene-d8			*114%*			*42.1-144%*	"						"	
Matrix Spike (5090889-MS1)					QC Source: P5I0775-02				Extracted: 09/22/05 08:50					
Benzene	EPA 8260B	2340	---	103	ug/kg dry	1x	ND	2050	114%	(68.5-125)	--	--	09/22/05 10:16	
Chlorobenzene	"	2190	---	103	"	"	ND	"	107%	(65.9-125)	--	--	"	
1,1-Dichloroethene	"	1900	---	103	"	"	ND	"	92.7%	(55.8-125)	--	--	"	
Toluene	"	2080	---	103	"	"	ND	"	101%	(70.3-125)	--	--	"	
Trichloroethene	"	2120	---	103	"	"	ND	"	103%	(65.5-125)	--	--	"	
Surrogate(s): 4-BFB		*Recovery:*	*93.7%*		*Limits:*	*42.6-130%*	"						*09/22/05 10:16*	
1,2-DCA-d4			*112%*			*57.3-144%*	"						"	
Dibromofluoromethane			*109%*			*45.5-130%*	"						"	
Toluene-d8			*116%*			*42.1-144%*	"						"	
Matrix Spike Dup (5090889-MSD1)					QC Source: P5I0775-02				Extracted: 09/22/05 08:50					
Benzene	EPA 8260B	2430	---	103	ug/kg dry	1x	ND	2060	118%	(68.5-125)	3.77%	(25)	09/22/05 10:43	
Chlorobenzene	"	2290	---	103	"	"	ND	"	111%	(65.9-125)	4.46%	"	"	
1,1-Dichloroethene	"	1950	---	103	"	"	ND	"	94.7%	(55.8-125)	2.60%	"	"	
Toluene	"	2170	---	103	"	"	ND	"	105%	(70.3-125)	4.24%	"	"	
Trichloroethene	"	2250	---	103	"	"	ND	"	109%	(65.5-125)	5.95%	"	"	
Surrogate(s): 4-BFB		*Recovery:*	*97.1%*		*Limits:*	*42.6-130%*	"						*09/22/05 10:43*	
1,2-DCA-d4			*117%*			*57.3-144%*	"						"	
Dibromofluoromethane			*113%*			*45.5-130%*	"						"	
Toluene-d8			*118%*			*42.1-144%*	"						"	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Volatile Organic Compounds per EPA Method 8260B - Laboratory Quality Control Results

North Creek Analytical - Portland

QC Batch: 5091023 **Water Preparation Method: EPA 5030B**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (5091023-BLK1)								Extracted: 09/25/05 08:23						
Acetone	EPA 8260B	ND	---	25.0	ug/l	1x	--	--	--	--	--	--	09/25/05 12:14	
Benzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Bromobenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Bromochloromethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Bromodichloromethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Bromoform	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Bromomethane	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
2-Butanone	"	ND	---	10.0	"	"	--	--	--	--	--	--	"	
n-Butylbenzene	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
sec-Butylbenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
tert-Butylbenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Carbon disulfide	"	ND	---	10.0	"	"	--	--	--	--	--	--	"	
Carbon tetrachloride	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Chlorobenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Chloroethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Chloroform	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Chloromethane	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
2-Chlorotoluene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
4-Chlorotoluene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,2-Dibromo-3-chloropropane	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Dibromochloromethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,2-Dibromoethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Dibromomethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,2-Dichlorobenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,3-Dichlorobenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,4-Dichlorobenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Dichlorodifluoromethane	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
1,1-Dichloroethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,2-Dichloroethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,1-Dichloroethene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
cis-1,2-Dichloroethene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
trans-1,2-Dichloroethene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,2-Dichloropropane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,3-Dichloropropane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
2,2-Dichloropropane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,1-Dichloropropene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
cis-1,3-Dichloropropene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
trans-1,3-Dichloropropene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Ethylbenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Hexachlorobutadiene	"	ND	---	4.00	"	"	--	--	--	--	--	--	"	
2-Hexanone	"	ND	---	10.0	"	"	--	--	--	--	--	--	"	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Volatile Organic Compounds per EPA Method 8260B - Laboratory Quality Control Results

North Creek Analytical - Portland

QC Batch: 5091023 **Water Preparation Method: EPA 5030B**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (5091023-BLK1)								Extracted: 09/25/05 08:23						
Isopropylbenzene	EPA 8260B	ND	---	2.00	ug/l	1x	--	--	--	--	--	--	09/25/05 12:14	
p-Isopropyltoluene	"	ND	---	2.00	"	"	--	--	--	--	--	--	"	
4-Methyl-2-pentanone	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Methyl tert-butyl ether	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Methylene chloride	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Naphthalene	"	ND	---	2.00	"	"	--	--	--	--	--	--	"	
n-Propylbenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Styrene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,1,1,2-Tetrachloroethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,1,2,2-Tetrachloroethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Tetrachloroethene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Toluene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,2,3-Trichlorobenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,2,4-Trichlorobenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,1,1-Trichloroethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,1,2-Trichloroethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Trichloroethene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Trichlorofluoromethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,2,3-Trichloropropane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,2,4-Trimethylbenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,3,5-Trimethylbenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Vinyl chloride	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
o-Xylene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
m,p-Xylene	"	ND	---	2.00	"	"	--	--	--	--	--	--	"	

Surrogate(s):		*Recovery:*		*Limits:*		
	4-BFB		*97.0%*		*75-120%*	*" 09/25/05 12:14*
	1,2-DCA-d4		*98.0%*		*77-129%*	*" "*
	Dibromofluoromethane		*98.0%*		*80-121%*	*" "*
	Toluene-d8		*102%*		*80-120%*	*" "*

North Creek Analytical - Portland

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lisa Domenighini, Project Manager

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Volatile Organic Compounds per EPA Method 8260B - Laboratory Quality Control Results

North Creek Analytical - Portland

QC Batch: 5091023 **Water Preparation Method: EPA 5030B**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS (5091023-BS1)								Extracted: 09/25/05 08:23						
Benzene	EPA 8260B	19.9	---	1.00	ug/l	1x	--	20.0	99.5%	(80-120)	--	--	09/25/05 10:01	
Chlorobenzene	"	21.7	---	1.00	"	"	--	"	108%	(80-124)	--	--	"	
1,1-Dichloroethene	"	17.3	---	1.00	"	"	--	"	86.5%	(78-120)	--	--	"	
Toluene	"	20.8	---	1.00	"	"	--	"	104%	(80-124)	--	--	"	
Trichloroethene	"	19.6	---	1.00	"	"	--	"	98.0%	(80-132)	--	--	"	
Surrogate(s): 4-BFB		*Recovery: 101%*			*Limits: 75-120%*	"							*09/25/05 10:01*	
1,2-DCA-d4		*92.0%*			*77-129%*	"							"	
Dibromofluoromethane		*95.5%*			*80-121%*	"							"	
Toluene-d8		*99.5%*			*80-120%*	"							"	
Matrix Spike (5091023-MS1)					QC Source: P5I0796-01			Extracted: 09/25/05 08:23						
Benzene	EPA 8260B	20.1	---	1.00	ug/l	1x	ND	20.0	100%	(80-124)	--	--	09/25/05 10:28	
Chlorobenzene	"	20.1	---	1.00	"	"	ND	"	100%	(72.9-134)	--	--	"	
1,1-Dichloroethene	"	18.4	---	1.00	"	"	ND	"	92.0%	(79.3-127)	--	--	"	
Toluene	"	19.9	---	1.00	"	"	ND	"	99.5%	(79.7-131)	--	--	"	
Trichloroethene	"	19.1	---	1.00	"	"	ND	"	95.5%	(68.4-130)	--	--	"	
Surrogate(s): 4-BFB		*Recovery: 98.0%*			*Limits: 75-120%*	"							*09/25/05 10:28*	
1,2-DCA-d4		*89.5%*			*77-129%*	"							"	
Dibromofluoromethane		*90.0%*			*80-121%*	"							"	
Toluene-d8		*97.0%*			*80-120%*	"							"	
Matrix Spike Dup (5091023-MSD1)					QC Source: P5I0796-01			Extracted: 09/25/05 08:23						
Benzene	EPA 8260B	21.1	---	1.00	ug/l	1x	ND	20.0	106%	(80-124)	4.85%	(25)	09/25/05 10:54	
Chlorobenzene	"	21.1	---	1.00	"	"	ND	"	106%	(72.9-134)	4.85%	"	"	
1,1-Dichloroethene	"	19.8	---	1.00	"	"	ND	"	99.0%	(79.3-127)	7.33%	"	"	
Toluene	"	21.0	---	1.00	"	"	ND	"	105%	(79.7-131)	5.38%	"	"	
Trichloroethene	"	20.2	---	1.00	"	"	ND	"	101%	(68.4-130)	5.60%	"	"	
Surrogate(s): 4-BFB		*Recovery: 101%*			*Limits: 75-120%*	"							*09/25/05 10:54*	
1,2-DCA-d4		*95.0%*			*77-129%*	"							"	
Dibromofluoromethane		*95.5%*			*80-121%*	"							"	
Toluene-d8		*102%*			*80-120%*	"							"	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Semivolatile Organic Compounds per EPA Method 8270C - Laboratory Quality Control Results

North Creek Analytical - Portland

QC Batch: 5090982 **Soil Preparation Method: EPA 3550**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (5090982-BLK1)								Extracted: 09/23/05 17:00						
Acenaphthene	EPA 8270C	ND	---	0.327	mg/kg	1x	--	--	--	--	--	--	09/27/05 00:58	
Acenaphthylene	"	ND	---	0.327	"	"	--	--	--	--	--	--	"	
Anthracene	"	ND	---	0.327	"	"	--	--	--	--	--	--	"	
Benzo (a) anthracene	"	ND	---	0.327	"	"	--	--	--	--	--	--	"	
Benzo (a) pyrene	"	ND	---	0.327	"	"	--	--	--	--	--	--	"	
Benzo (b) fluoranthene	"	ND	---	0.327	"	"	--	--	--	--	--	--	"	
Benzo (ghi) perylene	"	ND	---	0.327	"	"	--	--	--	--	--	--	"	
Benzo (k) fluoranthene	"	ND	---	0.327	"	"	--	--	--	--	--	--	"	
Benzoic Acid	"	ND	---	0.992	"	"	--	--	--	--	--	--	"	
Benzyl alcohol	"	ND	---	0.992	"	"	--	--	--	--	--	--	"	
4-Bromophenyl phenyl ether	"	ND	---	0.327	"	"	--	--	--	--	--	--	"	
Butyl benzyl phthalate	"	ND	---	0.327	"	"	--	--	--	--	--	--	"	
4-Chloro-3-methylphenol	"	ND	---	0.327	"	"	--	--	--	--	--	--	"	
4-Chloroaniline	"	ND	---	1.98	"	"	--	--	--	--	--	--	"	
Bis(2-chloroethoxy)methane	"	ND	---	0.327	"	"	--	--	--	--	--	--	"	
Bis(2-chloroethyl)ether	"	ND	---	0.327	"	"	--	--	--	--	--	--	"	
Bis(2-chloroisopropyl)ether	"	ND	---	0.327	"	"	--	--	--	--	--	--	"	
2-Chloronaphthalene	"	ND	---	0.327	"	"	--	--	--	--	--	--	"	
2-Chlorophenol	"	ND	---	0.327	"	"	--	--	--	--	--	--	"	
4-Chlorophenyl phenyl ether	"	ND	---	0.327	"	"	--	--	--	--	--	--	"	
Chrysene	"	ND	---	0.327	"	"	--	--	--	--	--	--	"	
Di-n-butyl phthalate	"	ND	---	0.992	"	"	--	--	--	--	--	--	"	
Di-n-octyl phthalate	"	ND	---	0.327	"	"	--	--	--	--	--	--	"	
Dibenzo (a,h) anthracene	"	ND	---	0.327	"	"	--	--	--	--	--	--	"	
Dibenzofuran	"	ND	---	0.327	"	"	--	--	--	--	--	--	"	
1,2-Dichlorobenzene	"	ND	---	0.992	"	"	--	--	--	--	--	--	"	
1,3-Dichlorobenzene	"	ND	---	0.992	"	"	--	--	--	--	--	--	"	
1,4-Dichlorobenzene	"	ND	---	0.992	"	"	--	--	--	--	--	--	"	
3,3´-Dichlorobenzidine	"	ND	---	0.992	"	"	--	--	--	--	--	--	"	
2,4-Dichlorophenol	"	ND	---	0.327	"	"	--	--	--	--	--	--	"	
Diethyl phthalate	"	ND	---	0.327	"	"	--	--	--	--	--	--	"	
2,4-Dimethylphenol	"	ND	---	0.992	"	"	--	--	--	--	--	--	"	
Dimethyl phthalate	"	ND	---	0.327	"	"	--	--	--	--	--	--	"	
4,6-Dinitro-2-methylphenol	"	ND	---	0.992	"	"	--	--	--	--	--	--	"	
2,4-Dinitrophenol	"	ND	---	1.98	"	"	--	--	--	--	--	--	"	
2,4-Dinitrotoluene	"	ND	---	0.496	"	"	--	--	--	--	--	--	"	
2,6-Dinitrotoluene	"	ND	---	0.496	"	"	--	--	--	--	--	--	"	
Bis(2-ethylhexyl)phthalate	"	ND	---	1.98	"	"	--	--	--	--	--	--	"	
Fluoranthene	"	ND	---	0.327	"	"	--	--	--	--	--	--	"	
Fluorene	"	ND	---	0.327	"	"	--	--	--	--	--	--	"	
Hexachlorobenzene	"	ND	---	0.327	"	"	--	--	--	--	--	--	"	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Semivolatile Organic Compounds per EPA Method 8270C - Laboratory Quality Control Results

North Creek Analytical - Portland

QC Batch: 5090982 **Soil Preparation Method: EPA 3550**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (5090982-BLK1)								Extracted: 09/23/05 17:00						
Hexachlorobutadiene	EPA 8270C	ND	---	0.992	mg/kg	1x	--	--	--	--	--	--	09/27/05 00:58	
Hexachlorocyclopentadiene	"	ND	---	0.992	"	"	--	--	--	--	--	--	"	
Hexachloroethane	"	ND	---	0.992	"	"	--	--	--	--	--	--	"	
Indeno (1,2,3-cd) pyrene	"	ND	---	0.327	"	"	--	--	--	--	--	--	"	
Isophorone	"	ND	---	0.327	"	"	--	--	--	--	--	--	"	
2-Methylnaphthalene	"	ND	---	0.327	"	"	--	--	--	--	--	--	"	
2-Methylphenol	"	ND	---	0.327	"	"	--	--	--	--	--	--	"	
3-,4-Methylphenol	"	ND	---	0.327	"	"	--	--	--	--	--	--	"	
Naphthalene	"	ND	---	0.327	"	"	--	--	--	--	--	--	"	
2-Nitroaniline	"	ND	---	0.327	"	"	--	--	--	--	--	--	"	
3-Nitroaniline	"	ND	---	0.992	"	"	--	--	--	--	--	--	"	
4-Nitroaniline	"	ND	---	0.327	"	"	--	--	--	--	--	--	"	
Nitrobenzene	"	ND	---	0.327	"	"	--	--	--	--	--	--	"	
2-Nitrophenol	"	ND	---	0.327	"	"	--	--	--	--	--	--	"	
4-Nitrophenol	"	ND	---	0.992	"	"	--	--	--	--	--	--	"	
N-Nitrosodi-n-propylamine	"	ND	---	0.327	"	"	--	--	--	--	--	--	"	
N-Nitrosodiphenylamine	"	ND	---	0.327	"	"	--	--	--	--	--	--	"	
Pentachlorophenol	"	ND	---	0.992	"	"	--	--	--	--	--	--	"	
Phenanthrene	"	ND	---	0.327	"	"	--	--	--	--	--	--	"	
Phenol	"	ND	---	0.327	"	"	--	--	--	--	--	--	"	
Pyrene	"	ND	---	0.327	"	"	--	--	--	--	--	--	"	
1,2,4-Trichlorobenzene	"	ND	---	0.992	"	"	--	--	--	--	--	--	"	
2,4,5-Trichlorophenol	"	ND	---	0.327	"	"	--	--	--	--	--	--	"	
2,4,6-Trichlorophenol	"	ND	---	0.327	"	"	--	--	--	--	--	--	"	

Surrogate(s):	*2-Fluorobiphenyl*	*Recovery: 87.1%*	*Limits: 44-146%*	*"*	*09/27/05 00:58*
	2-Fluorophenol	*92.3%*	*42-126%*	*"*	*"*
	Nitrobenzene-d5	*75.0%*	*42-126%*	*"*	*"*
	Phenol-d6	*79.8%*	*42-131%*	*"*	*"*
	p-Terphenyl-d14	*100%*	*49-150%*	*"*	*"*
	2,4,6-Tribromophenol	*72.8%*	*48-119%*	*"*	*"*

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Semivolatile Organic Compounds per EPA Method 8270C - Laboratory Quality Control Results

North Creek Analytical - Portland

QC Batch: 5090982 **Soil Preparation Method: EPA 3550**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS (5090982-BS1)								Extracted: 09/23/05 17:00						
Acenaphthene	EPA 8270C	1.88	---	0.329	mg/kg	1x	--	2.50	75.2%	(30-115)	--	--	09/27/05 01:41	
4-Chloro-3-methylphenol	"	4.04	---	0.329	"	"	--	4.99	81.0%	(40-110)	--	--	"	
2-Chlorophenol	"	4.02	---	0.329	"	"	--	"	80.6%	(40-100)	--	--	"	
1,4-Dichlorobenzene	"	1.43	---	0.998	"	"	--	2.50	57.2%	(10-100)	--	--	"	
2,4-Dinitrotoluene	"	2.01	---	0.499	"	"	--	"	80.4%	(30-110)	--	--	"	
4-Nitrophenol	"	3.67	---	0.998	"	"	--	4.99	73.5%	(30-130)	--	--	"	
N-Nitrosodi-n-propylamine	"	1.70	---	0.329	"	"	--	2.50	68.0%	(30-110)	--	--	"	
Pentachlorophenol	"	2.79	---	0.998	"	"	--	4.99	55.9%	(14-120)	--	--	"	
Phenol	"	3.96	---	0.329	"	"	--	"	79.4%	(35-100)	--	--	"	
Pyrene	"	2.15	---	0.329	"	"	--	2.50	86.0%	(30-115)	--	--	"	
1,2,4-Trichlorobenzene	"	1.65	---	0.998	"	"	--	"	66.0%	(18-100)	--	--	"	
Surrogate(s): 2-Fluorobiphenyl		*Recovery: 84.8%*			*Limits: 44-146%*	"							*09/27/05 01:41*	
2-Fluorophenol		*97.0%*			*42-126%*	"							"	
Nitrobenzene-d5		*74.4%*			*42-126%*	"							"	
Phenol-d6		*85.6%*			*42-131%*	"							"	
p-Terphenyl-d14		*107%*			*49-150%*	"							"	
2,4,6-Tribromophenol		*82.2%*			*48-119%*	"							"	
Matrix Spike (5090982-MS1)					QC Source: P5I0337-01			Extracted: 09/23/05 17:00						
Acenaphthene	EPA 8270C	1.75	---	1.04	mg/kg dry	3x	ND	2.61	67.0%	(40-110)	--	--	09/27/05 02:24	
4-Chloro-3-methylphenol	"	3.55	---	1.04	"	"	ND	5.23	67.9%	"	--	--	"	
2-Chlorophenol	"	3.14	---	1.04	"	"	ND	"	60.0%	(40-100)	--	--	"	
1,4-Dichlorobenzene	"	0.896	---	3.14	"	"	ND	2.61	34.3%	(10-100)	--	--	"	
2,4-Dinitrotoluene	"	1.82	---	1.57	"	"	ND	"	69.7%	(40-110)	--	--	"	
4-Nitrophenol	"	3.54	---	3.14	"	"	ND	5.23	67.7%	(40-125)	--	--	"	
N-Nitrosodi-n-propylamine	"	1.39	---	1.04	"	"	ND	2.61	53.3%	(30-110)	--	--	"	
Pentachlorophenol	"	2.48	---	3.14	"	"	ND	5.23	47.4%	(25-110)	--	--	"	
Phenol	"	2.99	---	1.04	"	"	ND	"	57.2%	(35-100)	--	--	"	
Pyrene	"	2.58	---	1.04	"	"	0.431	2.61	82.3%	(40-110)	--	--	"	
1,2,4-Trichlorobenzene	"	1.20	---	3.14	"	"	ND	"	46.0%	(30-101)	--	--	"	
Surrogate(s): 2-Fluorobiphenyl		*Recovery: 70.1%*			*Limits: 44-146%*	"							*09/27/05 02:24*	
2-Fluorophenol		*75.1%*			*42-126%*	"							"	
Nitrobenzene-d5		*60.9%*			*42-126%*	"							"	
Phenol-d6		*71.1%*			*42-131%*	"							"	
p-Terphenyl-d14		*98.9%*			*49-150%*	"							"	
2,4,6-Tribromophenol		*81.5%*			*48-119%*	"							"	

North Creek Analytical - Portland

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lisa Domenighini, Project Manager

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Semivolatile Organic Compounds per EPA Method 8270C - Laboratory Quality Control Results

North Creek Analytical - Portland

QC Batch: 5090982 **Soil Preparation Method: EPA 3550**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Matrix Spike Dup (5090982-MSD1)				**QC Source: P5I0337-01**				**Extracted: 09/23/05 17:00**						
Acenaphthene	EPA 8270C	1.67	---	1.04	mg/kg dry	3x	ND	2.61	64.0%	(40-110)	4.68%	(40)	09/27/05 03:07	
4-Chloro-3-methylphenol	"	3.75	---	1.04	"	"	ND	5.23	71.7%	"	5.48%	"	"	
2-Chlorophenol	"	3.21	---	1.04	"	"	ND	"	61.4%	(40-100)	2.20%	"	"	
1,4-Dichlorobenzene	"	0.777	---	3.14	"	"	ND	2.61	29.8%	(10-100)	14.2%	(60)	"	
2,4-Dinitrotoluene	"	1.74	---	1.57	"	"	ND	"	66.7%	(40-110)	4.49%	(40)	"	
4-Nitrophenol	"	3.41	---	3.14	"	"	ND	5.23	65.2%	(40-125)	3.74%	"	"	
N-Nitrosodi-n-propylamine	"	1.22	---	1.04	"	"	ND	2.61	46.7%	(30-110)	13.0%	"	"	
Pentachlorophenol	"	2.40	---	3.14	"	"	ND	5.23	45.9%	(25-110)	3.28%	(60)	"	
Phenol	"	3.16	---	1.04	"	"	ND	"	60.4%	(35-100)	5.53%	(40)	"	
Pyrene	"	2.47	---	1.04	"	"	0.431	2.61	78.1%	(40-110)	4.36%	"	"	
1,2,4-Trichlorobenzene	"	1.04	---	3.14	"	"	ND	"	39.8%	(30-101)	14.3%	(60)	"	

Surrogate(s):		*Recovery:*		*Limits:*		
	2-Fluorobiphenyl	*68.6%*	*44-146%*	"		*09/27/05 03:07*
	2-Fluorophenol	*65.4%*	*42-126%*	"		"
	Nitrobenzene-d5	*55.2%*	*42-126%*	"		"
	Phenol-d6	*62.9%*	*42-131%*	"		"
	p-Terphenyl-d14	*96.2%*	*49-150%*	"		"
	2,4,6-Tribromophenol	*78.6%*	*48-119%*	"		"

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Semivolatile Organic Compounds per EPA Method 8270C - Laboratory Quality Control Results

North Creek Analytical - Portland

QC Batch: 5091098 **Water Preparation Method: EPA 3520/600 Series**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (5091098-BLK1)								Extracted: 09/27/05 06:18						
Acenaphthene	EPA 8270C	ND	---	5.00	ug/l	1x	--	--	--	--	--	--	10/04/05 17:29	
Acenaphthylene	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Anthracene	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Benzo (a) anthracene	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Benzo (a) pyrene	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Benzo (b) fluoranthene	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Benzo (ghi) perylene	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Benzo (k) fluoranthene	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Benzoic Acid	"	ND	---	50.0	"	"	--	--	--	--	--	--	"	
Benzyl alcohol	"	ND	---	10.0	"	"	--	--	--	--	--	--	"	
4-Bromophenyl phenyl ether	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Butyl benzyl phthalate	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
4-Chloro-3-methylphenol	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
4-Chloroaniline	"	ND	---	20.0	"	"	--	--	--	--	--	--	"	
Bis(2-chloroethoxy)methane	"	ND	---	10.0	"	"	--	--	--	--	--	--	"	
Bis(2-chloroethyl)ether	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Bis(2-chloroisopropyl)ether	"	ND	---	10.0	"	"	--	--	--	--	--	--	"	
2-Chloronaphthalene	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
2-Chlorophenol	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
4-Chlorophenyl phenyl ether	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Chrysene	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Di-n-butyl phthalate	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Di-n-octyl phthalate	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Dibenzo (a,h) anthracene	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Dibenzofuran	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
1,2-Dichlorobenzene	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
1,3-Dichlorobenzene	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
1,4-Dichlorobenzene	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
3,3´-Dichlorobenzidine	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
2,4-Dichlorophenol	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Diethyl phthalate	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
2,4-Dimethylphenol	"	ND	---	10.0	"	"	--	--	--	--	--	--	"	
Dimethyl phthalate	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
4,6-Dinitro-2-methylphenol	"	ND	---	10.0	"	"	--	--	--	--	--	--	"	
2,4-Dinitrophenol	"	ND	---	25.0	"	"	--	--	--	--	--	--	"	
2,4-Dinitrotoluene	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
2,6-Dinitrotoluene	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Bis(2-ethylhexyl)phthalate	"	755	---	50.0	"	5x	--	--	--	--	--	--	10/06/05 01:31	A-02, B-18
Fluoranthene	"	ND	---	5.00	"	1x	--	--	--	--	--	--	10/04/05 17:29	
Fluorene	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Hexachlorobenzene	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Semivolatile Organic Compounds per EPA Method 8270C - Laboratory Quality Control Results

North Creek Analytical - Portland

QC Batch: 5091098 **Water Preparation Method: EPA 3520/600 Series**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (5091098-BLK1)								Extracted: 09/27/05 06:18						
Hexachlorobutadiene	EPA 8270C	ND	---	10.0	ug/l	1x	--	--	--	--	--	--	10/04/05 17:29	
Hexachlorocyclopentadiene	"	ND	---	10.0	"	"	--	--	--	--	--	--	"	
Hexachloroethane	"	ND	---	10.0	"	"	--	--	--	--	--	--	"	
Indeno (1,2,3-cd) pyrene	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Isophorone	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
2-Methylnaphthalene	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
2-Methylphenol	"	ND	---	10.0	"	"	--	--	--	--	--	--	"	
3-,4-Methylphenol	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Naphthalene	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
2-Nitroaniline	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
3-Nitroaniline	"	ND	---	10.0	"	"	--	--	--	--	--	--	"	
4-Nitroaniline	"	ND	---	10.0	"	"	--	--	--	--	--	--	"	
Nitrobenzene	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
2-Nitrophenol	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
4-Nitrophenol	"	ND	---	25.0	"	"	--	--	--	--	--	--	"	
N-Nitrosodi-n-propylamine	"	ND	---	10.0	"	"	--	--	--	--	--	--	"	
N-Nitrosodiphenylamine	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Pentachlorophenol	"	ND	---	10.0	"	"	--	--	--	--	--	--	"	
Phenanthrene	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Phenol	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Pyrene	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
1,2,4-Trichlorobenzene	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
2,4,5-Trichlorophenol	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
2,4,6-Trichlorophenol	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	

Surrogate(s):	*2-Fluorobiphenyl*	*Recovery: 110%*	*Limits: 28-118%*	*"*	*10/04/05 17:29*
	2-Fluorophenol	*88.7%*	*12-100%*	*"*	*"*
	Nitrobenzene-d5	*114%*	*37-124%*	*"*	*"*
	Phenol-d6	*100%*	*4-105%*	*"*	*"*
	p-Terphenyl-d14	*128%*	*44-140%*	*"*	*"*
	2,4,6-Tribromophenol	*117%*	*31-142%*	*"*	*"*

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Semivolatile Organic Compounds per EPA Method 8270C - Laboratory Quality Control Results

North Creek Analytical - Portland

QC Batch: 5091098 **Water Preparation Method: EPA 3520/600 Series**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS (5091098-BS1)								**Extracted: 09/27/05 06:18**						
Acenaphthene	EPA 8270C	60.4	---	5.00	ug/l	1x	--	50.0	121%	(47-145)	--	--	10/04/05 09:09	
4-Chloro-3-methylphenol	"	50.8	---	5.00	"	"	--	"	102%	(22-147)	--	--	"	
2-Chlorophenol	"	49.2	---	5.00	"	"	--	"	98.4%	(23-134)	--	--	"	
1,4-Dichlorobenzene	"	53.7	---	5.00	"	"	--	"	107%	(8-124)	--	--	"	
2,4-Dinitrotoluene	"	68.3	---	5.00	"	"	--	"	137%	(39-139)	--	--	"	
4-Nitrophenol	"	52.7	---	25.0	"	"	--	"	105%	(1-132)	--	--	"	
N-Nitrosodi-n-propylamine	"	56.4	---	10.0	"	"	--	"	113%	(1-230)	--	--	"	
Pentachlorophenol	"	55.9	---	10.0	"	"	--	"	112%	(14-176)	--	--	"	
Phenol	"	49.5	---	5.00	"	"	--	"	99.0%	(5-112)	--	--	"	
Pyrene	"	63.8	---	5.00	"	"	--	"	128%	(52-122)	--	--	"	Q-27, Q-29
1,2,4-Trichlorobenzene	"	55.2	---	5.00	"	"	--	"	110%	(11-142)	--	--	"	
Surrogate(s): 2-Fluorobiphenyl		*Recovery: 100%*			*Limits: 28-118%*	"							*10/04/05 09:09*	
2-Fluorophenol		*82.7%*			*12-100%*	"							"	
Nitrobenzene-d5		*104%*			*37-124%*	"							"	
Phenol-d6		*87.3%*			*4-105%*	"							"	
p-Terphenyl-d14		*112%*			*44-140%*	"							"	
2,4,6-Tribromophenol		*106%*			*31-142%*	"							"	
LCS Dup (5091098-BSD1)								**Extracted: 09/27/05 06:18**						
Acenaphthene	EPA 8270C	59.0	---	5.00	ug/l	1x	--	50.0	118%	(47-145)	2.35%	(50)	10/04/05 09:54	
4-Chloro-3-methylphenol	"	53.8	---	5.00	"	"	--	"	108%	(22-147)	5.74%	"	"	
2-Chlorophenol	"	50.7	---	5.00	"	"	--	"	101%	(23-134)	3.00%	"	"	
1,4-Dichlorobenzene	"	55.3	---	5.00	"	"	--	"	111%	(8-124)	2.94%	"	"	
2,4-Dinitrotoluene	"	67.5	---	5.00	"	"	--	"	135%	(39-139)	1.18%	"	"	
4-Nitrophenol	"	51.3	---	25.0	"	"	--	"	103%	(1-132)	2.69%	"	"	
N-Nitrosodi-n-propylamine	"	55.9	---	10.0	"	"	--	"	112%	(1-230)	0.890%	"	"	
Pentachlorophenol	"	56.7	---	10.0	"	"	--	"	113%	(14-176)	1.42%	"	"	
Phenol	"	48.8	---	5.00	"	"	--	"	97.6%	(5-112)	1.42%	"	"	
Pyrene	"	61.0	---	5.00	"	"	--	"	122%	(52-122)	4.49%	"	"	
1,2,4-Trichlorobenzene	"	55.6	---	5.00	"	"	--	"	111%	(11-142)	0.722%	"	"	
Surrogate(s): 2-Fluorobiphenyl		*Recovery: 99.5%*			*Limits: 28-118%*	"							*10/04/05 09:54*	
2-Fluorophenol		*82.0%*			*12-100%*	"							"	
Nitrobenzene-d5		*106%*			*37-124%*	"							"	
Phenol-d6		*84.7%*			*4-105%*	"							"	
p-Terphenyl-d14		*110%*			*44-140%*	"							"	
2,4,6-Tribromophenol		*105%*			*31-142%*	"							"	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Semivolatile Organic Compounds per EPA Method 8270C - Laboratory Quality Control Results

North Creek Analytical - Portland

QC Batch: 5100017 **Soil Preparation Method: EPA 3550**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (5100017-BLK1)								Extracted: 10/03/05 15:25						
Acenaphthene	EPA 8270C	ND	---	0.328	mg/kg	1x	--	--	--	--	--	--	10/04/05 19:45	
Acenaphthylene	"	ND	---	0.328	"	"	--	--	--	--	--	--	"	
Anthracene	"	ND	---	0.328	"	"	--	--	--	--	--	--	"	
Benzo (a) anthracene	"	ND	---	0.328	"	"	--	--	--	--	--	--	"	
Benzo (a) pyrene	"	ND	---	0.328	"	"	--	--	--	--	--	--	"	
Benzo (b) fluoranthene	"	ND	---	0.328	"	"	--	--	--	--	--	--	"	
Benzo (ghi) perylene	"	ND	---	0.328	"	"	--	--	--	--	--	--	"	
Benzo (k) fluoranthene	"	ND	---	0.328	"	"	--	--	--	--	--	--	"	
Benzoic Acid	"	ND	---	0.994	"	"	--	--	--	--	--	--	"	
Benzyl alcohol	"	ND	---	0.994	"	"	--	--	--	--	--	--	"	
4-Bromophenyl phenyl ether	"	ND	---	0.328	"	"	--	--	--	--	--	--	"	
Butyl benzyl phthalate	"	ND	---	0.328	"	"	--	--	--	--	--	--	"	
4-Chloro-3-methylphenol	"	ND	---	0.328	"	"	--	--	--	--	--	--	"	
4-Chloroaniline	"	ND	---	1.99	"	"	--	--	--	--	--	--	"	
Bis(2-chloroethoxy)methane	"	ND	---	0.328	"	"	--	--	--	--	--	--	"	
Bis(2-chloroethyl)ether	"	ND	---	0.328	"	"	--	--	--	--	--	--	"	
Bis(2-chloroisopropyl)ether	"	ND	---	0.328	"	"	--	--	--	--	--	--	"	
2-Chloronaphthalene	"	ND	---	0.328	"	"	--	--	--	--	--	--	"	
2-Chlorophenol	"	ND	---	0.328	"	"	--	--	--	--	--	--	"	
4-Chlorophenyl phenyl ether	"	ND	---	0.328	"	"	--	--	--	--	--	--	"	
Chrysene	"	ND	---	0.328	"	"	--	--	--	--	--	--	"	
Di-n-butyl phthalate	"	ND	---	0.994	"	"	--	--	--	--	--	--	"	
Di-n-octyl phthalate	"	ND	---	0.328	"	"	--	--	--	--	--	--	"	
Dibenzo (a,h) anthracene	"	ND	---	0.328	"	"	--	--	--	--	--	--	"	
Dibenzofuran	"	ND	---	0.328	"	"	--	--	--	--	--	--	"	
1,2-Dichlorobenzene	"	ND	---	0.994	"	"	--	--	--	--	--	--	"	
1,3-Dichlorobenzene	"	ND	---	0.994	"	"	--	--	--	--	--	--	"	
1,4-Dichlorobenzene	"	ND	---	0.994	"	"	--	--	--	--	--	--	"	
3,3´-Dichlorobenzidine	"	ND	---	0.994	"	"	--	--	--	--	--	--	"	
2,4-Dichlorophenol	"	ND	---	0.328	"	"	--	--	--	--	--	--	"	
Diethyl phthalate	"	ND	---	0.328	"	"	--	--	--	--	--	--	"	
2,4-Dimethylphenol	"	ND	---	0.994	"	"	--	--	--	--	--	--	"	
Dimethyl phthalate	"	ND	---	0.328	"	"	--	--	--	--	--	--	"	
4,6-Dinitro-2-methylphenol	"	ND	---	0.994	"	"	--	--	--	--	--	--	"	
2,4-Dinitrophenol	"	ND	---	1.99	"	"	--	--	--	--	--	--	"	
2,4-Dinitrotoluene	"	ND	---	0.497	"	"	--	--	--	--	--	--	"	
2,6-Dinitrotoluene	"	ND	---	0.497	"	"	--	--	--	--	--	--	"	
Bis(2-ethylhexyl)phthalate	"	ND	---	1.99	"	"	--	--	--	--	--	--	"	
Fluoranthene	"	ND	---	0.328	"	"	--	--	--	--	--	--	"	
Fluorene	"	ND	---	0.328	"	"	--	--	--	--	--	--	"	
Hexachlorobenzene	"	ND	---	0.328	"	"	--	--	--	--	--	--	"	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Semivolatile Organic Compounds per EPA Method 8270C - Laboratory Quality Control Results

North Creek Analytical - Portland

QC Batch: 5100017 **Soil Preparation Method: EPA 3550**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (5100017-BLK1)								Extracted: 10/03/05 15:25						
Hexachlorobutadiene	EPA 8270C	ND	---	0.994	mg/kg	1x	--	--	--	--	--	--	10/04/05 19:45	
Hexachlorocyclopentadiene	"	ND	---	0.994	"	"	--	--	--	--	--	--	"	
Hexachloroethane	"	ND	---	0.994	"	"	--	--	--	--	--	--	"	
Indeno (1,2,3-cd) pyrene	"	ND	---	0.328	"	"	--	--	--	--	--	--	"	
Isophorone	"	ND	---	0.328	"	"	--	--	--	--	--	--	"	
2-Methylnaphthalene	"	ND	---	0.328	"	"	--	--	--	--	--	--	"	
2-Methylphenol	"	ND	---	0.328	"	"	--	--	--	--	--	--	"	
3-,4-Methylphenol	"	ND	---	0.328	"	"	--	--	--	--	--	--	"	
Naphthalene	"	ND	---	0.328	"	"	--	--	--	--	--	--	"	
2-Nitroaniline	"	ND	---	0.328	"	"	--	--	--	--	--	--	"	
3-Nitroaniline	"	ND	---	0.994	"	"	--	--	--	--	--	--	"	
4-Nitroaniline	"	ND	---	0.328	"	"	--	--	--	--	--	--	"	
Nitrobenzene	"	ND	---	0.328	"	"	--	--	--	--	--	--	"	
2-Nitrophenol	"	ND	---	0.328	"	"	--	--	--	--	--	--	"	
4-Nitrophenol	"	ND	---	0.994	"	"	--	--	--	--	--	--	"	
N-Nitrosodi-n-propylamine	"	ND	---	0.328	"	"	--	--	--	--	--	--	"	
N-Nitrosodiphenylamine	"	ND	---	0.328	"	"	--	--	--	--	--	--	"	
Pentachlorophenol	"	ND	---	0.994	"	"	--	--	--	--	--	--	"	
Phenanthrene	"	ND	---	0.328	"	"	--	--	--	--	--	--	"	
Phenol	"	ND	---	0.328	"	"	--	--	--	--	--	--	"	
Pyrene	"	ND	---	0.328	"	"	--	--	--	--	--	--	"	
1,2,4-Trichlorobenzene	"	ND	---	0.994	"	"	--	--	--	--	--	--	"	
2,4,5-Trichlorophenol	"	ND	---	0.328	"	"	--	--	--	--	--	--	"	
2,4,6-Trichlorophenol	"	ND	---	0.328	"	"	--	--	--	--	--	--	"	

Surrogate(s):	*2-Fluorobiphenyl*	*Recovery: 64.5%*	*Limits: 44-146%*	*"*	*10/04/05 19:45*
	2-Fluorophenol	*62.2%*	*42-126%*	*"*	*"*
	Nitrobenzene-d5	*62.5%*	*42-126%*	*"*	*"*
	Phenol-d6	*65.0%*	*42-131%*	*"*	*"*
	p-Terphenyl-d14	*72.6%*	*49-150%*	*"*	*"*
	2,4,6-Tribromophenol	*70.6%*	*48-119%*	*"*	*"*

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Semivolatile Organic Compounds per EPA Method 8270C - Laboratory Quality Control Results

North Creek Analytical - Portland

QC Batch: 5100017 **Soil Preparation Method: EPA 3550**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS (5100017-BS1)								**Extracted: 10/03/05 15:25**						
Acenaphthene	EPA 8270C	1.43	---	0.327	mg/kg	1x	--	2.48	57.7%	(30-115)	--	--	10/04/05 23:21	
4-Chloro-3-methylphenol	"	2.32	---	0.327	"	"	--	4.96	46.8%	(40-110)	--	--	"	
2-Chlorophenol	"	2.25	---	0.327	"	"	--	"	45.4%	(40-100)	--	--	"	
1,4-Dichlorobenzene	"	1.37	---	0.991	"	"	--	2.48	55.2%	(10-100)	--	--	"	
2,4-Dinitrotoluene	"	1.40	---	0.496	"	"	--	"	56.5%	(30-110)	--	--	"	
4-Nitrophenol	"	2.39	---	0.991	"	"	--	4.96	48.2%	(30-130)	--	--	"	
N-Nitrosodi-n-propylamine	"	1.26	---	0.327	"	"	--	2.48	50.8%	(30-110)	--	--	"	
Pentachlorophenol	"	2.20	---	0.991	"	"	--	4.96	44.4%	(14-120)	--	--	"	
Phenol	"	2.05	---	0.327	"	"	--	"	41.3%	(35-100)	--	--	"	
Pyrene	"	1.37	---	0.327	"	"	--	2.48	55.2%	(30-115)	--	--	"	
1,2,4-Trichlorobenzene	"	1.44	---	0.991	"	"	--	"	58.1%	(18-100)	--	--	"	
Surrogate(s): 2-Fluorobiphenyl		*Recovery: 60.9%*			*Limits: 44-146%*	"							*10/04/05 23:21*	
2-Fluorophenol		*54.4%*			*42-126%*	"							"	
Nitrobenzene-d5		*59.7%*			*42-126%*	"							"	
Phenol-d6		*56.7%*			*42-131%*	"							"	
p-Terphenyl-d14		*62.9%*			*49-150%*	"							"	
2,4,6-Tribromophenol		*65.7%*			*48-119%*	"							"	
LCS Dup (5100017-BSD1)								**Extracted: 10/03/05 15:25**						
Acenaphthene	EPA 8270C	1.61	---	0.329	mg/kg	1x	--	2.49	64.7%	(30-115)	11.8%	(40)	10/05/05 00:07	
4-Chloro-3-methylphenol	"	2.78	---	0.329	"	"	--	4.98	55.8%	(40-110)	18.0%	"	"	
2-Chlorophenol	"	2.54	---	0.329	"	"	--	"	51.0%	(40-100)	12.1%	"	"	
1,4-Dichlorobenzene	"	1.49	---	0.996	"	"	--	2.49	59.8%	(10-100)	8.39%	(60)	"	
2,4-Dinitrotoluene	"	1.69	---	0.498	"	"	--	"	67.9%	(30-110)	18.8%	(40)	"	
4-Nitrophenol	"	3.03	---	0.996	"	"	--	4.98	60.8%	(30-130)	23.6%	"	"	
N-Nitrosodi-n-propylamine	"	1.39	---	0.329	"	"	--	2.49	55.8%	(30-110)	9.81%	"	"	
Pentachlorophenol	"	2.47	---	0.996	"	"	--	4.98	49.6%	(14-120)	11.6%	(60)	"	
Phenol	"	2.28	---	0.329	"	"	--	"	45.8%	(35-100)	10.6%	(40)	"	
Pyrene	"	1.62	---	0.329	"	"	--	2.49	65.1%	(30-115)	16.7%	"	"	
1,2,4-Trichlorobenzene	"	1.60	---	0.996	"	"	--	"	64.3%	(18-100)	10.5%	(60)	"	
Surrogate(s): 2-Fluorobiphenyl		*Recovery: 66.3%*			*Limits: 44-146%*	"							*10/05/05 00:07*	
2-Fluorophenol		*57.2%*			*42-126%*	"							"	
Nitrobenzene-d5		*63.9%*			*42-126%*	"							"	
Phenol-d6		*58.6%*			*42-131%*	"							"	
p-Terphenyl-d14		*71.9%*			*49-150%*	"							"	
2,4,6-Tribromophenol		*71.5%*			*48-119%*	"							"	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Percent Dry Weight (Solids) per Standard Methods - Laboratory Quality Control Results

North Creek Analytical - Portland

QC Batch: 5091132 **Soil Preparation Method: Dry Weight**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Duplicate (5091132-DUP1)				**QC Source: P5I0754-02**				**Extracted: 09/27/05 13:00**						
% Solids	NCA SOP	90.6	---	1.00	% by Weight	1x	91.1	--	--	--	0.550%	(20)	09/28/05 11:12	
Duplicate (5091132-DUP2)				**QC Source: P5I0754-03**				**Extracted: 09/27/05 13:00**						
% Solids	NCA SOP	91.3	---	1.00	% by Weight	1x	91.8	--	--	--	0.546%	(20)	09/28/05 11:12	
Duplicate (5091132-DUP3)				**QC Source: P5I0755-01**				**Extracted: 09/27/05 13:00**						
% Solids	NCA SOP	76.2	---	1.00	% by Weight	1x	76.3	--	--	--	0.131%	(20)	09/28/05 11:12	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Explosive Compounds by EPA Method 8330 - Laboratory Quality Control Results

TestAmerica Analytical - Nashville

QC Batch: 5094625 **Soil Preparation Method: 8330 Explosives**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (5094625-BLK1)									**Extracted: 09/30/05 16:45**					
1,3,5-Trinitrobenzene	SW846 8330	ND	---	1.00	mg/kg	1x	--	--	--	--	--	--	10/09/05 20:51	
1,3-Dinitrobenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
2,4,6-Trinitrotoluene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
2,4-Dinitrotoluene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
2,6-Dinitrotoluene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
2-Amino-4,6-dinitrotoluene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
2-Nitrotoluene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
3-Nitrotoluene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
4-Amino-2,6-dinitrotoluene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
4-Nitrotoluene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Hexahydro-1,3,5-trinitro-1,3,5-triazine	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Nitrobenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tet	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Tetryl	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Surrogate(s): 1,2-Dinitrobenzene		*Recovery: 80%*		*Limits: 64-140%*		"							*10/09/05 20:51*	
LCS (5094625-BS1)									**Extracted: 09/30/05 16:45**					
1,3,5-Trinitrobenzene	SW846 8330	9.04	---	1.00	mg/kg	1x	--	10.0	90%	(59-134)	--	--	10/09/05 21:24	
1,3-Dinitrobenzene	"	10.3	---	1.00	"	"	--	"	103%	(54-142)	--	--	"	
2,4,6-Trinitrotoluene	"	10.1	---	1.00	"	"	--	"	101%	(60-134)	--	--	"	
2,4-Dinitrotoluene	"	10.1	---	1.00	"	"	--	"	101%	(53-168)	--	--	"	
2,6-Dinitrotoluene	"	9.96	---	1.00	"	"	--	"	100%	(49-163)	--	--	"	
2-Amino-4,6-dinitrotoluene	"	10.8	---	1.00	"	"	--	"	108%	(50-154)	--	--	"	
2-Nitrotoluene	"	9.62	---	1.00	"	"	--	"	96%	(50-143)	--	--	"	
3-Nitrotoluene	"	10.2	---	1.00	"	"	--	"	102%	(53-167)	--	--	"	
4-Amino-2,6-dinitrotoluene	"	9.71	---	1.00	"	"	--	"	97%	(48-178)	--	--	"	
4-Nitrotoluene	"	10.0	---	1.00	"	"	--	"	100%	(48-167)	--	--	"	
Hexahydro-1,3,5-trinitro-1,3,5-triazine	"	10.2	---	1.00	"	"	--	"	102%	(54-162)	--	--	"	
Nitrobenzene	"	10.2	---	1.00	"	"	--	"	102%	(45-170)	--	--	"	
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tet	"	9.93	---	1.00	"	"	--	"	99%	(54-161)	--	--	"	
Tetryl	"	8.82	---	1.00	"	"	--	"	88%	(57-141)	--	--	"	
Surrogate(s): 1,2-Dinitrobenzene		*Recovery: 101%*		*Limits: 64-140%*		"							*10/09/05 21:24*	

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Explosive Compounds by EPA Method 8330 - Laboratory Quality Control Results

TestAmerica Analytical - Nashville

QC Batch: 5094625 **Soil Preparation Method: 8330 Explosives**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Matrix Spike (5094625-MS1)				**QC Source: P5I0775-09**				**Extracted: 09/30/05 16:45**						
1,3,5-Trinitrobenzene	SW846 8330	13.2	---	1.38	mg/kg dry	1x	ND	13.8	96%	(57-142)	--	--	10/09/05 21:58	
1,3-Dinitrobenzene	"	12.9	---	1.38	"	"	ND	"	93%	(54-142)	--	--	"	
2,4,6-Trinitrotoluene	"	13.7	---	1.38	"	"	ND	"	99%	(60-134)	--	--	"	
2,4-Dinitrotoluene	"	13.6	---	1.38	"	"	ND	"	99%	(53-168)	--	--	"	
2,6-Dinitrotoluene	"	13.6	---	1.38	"	"	ND	"	99%	(49-163)	--	--	"	
2-Amino-4,6-dinitrotoluene	"	14.2	---	1.38	"	"	ND	"	103%	(50-154)	--	--	"	
2-Nitrotoluene	"	13.3	---	1.38	"	"	ND	"	96%	(49-149)	--	--	"	
3-Nitrotoluene	"	13.9	---	1.38	"	"	ND	"	101%	(53-167)	--	--	"	
4-Amino-2,6-dinitrotoluene	"	12.9	---	1.38	"	"	ND	"	93%	(48-178)	--	--	"	
4-Nitrotoluene	"	14.2	---	1.38	"	"	ND	"	103%	(48-167)	--	--	"	
Hexahydro-1,3,5-trinitro-1,3,5-triazine	"	13.9	---	1.38	"	"	ND	"	101%	(54-162)	--	--	"	
Nitrobenzene	"	13.1	---	1.38	"	"	ND	"	95%	(45-170)	--	--	"	
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tet	"	13.6	---	1.38	"	"	ND	"	99%	(53-161)	--	--	"	
Tetryl	"	13.8	---	1.38	"	"	ND	"	100%	(49-159)	--	--	"	
Surrogate(s): 1,2-Dinitrobenzene		*Recovery: 102%*		*Limits: 64-140%*		*"*							*10/09/05 21:58*	
Matrix Spike Dup (5094625-MSD1)				**QC Source: P5I0775-09**				**Extracted: 09/30/05 16:45**						
1,3,5-Trinitrobenzene	SW846 8330	5.99	---	1.36	mg/kg dry	1x	ND	13.6	44%	(57-142)	75%	(21)	10/09/05 22:31	M2
1,3-Dinitrobenzene	"	6.45	---	1.36	"	"	ND	"	47%	(54-142)	67%	(19)	"	M2
2,4,6-Trinitrotoluene	"	5.50	---	1.36	"	"	ND	"	40%	(60-134)	85%	"	"	M2
2,4-Dinitrotoluene	"	6.22	---	1.36	"	"	ND	"	46%	(53-168)	74%	(20)	"	M2
2,6-Dinitrotoluene	"	6.22	---	1.36	"	"	ND	"	46%	(49-163)	74%	(19)	"	M2
2-Amino-4,6-dinitrotoluene	"	6.85	---	1.36	"	"	ND	"	50%	(50-154)	70%	(21)	"	R3
2-Nitrotoluene	"	6.51	---	1.36	"	"	ND	"	48%	(49-149)	69%	(23)	"	M2
3-Nitrotoluene	"	6.32	---	1.36	"	"	ND	"	46%	(53-167)	75%	(19)	"	M2
4-Amino-2,6-dinitrotoluene	"	6.16	---	1.36	"	"	ND	"	45%	(48-178)	71%	(22)	"	M2
4-Nitrotoluene	"	6.92	---	1.36	"	"	ND	"	51%	(48-167)	69%	(21)	"	R3
Hexahydro-1,3,5-trinitro-1,3,5-triazine	"	6.98	---	1.36	"	"	ND	"	51%	(54-162)	66%	(23)	"	M2
Nitrobenzene	"	7.00	---	1.36	"	"	ND	"	51%	(45-170)	61%	(19)	"	R3
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tet	"	6.16	---	1.36	"	"	ND	"	45%	(53-161)	75%	(22)	"	M2
Tetryl	"	5.20	---	1.36	"	"	ND	"	38%	(49-159)	91%	(21)	"	M2
Surrogate(s): 1,2-Dinitrobenzene		*Recovery: 49%*		*Limits: 64-140%*		*"*							*10/09/05 22:31*	*M2*

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AMEC- Portland	Project Name:	**Camp Rilea**	
7376 SW Durham Road	Project Number:	561M11015	Report Created:
Portland, OR 97224	Project Manager:	Scott Kranz	10/25/05 12:52

Notes and Definitions

Report Specific Notes:

A-02	-	Suspected lab contaminant.
B-18	-	Analyte was detected in the blank at greater than one-half of the MRL, but samples are ND.
M2	-	The MS and/or MSD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
Q-02	-	The matrix spike recovery, and/or RPD, for this QC sample is outside of established control limits due to sample matrix interference.
Q-14	-	The matrix spike recovery, and/or RPD, for this QC sample is outside of control limits due to a non-homogeneous sample matrix.
Q-27	-	Analyte recovery outside of specified criteria. Individual analyte criteria exceedences allowed for multi-component analyses without disqualification of data per USACE EM200-1-3.
Q-29	-	The recovery for the Laboratory Control Sample, and/or LCS Duplicate, for this analyte was above method specified criteria. All samples were Non Detect for this analyte, therefore Data Quality is not affected.
R-02	-	The reporting limit for this analyte was raised due to the high analyte concentration present in the sample.
R-03	-	The reporting limit for this analyte was raised due to matrix interference.
R3	-	The RPD exceeded the acceptance limit due to sample matrix effects.
S-08	-	Surrogate recovery is above control limits. Since no analytes were detected in the sample, the quality of the data has not been affected.
S-09	-	Surrogate recovery is outside control limits due to matrix interference.

Laboratory Reporting Conventions:

DET	-	Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.
ND	-	Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).
NR / NA	-	Not Reported / Not Available
dry	-	Sample results reported on a dry weight basis. Reporting Limits have been corrected for %Solids.
wet	-	Sample results and reporting limits reported on a wet weight basis (as received).
RPD	-	Relative Percent Difference. (RPDs calculated using Results, not Percent Recoveries).
MRL	-	METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.
MDL*	-	METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. *MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated results.
Dil	-	Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.
Reporting limits	-	Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.

SEVERN TRENT STL

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TRANSMITTAL MEMORANDUM

DATE: September 19, 2005

TO: Scott Kranz
AMEC Earth & Environmental, Inc.
7376 SW Durham Road
Portland, OR 97224

PROJECT: Camp Riley Phase I

REPORT NUMBER: 129555

TOTAL NUMBER OF PAGES: _____

Enclosed are the test results for seven samples received at STL Seattle on August 26, 2005.

The report consists of this transmittal memo, analytical results, quality control reports, a copy of the chain-of-custody, a list of data qualifiers and analytical narrative when applicable, and a copy of any requested raw data.

Should there be any questions regarding this report, please contact me at (253) 922-2310.

Sincerely,

Darla Powell

Darla Powell
Project Manager

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STL Seattle

Sample Identification:

Lab. No.	Client ID	Date/Time Sampled	Matrix
129555-1	LFEXT-05-2.5	08-23-05 13:45	solid
129555-2	LFEXT-08	08-23-05 15:30	Liquid
129555-3	A1LF12-3	08-24-05 10:10	solid
129555-4	LFEXT-21	08-24-05 13:47	Liquid
129555-5	A1LF-07-GW	08-24-05 14:40	Liquid
129555-6	A1LF-08-GW	08-24-05 15:30	Liquid
129555-7	Trip Blank		Liquid

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SEVERN TRENT STL

STL Seattle
5755 8th Street East
Tacoma, WA 98424

Tel: 253 922 2310
Fax: 253 922 5047
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ANALYTICAL NARRATIVE

Client: AMEC Earth & Environmental, Inc. Date: September 20, 2005

Project: Camp Riley Phase I Lab No.: 129555

Delivered By: Other

Condition of samples upon receipt: Samples were received in good condition. Receipt information and cooler temperatures have been recorded on the cooler receipt form included in chain of custody section of this report. Chain of custody was in order.

Sample Identification:

Lab. No.	Client ID	Date Sampled	Matrix
129555-1	LFEXT-05-2.5	08-23-05	solid
129555-2	LFEXT-08	08-23-05	Liquid
129555-3	A1LF12-3	08-24-05	solid
129555-4	LFEXT-21	08-24-05	Liquid
129555-5	A1LF-07-GW	08-24-05	Liquid
129555-6	A1LF-08-GW	08-24-05	Liquid
129555-7	Trip Blank		Liquid

SAMPLE EXTRACTION AND ANALYSIS

VOLATILE ORGANICS

Samples 129555-1 through 129555-6 were analyzed for volatile organics in accordance with EPA Method 8260B. The samples were prepared on 8-31-05 and 9-1-05 and analyzed on 8-31-05 and 9-2-05, which was within the required holding time. It should be noted that Sample 129555-7 was received but not listed on the chain of custody (COC). No analyses were performed on this sample.

A positive result for methylene choride, greater than the reporting limit, was reported in the method blank associated with samples 129555-1 and 129555-3. The positive results for methylene chloride were B1-flagged in these samples.

All other quality control was within the acceptance limits.

No other difficulties were encountered during the volatile organic analyses.

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STL Seattle

ANALYTICAL NARRATIVE

Client: AMEC Earth & Environmental, Inc. Date: September 20, 2005

Project: Camp Riley Phase I Lab No.: 129555

SEMIVOLATILE ORGANICS

Samples 129555-1 and 129555-3 were analyzed for semivolatile organics in accordance with EPA Method 8270C. The samples were prepared on 9-1-05 and analyzed on 9-8-05, which was within the required holding time.

A positive result for bis(2-ethylhexyl)phthalate, less than the reporting limit, was reported in the method blank associated with samples 129555-1 and 129555-3. No positive results were reported for this analyte in the samples. No action was taken.

All other quality control was within the acceptance limits.

No other difficulties were encountered during the semivolatile organic analyses.

TOTAL METALS

Samples 129555-1 through 129555-6 were analyzed for total metals in accordance with EPA Methods 6010/7470/7471. The samples were digested on 8-31-05, 9-01-05 and 9-6-05 and analyzed on 8-31-05, 9-1-05 and 9-6-05, which was within the required holding time.

The percent recovery (%R) value for silver was less than the lower control limit in the batch matrix spike analyzed with these samples. No action was taken for this batch QC outlier.

All other quality control was within the acceptance limits.

No other difficulties were encountered during the total metals analyses.

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STL Seattle

Client Name:	AMEC Earth & Environmental, Inc.
Client ID:	LFEXT-05-2.5
Lab ID:	129555-01
Date Received:	8/26/2005
Date Prepared:	9/1/2005
Date Analyzed:	9/2/2005
% Solids	89.91
Dilution Factor	0.1

Volatile Organics by USEPA Method 5035\8260B

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Dibromofluoromethane	82.6		75	125
Fluorobenzene	95.8		75	125
Toluene-D8	102		75	125
Ethylbenzene-d10	109		75	125
Bromofluorobenzene	102		75	125
Trifluorotoluene	112		75	125

Sample results are on a dry weight basis.

Analyte	**Result (ug/kg)**	**RL**	**Flags**
Dichlorodifluoromethane	ND	42.1	
Chloromethane	ND	42.1	
Vinyl chloride	ND	8.43	
Bromomethane	ND	42.1	
Chloroethane	ND	84.3	
Trichlorofluoromethane	ND	42.1	
1,1-Dichloroethene	ND	8.43	
Methylene chloride	23.8	8.43	B1
trans-1,2-Dichloroethene	ND	42.1	
1,1-Dichloroethane	ND	42.1	
2,2-Dichloropropane	ND	42.1	
cis-1,2-Dichloroethene	ND	42.1	
Bromochloromethane	ND	42.1	
Chloroform	ND	42.1	
1,1,1-Trichloroethane	ND	8.43	
Carbon Tetrachloride	ND	8.43	
1,1-Dichloropropene	ND	42.1	
Benzene	ND	8.43	
1,2-Dichloroethane	ND	8.43	
Trichloroethene	28.5	8.43	
1,2-Dichloropropane	ND	8.43	
Dibromomethane	ND	42.1	
Bromodichloromethane	ND	42.1	
cis-1,3-Dichloropropene	ND	42.1	
Toluene	ND	42.1	
trans-1,3-Dichloropropene	ND	42.1	

STL Seattle

Volatile Organics by USEPA Method 5035\8260B data for 129555-01 continued...

Analyte	Result (ug/kg)	RL	Flags
1,1,2-Trichloroethane	ND	42.1	
Tetrachloroethene	23.5	8.43	
1,3-Dichloropropane	ND	8.43	
Dibromochloromethane	ND	42.1	
1,2-Dibromoethane	ND	8.43	
Chlorobenzene	ND	42.1	
Ethylbenzene	ND	42.1	
1,1,1,2-Tetrachloroethane	ND	42.1	
m,p-Xylene	ND	84.3	
o-Xylene	ND	42.1	
Styrene	ND	42.1	
Bromoform	ND	42.1	
Isopropylbenzene	ND	42.1	
Bromobenzene	ND	42.1	
n-Propylbenzene	ND	42.1	
1,1,2,2-Tetrachloroethane	ND	8.43	
1,2,3-Trichloropropane	ND	8.43	
2-Chlorotoluene	ND	42.1	
1,3,5-Trimethylbenzene	ND	42.1	
4-Chlorotoluene	ND	42.1	
t-Butylbenzene	ND	42.1	
1,2,4-Trimethylbenzene	ND	42.1	
sec-Butylbenzene	ND	42.1	
1,3-Dichlorobenzene	ND	42.1	
4-Isopropyltoluene	ND	42.1	
1,4-Dichlorobenzene	ND	42.1	
n-Butylbenzene	ND	42.1	
1,2-Dichlorobenzene	ND	42.1	
1,2-Dibromo-3-chloropropane	ND	42.1	
1,2,4-Trichlorobenzene	ND	42.1	
1,2,3-Trichlorobenzene	ND	42.1	
Hexachlorobutadiene	ND	42.1	
Naphthalene	ND	42.1	

STL Seattle

Client Name:	AMEC Earth & Environmental, Inc.
Client ID:	LFEXT-08
Lab ID:	129555-02
Date Received:	8/26/2005
Date Prepared:	8/31/2005
Date Analyzed:	8/31/2005
% Solids	-
Dilution Factor	1

Halogenated Volatile Organics by Method 5030\8260B

Surrogate	% Recovery	Flags	Recovery Limits Low	High
Dibromofluoromethane	87		80	120
Fluorobenzene	97.9		80	120
Toluene-D8	98.9		80	120
Ethylbenzene-d10	98.8		80	120
Bromofluorobenzene	100		80	120
Trifluorotoluene	107		80	120

Analyte	Result (ug/L)	RL	MDL	Flags
Dichlorodifluoromethane	ND	1	0.111	
Chloromethane	ND	1	0.288	
Vinyl chloride	ND	1	0.162	
Bromomethane	ND	1	0.0948	
Chloroethane	ND	1	0.187	
Trichlorofluoromethane	ND	1	0.14	
1,1-Dichloroethene	ND	1	0.177	
Methylene chloride	ND	1	0.155	
Methyl tert-butyl ether	ND	1	0.143	
trans-1,2-Dichloroethene	ND	1	0.145	
1,1-Dichloroethane	ND	1	0.197	
cis-1,2-Dichloroethene	ND	1	0.154	
Chloroform	ND	1	0.181	
1,1,1-Trichloroethane	ND	1	0.142	
Carbon Tetrachloride	ND	1	0.137	
1,2-Dichloroethane	ND	1	0.158	
Trichloroethene	7.48	1	0.126	
1,2-Dichloropropane	ND	1	0.151	
Dibromomethane	ND	1	0.156	
Bromodichloromethane	ND	1	0.129	
cis-1,3-Dichloropropene	ND	1	0.14	
trans-1,3-Dichloropropene	ND	1	0.093	
1,1,2-Trichloroethane	0.099	1	0.0939	J
Tetrachloroethene	1.49	1	0.144	
Dibromochloromethane	ND	1	0.12	
1,2-Dibromoethane	ND	1	0.132	

STL Seattle

Halogenated Volatile Organics by Method 5030\8260B data for 129555-02 continued...

Analyte		Result (ug/L)	RL	MDL	Flags
Chlorobenzene	ND		1	0.058	
1,1,1,2-Tetrachloroethane	ND		1	0.0688	
Bromoform	ND		1	0.083	
Bromobenzene	ND		1	0.0876	
1,1,2,2-Tetrachloroethane		2.59	1	0.068	
1,2,3-Trichloropropane	ND		1	0.156	
1,3-Dichlorobenzene	ND		1	0.0599	
1,4-Dichlorobenzene	ND		1	0.101	
1,2-Dichlorobenzene	ND		1	0.0435	
tert-Butyl alcohol	ND		5	0.573	

STL Seattle

Client Name:	AMEC Earth & Environmental, Inc.
Client ID:	A1LF12-3
Lab ID:	129555-03
Date Received:	8/26/2005
Date Prepared:	9/1/2005
Date Analyzed:	9/2/2005
% Solids	66.36
Dilution Factor	0.1

Volatile Organics by USEPA Method 5035\8260B

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Dibromofluoromethane	81		75	125
Fluorobenzene	95.6		75	125
Toluene-D8	101		75	125
Ethylbenzene-d10	106		75	125
Bromofluorobenzene	98.2		75	125
Trifluorotoluene	93.2		75	125

Sample results are on a dry weight basis.

Analyte	**Result (ug/kg)**	**RL**	**Flags**
Dichlorodifluoromethane	ND	59.4	
Chloromethane	ND	59.4	
Vinyl chloride	ND	11.9	
Bromomethane	ND	59.4	
Chloroethane	ND	119	
Trichlorofluoromethane	ND	59.4	
1,1-Dichloroethene	ND	11.9	
Methylene chloride	26	11.9	B1
trans-1,2-Dichloroethene	ND	59.4	
1,1-Dichloroethane	ND	59.4	
2,2-Dichloropropane	ND	59.4	
cis-1,2-Dichloroethene	ND	59.4	
Bromochloromethane	ND	59.4	
Chloroform	ND	59.4	
1,1,1-Trichloroethane	ND	11.9	
Carbon Tetrachloride	ND	11.9	
1,1-Dichloropropene	ND	59.4	
Benzene	ND	11.9	
1,2-Dichloroethane	ND	11.9	
Trichloroethene	ND	11.9	
1,2-Dichloropropane	ND	11.9	
Dibromomethane	ND	59.4	
Bromodichloromethane	ND	59.4	
cis-1,3-Dichloropropene	ND	59.4	
Toluene	ND	59.4	
trans-1,3-Dichloropropene	ND	59.4	

STL Seattle

Volatile Organics by USEPA Method 5035\8260B data for 129555-03 continued...

Analyte	Result (ug/kg)	RL	Flags
1,1,2-Trichloroethane	ND	59.4	
Tetrachloroethene	ND	11.9	
1,3-Dichloropropane	ND	11.9	
Dibromochloromethane	ND	59.4	
1,2-Dibromoethane	ND	11.9	
Chlorobenzene	ND	59.4	
Ethylbenzene	ND	59.4	
1,1,1,2-Tetrachloroethane	ND	59.4	
m,p-Xylene	ND	119	
o-Xylene	ND	59.4	
Styrene	ND	59.4	
Bromoform	ND	59.4	
Isopropylbenzene	ND	59.4	
Bromobenzene	ND	59.4	
n-Propylbenzene	ND	59.4	
1,1,2,2-Tetrachloroethane	ND	11.9	
1,2,3-Trichloropropane	ND	11.9	
2-Chlorotoluene	ND	59.4	
1,3,5-Trimethylbenzene	ND	59.4	
4-Chlorotoluene	ND	59.4	
t-Butylbenzene	ND	59.4	
1,2,4-Trimethylbenzene	ND	59.4	
sec-Butylbenzene	ND	59.4	
1,3-Dichlorobenzene	ND	59.4	
4-Isopropyltoluene	ND	59.4	
1,4-Dichlorobenzene	ND	59.4	
n-Butylbenzene	ND	59.4	
1,2-Dichlorobenzene	ND	59.4	
1,2-Dibromo-3-chloropropane	ND	59.4	
1,2,4-Trichlorobenzene	ND	59.4	
1,2,3-Trichlorobenzene	ND	59.4	
Hexachlorobutadiene	ND	59.4	
Naphthalene	ND	59.4	

STL Seattle

Client Name:	AMEC Earth & Environmental, Inc.
Client ID:	LFEXT-21
Lab ID:	129555-04
Date Received:	8/26/2005
Date Prepared:	8/31/2005
Date Analyzed:	8/31/2005
% Solids	-
Dilution Factor	1

Halogenated Volatile Organics by Method 5030\8260B

Surrogate	% Recovery	Flags	Recovery Limits Low	High
Dibromofluoromethane	86.1		80	120
Fluorobenzene	97.7		80	120
Toluene-D8	101		80	120
Ethylbenzene-d10	96		80	120
Bromofluorobenzene	99.6		80	120
Trifluorotoluene	113		80	120

Analyte	Result (ug/L)	RL	MDL	Flags
Dichlorodifluoromethane	ND	1	0.111	
Chloromethane	ND	1	0.288	
Vinyl chloride	ND	1	0.162	
Bromomethane	ND	1	0.0948	
Chloroethane	ND	1	0.187	
Trichlorofluoromethane	ND	1	0.14	
1,1-Dichloroethene	ND	1	0.177	
Methylene chloride	0.32	1	0.155	J
Methyl tert-butyl ether	ND	1	0.143	
trans-1,2-Dichloroethene	ND	1	0.145	
1,1-Dichloroethane	ND	1	0.197	
cis-1,2-Dichloroethene	ND	1	0.154	
Chloroform	ND	1	0.181	
1,1,1-Trichloroethane	ND	1	0.142	
Carbon Tetrachloride	ND	1	0.137	
1,2-Dichloroethane	ND	1	0.158	
Trichloroethene	0.139	1	0.126	J
1,2-Dichloropropane	ND	1	0.151	
Dibromomethane	ND	1	0.156	
Bromodichloromethane	ND	1	0.129	
cis-1,3-Dichloropropene	ND	1	0.14	
trans-1,3-Dichloropropene	ND	1	0.093	
1,1,2-Trichloroethane	ND	1	0.0939	
Tetrachloroethene	0.247	1	0.144	J
Dibromochloromethane	ND	1	0.12	
1,2-Dibromoethane	ND	1	0.132	

STL Seattle

Halogenated Volatile Organics by Method 5030\8260B data for 129555-04 continued...

Analyte	Result (ug/L)	RL	MDL	Flags
Chlorobenzene	ND	1	0.058	
1,1,1,2-Tetrachloroethane	ND	1	0.0688	
Bromoform	ND	1	0.083	
Bromobenzene	ND	1	0.0876	
1,1,2,2-Tetrachloroethane	ND	1	0.068	
1,2,3-Trichloropropane	ND	1	0.156	
1,3-Dichlorobenzene	ND	1	0.0599	
1,4-Dichlorobenzene	ND	1	0.101	
1,2-Dichlorobenzene	ND	1	0.0435	
tert-Butyl alcohol	ND	5	0.573	

STL Seattle

Client Name:	AMEC Earth & Environmental, Inc.
Client ID:	A1LF-07-GW
Lab ID:	129555-05
Date Received:	8/26/2005
Date Prepared:	8/31/2005
Date Analyzed:	8/31/2005
% Solids	-
Dilution Factor	1

Halogenated Volatile Organics by Method 5030\8260B

Surrogate	% Recovery	Flags	Recovery Limits Low	High
Dibromofluoromethane	82.8		80	120
Fluorobenzene	96.5		80	120
Toluene-D8	105		80	120
Ethylbenzene-d10	101		80	120
Bromofluorobenzene	99.1		80	120
Trifluorotoluene	110		80	120

Analyte		Result (ug/L)	RL	MDL	Flags
Dichlorodifluoromethane	ND		1	0.111	
Chloromethane	ND		1	0.288	
Vinyl chloride	ND		1	0.162	
Bromomethane	ND		1	0.0948	
Chloroethane	ND		1	0.187	
Trichlorofluoromethane	ND		1	0.14	
1,1-Dichloroethene	ND		1	0.177	
Methylene chloride		0.322	1	0.155	J
Methyl tert-butyl ether	ND		1	0.143	
trans-1,2-Dichloroethene	ND		1	0.145	
1,1-Dichloroethane	ND		1	0.197	
cis-1,2-Dichloroethene	ND		1	0.154	
Chloroform	ND		1	0.181	
1,1,1-Trichloroethane	ND		1	0.142	
Carbon Tetrachloride	ND		1	0.137	
1,2-Dichloroethane	ND		1	0.158	
Trichloroethene		2.51	1	0.126	
1,2-Dichloropropane	ND		1	0.151	
Dibromomethane	ND		1	0.156	
Bromodichloromethane	ND		1	0.129	
cis-1,3-Dichloropropene	ND		1	0.14	
trans-1,3-Dichloropropene	ND		1	0.093	
1,1,2-Trichloroethane	ND		1	0.0939	
Tetrachloroethene		0.817	1	0.144	J
Dibromochloromethane	ND		1	0.12	
1,2-Dibromoethane	ND		1	0.132	

STL Seattle

Halogenated Volatile Organics by Method 5030\8260B data for 129555-05 continued...

Analyte		Result (ug/L)	RL	MDL	Flags
Chlorobenzene	ND		1	0.058	
1,1,1,2-Tetrachloroethane	ND		1	0.0688	
Bromoform	ND		1	0.083	
Bromobenzene	ND		1	0.0876	
1,1,2,2-Tetrachloroethane		2.19	1	0.068	
1,2,3-Trichloropropane	ND		1	0.156	
1,3-Dichlorobenzene	ND		1	0.0599	
1,4-Dichlorobenzene	ND		1	0.101	
1,2-Dichlorobenzene	ND		1	0.0435	
tert-Butyl alcohol	ND		5	0.573	

STL Seattle

Client Name:	AMEC Earth & Environmental, Inc.
Client ID:	A1LF-08-GW
Lab ID:	129555-06
Date Received:	8/26/2005
Date Prepared:	8/31/2005
Date Analyzed:	8/31/2005
% Solids	-
Dilution Factor	1

Halogenated Volatile Organics by Method 5030\8260B

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Dibromofluoromethane	85		80	120
Fluorobenzene	97.3		80	120
Toluene-D8	98.8		80	120
Ethylbenzene-d10	96.8		80	120
Bromofluorobenzene	97.7		80	120
Trifluorotoluene	108		80	120

Analyte	**Result (ug/L)**	**RL**	**MDL**	**Flags**
Dichlorodifluoromethane	ND	1	0.111	
Chloromethane	ND	1	0.288	
Vinyl chloride	ND	1	0.162	
Bromomethane	ND	1	0.0948	
Chloroethane	ND	1	0.187	
Trichlorofluoromethane	ND	1	0.14	
1,1-Dichloroethene	ND	1	0.177	
Methylene chloride	0.317	1	0.155	J
Methyl tert-butyl ether	ND	1	0.143	
trans-1,2-Dichloroethene	ND	1	0.145	
1,1-Dichloroethane	ND	1	0.197	
cis-1,2-Dichloroethene	ND	1	0.154	
Chloroform	ND	1	0.181	
1,1,1-Trichloroethane	ND	1	0.142	
Carbon Tetrachloride	ND	1	0.137	
1,2-Dichloroethane	ND	1	0.158	
Trichloroethene	ND	1	0.126	
1,2-Dichloropropane	ND	1	0.151	
Dibromomethane	ND	1	0.156	
Bromodichloromethane	ND	1	0.129	
cis-1,3-Dichloropropene	ND	1	0.14	
trans-1,3-Dichloropropene	ND	1	0.093	
1,1,2-Trichloroethane	ND	1	0.0939	
Tetrachloroethene	ND	1	0.144	
Dibromochloromethane	ND	1	0.12	
1,2-Dibromoethane	ND	1	0.132	

STL Seattle

Halogenated Volatile Organics by Method 5030\8260B data for 129555-06 continued...

Analyte	Result (ug/L)	RL	MDL	Flags
Chlorobenzene	ND	1	0.058	
1,1,1,2-Tetrachloroethane	ND	1	0.0688	
Bromoform	ND	1	0.083	
Bromobenzene	ND	1	0.0876	
1,1,2,2-Tetrachloroethane	ND	1	0.068	
1,2,3-Trichloropropane	ND	1	0.156	
1,3-Dichlorobenzene	ND	1	0.0599	
1,4-Dichlorobenzene	ND	1	0.101	
1,2-Dichlorobenzene	ND	1	0.0435	
tert-Butyl alcohol	ND	5	0.573	

STL Seattle

Client Name:	AMEC Earth & Environmental, Inc.
Client ID:	LFEXT-05-2.5
Lab ID:	129555-01
Date Received:	8/26/2005
Date Prepared:	9/1/2005
Date Analyzed:	9/8/2005
% Solids	89.91
Dilution Factor	10

Semivolatile Organics by EPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
2 - Fluorophenol	61.3		36	145
Phenol - d5	61.4		38	149
Nitrobenzene - d5	104		38	141
2 - Fluorobiphenyl	68.8		42	140
2,4,6 - Tribromophenol	78.8		28	143
p - Terphenyl - d14	101		42	151

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	RL	MDL	Flags
Phenol	ND	1710	247	
bis(2-Chloroethyl)ether	ND	3410	536	
2-Chlorophenol	ND	1710	230	
1,3-Dichlorobenzene	ND	1710	291	
1,4-Dichlorobenzene	ND	1710	287	
Benzyl Alcohol	ND	1710	679	
1,2-Dichlorobenzene	ND	1710	232	
2-Methylphenol	ND	1710	322	
bis(2-Chloroisopropyl)ether	ND	8530	2730	
3-&4-Methylphenol	ND	1710	403	
N-nitroso-di-n-propylamine	ND	1710	457	
Hexachloroethane	ND	1710	577	
Nitrobenzene	ND	3410	1030	
Isophorone	ND	3410	172	
2-Nitrophenol	ND	1710	389	
2,4-Dimethylphenol	ND	682	261	
Benzoic Acid	ND	20500	5460	
bis(2-Chloroethoxy)methane	ND	3410	655	
2,4-Dichlorophenol	ND	1710	303	
1,2,4-Trichlorobenzene	ND	1710	290	
Naphthalene	ND	682	302	
4-Chloroaniline	ND	3410	317	
Hexachlorobutadiene	ND	1710	249	
4-Chloro-3-methylphenol	ND	1710	305	
2-Methylnaphthalene	ND	682	177	
Hexachlorocyclopentadiene	ND	1710	271	

STL Seattle

Semivolatile Organics by EPA Method 8270 data for 129555-01 continued...

Analyte	Result (ug/kg)	RL	MDL	Flags
2,4,6-Trichlorophenol	ND	1710	270	
2,4,5-Trichlorophenol	ND	1710	265	
2-Chloronaphthalene	ND	682	230	
2-Nitroaniline	ND	682	185	
Dimethylphthalate	ND	3410	669	
Acenaphthylene	ND	682	201	
2,6-Dinitrotoluene	ND	1710	365	
3-Nitroaniline	ND	3410	1000	
Acenaphthene	ND	682	175	
2,4-Dinitrophenol	ND	17100	2380	
4-Nitrophenol	ND	17100	2790	
Dibenzofuran	ND	1710	158	
2,4-Dinitrotoluene	ND	3410	580	
Diethylphthalate	ND	3410	1230	
4-Chlorophenylphenylether	ND	3410	733	
Fluorene	ND	682	220	
4-Nitroaniline	ND	6820	1400	
4,6-Dinitro-2-methylphenol	ND	3410	614	
N-Nitrosodiphenylamine	ND	682	195	
4-Bromophenylphenylether	ND	3410	628	
Hexachlorobenzene	ND	682	180	
Pentachlorophenol	ND	3410	662	
Phenanthrene	ND	682	203	
Anthracene	ND	682	130	
Di-n-butylphthalate	ND	3410	621	
Fluoranthene	ND	682	345	
Pyrene	ND	682	116	
Butylbenzylphthalate	ND	6820	730	
3,3'-Dichlorobenzidine	ND	6820	1480	
Benzo(a)anthracene	ND	682	345	
Chrysene	ND	682	244	
bis(2-Ethylhexyl)phthalate	ND	6820	624	
Di-n-octylphthalate	ND	6820	628	
Benzofluoranthenes	ND	1360	309	
Benzo(a)pyrene	ND	682	216	
Indeno(1,2,3-cd)pyrene	ND	682	156	
Dibenz(a,h)anthracene	ND	682	212	
Benzo(g,h,i)perylene	ND	682	164	

STL Seattle

Client Name	AMEC Earth & Environmental, Inc.
Client ID:	LFEXT-05-2.5
Lab ID:	129555-01
Date Received:	8/26/2005
Date Prepared:	9/1/2005
Date Analyzed:	9/8/2005
% Solids	89.91
Dilution Factor	200

Tentatively Identified Compounds - USEPA Method 8270C

Sample results are on a dry weight basis.

TIC Name	Result (ug/kg)	Ret. Time (Min.)	Flags
Plumbane, diethyldimethyl-	31000	6.0793	J
Plumbane, diethyldimethyl-	35000	6.3695	J
1,3,5,7,9-Pentaethylcyclopentasiloxane	17000	6.9801	J
2-(4-Hydroxy-3-methoxyphenyl)-2-ethoxyethanol di	20000	7.0607	J
2-(4-(Dimethylamino)-1-naphthyl)naphthoquinone	19000	7.9001	J
5-Methyl-2-(N-ethyl-p-chlorophenylamino)-2-thiaz	20000	9.9497	J
2-(4-(Dimethylamino)-1-naphthyl)naphthoquinone	21000	10.4093	J
Hexadecane, 8-hexyl-8-pentyl-	20000	13.9584	J

Tentatively Identified Compounds - USEPA Method 8270C for 129555-01 continued ...

STL Seattle

Client Name:	AMEC Earth & Environmental, Inc.
Client ID:	A1LF12-3
Lab ID:	129555-03
Date Received:	8/26/2005
Date Prepared:	9/1/2005
Date Analyzed:	9/8/2005
% Solids	66.36
Dilution Factor	10

Semivolatile Organics by EPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
2 - Fluorophenol	68		36	145
Phenol - d5	58.8		38	149
Nitrobenzene - d5	86.3		38	141
2 - Fluorobiphenyl	84		42	140
2,4,6 - Tribromophenol	81.5		28	143
p - Terphenyl - d14	102		42	151

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	RL	MDL	Flags
Phenol	ND	2500	361	
bis(2-Chloroethyl)ether	ND	4990	784	
2-Chlorophenol	ND	2500	336	
1,3-Dichlorobenzene	ND	2500	425	
1,4-Dichlorobenzene	ND	2500	420	
Benzyl Alcohol	ND	2500	994	
1,2-Dichlorobenzene	ND	2500	339	
2-Methylphenol	ND	2500	471	
bis(2-Chloroisopropyl)ether	ND	12500	3990	
3-&4-Methylphenol	ND	2500	589	
N-nitroso-di-n-propylamine	ND	2500	669	
Hexachloroethane	ND	2500	844	
Nitrobenzene	ND	4990	1500	
Isophorone	ND	4990	252	
2-Nitrophenol	ND	2500	569	
2,4-Dimethylphenol	ND	999	382	
Benzoic Acid	ND	30000	7990	
bis(2-Chloroethoxy)methane	ND	4990	959	
2,4-Dichlorophenol	ND	2500	443	
1,2,4-Trichlorobenzene	ND	2500	424	
Naphthalene	ND	999	442	
4-Chloroaniline	ND	4990	464	
Hexachlorobutadiene	ND	2500	365	
4-Chloro-3-methylphenol	ND	2500	446	
2-Methylnaphthalene	ND	999	260	
Hexachlorocyclopentadiene	ND	2500	396	

STL Seattle

Semivolatile Organics by EPA Method 8270 data for 129555-03 continued...

Analyte	Result (ug/kg)	RL	MDL	Flags
2,4,6-Trichlorophenol	ND	2500	395	
2,4,5-Trichlorophenol	ND	2500	388	
2-Chloronaphthalene	ND	999	337	
2-Nitroaniline	ND	999	271	
Dimethylphthalate	ND	4990	979	
Acenaphthylene	ND	999	294	
2,6-Dinitrotoluene	ND	2500	534	
3-Nitroaniline	ND	4990	1460	
Acenaphthene	ND	999	256	
2,4-Dinitrophenol	ND	25000	3490	
4-Nitrophenol	ND	25000	4090	
Dibenzofuran	ND	2500	231	
2,4-Dinitrotoluene	ND	4990	849	
Diethylphthalate	ND	4990	1800	
4-Chlorophenylphenylether	ND	4990	1070	
Fluorene	ND	999	323	
4-Nitroaniline	ND	9990	2050	
4,6-Dinitro-2-methylphenol	ND	4990	899	
N-Nitrosodiphenylamine	ND	999	286	
4-Bromophenylphenylether	ND	4990	919	
Hexachlorobenzene	ND	999	264	
Pentachlorophenol	ND	4990	969	
Phenanthrene	ND	999	297	
Anthracene	ND	999	190	
Di-n-butylphthalate	ND	4990	909	
Fluoranthene	ND	999	504	
Pyrene	ND	999	170	
Butylbenzylphthalate	ND	9990	1070	
3,3'-Dichlorobenzidine	ND	9990	2170	
Benzo(a)anthracene	ND	999	504	
Chrysene	ND	999	357	
bis(2-Ethylhexyl)phthalate	ND	9990	914	
Di-n-octylphthalate	ND	9990	919	
Benzofluoranthenes	ND	2000	452	
Benzo(a)pyrene	ND	999	316	
Indeno(1,2,3-cd)pyrene	ND	999	228	
Dibenz(a,h)anthracene	ND	999	310	
Benzo(g,h,i)perylene	ND	999	240	

STL Seattle

Client Name	AMEC Earth & Environmental, Inc.
Client ID:	A1LF12-3
Lab ID:	129555-03
Date Received:	8/26/2005
Date Prepared:	9/1/2005
Date Analyzed:	9/8/2005
% Solids	66.36
Dilution Factor	200

Tentatively Identified Compounds - USEPA Method 8270C

Sample results are on a dry weight basis.

TIC Name	Result (ug/kg)	Ret. Time (Min.)	Flags
Cyclotetrasiloxane, octamethyl-	100000	5.2582	J
1,1,1,3,5,7,9,9,9-Nonamethylpentasiloxane	93000	5.3891	J
Cyclopentasiloxane, decamethyl-	89000	6.3585	J
2-(Acetoxymethyl)-3-(methoxycarbonyl)biphenylene	29000	7.0497	J
6,7,8-Trimethyl-7H-dibenzo[C,H]xanthene-5,9-diol	53000	7.4296	J
4H-1-Benzopyran-4-one, 2-(2,6-dimethoxyphenyl)-5	26000	7.8983	J
Pentasiloxane, dodecamethyl-	31000	8.4292	J
3-Trimethylsilyloxypalmitic acid, trimethylsilyl	32000	8.7707	J

Tentatively Identified Compounds - USEPA Method 8270C for 129555-03 continued ...

STL Seattle

Client Name	AMEC Earth & Environmental, Inc.
Client ID:	LFEXT-05-2.5
Lab ID:	129555-01
Date Received:	8/26/05
Date Prepared:	9/1/05
Date Analyzed:	9/1/05
Dilution Factor	1
% Solids	89.91

Metals by ICP - USEPA Method 6010

Sample results are on a dry weight basis.

Analyte	Result (mg/kg)	RL	Flags
Arsenic	ND	4.88	
Barium	108	0.488	
Cadmium	ND	2.44	
Chromium	33.9	1.95	
Lead	766	1.95	
Selenium	ND	9.76	
Silver	ND	14.6	

STL Seattle

Client Name	AMEC Earth & Environmental, Inc.
Client ID:	LFEXT-05-2.5
Lab ID:	129555-01
Date Received:	8/26/2005
Date Prepared:	9/1/2005
Date Analyzed:	9/1/2005
Dilution Factor	1
% Solids	89.91

Mercury by CVAA - USEPA Method 7471

Sample results are on a dry weight basis.

Analyte	Result (mg/kg)	RL	Flags
Mercury	0.105	0.0199	

STL Seattle

Client Name	AMEC Earth & Environmental, Inc.
Client ID:	LFEXT-08
Lab ID:	129555-02
Date Received:	8/26/05
Date Prepared:	9/6/05
Date Analyzed:	9/6/05
Dilution Factor	1

Metals by ICP - USEPA Method 6010

Analyte	Result (mg/L)	RL	MDL	Flags
Arsenic	0.0233	0.05	0.0094	J
Barium	0.186	0.005	0.0006	
Cadmium	ND	0.009	0.0005	
Chromium	0.21	0.02	0.0013	
Lead	0.0246	0.015	0.0022	
Selenium	ND	0.1	0.0136	
Silver	ND	0.02	0.0012	

STL Seattle

Client Name	AMEC Earth & Environmental, Inc.
Client ID:	LFEXT-08
Lab ID:	129555-02
Date Received:	8/26/2005
Date Prepared:	8/31/2005
Date Analyzed:	8/31/2005
Dilution Factor	1

Mercury by CVAA - USEPA Method 7470

Analyte	Result (mg/L)	RL	Flags
Mercury	ND	0.0002	

STL Seattle

Client Name	AMEC Earth & Environmental, Inc.
Client ID:	A1LF12-3
Lab ID:	129555-03
Date Received:	8/26/05
Date Prepared:	9/1/05
Date Analyzed:	9/1/05
Dilution Factor	1
% Solids	66.36

Metals by ICP - USEPA Method 6010

Sample results are on a dry weight basis.

Analyte	Result (mg/kg)	RL	Flags
Arsenic	ND	6.96	
Barium	27.4	0.696	
Cadmium	ND	3.48	
Chromium	12	2.78	
Lead	62.2	2.78	
Selenium	ND	13.9	
Silver	ND	20.9	

STL Seattle

Client Name	AMEC Earth & Environmental, Inc.
Client ID:	A1LF12-3
Lab ID:	129555-03
Date Received:	8/26/2005
Date Prepared:	9/1/2005
Date Analyzed:	9/1/2005
Dilution Factor	1
% Solids	66.36

Mercury by CVAA - USEPA Method 7471

Sample results are on a dry weight basis.

Analyte	Result (mg/kg)	RL	Flags
Mercury	0.0311	0.03	

STL Seattle

Client Name	AMEC Earth & Environmental, Inc.
Client ID:	LFEXT-21
Lab ID:	129555-04
Date Received:	8/26/05
Date Prepared:	9/6/05
Date Analyzed:	9/6/05
Dilution Factor	1

Metals by ICP - USEPA Method 6010

Analyte	Result (mg/L)	RL	MDL	Flags
Arsenic	0.0179	0.05	0.0094	J
Barium	0.19	0.005	0.0006	
Cadmium	ND	0.009	0.0005	
Chromium	0.452	0.02	0.0013	
Lead	0.0201	0.015	0.0022	
Selenium	ND	0.1	0.0136	
Silver	ND	0.02	0.0012	

STL Seattle

Client Name	AMEC Earth & Environmental, Inc.
Client ID:	LFEXT-21
Lab ID:	129555-04
Date Received:	8/26/2005
Date Prepared:	8/31/2005
Date Analyzed:	8/31/2005
Dilution Factor	1

Mercury by CVAA - USEPA Method 7470

Analyte	Result (mg/L)	RL	Flags
Mercury	ND	0.0002	

STL Seattle

Client Name	AMEC Earth & Environmental, Inc.
Client ID:	A1LF-07-GW
Lab ID:	129555-05
Date Received:	8/26/05
Date Prepared:	9/6/05
Date Analyzed:	9/6/05
Dilution Factor	1

Metals by ICP - USEPA Method 6010

Analyte	Result (mg/L)	RL	MDL	Flags
Arsenic	0.024	0.05	0.0094	J
Barium	0.323	0.005	0.0006	
Cadmium	ND	0.015	0.0005	
Chromium	0.292	0.02	0.0013	
Lead	0.0409	0.015	0.0022	
Selenium	ND	0.1	0.0136	
Silver	ND	0.03	0.0012	

STL Seattle

Client Name	AMEC Earth & Environmental, Inc.
Client ID:	A1LF-07-GW
Lab ID:	129555-05
Date Received:	8/26/2005
Date Prepared:	8/31/2005
Date Analyzed:	8/31/2005
Dilution Factor	1

Mercury by CVAA - USEPA Method 7470

Analyte	Result (mg/L)	RL	Flags
Mercury	ND	0.0002	

STL Seattle

Client Name	AMEC Earth & Environmental, Inc.
Client ID:	A1LF-08-GW
Lab ID:	129555-06
Date Received:	8/26/05
Date Prepared:	9/6/05
Date Analyzed:	9/6/05
Dilution Factor	1

Metals by ICP - USEPA Method 6010

Analyte	Result (mg/L)	RL	MDL	Flags
Arsenic	ND	0.05	0.0094	
Barium	0.0863	0.005	0.0006	
Cadmium	ND	0.005	0.0005	
Chromium	0.132	0.02	0.0013	
Lead	0.00785	0.015	0.0022	J
Selenium	ND	0.1	0.0136	
Silver	ND	0.01	0.0012	

STL Seattle

Client Name	AMEC Earth & Environmental, Inc.
Client ID:	A1LF-08-GW
Lab ID:	129555-06
Date Received:	8/26/2005
Date Prepared:	8/31/2005
Date Analyzed:	8/31/2005
Dilution Factor	1

Mercury by CVAA - USEPA Method 7470

Analyte	Result (mg/L)	RL	Flags
Mercury	ND	0.0002	

STL Seattle

Lab ID:	Method Blank - VOA1525
Date Received:	-
Date Prepared:	8/31/2005
Date Analyzed:	8/31/2005
% Solids	-
Dilution Factor	1

Halogenated Volatile Organics by Method 5030\8260B

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Dibromofluoromethane	89.1		80	120
Fluorobenzene	98.5		80	120
Toluene-D8	100		80	120
Ethylbenzene-d10	101		80	120
Bromofluorobenzene	102		80	120
Trifluorotoluene	94.3		80	120

Analyte	**Result (ug/L)**	**RL**	**MDL**	**Flags**
Dichlorodifluoromethane	ND	1	0.111	
Chloromethane	ND	1	0.288	
Vinyl chloride	ND	1	0.162	
Bromomethane	ND	1	0.0948	
Chloroethane	ND	1	0.187	
Trichlorofluoromethane	ND	1	0.14	
1,1-Dichloroethene	ND	1	0.177	
Methylene chloride	ND	1	0.155	
Methyl tert-butyl ether	ND	1	0.143	
trans-1,2-Dichloroethene	ND	1	0.145	
1,1-Dichloroethane	ND	1	0.197	
cis-1,2-Dichloroethene	ND	1	0.154	
Chloroform	ND	1	0.181	
1,1,1-Trichloroethane	ND	1	0.142	
Carbon Tetrachloride	ND	1	0.137	
1,2-Dichloroethane	ND	1	0.158	
Trichloroethene	ND	1	0.126	
1,2-Dichloropropane	ND	1	0.151	
Dibromomethane	ND	1	0.156	
Bromodichloromethane	ND	1	0.129	
cis-1,3-Dichloropropene	ND	1	0.14	
trans-1,3-Dichloropropene	ND	1	0.093	
1,1,2-Trichloroethane	ND	1	0.0939	
Tetrachloroethene	ND	1	0.144	
Dibromochloromethane	ND	1	0.12	
1,2-Dibromoethane	ND	1	0.132	

STL Seattle

Halogenated Volatile Organics by Method 5030\8260B data for VOA1525 continued...

Analyte	Result (ug/L)	RL	MDL	Flags
Chlorobenzene	ND	1	0.058	
1,1,1,2-Tetrachloroethane	ND	1	0.0688	
Bromoform	ND	1	0.083	
Bromobenzene	ND	1	0.0876	
1,1,2,2-Tetrachloroethane	ND	1	0.068	
1,2,3-Trichloropropane	ND	1	0.156	
1,3-Dichlorobenzene	ND	1	0.0599	
1,4-Dichlorobenzene	ND	1	0.101	
1,2-Dichlorobenzene	ND	1	0.0435	
tert-Butyl alcohol	ND	5	0.573	

STL Seattle

Lab ID:	Method Blank - VOA1527
Date Received:	-
Date Prepared:	9/1/2005
Date Analyzed:	9/2/2005
% Solids	
Dilution Factor	0.1

Volatile Organics by USEPA Method 5035\8260B

Surrogate	% Recovery	Flags	Recovery Limits Low	Recovery Limits High
Dibromofluoromethane	83.2		75	125
Fluorobenzene	94.6		75	125
Toluene-D8	101		75	125
Ethylbenzene-d10	107		75	125
Bromofluorobenzene	101		75	125
Trifluorotoluene	117		75	125

Sample results are on an as received basis.

Analyte	Result (ug/kg)	RL	Flags
Dichlorodifluoromethane	ND	40	
Chloromethane	ND	40	
Vinyl chloride	ND	8	
Bromomethane	ND	40	
Chloroethane	ND	80	
Trichlorofluoromethane	ND	40	
1,1-Dichloroethene	ND	8	
Methylene chloride	22.9	8	N
trans-1,2-Dichloroethene	ND	40	
1,1-Dichloroethane	ND	40	
2,2-Dichloropropane	ND	40	
cis-1,2-Dichloroethene	ND	40	
Bromochloromethane	ND	40	
Chloroform	ND	40	
1,1,1-Trichloroethane	ND	8	
Carbon Tetrachloride	ND	8	
1,1-Dichloropropene	ND	40	
Benzene	ND	8	
1,2-Dichloroethane	ND	8	
Trichloroethene	ND	8	
1,2-Dichloropropane	ND	8	
Dibromomethane	ND	40	
Bromodichloromethane	ND	40	
cis-1,3-Dichloropropene	ND	40	
Toluene	ND	40	
trans-1,3-Dichloropropene	ND	40	

STL Seattle

Volatile Organics by USEPA Method 5035\8260B data for VOA1527 continued...

Analyte	Result (ug/kg)	RL	Flags
1,1,2-Trichloroethane	ND	40	
Tetrachloroethene	ND	8	
1,3-Dichloropropane	ND	8	
Dibromochloromethane	ND	40	
1,2-Dibromoethane	ND	8	
Chlorobenzene	ND	40	
Ethylbenzene	ND	40	
1,1,1,2-Tetrachloroethane	ND	40	
m,p-Xylene	ND	80	
o-Xylene	ND	40	
Styrene	ND	40	
Bromoform	ND	40	
Isopropylbenzene	ND	40	
Bromobenzene	ND	40	
n-Propylbenzene	ND	40	
1,1,2,2-Tetrachloroethane	ND	8	
1,2,3-Trichloropropane	ND	8	
2-Chlorotoluene	ND	40	
1,3,5-Trimethylbenzene	ND	40	
4-Chlorotoluene	ND	40	
t-Butylbenzene	ND	40	
1,2,4-Trimethylbenzene	ND	40	
sec-Butylbenzene	ND	40	
1,3-Dichlorobenzene	ND	40	
4-Isopropyltoluene	ND	40	
1,4-Dichlorobenzene	ND	40	
n-Butylbenzene	ND	40	
1,2-Dichlorobenzene	ND	40	
1,2-Dibromo-3-chloropropane	ND	40	
1,2,4-Trichlorobenzene	ND	40	
1,2,3-Trichlorobenzene	ND	40	
Hexachlorobutadiene	ND	40	
Naphthalene	ND	40	

STL Seattle

Blank Spike/Blank Spike Duplicate Report

Lab ID:	VOA1525
Date Prepared:	8/31/2005
Date Analyzed:	8/31/2005
QC Batch ID:	VOA1525

Halogenated Volatile Organics by Method 5030\8260B

Compound Name	Blank Result (ug/L)	Spike Amount (ug/L)	BS Result (ug/L)	BS % Rec.	BSD Result (ug/L)	BSD % Rec.	RPD	Flag
1,1-Dichloroethene	0	5	4.83	96.7	4.8	96.1	-0.62	
Benzene	0	5	4.78	95.5	4.5	90	-5.9	
Trichloroethene	0	5	4.59	91.9	4.26	85.3	-7.4	
Toluene	0	5	4.57	91.4	4.59	91.8	0.44	
Chlorobenzene	0	5	4.72	94.5	4.59	91.7	-3	

STL Seattle

Blank Spike/Blank Spike Duplicate Report

Lab ID:	VOA1527
Date Prepared:	9/1/2005
Date Analyzed:	9/2/2005
QC Batch ID:	VOA1527

Volatile Organics by USEPA Method 5035\8260B

Compound Name	Blank Result (ug/kg)	Spike Amount (ug/kg)	BS Result (ug/kg)	BS % Rec.	BSD Result (ug/kg)	BSD % Rec.	RPD	Flag
1,1-Dichloroethene	0	200	167	83.6	161	80.5	-3.8	
Benzene	0	200	191	95.4	187	93.7	-1.8	
Trichloroethene	0	200	204	102	199	99.5	-2.5	
Toluene	0	200	219	109	216	108	-0.92	
Chlorobenzene	0	200	224	112	223	112	0	

STL Seattle

Lab ID:	Blank Spike - SVOA1525
Date Received:	-
Date Prepared:	8/31/2005
Date Analyzed:	8/31/2005
% Solids	-
Dilution Factor	1

Halogenated Volatile Organics by Method 5030\8260B

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Dibromofluoromethane	90.8		80	120
Fluorobenzene	97.5		80	120
Toluene-D8	101		80	120
Ethylbenzene-d10	104		80	120
Bromofluorobenzene	103		80	120
Trifluorotoluene	97.4		80	120

Analyte	**Result (ug/L)**	**RL**	**MDL**	**Flags**
Dichlorodifluoromethane	6.32	1	0.111	
Chloromethane	3.78	1	0.288	
Vinyl chloride	4.96	1	0.162	
Bromomethane	4.57	1	0.0948	
Chloroethane	4.3	1	0.187	
Trichlorofluoromethane	4.89	1	0.14	
1,1-Dichloroethene	4.83	1	0.177	
Methylene chloride	4.31	1	0.155	
trans-1,2-Dichloroethene	4.79	1	0.145	
1,1-Dichloroethane	5.2	1	0.197	
cis-1,2-Dichloroethene	4.53	1	0.154	
Chloroform	4.51	1	0.181	
1,1,1-Trichloroethane	4.55	1	0.142	
Carbon Tetrachloride	4.44	1	0.137	
1,2-Dichloroethane	5.01	1	0.158	
Trichloroethene	4.59	1	0.126	
1,2-Dichloropropane	5	1	0.151	
Dibromomethane	4.97	1	0.156	
Bromodichloromethane	4.5	1	0.129	
cis-1,3-Dichloropropene	4.87	1	0.14	
trans-1,3-Dichloropropene	4.34	1	0.093	
1,1,2-Trichloroethane	4.91	1	0.0939	
Tetrachloroethene	4.47	1	0.144	
Dibromochloromethane	4.3	1	0.12	
1,2-Dibromoethane	5.06	1	0.132	
Chlorobenzene	4.72	1	0.058	

STL Seattle

Halogenated Volatile Organics by Method 5030\8260B data for SVOA1525 continued...

Analyte	Result (ug/L)	RL	MDL	Flags
1,1,1,2-Tetrachloroethane	4.44	1	0.0688	
Bromoform	4.61	1	0.083	
Bromobenzene	4.63	1	0.0876	
1,1,2,2-Tetrachloroethane	4.88	1	0.068	
1,2,3-Trichloropropane	11.8	1	0.156	
1,3-Dichlorobenzene	4.5	1	0.0599	
1,4-Dichlorobenzene	4.59	1	0.101	
1,2-Dichlorobenzene	4.83	1	0.0435	

STL Seattle

Lab ID:	Blank Spike Duplicate - DVOA1525
Date Received:	-
Date Prepared:	8/31/2005
Date Analyzed:	8/31/2005
% Solids	-
Dilution Factor	1

Halogenated Volatile Organics by Method 5030\8260B

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Dibromofluoromethane	93		80	120
Fluorobenzene	105		80	120
Toluene-D8	97.2		80	120
Ethylbenzene-d10	96.3		80	120
Bromofluorobenzene	101		80	120
Trifluorotoluene	93.6		80	120

Analyte	**Result (ug/L)**	**RL**	**MDL**	**Flags**
Dichlorodifluoromethane	6.23	1	0.111	
Chloromethane	4.08	1	0.288	
Vinyl chloride	4.7	1	0.162	
Bromomethane	4.54	1	0.0948	
Chloroethane	5.51	1	0.187	
Trichlorofluoromethane	5.02	1	0.14	
1,1-Dichloroethene	4.8	1	0.177	
Methylene chloride	4.54	1	0.155	
trans-1,2-Dichloroethene	4.76	1	0.145	
1,1-Dichloroethane	5.3	1	0.197	
cis-1,2-Dichloroethene	4.55	1	0.154	
Chloroform	4.53	1	0.181	
1,1,1-Trichloroethane	4.46	1	0.142	
Carbon Tetrachloride	4.49	1	0.137	
1,2-Dichloroethane	4.92	1	0.158	
Trichloroethene	4.26	1	0.126	
1,2-Dichloropropane	5.29	1	0.151	
Dibromomethane	4.82	1	0.156	
Bromodichloromethane	4.36	1	0.129	
cis-1,3-Dichloropropene	4.49	1	0.14	
trans-1,3-Dichloropropene	4.04	1	0.093	
1,1,2-Trichloroethane	4.52	1	0.0939	
Tetrachloroethene	4.19	1	0.144	
Dibromochloromethane	4.16	1	0.12	
1,2-Dibromoethane	4.79	1	0.132	
Chlorobenzene	4.59	1	0.058	

STL Seattle

Halogenated Volatile Organics by Method 5030\8260B data for DVOA1525 continued...

Analyte	Result (ug/L)	RL	MDL	Flags
1,1,1,2-Tetrachloroethane	4.41	1	0.0688	
Bromoform	4.31	1	0.083	
Bromobenzene	4.37	1	0.0876	
1,1,2,2-Tetrachloroethane	4.69	1	0.068	
1,2,3-Trichloropropane	7.54	1	0.156	
1,3-Dichlorobenzene	4.36	1	0.0599	
1,4-Dichlorobenzene	4.5	1	0.101	
1,2-Dichlorobenzene	4.69	1	0.0435	

STL Seattle

Lab ID:	Method Blank - SS1524
Date Received:	-
Date Prepared:	9/1/2005
Date Analyzed:	9/6/2005
% Solids	
Dilution Factor	1

Semivolatile Organics by EPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
2 - Fluorophenol	90.8		36	145
Phenol - d5	87.9		38	149
Nitrobenzene - d5	81.3		38	141
2 - Fluorobiphenyl	107		42	140
2,4,6 - Tribromophenol	98.5		28	143
p - Terphenyl - d14	97.3		42	151

Sample results are on an as received basis.

Analyte	Result (ug/kg)	RL	MDL	Flags
Phenol	ND	100	14.5	
bis(2-Chloroethyl)ether	ND	200	31.4	
2-Chlorophenol	ND	100	13.5	
1,3-Dichlorobenzene	ND	100	17	
1,4-Dichlorobenzene	ND	100	16.8	
Benzyl Alcohol	ND	100	39.8	
1,2-Dichlorobenzene	ND	100	13.6	
2-Methylphenol	ND	100	18.9	
bis(2-Chloroisopropyl)ether	ND	500	160	
3-&4-Methylphenol	ND	100	23.6	
N-nitroso-di-n-propylamine	ND	100	26.8	
Hexachloroethane	ND	100	33.8	
Nitrobenzene	ND	200	60.2	
Isophorone	ND	200	10.1	
2-Nitrophenol	ND	100	22.8	
2,4-Dimethylphenol	ND	40	15.3	
Benzoic Acid	ND	1200	320	
bis(2-Chloroethoxy)methane	ND	200	38.4	
2,4-Dichlorophenol	ND	100	17.7	
1,2,4-Trichlorobenzene	ND	100	17	
Naphthalene	ND	40	17.7	
4-Chloroaniline	ND	200	18.6	
Hexachlorobutadiene	ND	100	14.6	
4-Chloro-3-methylphenol	ND	100	17.9	
2-Methylnaphthalene	ND	40	10.4	
Hexachlorocyclopentadiene	ND	100	15.9	

STL Seattle

Semivolatile Organics by EPA Method 8270 data for SS1524 continued...

Analyte		Result (ug/kg)	RL	MDL	Flags
2,4,6-Trichlorophenol	ND		100	15.8	
2,4,5-Trichlorophenol	ND		100	15.5	
2-Chloronaphthalene	ND		40	13.5	
2-Nitroaniline	ND		40	10.9	
Dimethylphthalate	ND		200	39.2	
Acenaphthylene	ND		40	11.8	
2,6-Dinitrotoluene	ND		100	21.4	
3-Nitroaniline	ND		200	58.6	
Acenaphthene	ND		40	10.3	
2,4-Dinitrophenol	ND		1000	140	
4-Nitrophenol	ND		1000	164	
Dibenzofuran	ND		100	9.24	
2,4-Dinitrotoluene	ND		200	34	
Diethylphthalate	ND		200	72.2	
4-Chlorophenylphenylether	ND		200	43	
Fluorene	ND		40	12.9	
4-Nitroaniline	ND		400	82	
4,6-Dinitro-2-methylphenol	ND		200	36	
N-Nitrosodiphenylamine	ND		40	11.4	
4-Bromophenylphenylether	ND		200	36.8	
Hexachlorobenzene	ND		40	10.6	
Pentachlorophenol	ND		200	38.8	
Phenanthrene	ND		40	11.9	
Anthracene	ND		40	7.6	
Di-n-butylphthalate	ND		200	36.4	
Fluoranthene	ND		40	20.2	
Pyrene	ND		40	6.8	
Butylbenzylphthalate	ND		400	42.8	
3,3'-Dichlorobenzidine	ND		400	86.8	
Benzo(a)anthracene	ND		40	20.2	
Chrysene	ND		40	14.3	
bis(2-Ethylhexyl)phthalate		56	400	36.6	J
Di-n-octylphthalate	ND		400	36.8	
Benzofluoranthenes	ND		80	18.1	
Benzo(a)pyrene	ND		40	12.7	
Indeno(1,2,3-cd)pyrene	ND		40	9.12	
Dibenz(a,h)anthracene	ND		40	12.4	
Benzo(g,h,i)perylene	ND		40	9.62	

STL Seattle

Lab ID:	Method Blank - SS1524
Date Received:	-
Date Prepared:	9/1/2005
Date Analyzed:	9/6/2005
% Solids	
Dilution Factor	20

Tentatively Identified Compounds - USEPA Method 8270C

Sample results are on an as received basis.

TIC Name	Result (ug/kg)	Ret. Time (Min.)	Flags
Benzeneacetic acid, .alpha.,3,4-tris[(trimethyls	530	13.3991	J
Pentadecane	550	13.4686	J
3-Butoxy-1,1,1,5,5,5-hexamethyl-3-(trimethylsilo	610	13.6307	J
Dodecane, 2,6,10-trimethyl-	810	13.9108	J
Silane, [[4-[1,2-bis[(trimethylsilyl)oxy]ethyl]-	590	13.9804	J
1,3-Benzodioxole, 5,5'-(tetrahydro-1H,3H-furo[3,	400	14.0792	J
5,9,13-Pentadecatrien-2-one, 6,10,14-trimethyl-,	880	14.1305	J
Decane, 3-methyl-	700	14.4106	J
Phenethylamine, N-methyl-.beta.,3,4-tris(trimeth	810	14.6788	J
Silane, [[4-[1,2-bis[(trimethylsilyl)oxy]ethyl]-	670	15.5293	J
Propanoic acid, 3-[bis[(trimethylsilyl)oxy]phosp	390	16.5893	J

Tentatively Identified Compounds - USEPA Method 8270C for ss1524 continued ...

STL Seattle

Blank Spike/Blank Spike Duplicate Report

Lab ID:	SS1524
Date Prepared:	9/1/2005
Date Analyzed:	9/6/2005
QC Batch ID:	SS1524

Semivolatile Organics by EPA Method 8270

Compound Name	Blank Result (ug/kg)	Spike Amount (ug/kg)	BS Result (ug/kg)	BS % Rec.	BSD Result (ug/kg)	BSD % Rec.	RPD	Flag
Phenol	0	1000	778	77.8	776	77.6	-0.26	
2-Chlorophenol	0	1000	827	82.7	853	85.3	3.1	
1,4-Dichlorobenzene	0	1000	944	94.4	984	98.4	4.1	
N-nitroso-di-n-propylamine	0	1000	768	76.8	868	86.8	12	
1,2,4-Trichlorobenzene	0	1000	954	95.4	978	97.8	2.5	
Naphthalene	0	1000	883	88.3	894	89.4	1.2	
4-Chloro-3-methylphenol	0	1000	809	80.9	758	75.8	-6.5	
2-Methylnaphthalene	0	1000	846	84.6	947	94.7	11	
Acenaphthylene	0	1000	882	88.2	869	86.9	-1.5	
Acenaphthene	0	1000	901	90.1	904	90.4	0.33	
4-Nitrophenol	0	1000	1000	100	913	91.3	-9.1	
2,4-Dinitrotoluene	0	1000	796	79.6	851	85.1	6.7	
Fluorene	0	1000	879	87.9	833	83.3	-5.4	
Pentachlorophenol	0	1000	536	53.6	590	59	9.6	
Phenanthrene	0	1000	894	89.4	950	95	6.1	
Anthracene	0	1000	905	90.5	917	91.7	1.3	
Fluoranthene	0	1000	837	83.7	910	91	8.4	
Pyrene	0	1000	873	87.3	914	91.4	4.6	
Benzo(a)anthracene	0	1000	877	87.7	890	89	1.5	
Chrysene	0	1000	920	92	925	92.5	0.54	
Benzofluoranthenes	0	2000	1890	94.7	1910	95.5	0.84	
Benzo(a)pyrene	0	1000	978	97.8	978	97.8	0	
Indeno(1,2,3-cd)pyrene	0	1000	1240	124	1320	132	6.3	
Dibenz(a,h)anthracene	0	1000	963	96.3	956	95.6	-0.73	
Benzo(g,h,i)perylene	0	1000	957	95.7	1030	103	7.3	

STL Seattle

Lab ID:	Blank Spike - SSS1524
Date Received:	-
Date Prepared:	9/1/2005
Date Analyzed:	9/6/2005
% Solids	
Dilution Factor	1

Semivolatile Organics by EPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
2 - Fluorophenol	92.9		36	145
Phenol - d5	90.1		38	149
Nitrobenzene - d5	88.1		38	141
2 - Fluorobiphenyl	93.9		42	140
2,4,6 - Tribromophenol	85.9		28	143
p - Terphenyl - d14	101		42	151

Sample results are on an as received basis.

Analyte	Result (ug/kg)	RL	MDL	Flags
Phenol	778	100	14.5	
2-Chlorophenol	827	100	13.5	
1,4-Dichlorobenzene	944	100	16.8	
N-nitroso-di-n-propylamine	768	100	26.8	
1,2,4-Trichlorobenzene	954	100	17	
Naphthalene	883	40	17.7	
4-Chloro-3-methylphenol	809	100	17.9	
2-Methylnaphthalene	846	40	10.4	
Acenaphthylene	882	40	11.8	
Acenaphthene	901	40	10.3	
4-Nitrophenol	1000	1000	164	
2,4-Dinitrotoluene	796	200	34	
Fluorene	879	40	12.9	
Pentachlorophenol	536	200	38.8	
Phenanthrene	894	40	11.9	
Anthracene	905	40	7.6	
Fluoranthene	837	40	20.2	
Pyrene	873	40	6.8	
Benzo(a)anthracene	877	40	20.2	
Chrysene	920	40	14.3	
Benzofluoranthenes	1890	80	18.1	
Benzo(a)pyrene	978	40	12.7	
Indeno(1,2,3-cd)pyrene	1240	40	9.12	
Dibenz(a,h)anthracene	963	40	12.4	
Benzo(g,h,i)perylene	957	40	9.62	

STL Seattle

Lab ID:	Blank Spike Duplicate - DSS1524
Date Received:	-
Date Prepared:	9/1/2005
Date Analyzed:	9/6/2005
% Solids	
Dilution Factor	1

Semivolatile Organics by EPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
2 - Fluorophenol	91.2		36	145
Phenol - d5	87.3		38	149
Nitrobenzene - d5	91.1		38	141
2 - Fluorobiphenyl	92.8		42	140
2,4,6 - Tribromophenol	90.6		28	143
p - Terphenyl - d14	99.7		42	151

Sample results are on an as received basis.

Analyte	Result (ug/kg)	RL	MDL	Flags
Phenol	776	100	14.5	
2-Chlorophenol	853	100	13.5	
1,4-Dichlorobenzene	984	100	16.8	
N-nitroso-di-n-propylamine	868	100	26.8	
1,2,4-Trichlorobenzene	978	100	17	
Naphthalene	894	40	17.7	
4-Chloro-3-methylphenol	758	100	17.9	
2-Methylnaphthalene	947	40	10.4	
Acenaphthylene	869	40	11.8	
Acenaphthene	904	40	10.3	
4-Nitrophenol	913	1000	164	J
2,4-Dinitrotoluene	851	200	34	
Fluorene	833	40	12.9	
Pentachlorophenol	590	200	38.8	
Phenanthrene	950	40	11.9	
Anthracene	917	40	7.6	
Fluoranthene	910	40	20.2	
Pyrene	914	40	6.8	
Benzo(a)anthracene	890	40	20.2	
Chrysene	925	40	14.3	
Benzofluoranthenes	1910	80	18.1	
Benzo(a)pyrene	978	40	12.7	
Indeno(1,2,3-cd)pyrene	1320	40	9.12	
Dibenz(a,h)anthracene	956	40	12.4	
Benzo(g,h,i)perylene	1030	40	9.62	

STL Seattle

Matrix Spike/Matrix Spike Duplicate Report

Client Sample ID:	LFEXT-05-2.5
Lab ID:	129555-01
Date Prepared:	9/1/2005
Date Analyzed:	9/16/2005
QC Batch ID:	SS1524

Semivolatile Organics by EPA Method 8270

Compound Name	Sample Result (ug/kg)	Spike Amount (ug/kg)	MS Result (ug/kg)	MS % Rec.	MSD Result (ug/kg)	MSD % Rec.	RPD	Flag
Phenol	0	1410	991	70.3	997	72.6	3.2	
2-Chlorophenol	0	1410	1340	95.1	1050	76.9	-21	
1,4-Dichlorobenzene	0	1410	1420	101	1220	88.8	-13	
N-nitroso-di-n-propylamine	0	1410	1610	114	1510	110	-3.6	
1,2,4-Trichlorobenzene	0	1410	1130	79.9	1400	102	24	
Naphthalene	0	1410	1320	93.6	1380	101	7.6	
4-Chloro-3-methylphenol	0	1410	891	63.2	990	72.2	13	
2-Methylnaphthalene	0	1410	1290	91.7	1290	94.1	2.6	
Acenaphthylene	0	1410	1180	84	1120	82	-2.4	
Acenaphthene	0	1410	1270	89.8	1180	86.2	-4.1	
4-Nitrophenol	0	1410	518	36.7	642	46.8	24	
2,4-Dinitrotoluene	0	1410	1110	79.1	1220	89.1	12	
Fluorene	0	1410	992	70.4	1110	80.7	14	
Pentachlorophenol	0	1410	1270	89.9	1260	91.7	2	
Phenanthrene	0	1410	1380	98.2	1350	98.1	-0.1	
Anthracene	0	1410	1260	89.2	1170	85.4	-4.4	
Fluoranthene	0	1410	1290	91.6	1530	112	20	
Pyrene	0	1410	1510	107	1390	101	-5.8	
Benzo(a)anthracene	0	1410	1400	99.3	1480	108	8.4	
Chrysene	0	1410	1320	93.5	1410	103	9.7	
Benzofluoranthenes	0	2820	2390	84.6	2410	88	3.9	
Benzo(a)pyrene	0	1410	1170	82.7	1210	88.5	6.8	
Indeno(1,2,3-cd)pyrene	0	1410	1020	72.1	1010	73.6	2.1	
Dibenz(a,h)anthracene	0	1410	955	67.8	911	66.4	-2.1	
Benzo(g,h,i)perylene	0	1410	1180	83.7	1200	87.3	4.2	

STL Seattle

Client Name:	AMEC Earth & Environmental, Inc.
Client ID:	LFEXT-05-2.5 - ms
Lab ID:	129555S01
Date Received:	8/26/2005
Date Prepared:	9/1/2005
Date Analyzed:	9/16/2005
% Solids	-
Dilution Factor	10

Semivolatile Organics by EPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
2 - Fluorophenol	78.7		2	120
Phenol - d5	87.4		1	102
Nitrobenzene - d5	93.7		34	146
2 - Fluorobiphenyl	81.3		35	143
2,4,6 - Tribromophenol	89.1		29	151
p - Terphenyl - d14	104		35	166

Analyte		Result (ug/L)	RL	MDL	Flags
Phenol		991	5640	130	J
2-Chlorophenol		1340	5640	1190	J
1,4-Dichlorobenzene		1420	5640	891	J
N-nitroso-di-n-propylamine		1610	5640	1040	J
1,2,4-Trichlorobenzene		1130	5640	347	J
Naphthalene		1320	1410	490	J
4-Chloro-3-methylphenol		891	5640	688	J
2-Methylnaphthalene		1290	1410	420	J
Acenaphthylene		1180	564	67.7	
Acenaphthene		1270	564	95.8	
4-Nitrophenol	ND		28200	3330	
2,4-Dinitrotoluene	ND		5640	1620	
Fluorene		992	564	47.9	
Pentachlorophenol	ND		5640	5640	
Phenanthrene		1380	564	104	
Anthracene		1260	564	53.6	
Fluoranthene		1290	564	161	
Pyrene		1510	564	81.7	
Benzo(a)anthracene		1400	564	147	
Chrysene		1320	564	237	
Benzofluoranthenes		2390	2820	335	J
Benzo(a)pyrene		1170	564	93	
Indeno(1,2,3-cd)pyrene		1020	564	78.9	
Dibenz(a,h)anthracene		955	564	87.4	
Benzo(g,h,i)perylene		1180	564	144	

STL Seattle

Client Name:	AMEC Earth & Environmental, Inc.
Client ID:	LFEXT-05-2.5 - msd
Lab ID:	129555D01
Date Received:	8/26/2005
Date Prepared:	9/1/2005
Date Analyzed:	9/16/2005
% Solids	-
Dilution Factor	10

Semivolatile Organics by EPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
2 - Fluorophenol	69.6		2	120
Phenol - d5	69.4		1	102
Nitrobenzene - d5	136		34	146
2 - Fluorobiphenyl	85.6		35	143
2,4,6 - Tribromophenol	99.1		29	151
p - Terphenyl - d14	97.5		35	166

Analyte	Result (ug/L)	RL	MDL	Flags
Phenol	997	5490	126	J
2-Chlorophenol	ND	5490	1160	
1,4-Dichlorobenzene	1220	5490	867	J
N-nitroso-di-n-propylamine	1510	5490	1010	J
1,2,4-Trichlorobenzene	1400	5490	337	J
Naphthalene	1380	1370	477	
4-Chloro-3-methylphenol	990	5490	669	J
2-Methylnaphthalene	1290	1370	409	J
Acenaphthylene	1120	549	65.8	
Acenaphthene	1180	549	93.3	
4-Nitrophenol	ND	27400	3240	
2,4-Dinitrotoluene	ND	5490	1570	
Fluorene	1110	549	46.6	
Pentachlorophenol	ND	5490	5490	
Phenanthrene	1350	549	102	
Anthracene	1170	549	52.1	
Fluoranthene	1530	549	156	
Pyrene	1390	549	79.6	
Benzo(a)anthracene	1480	549	143	
Chrysene	1410	549	230	
Benzofluoranthenes	2410	2740	326	J
Benzo(a)pyrene	1210	549	90.5	
Indeno(1,2,3-cd)pyrene	1010	549	76.8	
Dibenz(a,h)anthracene	911	549	85.1	
Benzo(g,h,i)perylene	1200	549	140	

STL Seattle

Lab ID:	Method Blank - SP1521
Date Received:	-
Date Prepared:	9/1/05
Date Analyzed:	9/1/05
Dilution Factor	1

Metals by ICP - USEPA Method 6010

Sample results are on an as received basis.

Analyte	Result (mg/kg)	RL	Flags
Arsenic	ND	5	
Barium	ND	0.5	
Cadmium	ND	0.5	
Chromium	ND	2	
Lead	ND	2	
Selenium	ND	10	
Silver	ND	1	

STL Seattle

Lab ID:	Method Blank - TP1529
Date Received:	-
Date Prepared:	9/6/05
Date Analyzed:	9/6/05
Dilution Factor	1

Metals by ICP - USEPA Method 6010

Analyte	Result (mg/L)	RL	MDL	Flags
Arsenic	ND	0.05	0.0094	
Barium	ND	0.005	0.0006	
Cadmium	ND	0.005	0.0005	
Chromium	ND	0.02	0.0013	
Lead	ND	0.015	0.0022	
Selenium	ND	0.1	0.0136	
Silver	ND	0.01	0.0012	

STL Seattle

Lab ID:	Method Blank - ZT447
Date Received:	-
Date Prepared:	8/31/2005
Date Analyzed:	8/31/2005
Dilution Factor	1

Mercury by CVAA - USEPA Method 7470

Analyte	Result (mg/L)	RL	Flags
Mercury	ND	0.0002	

STL Seattle

Lab ID:	Method Blank - ZS449
Date Received:	-
Date Prepared:	9/1/2005
Date Analyzed:	9/1/2005
Dilution Factor	1

Mercury by CVAA - USEPA Method 7471

Sample results are on an as received basis.

Analyte	Result (mg/kg)	RL	Flags
Mercury	ND	0.02	

STL Seattle

Matrix Spike Report

Client Sample ID:	T7-PV-50
Lab ID:	129591-01
Date Prepared:	9/1/05
Date Analyzed:	9/1/05
QC Batch ID:	SP1521

Metals by ICP - USEPA Method 6010

Parameter Name	Sample Result (mg/kg)	Spike Amount (mg/kg)	MS Result (mg/kg)	MS % Rec.	Flag
Arsenic	0	372	374	100	
Barium	46.4	372	420	100	
Cadmium	0	9.3	8	86	
Chromium	23	37.2	66.5	117	
Lead	4.64	93	96.8	99	
Selenium	0	372	356	96	
Silver	0	55.8	26.1	47	x7

STL Seattle

Matrix Spike Report

Client Sample ID:	RGRW4/GW
Lab ID:	129514-01
Date Prepared:	9/6/05
Date Analyzed:	9/6/05
QC Batch ID:	TP1529

Metals by ICP - USEPA Method 6010

Parameter Name	Sample Result (mg/L)	Spike Amount (mg/L)	MS Result (mg/L)	MS % Rec.	Flag
Arsenic	0	4	4.39	110	
Barium	0.0229	4	4.12	102	
Cadmium	0	0.1	0.0972	97	
Chromium	0.00264	0.4	0.407	101	
Lead	0	1	1.05	105	
Selenium	0	4	4.08	102	
Silver	0.0013	0.6	0.577	96	

STL Seattle

Matrix Spike Report

Client Sample ID:	GW-082605-PIER25-8-008
Lab ID:	129560-02
Date Prepared:	8/31/2005
Date Analyzed:	8/31/2005
QC Batch ID:	ZT447

Mercury by CVAA - USEPA Method 7470

Parameter Name	Sample Result (mg/L)	Spike Amount (mg/L)	MS Result (mg/L)	MS % Rec.	Flag
Mercury	0	0.002	0.00177	89	

STL Seattle

Matrix Spike Report

Client Sample ID:	LFEXT-05-2.5
Lab ID:	129555-01
Date Prepared:	9/1/2005
Date Analyzed:	9/1/2005
QC Batch ID:	ZS449

Mercury by CVAA - USEPA Method 7471

Parameter Name	Sample Result (mg/kg)	Spike Amount (mg/kg)	MS Result (mg/kg)	MS % Rec.	Flag
Mercury	0.105	0.207	0.295	92	

STL Seattle

Blank Spike/Blank Spike Duplicate Report

Lab ID:	SP1521
Date Prepared:	9/1/05
Date Analyzed:	9/1/05
QC Batch ID:	SP1521

Metals by ICP - USEPA Method 6010

Compound Name	Blank Result (mg/kg)	Spike Amount (mg/kg)	BS Result (mg/kg)	BS % Rec.	BSD Result (mg/kg)	BSD % Rec.	RPD	Flag
Silver	0	60	62.8	105	61.3	102	-2.9	

STL Seattle

Duplicate Report

Client Sample ID:	T7-PV-50
Lab ID:	129591-01
Date Prepared:	9/1/05
Date Analyzed:	9/1/05
QC Batch ID:	SP1521

Metals by ICP - USEPA Method 6010

Parameter Name	Sample Result (mg/kg)	Duplicate Result (mg/kg)	RPD %	Flag
Arsenic	0	0	NC	
Barium	46	38	19.0	
Cadmium	0	0	NC	
Chromium	23	23	0.0	
Lead	4.6	3.9	16.0	
Selenium	0	0	NC	
Silver	0	0	NC	

STL Seattle

Duplicate Report

Client Sample ID:	RGRW4/GW
Lab ID:	129514-01
Date Prepared:	9/6/05
Date Analyzed:	9/6/05
QC Batch ID:	TP1529

Metals by ICP - USEPA Method 6010

Parameter Name	Sample Result (mg/L)	Duplicate Result (mg/L)	RPD %	Flag
Arsenic	0	0	NC	
Barium	0.023	0.023	0.0	
Cadmium	0	0	NC	
Chromium	0.0026	0.0029	-11.0	
Lead	0	0	NC	
Selenium	0	0	NC	
Silver	0.0013	0.0016	-21.0	

STL Seattle

Laboratory Control Sample

Lab ID:	RTP1529
Date Prepared:	9/6/05
Date Analyzed:	9/6/05
QC Batch ID:	TP1529

Metals by ICP - USEPA Method 6010

Parameter Name	Sample Result (mg/L)	True Value (mg/L)	Lower Limit (mg/L)	Upper Limit (mg/L)	Flag
Arsenic	4.2	4	3.2	4.8	Pass
Barium	4.1	4	3.2	4.8	Pass
Cadmium	0.098	0.1	0.08	0.12	Pass
Chromium	0.41	0.4	0.32	0.48	Pass
Lead	1.1	1	0.8	1.2	Pass
Selenium	4.1	4	3.2	4.8	Pass
Silver	0.57	0.6	0.48	0.72	Pass

STL Seattle

Duplicate Report

Client Sample ID:	GW-082605-PIER25-8-008
Lab ID:	129560-02
Date Prepared:	8/31/2005
Date Analyzed:	8/31/2005
QC Batch ID:	ZT447

Mercury by CVAA - USEPA Method 7470

Parameter Name	Sample Result (mg/L)	Duplicate Result (mg/L)	RPD %	Flag
Mercury	0	0	NC	

STL Seattle

Duplicate Report

Client Sample ID:	LFEXT-05-2.5
Lab ID:	129555-01
Date Prepared:	9/1/2005
Date Analyzed:	9/1/2005
QC Batch ID:	ZS449

Mercury by CVAA - USEPA Method 7471

Parameter Name	Sample Result (mg/kg)	Duplicate Result (mg/kg)	RPD %	Flag
Mercury	0.11	0.11	0.0	

SEVERN TRENT STL

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DATA QUALIFIERS AND ABBREVIATIONS

B1: This analyte was detected in the associated method blank. The analyte concentration was determined not to be significantly higher than the associated method blank (less than ten times the concentration reported in the blank).

B2: This analyte was detected in the associated method blank. The analyte concentration in the sample was determined to be significantly higher than the method blank (greater than ten times the concentration reported in the blank).

C1: Second column confirmation was performed. The relative percent difference value (RPD) between the results on the two columns was evaluated and determined to be < 40%.

C2: Second column confirmation was performed. The RPD between the results on the two columns was evaluated and determined to be > 40%. The higher result was reported unless anomalies were noted.

C3: Second analysis confirmation was performed. The relative percent difference value (RPD) between the results on the two columns was evaluated and determined to be ≤ 30%.

C4: Second analysis confirmation was performed. The RPD between the results on the two columns was evaluated and determined to be > 30%. The presence of this analyte was not verified per WAC 246-290-010. The original analysis was reported unless anomalies were noted.

M: GC/MS confirmation was performed. The result derived from the original analysis was reported.

D: The reported result for this analyte was calculated based on a secondary dilution factor.

E: The concentration of this analyte exceeded the instrument calibration range and should be considered an estimated quantity.

J: The analyte was analyzed for and positively identified, but the associated numerical value is an estimated quantity.

MCL: Maximum Contaminant Level

MDL: Method Detection Limit

MRL: Method Reporting Limit

N: See analytical narrative

ND: Not Detected

PQL: Practical Quantitation Limit

X1: Contaminant does not appear to be "typical" product. Elution pattern suggests it may be _____.

X2: Contaminant does not appear to be "typical" product.

X3: Identification and quantitation of the analyte or surrogate was complicated by matrix interference.

X4: RPD for duplicates was outside advisory QC limits. The sample was re-analyzed with similar results. The sample matrix may be nonhomogeneous.

X4a: RPD for duplicates outside advisory QC limits due to analyte concentration near the method practical quantitation limit/detection limit.

X5: Matrix spike recovery was not determined due to the required dilution.

X6: Recovery and/or RPD values for matrix spike(/matrix spike duplicate) outside advisory QC limits. Sample was re-analyzed with similar results.

X7: Recovery and/or RPD values for matrix spike(/matrix spike duplicate) outside advisory QC limits. Matrix interference may be indicated based on acceptable blank spike recovery and/or RPD.

X7a: Recovery and/or RPD values for this spiked analyte outside advisory QC limits due to high concentration of the analyte in the original sample.

X8: Surrogate recovery was not determined due to the required dilution.

X9: Surrogate recovery outside advisory QC limits due to matrix interference.

000068

Chain of Custody Record

STL Seattle
5755 8th Street E.
Tacoma, WA 98424
Tel. 253-922-2310
Fax 253-922-5047
www.stl-inc.com

3.2

129555

SEVERN TRENT STL

Client: AMEC	Project Manager: Scott Kranz	Date: 08/23/05	Chain of Custody Number: 20824
Address: 7376 SW Durham Rd	Telephone Number (Area Code)/Fax Number: 503-639-3400	Lab Number:	Page 1 of 1
City: Portland; State: OR; Zip Code: 97224	Site Contact:	Lab Contact:	
Project Name and Location (State): Camp Riley Phase 2 461M110152	Carrier/Waybill Number:		
Contract/Purchase Order/Quote No.: /			

Analysis (Attach list if more space is needed)

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Metals, RCRA	VOCs	SVOCs	Special Instructions/ Conditions of Receipt
LFEXT-05-2.5	08/23/05	1345				X	2						X	X	X	
LFEXT-08	08/23/05	1530		X					1	3			X	X		
A1LF12-3	08/24/05	1010				X	2						X	X	X	
LFEXT-~~07-GW~~ 21	08/24/05	1347		X					1	3			X	X		client contact w/S change sample ID
A1LF-07-GW	08/24/05	1440		X					1	3			X	X		and Time on COC
A1LF-08-GW	08/24/05	1530		X					1	3			X	X		to reflect ID a Time on Sample L
Trip Blank																8/29/5

Cooler: ☒ Yes ☐ No Cooler Temp:_____

Possible Hazard Identification: ☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☒ Disposal By Lab ☐ Return To Client ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days): ☐ 24 Hours ☐ 48 Hours ☐ 5 Days ☐ 10 Days ☒ 15 Days ☐ Other _____

QC Requirements (Specify):

	Date	Time		Date	Time
1. Relinquished By: [signature]	08/25/05	0740	1. Received By:		
2. Relinquished By: [signature]	8/26/05	1150	2. Received By: Kareem #323		
3. Relinquished By: [signature]			3. Received By: [signature]	8/26/05	1135

Comments

69000

DISTRIBUTION: WHITE – Stays with the Samples; CANARY – Returned to Client with Report; PINK – Field Copy

STL8274-580 (12/02)

APPENDIX C

Field Work Photograph Log

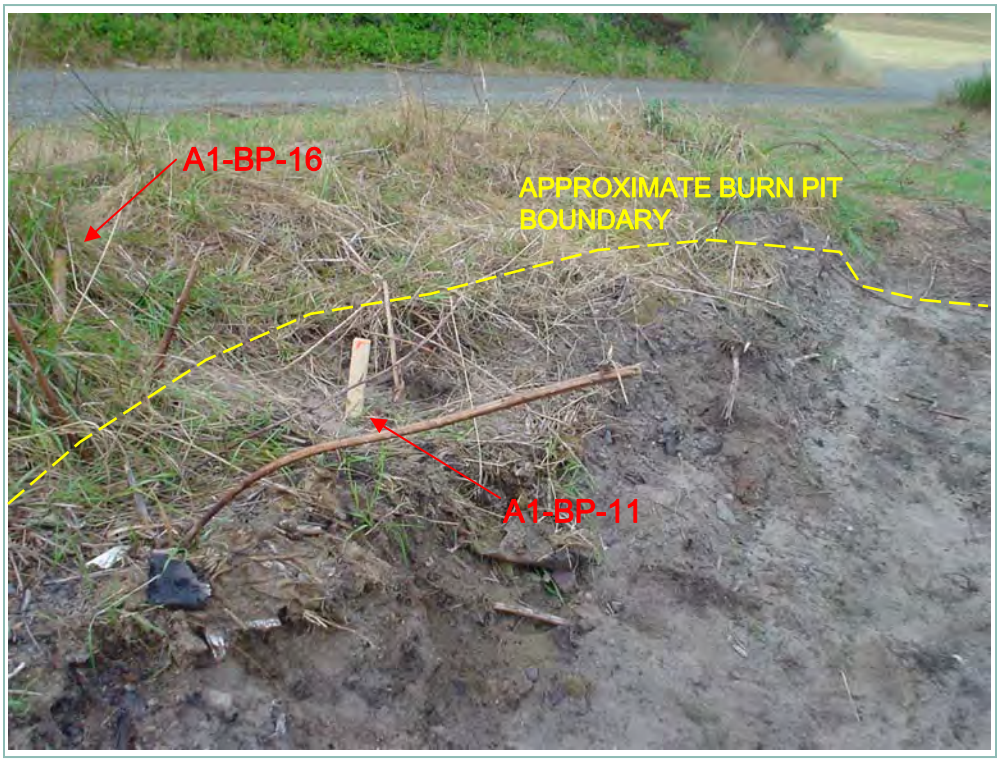

Photo 1

View of the burn pit hand auger locations, looking west.

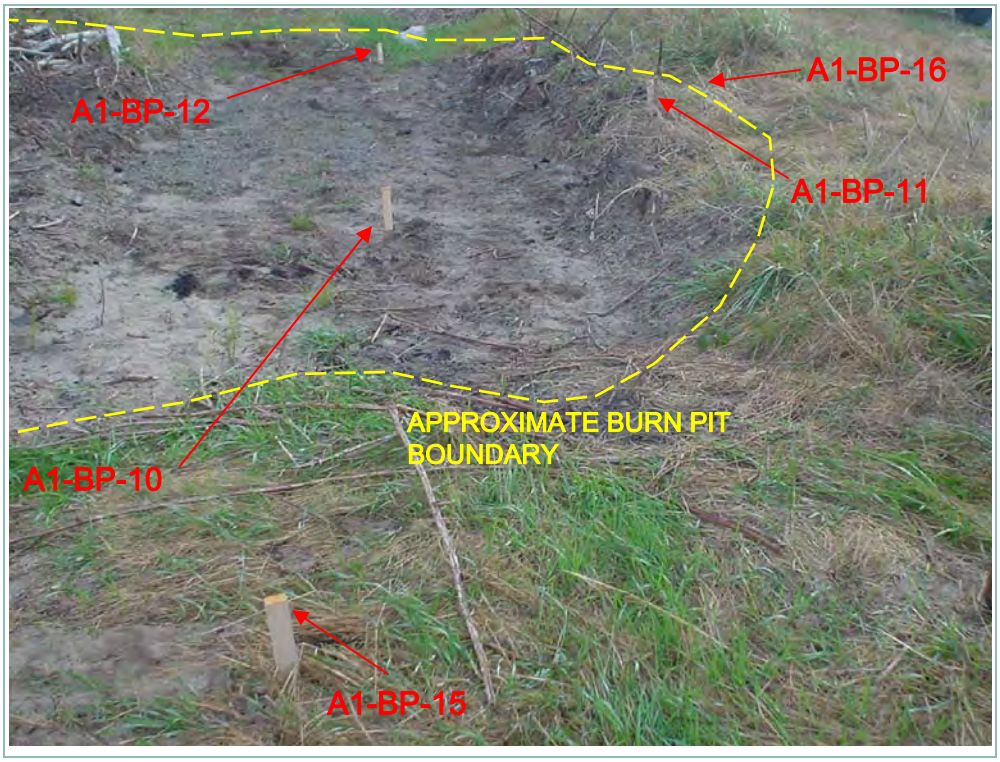

Photo 2

View of the burn pit hand auger locations, looking east.

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PROCESSED	MK
DATE	MARCH 2006
PAGE	1

CAMP RILEA
33168 PATRIOT WAY
WARRENTON, OREGON

SITE RECONNAISSANCE PHOTOS

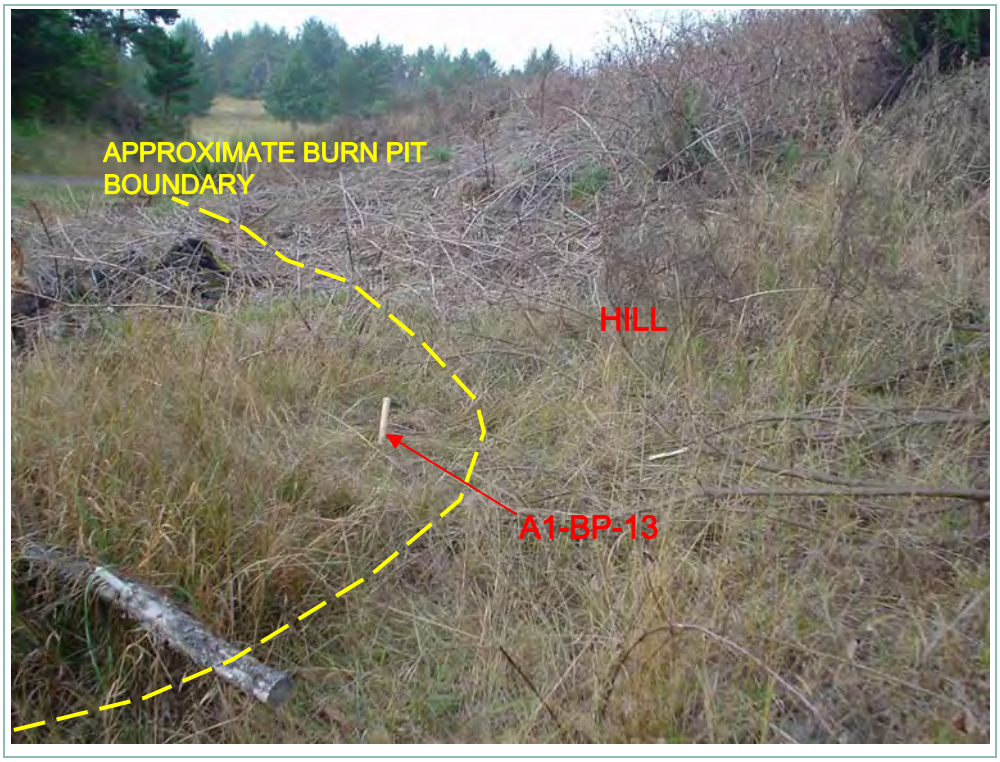

Photo 3

View of the hill bounding the northern extent of the burn pit and boring A1-BP-13, looking west.

Photo 4

View of drilling boring A1-BP-08 at the burn pit, looking west.

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W.O.	5-61M-11015
PROCESSED	MK
DATE	MARCH 2006
PAGE	2

CAMP RILEA
33168 PATRIOT WAY
WARRENTON, OREGON

SITE RECONNAISSANCE PHOTOS

Photo 5

View of the soil pile from test pit TP-3, looking northeast.

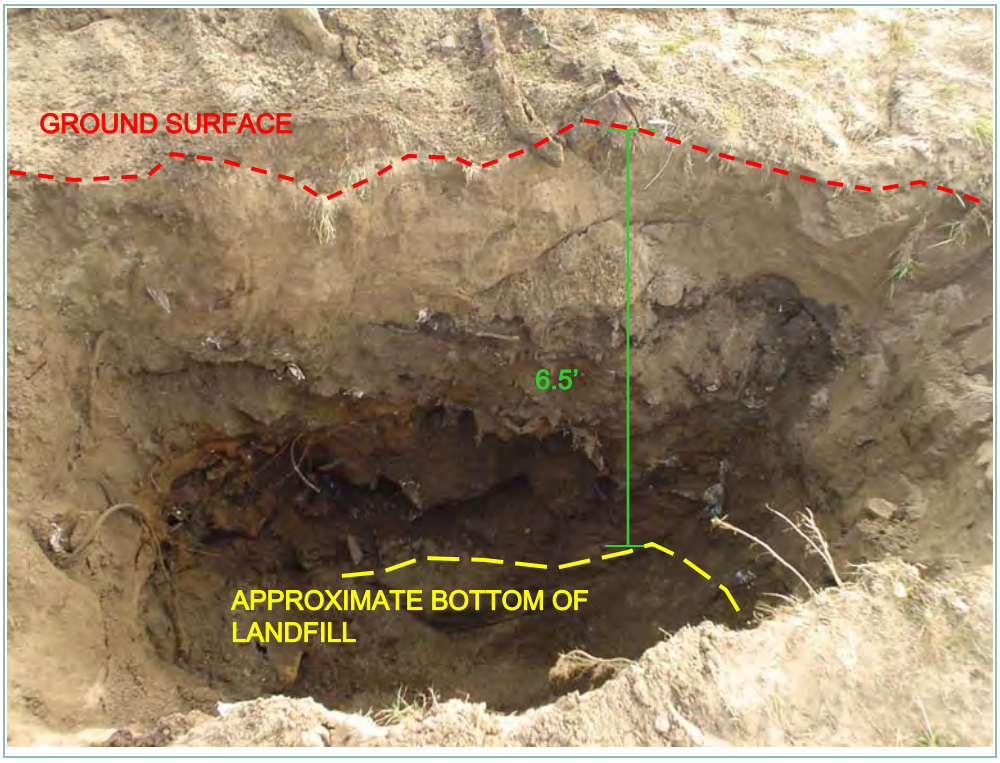

Photo 6

View of test pit TP-3.

Photo 7

View of test pit TP-4, looking north.

DEPARTMENT OF THE ARMY
U.S. ARMY CENTER FOR HEALTH PROMOTION AND PREVENTIVE MEDICINE
5158 BLACKHAWK ROAD
ABERDEEN PROVING GROUND, MARYLAND 21010-5403

REPLY TO
ATTENTION OF

MCHB-TS-EGW (40)

21 MAY 2002

MEMORANDUM FOR Oregon Military Department (Mr. Gerald Elliott), 1776 Militia Way SE, P.O. Box 14350, Salem, OR 97309-5047

SUBJECT: Site Assessment Survey No. 38-EH-1332b-01, Camp Rilea, Warrenton, Clatsop County, Oregon, 10 and 25 September 2001

One paper copy of subject report and a CD-ROM are enclosed..

FOR THE COMMANDER:

Encl

JOHN W. BAUER, P.G.
Program Manager
Ground Water and Solid Waste

CF(w/encl):
DIR, POPM-SA, ATTN: MCPO-SA (EXSUM ONLY)
C, NGB, ATTN: NGB-ARE-I
CDR, MAMC, ATTN: PVNTMED SVC (EXSUM ONLY)
CDR, USAEC, ATTN: SFIM-AEC-PC
CDR, USAEC, ATTN: TECH INFO CTR
CDR, USACHPPM-W

U.S. Army Center for Health Promotion and Preventive Medicine

USCHPPM

SITE ASSESSMENT SURVEY NO. 38-EH-1332b-01
CAMP RILEA
WARRENTON, CLATSOP COUNTY, OREGON
10 AND 25 SEPTEMBER 2001

Approved for public release; distribution unlimited.

Readiness Thru Health

DEPARTMENT OF THE ARMY
U.S. ARMY CENTER FOR HEALTH PROMOTION AND PREVENTIVE MEDICINE
5158 BLACKHAWK ROAD
ABERDEEN PROVING GROUND, MARYLAND 21010-5403

REPLY TO
ATTENTION OF

21 MAY 2002

EXECUTIVE SUMMARY
SITE ASSESSMENT SURVEY NO. 38-EH-1332b-01
CAMP RILEA
WARRENTON, CLATSOP COUNTY, OREGON
10 AND 25 SEPTEMBER 2001

1. PURPOSE. A Site Assessment Survey (SAS) was conducted to provide an accurate characterization of Camp Rilea and determine the need for further action where a release of hazardous constituents is suspected. This was accomplished through interviews, a site inspection, a review of historical and current activities conducted at the installation, and investigation of potential pathways through which migration of contaminants may affect public health and the environment.

2. CONCLUSIONS.

2.1 Areas of Concern. Five areas of concern were identified at the site: the former burn area and former landfill, the burn area in the Post Maintenance (PM) compound, range areas, small spills in various vehicle parking areas and compounds, and asbestos-containing material (ACM) in various buildings on site.

2.1.1 Former Burn Area and Former Landfill. An area formerly used for burning is located approximately 250 feet south of the former landfill. The burn pit was approximately 10 to 20 feet in diameter and was used to reduce the volume of solid waste entering an offpost landfill after the Camp Rilea landfill was closed in the 1980s. Anecdotal evidence indicated the burn pit may have contained used oil, solvents, and metals. In 1996, eight surface-soil and seven ground-water samples were collected from the former burn pit and landfill area by the United States Army Center for Health Promotion and Preventive Medicine (USACHPPM) and analyzed for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), and metals. Several metals were detected in soil samples at concentrations greater than background. Arsenic was detected in four samples and lead was detected in one sample at concentrations exceeding the maximum allowable soil concentration for industrial uses (3 and 2,000 milligrams per kilogram, respectively). Lead was also detected in one sample at concentrations greater than the toxic characteristic leaching procedure (TCLP) regulatory concentration (2.0 milligrams per liter). Trichloroethene (trichloroethylene) was detected in one ground-water sample at a concentration of 6.2 micrograms per liter (μg/l). This concentration exceeded the maximum allowable ground-water concentration of 2.0 μg/l (all referenced concentrations are those published in Oregon Administrative Rules OAR 340-122-045). USACHPPM recommended removal and proper disposal of all contaminated soil and concluded that due to the hydrologic

conditions at the site, the absence of water wells near the former landfill, and the nature of the analytical results, the trichloroethylene did not pose a threat to human health or the environment. Reports describing remedial action were not contained in Camp Rilea environmental office or Oregon Army National Guard (ORARNG) files. According to facility personnel, remediation has not occurred and the project is awaiting funding.

2.1.2 Burn Area in PM Compound. A small burn area is located within the fenced PM compound. Small caliber unexploded ordnance (UXO) was observed in material to be burned and control of what material is placed in the burn pile appears inadequate. A release to soil and air is possible if potentially hazardous materials are burned. Potential receptors include personnel working in the area. In addition, a safety hazard exists if UXO is placed in the burn pit. A release to surface water or ground water is not likely, due to the limited quantities of materials.

2.1.3 Ranges. Several ranges have been in use at Camp Rilea since WWII. Analytical data indicating what, if any, potentially hazardous substances may be present are not available; however, range areas often contain lead and cadmium (small arms ranges) and explosives (artillery and large caliber ranges) at concentrations greater than background. Potential receptors include personnel training on the ranges. A release to ground and/or surface water is also possible. Although the near-surface aquifer is used for private wells and is recognized as a regional aquifer by the Oregon Department of Environmental Quality, the nearest ground-water receptors are approximately 2 miles south of the site and ground-water flow is likely to the west (although localized variations toward surface water bodies are possible). The aquifer is not currently used for public water supply in the vicinity of Camp Rilea. Potential surface water receptors include wetlands and fisheries located within the site drainage pathway.

2.1.4 Small Spills and Stains. Numerous small spills (less than 5-foot diameter) were observed in several vehicle parking areas and compounds during the site reconnaissance. The stains appeared to be from petroleum, oil, and lubricant (POL) leaks and spills. The spills and stains constitute a release of a hazardous substance to the environment; however, all observed spills and stained areas were small and appeared to be limited to the ground surface or near surface. It is unlikely any observed spills were large enough to significantly affect subsurface soil, surface water, or ground water. Potential receptors include personnel performing duties in the spill areas.

2.1.5 ACM. An installation-wide survey to identify ACM was conducted in 1991 and a copy is maintained in the State Maintenance Shop office. ACM was identified in several locations on the installation. ACM is abated as appropriate when demolition or remodelling dictates. ACM could be released if buildings are demolished or remodeled without proper

precautions. In addition, compromised ACM, if present, could pose a hazard to facility personnel or visitors.

2.3 Receptors. No primary receptors were identified during the SAS. It is possible a release of hazardous constituents from the areas of concern could present a risk to human health or the environment *via* secondary receptors in the surface-water, soil, and/or air pathways.

3. RECOMMENDATIONS.

3.1 Former Burn Area Near Former Landfill. The ORARNG should follow through on recommendations made by USACHPPM regarding the former burn pit. Affected soil should be removed and disposed following all applicable Federal, State, local, and Department of Defense regulations. Confimation sampling should be conducted to ensure all potentially contaminated material is removed. Because documentation detailing the closure of the landfill is lacking, the ORARNG should confer with the appropriate State agencies and present the results of the 1996 USACHPPM investigation to determine if closure was actually issued, or if additional investigations are required.

3.2 Burn Area in PM Compound. Although the practice is legal under Oregon State statutes, access to the burn area is not adequately controlled. During the site reconnaissance, potentially-hazardous substances were observed in material to be burned. In addition, past open burning in other installation areas has resulted in environmental problems. According to Camp Rilea personnel, open burning has been discontinued since the site reconnaissance. The material near the burn area should be disposed according to all applicable Federal, State, local, and Department of Defense regulations and the burn area should be dismantled to discourage further open burning.

3.3 Ranges. The ORARNG should consider conducting studies to establish baseline data regarding metals and explosives concentrations in soil and shallow ground water in the various range areas and determine if concentrations of these parameters are causing a negative impact on the environment.

3.4 Small Spills and Stains. The ORARNG should collect, drum, label, and dispose of affected soil with other POL-contaminated soil according to all applicable Federal, State, local, and Department of Defense regulations. Should the affected area be significantly larger than expected from visual observations, or if the affected area extends to ground water, soil and/or ground-water sampling may be required. Drip pans or other acceptable methods should be used to prevent future spills.

3.5 ACM. A release of a hazardous substance could occur if the buildings with ACM were demolished or remodeled. If the buildings are demolished or remodeled, proper precautions for the removal and disposal of ACM should be followed.

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DEPARTMENT OF THE ARMY
U.S. ARMY CENTER FOR HEALTH PROMOTION AND PREVENTIVE MEDICINE
5158 BLACKHAWK ROAD
ABERDEEN PROVING GROUND, MARYLAND 21010-5403

REPLY TO
ATTENTION OF

MCHB-TS-EGW

SITE ASSESSMENT SURVEY NO. 38-EH-1332b-01
CAMP RILEA
WARRENTON, CLATSOP COUNTY, OREGON
10 AND 25 SEPTEMBER 2001

1. INTRODUCTION.

1.1 References. A list of references used to prepare this Site Assessment Survey (SAS) is presented in Appendix A.

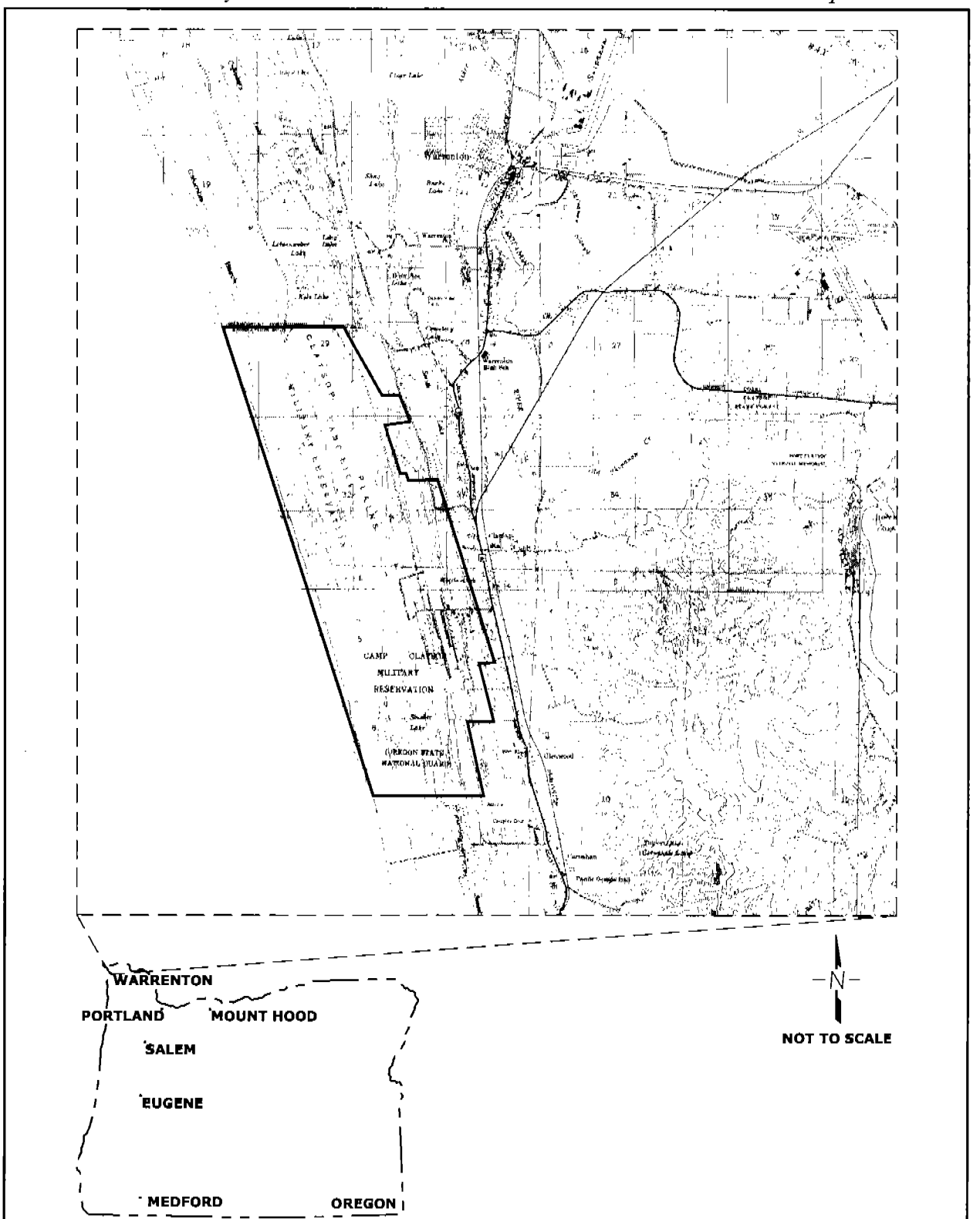
1.2 Authority. Statement of Work, National Guard Bureau, 13 November 2000, subject: Request for United States Army Center for Health Promotion and Preventive Medicine (USACHPPM) Services; Memorandum, from Tim Schafstall (USACHPPM) to Mr. Gerald Elliott, Oregon Military Department, subject: Notification of Visit for Site Assessment Surveys at Camp Rilea Training Center and Camp Withycombe, 6 August 2001; telephone conversation between Mr. Tim Schafstall, USACHPPM and CW2 Ron Kinsley, Camp Rilea, August 2001.

1.3 Purpose. A SAS was conducted to provide an accurate characterization of Camp Rilea and determine the need for further action where a release of hazardous constituents is suspected. This was accomplished through interviews, a site inspection, a review of historical and current activities conducted at the installation, and investigation of potential pathways through which migration of contaminants may affect public health and the environment.

1.4 Project Personnel. This investigation was conducted by Mr. Timothy Schafstall, Project Officer, USACHPPM Ground Water and Solid Waste Program.

2. SITE DESCRIPTION.

2.1 Facility Location. Camp Rilea is located at 33168 Patriot Way, Warrenton, Clatsop County, Oregon (Figure 1). The facility is mapped on the Gearhart, Oregon and Warrenton,



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ABERDEEN PROVING GROUND, MARYLAND

FIGURE 1
SITE LOCATION MAP
CAMP RILEA
CLATSOP COUNTY, OREGON

DRAWN BY:	PROJ #:	FILE:
GCL	38-EH-1332B-01	OR/RILEA/1332LOCA

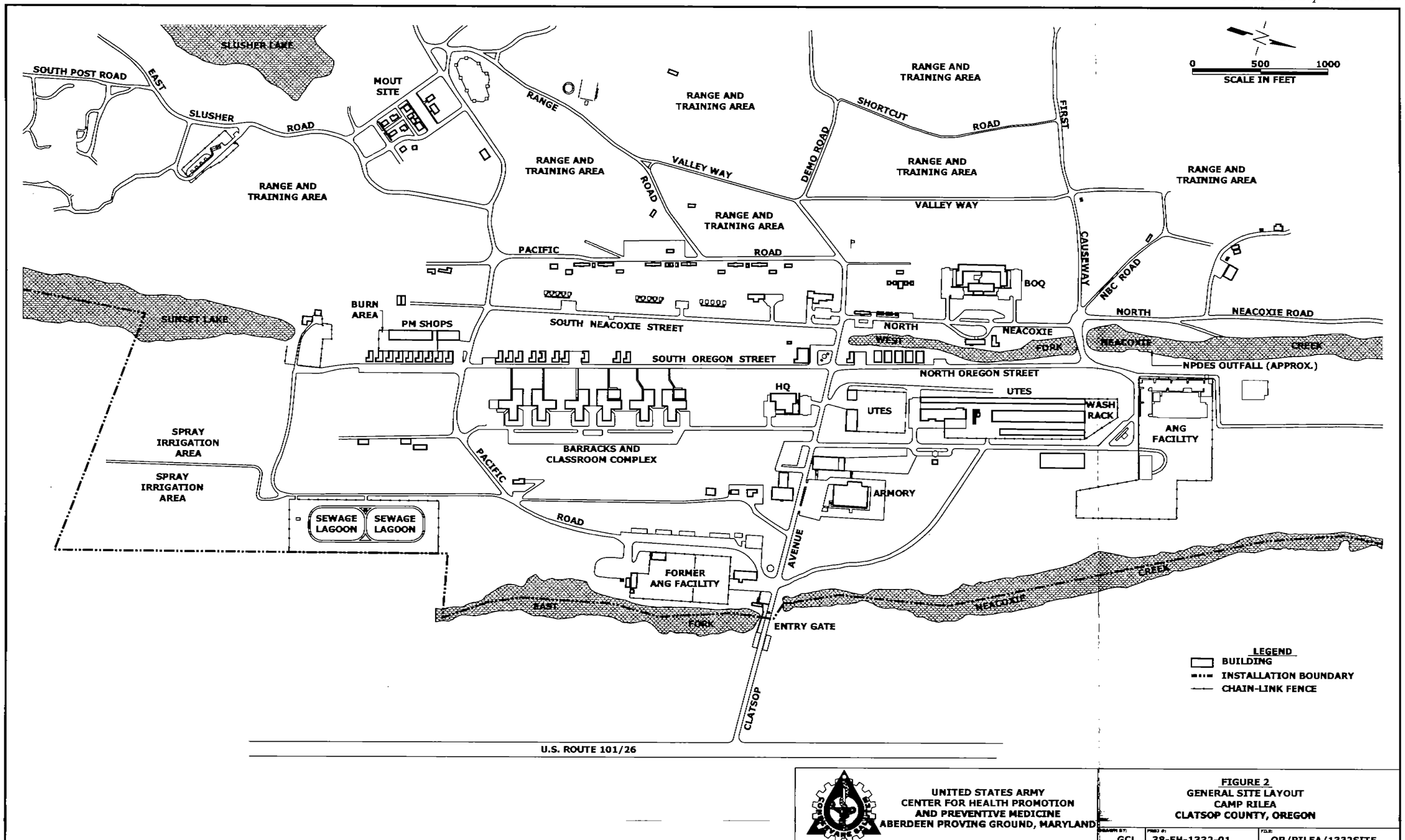
Oregon-Washington 7.5-minute series topographic maps at 123°55'46" longitude, 46°07'17" latitude (approximate center of cantonment area) (Figure 1) (reference 1).

2.2 Surrounding Land Use. Camp Rilea is bordered to the west by the Pacific Ocean, to the north by private residences, to the east by the Oregon Coast Highway (Route 26/101), and to the south by agricultural land and the Astoria Country Club and golf course (Figure 2) (reference 2).

2.3 Site Layout (reference 2). Camp Rilea encompasses approximately 1,850 acres between U.S. Route 26/101 and the Pacific Ocean, including approximately 3 miles of ocean frontage. In addition, Camp Rilea uses approximately 352,000 acres of private land (through landowner agreements) for training. Access to the site is controlled to the north and south by chain-link and barbed-wire fences and to the east by Neacoxie Creek and chain-link and barbed-wire fences. Access to the main post is provided by one entry road and a manned gate; however, the post is accessible *via* foot, boat, or 4-wheel drive vehicle along the ocean frontage. The beach area is patrolled periodically by Oregon Army National Guard (ORARNG) personnel. Slopes on the site vary from near 0 to approximately 30 percent at the edges of dunes; however, the steeper slopes are generally very localized. The majority of the site consists of pervious surfaces with rapid infiltration of precipitation and runoff. Vegetation consists of grasses, dune plants, or coniferous trees. Numerous buildings, ranges, training areas, and vehicle compounds are present at the site. Because of the large number of buildings present at Camp Rilea, only those buildings or facilities where hazardous waste was, or is currently, being generated, stored, or disposed or areas where a known release of a hazardous substance to the environment has occurred, or areas where a potential release could occur, will be described in detail. A storm sewer system and natural waterways convey surface water from the site to two drainage pathways. Surface water drainage is discussed in detail in paragraph 2.8. For the purposes of this report, the site is divided into three areas: the cantonment area (approximately 450 acres), training and range areas (approximately 1,400 acres), and the sewage treatment and spray irrigation area (approximately 20 acres). The site is used by military and private groups for training and recreational purposes.

2.3.1 Cantonment Area (Figure 2).

2.3.1.1 General. The main section of Camp Rilea, including the cantonment area and the armory, encompasses approximately 450 acres. Slopes range from near 0 to approximately 30 percent. Surface water flows to one of two streams *via* overland flow and storm sewer systems. The surface water drainage pathway is discussed in more detail in paragraph 2.8. The majority of the installation is composed of pervious surfaces, although a higher concentration of impervious surfaces is present in the cantonment area.



UNITED STATES ARMY
CENTER FOR HEALTH PROMOTION
AND PREVENTIVE MEDICINE
ABERDEEN PROVING GROUND, MARYLAND

FIGURE 2
GENERAL SITE LAYOUT
CAMP RILEA
CLATSOP COUNTY, OREGON

DRAWN BY:	PROJ #:	FILE:
GCL	38-EH-1332-01	OR/RILEA/1332SITE

2.3.1.2 Buildings and Structures. Numerous buildings and structures are present in this area including the following that currently generate, or have generated, hazardous waste or had activities of environmental concern: the Unit Training Equipment Site (UTES), the Air National Guard Facility (ANG)/Air Control Squadron (ACS), the Post Maintenance (PM) Shops and Storage Areas, the former ANG compound, the former "hutment" area, and the former landfill. Additional buildings and areas are present; however, they generally do not produce hazardous waste and will not be discussed in detail. Information on the hutment and landfill areas is presented in paragraph 2.6 and these areas are depicted in Figure 2.

2.3.1.2.1 UTES (Figure 3). The UTES facility consists of several buildings, two fenced compounds, and a fueling area containing three aboveground storage tanks (ASTs). For this report, the multi-bay washrack (Building 7151) is also included with the facility, due to proximity (although it is located outside the fenced area surrounding the UTES grounds). Table 1 summarizes information on the size, type and date of construction, and current use for the buildings. Building 7015 is a former movie theatre currently used for vehicle maintenance. The building has been used as a gymnasium in the past. The building contains two parts-cleaning basins (Inland Technologies model IT-48WC) for cleaning weapons parts and two flammable materials storage cabinets containing small quantities of various petroleum, oil, and lubricants (POLs), solvents, and aerosol sprays. Buildings 7148 and 7150 were located in a fenced area west of Building 7015 and have historically been used for vehicle storage. The yard area enclosed by the fence had a gravel surface and numerous trucks were parked in the compound. No stains were visible on the gravel surface. At the time of the site reconnaissance, Building 7148 contained a gravel floor with POL-stained material. Soil sampling had recently been conducted on the stained area. This structure has recently been replaced with a conrete-floored structure with secondary containment, used for fuel-hauling vehicle storage. Access was not provided to Building 7150. Building 7156 contains the offices and main work bays for the UTES facility. POLs are stored in a specially-constructed room on the west wall of the building. Used oil is stored in a 500-gallon AST and used antifreeze is stored in 55-gallon drums in the POL room. Hazardous materials are stored in flammable materials lockers located in several areas in the building. Hazardous waste is stored in commercially made metal storage lockers in a covered storage area (Building 7152). A paved parking area and drive surrounds Building 7156 and is used for personal vehicle parking. Building 7015 and the office areas of Building 7156 are not within a fenced area. A lube rack and steam-cleaning station are located adjacent the north side of Building 7156, immediately inside a second fenced compound. Drains from this area convey runoff to the oil/water separator at Building 7151. The fence extends to the middle of Building 7156 and encloses the work area of that building. The area within the compound consists of a gravel surface. Several small stains, which appeared to be from POLs, were observed on the gravel during the site reconnaissance. Also located within the second fenced

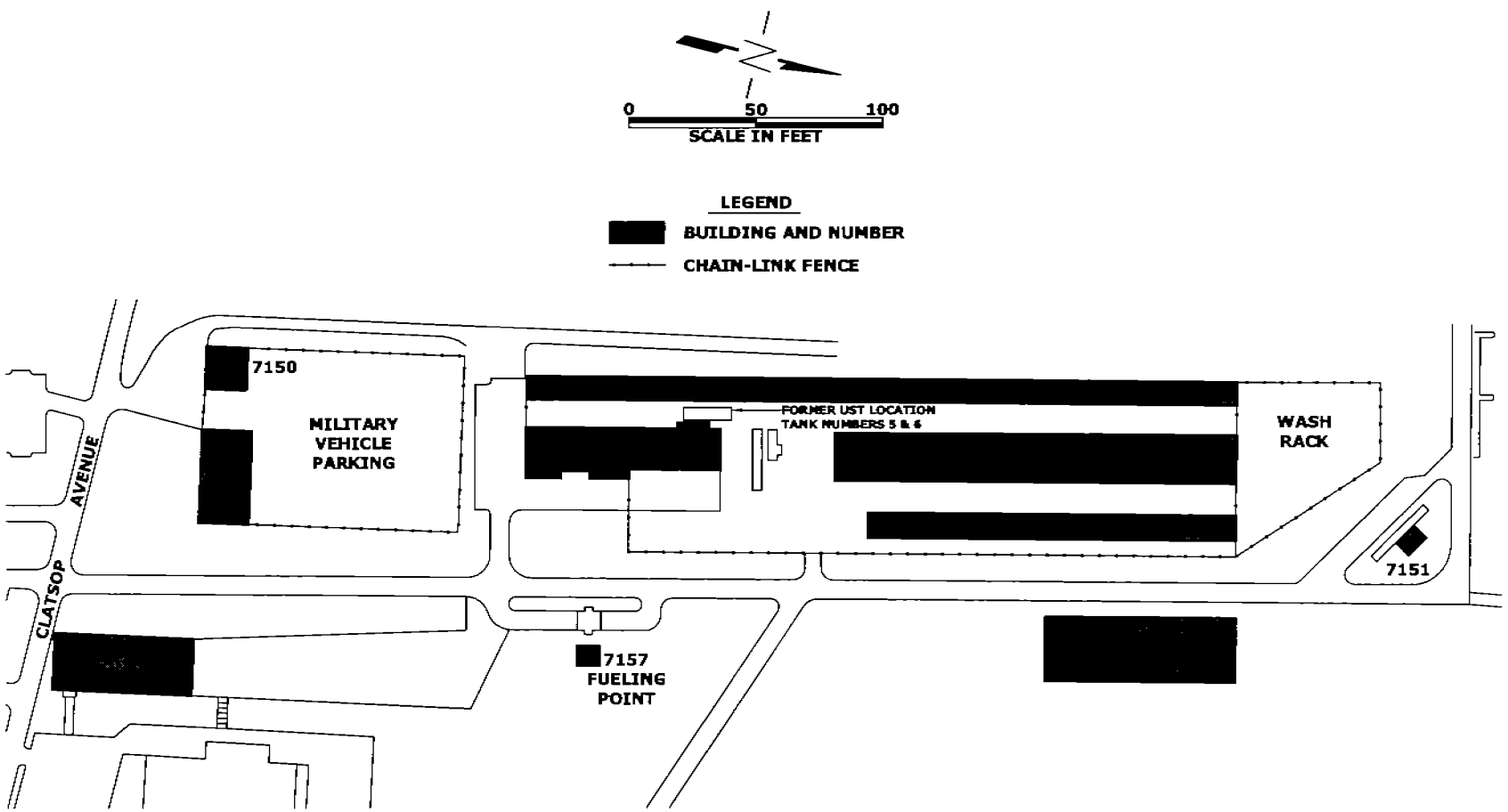


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FIGURE 3
SITE PLAN - UTES FACILITY
CAMP RILEA
CLATSOP COUNTY, OREGON

DRAWN BY:	PROJ #:	FILE:
GCL	38-EH-1332-01	OR/RILEA/1332UTES

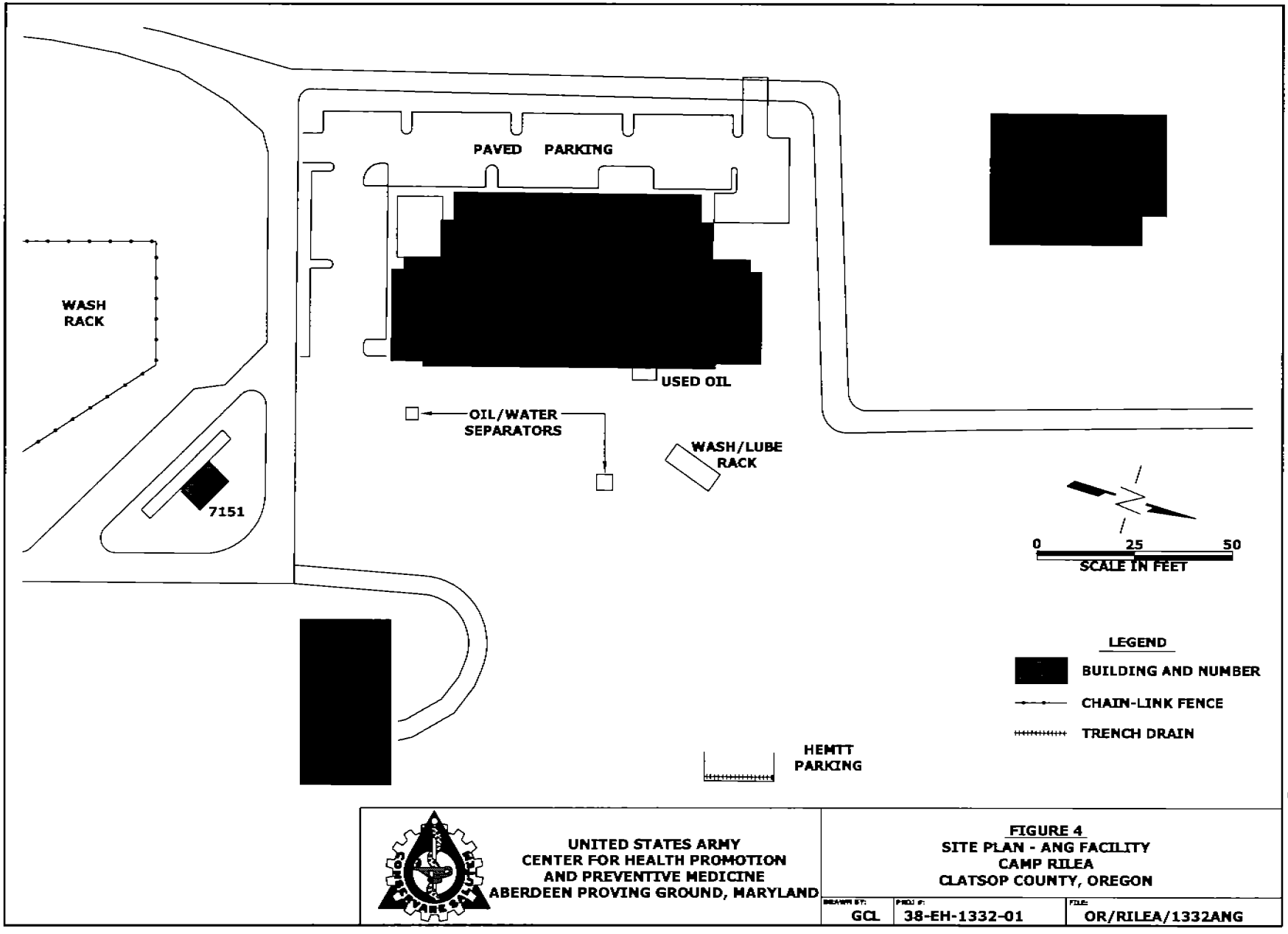
Table 1: List of Current Buildings and Facilities in the UTES Compound, Camp Rilea[1].

BUILDING OR AREA	CURRENT USE	SIZE (sf)	DATE OF CONSTRUCTION	TYPE OF CONSTRUCTION
7015	Vehicle Maintenance Shop	9,940	1931	2-story wood frame
7148	Demolished[2]	7,200	1980	1-story corrugated metal
7150	Storage	3,750	1989	1-story wood frame quonset hut
7151	Wash Pad	NA[3]	1987	concrete and block
7152	Vehicle Storage	24,668	1987	1-story masonry w/corrugated metal roof
7153	Vehicle Storage	27,496	1987	1-story masonry w/corrugated metal roof
7154	Vehicle Storage	12,348	1987	1-story masonry w/corrugated metal roof
7155	Lube Rack	NA	1987	NA
7156	Vehicle Maintenance Shop	12,061	1987	1-story stucco
7157	Fuel Storage	NA	1987	3 ASTs
7158	Fuel Dispensing	NA	1988	concrete pad

1) From real property list.
2) Replaced with concrete fuel-hauling vehicle storage unit with secondary containment.
2) NA = Not applicable.

compound are Buildings 7152, 7153, and 7154. These buildings are used for vehicle, equipment, and materials storage. An area within Building 7152 is used for vehicle battery storage and repair. A fueling station is located approximately 300 feet east of Building 7156. The station consists of three ASTs within a fenced compound: one 6,000-gallon and one 7,000-gallon tank, each containing diesel fuel, and a 1,000-gallon tank containing jet propellant eight (JP-8). The tanks are within a concrete basin with secondary containment. A trench drain with control valve allows accumulated fluid to be discharged to the National Pollutant Discharge Elimination System (NPDES) outfall on Neacoxie Creek or the oil/water separator at Building 7151, depending on the nature of the accumulated fluid. A multi-bay washrack is located north of the UTES facility, between the UTES and ANG areas. The washrack is equipped with an oil/water separator that discharges to the NPDES outfall on Neacoxie Creek. A controlled humidity warehouse (Building 7160) is located east of, but not within, the UTES complex.

2.3.1.2.2 ANG (Figure 4). The ANG facility is located in the north-central section of the cantonment area and consists of the maintenance building (Building 7116) and a fenced


PAVED PARKING
WASH RACK
USED OIL
OIL/WATER SEPARATORS
WASH/LUBE RACK
7151
0 25 50
SCALE IN FEET
LEGEND
BUILDING AND NUMBER
CHAIN-LINK FENCE
TRENCH DRAIN
HEMTT PARKING
UNITED STATES ARMY
CENTER FOR HEALTH PROMOTION
AND PREVENTIVE MEDICINE
ABERDEEN PROVING GROUND, MARYLAND
FIGURE 4
SITE PLAN - ANG FACILITY
CAMP RILEA
CLATSOP COUNTY, OREGON
GCL
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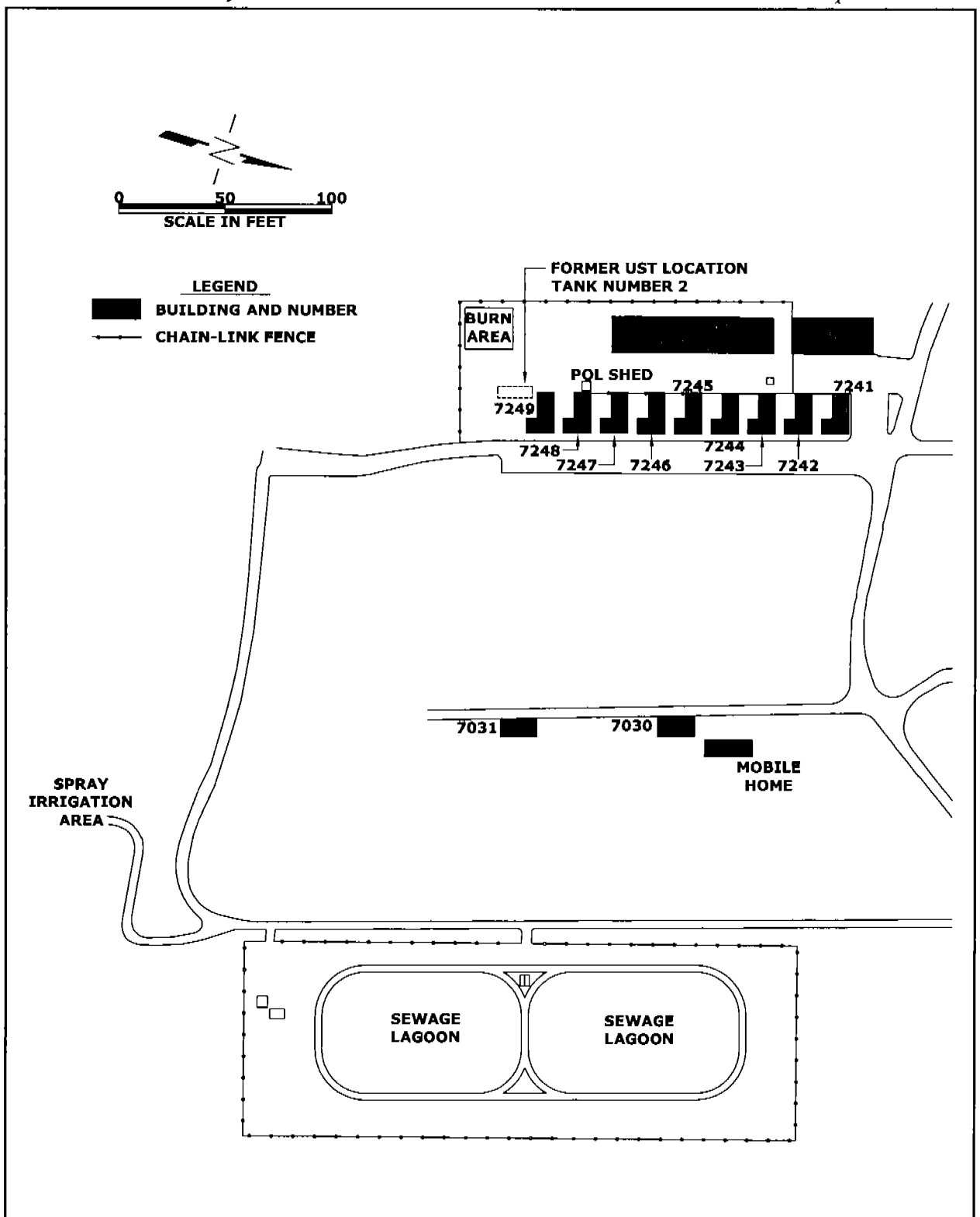
compound with a gravel surface (Figure 2). Building 7116 contains five maintenance bays (two for vehicle maintenance and three for aerospace/ground equipment maintenance) and one paint bay. The building also contains a battery room and a POL room. A 300-gallon (approximate) AST containing used oil is located adjacent the east wall of Building 7116. Hazardous wastes are stored in portable, metal buildings with secondary containment, located in the yard area. A wash/lube rack and associated oil/water separator is located in the central section of the fenced compound. An additional oil/water separator is located near the southeastern corner of Building 7116. Both oil/water separators discharge to the filter system and washrack west of the ANG facility. A heavy expanded-mobility tactical truck (HEMTT) parking area is located in the northeastern corner of the fenced compound. Three 1,200-gallon HEMMTs containing diesel fuel are normally parked in the area. The parking area is paved, surrounded by a berm on three sides, and sloped to the east to provide gravity drainage to a trench drain. The facility provides 5,000 gallons of capacity. The trench drain is equipped with a locked control valve to direct drainage to the storm sewer system and NPDES outfall on Neacoxie Creek or the oil/water separator, as appropriate.

2.3.1.2.3 PM Shops and Storage Areas (Figure 5). The PM shops and storage areas include several buildings and a fenced yard area in the south-central section of the cantonment area. Small quantities of potentially hazardous substances are stored in the shops within metal flammable-materials storage lockers. These substances include POLs, paints and related products, solvents, and solvent-based cleaners. Table 2 summarizes information on the size, materials, dates of construction, and current use for the buildings. Buildings 7241 through 7250 are located on the west side of South Oregon Street. Buildings 7253 and 7254 are located within the fenced area west of Building 7241 through 7250. A 1,000-gallon steel AST containing gasoline is located west of Building 7243. The yard area is composed of both paved and gravel surfaces. At the time of the site reconnaissance, the area contained vehicles, various building and road maintenance materials, and a burn area. The burn area is located in the southern section of the PM compound and consists of five concrete barriers arranged on a 12-foot by 15-foot concrete pad. A debris pile consisting of wood, paper, old wood pallets, and other burnable materials is adjacent the burn area. Materials are burned prior to being transported to an offsite landfill to reduce the volume of the solid waste. Persons dumping the materials to be burned are escorted by PM personnel; however, potentially hazardous materials are being placed in the burn pile. Small caliber unexploded ordnance (UXO) was observed in the pile during the site reconnaissance immediately after materials had been placed by a tenant unit. The yard area contained several vehicles of various types, lumber, pipe, concrete blocks, and scrap metal. No visible stains were observed near the burn area or within the fenced compound.



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ABERDEEN PROVING GROUND, MARYLAND

FIGURE 5
SITE PLAN - PM SHOPS
CAMP RILEA
CLATSOP COUNTY, OREGON

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GCL	38-EH-1332-01	OR/RILEA/1332PMSS

Table 2: List of Current Buildings and Facilities in PM Area, Camp Rilea[1].

BUILDING OR AREA	CURRENT USE	SIZE (sf)	DATE OF CONSTRUCTION	TYPE OF CONSTRUCTION	MATERIALS PRESENT
7241	Offices	1,652	1935	1-story wood frame w/metal roof	NA[2]
7242	Carpentry Shop	1,890	1935	1-story wood frame w/metal roof	paint thinner, paint, denatured alcohol, stripper, wood filler, stains, scrap lumber
7243	Metal/HVAC Shop	1,652	1935	1-story wood frame w/metal roof	scrap metal, tools
7244	Plumbing Shop	1,652	1935	1-story wood frame w/metal roof	pipes, tools, POLs, solvents
7245	Electrical Shop	1,652	1935	1-story wood frame w/metal roof	fiber-optic cable, non-PCB transformers, light fixtures, circuit breakers, ceiling tiles, insulation
7246	Paint Shop	1,652	1935	1-story wood frame w/metal roof	paint, solvents
7247	Storage	1,652	1935	1-story wood frame w/metal roof	hot-water heaters, signs, doors, plumbing fixtures, furniture
7248	Grounds Crew	1,652	1935	1-story wood frame w/metal roof	lawn mowers, rakes, brooms, other lawn care equipment
7249	Transient Quarters	1,652	1935	1-story wood frame w/metal roof	no access[3]
7250	POL Storage	70	1992	1-story concrete block w/metal roof	oil and gas for lawn equipment.
7251	Transient Quarters	1,850	1935	1-story wood frame	no Access
7252	Transient Quarters	882	1935	1-story wood frame	no access
7253	Vehicle Storage	19,500	1997	1-story metal	vehicles and tractors
7254	Warehouse	6,000	1987	2-story metal	miscellaneous supplies for post maintenance, used fluorescent light bulbs, various cleaning and polishing chemicals and finishes

1) From real property list.
2) Not applicable.
3) Access was not provided during the site reconnaissance.

2.3.1.2.4 Former ANG Compound (Figure 6). The former ANG compound is located immediately inside the entrance gate, on the southern side of Patriot Way. The compound consists of a fenced area with both asphalt and gravel surfaces, and Buildings 7002, 7032, and 7408. A concrete wash pad (no longer in service), lube rack, and Building 7033 are located adjacent the southern side of the fenced area. Table 3 summarizes information on the size, materials, dates of construction, and current use for the buildings (although not part of the former ANG compound, several additional nearby buildings are included in Table 3).

Table 3: List of Current Buildings and Facilities in the Former ANG Compound, Camp Rilea[1].

BUILDING OR AREA	CURRENT USE	SIZE (sf)	DATE OF CONSTRUCTION	TYPE OF CONSTRUCTION
7002	1249th "C" Company Motor Pool	2,838	1979	1-story masonry
7032	Storage	120	1954	1-story wood frame
7033	Storage	1,173	1954	1-story wood frame quonset hut
7401	Post Supply	5,112	1930	2-story wood frame
7402	TISA[2] Warehouse	4,725	1930	1-story masonry
7403	Post Laundry	1,000	1930	1-story masonry
7404	Billeting Office	1,940	1930	1-story wood frame
7405	Storage	1,553	1930	1-story wood frame
7406	Storage	1,764	1930	1-story wood frame
7407	Storage	1,764	1930	1-story wood frame
7408	52nd Engineer	2,567	1939	1-story masonry

1) From real property list.
2) TISA = Troop Issue Subsistence Activity

Building 7002 is a former organizational maintenance shop (OMS) for the ANG and is currently used for vehicle maintenance by "C" Company, 1249th Engineer Battalion during monthly drills. The building contained an administrative area and two work bays with trench drains. The discharge point for the trench drains could not be determined. Small quantities of batteries, POLs, solvents, and other potentially-hazardous materials were stored inside the building. Two metal flammable-materials storage units and one Kleen-Flo model G70 parts-cleaning basin are located in the work bays. The storage units contained POLs. Building 7408 is a former OMS building with two work bays, currently used by the 52nd Engineer Battalion during monthly drills. The building is no longer used for vehicle maintenance and contained various tools, a generator, rope, ladders, and wheelbarrows. No floor drains were observed during the site reconnaissance. Access to Buildings 7032 and 7033 was not provided during the site reconnaissance. Building 7032 was formerly used to store POLs. Building 7033 was formerly used for general storage. A concrete pad (approximately 25 feet by 25 feet) and associated oil/water separator are located adjacent the southern side of the former ANG compound.

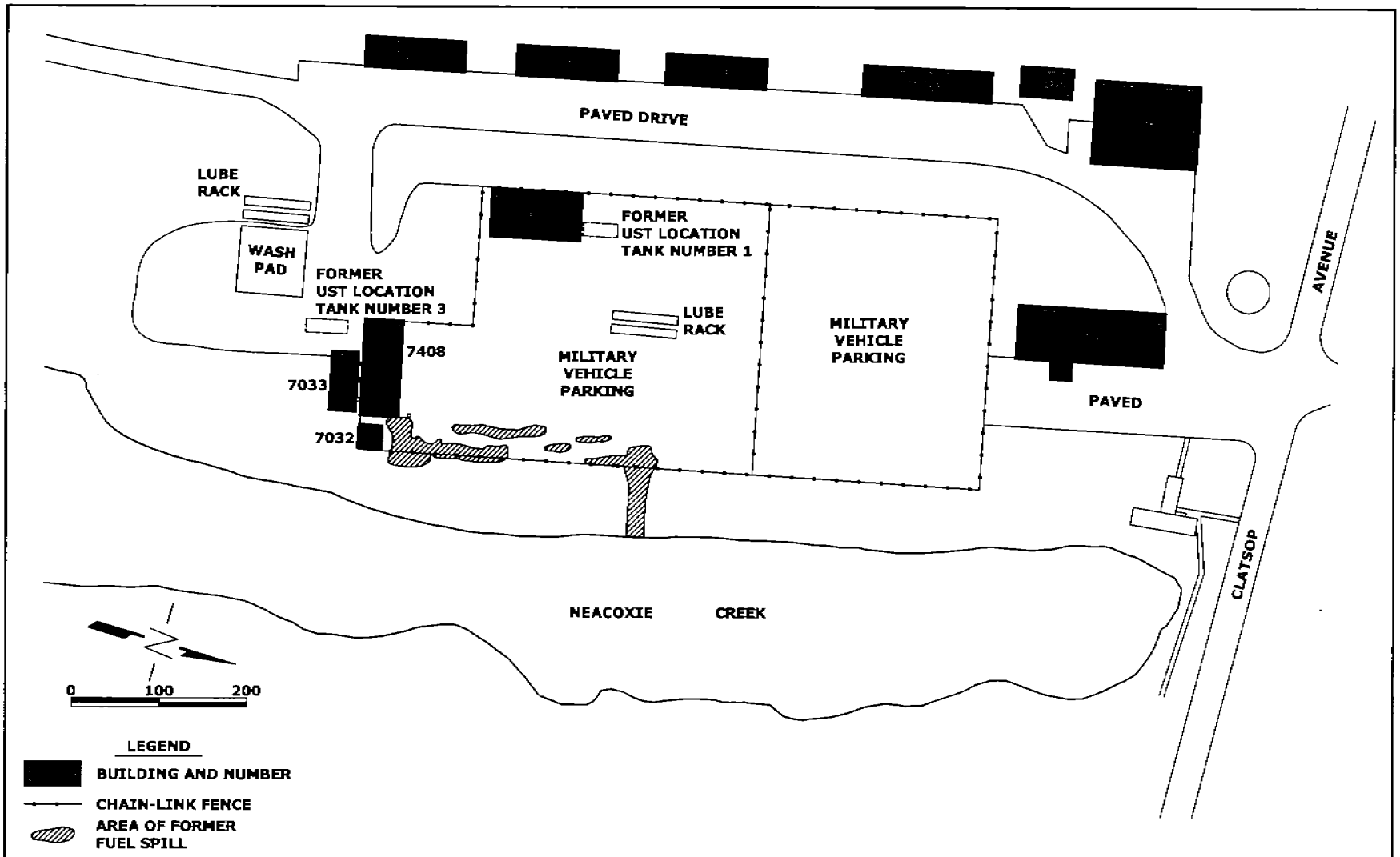

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FIGURE 6
SITE PLAN - FORMER ANG FACILITY
CAMP RILEA
CLATSOP COUNTY, OREGON

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An elevated, concrete lube rack is adjacent the northern side of the concrete pad. The wash pad, lube rack, and oil/water separator are no longer in service. The discharge point for these structures was formerly in an easterly direction to the East Fork of Neocoxie Creek. The facilities were later connected to the installation sanitary sewer system. An elevated metal lube rack and three vehicles were located within the fenced compound. Trench drains were observed in the vicinity of the lube rack. Facility personnel report the history of discharge for this lube rack is similar to the lube rack located outside the fenced area. There were no visible stains on the asphalt or gravel surfaces and there was no visible stressed vegetation in the former ANG area. Some surface water runoff flows directly into the East Fork of Neocoxie Creek; however, runoff captured by the storm-water sewer system is pumped to the spray irrigation area *via* two pump stations.

2.3.1.3 Former Underground Storage Tanks (USTs). Six USTs were formerly located within the cantonment area at Camp Rilea; all have been removed from the site. The former locations are depicted in Figure 2 and a detailed summary, including size, contents, installation and removal dates, and regulatory status, is presented in paragraph 2.6.1.

2.3.2 Training and Range Areas (Figure 2). The numerous range and training areas present at Camp Rilea are summarized in Table 4 (from north to south). The majority of the range facilities are located west of the cantonment area in the southern half of the installation.

2.3.3 Sewage Treatment and Spray Irrigation Area (Figures 2 and 6) (reference 3). The sewage treatment and spray irrigation areas encompass approximately 20 acres in the southeastern section of the installation. The facility was originally constructed in 1978; however, several modifications and improvements have been since made to the system. Treatment consists of aeration and a chlorine contact tank followed by spray irrigation onto 15 acres of agricultural land used for livestock grazing. Infrastructure for the system consists of gravity-fed pipes, four pump stations, two 6.2-million gallon aerated lagoons, a chlorine contact chamber, an irrigation pump, and a sprinkler system. Influent for the plant in 1999 was 7.17×10^6 gallons. The total amount irrigated (as measured from flowmeters at the effluent point) was 19.2×10^6 gallons (the difference being due to the large amount of rainfall entering the lagoons from direct runoff and two storm drains).

2.4 Facility History.

2.4.1 General (reference 4). Camp Rilea was originally established as Camp Clatsop in 1927. Numerous improvements were made to the original camp during the 1930s. Prior to

Table 4: List of Ranges and Training Areas, Camp Rilea[1].

AREA	SIZE (acres)	DATE OF CONSTRUCTION	ACTIVE
Land Navigation Training Area	800±	NA[2]	Yes
Maneuver Training Area	400±	NA	Yes
Light Antiarmor Weapons (LAW) Range	9.00	1950	Yes
M203 Grenade Launcher Range	9.00	1950	Yes
Infantry Squad Live Fire Range	54±	1950	Yes
Indirect Fire Range (81 Sabot Range)	50±	1950	Yes
Modified Record Fire Range	30.00	1992	Yes
Confidence Obstacle Course	18±	1997	Yes
Nuclear/Biological/Chemical (NBC) Chamber	NA	1950±	Yes
Squad Engagement Training System (SETS) Building	3,500 sf	1998	Yes
Night Compass Course	Not used		No
Rifle/MG Zero Range	6.00	1954	Yes
Rifle Known Distance (KD) Range	20.00	1992	Yes
Pistol Range	1.00	1950	Yes
Hand Grenade Range	1.00	1950	Yes
Demolitions Range	5.00	1950	No
Claymore Range	5.00	1950	No
Rappel Tower	NA	1991	No
Military Operations in Urban Terrain (MOUT) Site	3±	1982/1996	Yes
Multiple Integrated Laser Engagement System (Miles) Course	unknown	unknown	Yes

1) From real property list.
2) NA = Not applicable. These areas contain no modifications other than unpaved roads.

World War II (WWII), Camp Clatsop primarily served as a mobilization site for the 249th Coast Artillery; after WWII, Camp Clatsop was used as an annual training site by the 237th Air Defense Group (later renamed the 249th Air Defense Group) and by air defense units from Washington, Nevada, Delaware, and Pennsylvania. Camp Clatsop was renamed Camp Rilea in 1959. In recent years, Camp Rilea has been used by various military units to conduct annual or inactive duty training including: Army National Guard infantry, field artillery, and engineer units; the 2nd Infantry Division; the 25th Infantry Division; the 75th Infantry (Rangers); the 1st, 19th, and 20th Special Forces Groups; various Air National Guard communications units; Marine Corps, Coast Guard and Navy Reserve Units; Search and Rescue Organizations; the Oregon State Defense Force (formerly the Oregon National Guard Reserve); the Oregon State Police and other police organizations; the Housing Authority of Portland for Camp Rosenbaum (a camp for children from low-income families); and by various local and civic organizations.

2.4.2 Deed History. Deeds were not contained in ORARNG files. Camp Rilea was established from many smaller tracts; therefore, deed records for the installation are extremely complex and a deed search was beyond the scope of this survey. However, because the land has been occupied by the ORARNG since 1937, it is unlikely a deed search would reveal any evidence of past use that might have contributed to environmental problems.

2.4.3 Full-Time Staff. Tables 5 depicts the staffing levels at Camp Rilea prior to 11 September 2001 (reference 5).

Table 5: Full-Time Staff for Camp Rilea.

OPERATION	PERSONNEL
116th Air Control Squadron	33
Unit Training Equipment Site	24
Post Maintenance Shops	20
Unit Administrative Staff	5
Post and Range Support Staff	6
Miscellaneous Support Staff	5
TOTAL	**93**

2.4.4 Current Tenants. Table 6 depicts the current tenants of Camp Rilea and the staffing levels prior to 11 September 2001 (reference 5).

Table 6: Current Tenants and Staffing for Camp Rilea.

TENANT	PERSONNEL
Detachment 3, HQ STARC, ORARNG	58
B Company, 52nd Engineer Detachment	54
C Company, 1249th Engineer Battalion	126
116th Air Control Squadron	120
Veterans Administration Outpatient Clinic	12
TOTAL	**370**

2.5 Facility Permit Status. The facility operates as a small-quantity generator of hazardous waste under United States Environmental Protection Agency (USEPA) identification number ORD980988414. The facility holds NPDES permit number 1700A (expires 31 January 2003) for discharge to Neacoxie Creek from vehicle wash pads at the ANG and UTES facilities. The facility also holds Oregon Department of Environmental Quality (ODEQ) permit number 101887 (expires 30 June 2005) for spray irrigation of domestic sewage from the installation wastewater treatment plant. The installation does not possess any air permits.

2.6 Remedial Action to Date. Information on the following environmental investigations was obtained from files at the ORARNG office in Salem, Camp Rilea, and the ODEQ. Additional investigations may have occurred that are not documented in these files.

2.6.1 USTs.

2.6.1.1 General. According to data available from the ODEQ, Underground Storage Tank Cleanup Program, there are currently no registered USTs present at Camp Rilea. According to Camp Rilea personnel, all known USTs have been removed and all suspected UST locations have been investigated at the installation (reference 2). A summary of removed USTs formerly located at Camp Rilea is presented in Table 7. The tanks had not been issued permits by the ODEQ (reference 7). A search of the ODEQ leaking underground storage tank (LUST) database indicated no LUSTs have been documented at Camp Rilea (reference 7). Reports detailing the tank removals were not on file for all tanks. Those reports that were available are summarized in paragraph 2.6.1.2. According to the ODEQ, tanks 1, 2, and 3 have been formally decommissioned (reference 8). Heating oil tanks were not regulated by this program at the time of removal; therefore, there is no formal decommissioning for the heating oil tanks.

Table 7: Summary of USTs at Camp Rilea.

TANK NUMBER[1]	PERMIT NUMBER	LOCATION	SIZE (GALLONS)	CONTENTS	DATE INSTALLED	DATE REMOVED	NFA[2] LETTER
1	None	Bldg. 7002	1,000	Gasoline	April 1964	16 May 1988	No[3]
2	None	Bldg. 7239	2,500	Gasoline	April 1964	16 May 1988	No[3]
3	None	Bldg. 7408	1,000	Heating Oil[4]	April 1966	27 June 1988	No[3,6]
4	None[5]	Bldg. 7001	8,000	Heating Oil	1978	30 May 1997	No[6]
5	None[5]	Bldg. 7002	1,000	Heating Oil	1978	30 May 1997	No[6]
6	None	Bldg. 7156	500	Used Oil	1986	30 May 1997	No[7]

1) Arbitrary numbering system for this report.
2) NFA = No further action.
3) NFA letters are issued only for LUSTs; however, files on these tanks have been officially closed.
4) State records indicate the tank was 2,500 gallons; however, Camp Rilea personnel state the tank was actually 1,000 gallons.
5) Heating oil tanks were not regulated by ODEQ at the time and did not require permits.
6) Heating oil tanks did not require permits; therefore, they were not registered and no formal closure document was required.
7) The tank was unpermitted; therefore, ODEQ did not issue a NFA letter for this tank.

2.6.1.2 UST Removals (reference 9). SML Associates, Incorporated, West Linn, Oregon (SML), under contract to Seminole Environmental, Incorporated, Silverton, Oregon (Seminole), supervised removal of three USTS in May 1997: an 8,000-gallon fiberglass tank, formerly containing heating oil, a 1,000-gallon steel tank, formerly containing heating oil, and a

500-gallon steel tank enclosed in a concrete vault, formerly containing used oil. The steel tanks were recycled at Schnitzer Steel, Incorporated, Portland Oregon (Schnitzer) and the fiberglass tank was landfilled at a registered solid waste facility. Residual tank contents and rinseate were transported to Fuel Processors, Incorporated, Portland, Oregon, for recycling. Visual and olfactory evidence and soil sampling results indicated there was no soil contamination at the sites. Ground water was not encountered in the tank pits; therefore, ground-water samples were not collected. Based on the evidence, SML concluded no further action was required. The tanks were not permitted; therefore, a NFA letter from the ODEQ was not required.

2.6.2 USACHPPM Investigation (reference 10). USACHPPM performed a geohydrologic study at Camp Rilea in May 1996. Five areas were examined in the study: a former landfill, stormwater drainage dry wells, a former burn pit, a small caliber ammunition disposal area in Neacoxie Creek, and a railroad tie disposal pit.

2.6.2.1 Former Landfill. The former landfill was located on top of a sand dune west of the obstacle course at the end of NBC Road. The landfill reportedly dates from the 1930s and was used by the general public and military personnel. The landfill was closed and capped in the late 1980s, but no records were available to document closure. Six temporary monitoring wells were installed at the former landfill. Ground-water samples were collected from each and analyzed for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), pesticides, various metals (dissolved), nitrates (as nitrogen), and chloride. Analytical data indicated trichloroethylene (TCE) was detected in one ground-water sample at a concentration of 6.2 μg/l. This concentration exceeded the maximum allowable ground-water concentration of 2.0 μg/l published in Oregon Administrative Rules OAR 340-122-045; however, the report concluded that due to hydrologic conditions at the site, the TCE did not pose a hazard to human health or the environment.

2.6.2.2 Stormwater Drainage Wells. Several dry wells were constructed in the UTES compound to convey surface runoff from paved areas. Surface runoff flowed into a grate and was conveyed to the drywell by a buried 6-inch pipe. Seventeen subsurface soil samples were collected at depths from 10 to 16 feet below ground surface (bgs) and analyzed for VOCs, SVOCs, total petroleum hydrocarbons (TPH), and metals. Analytical data indicated arsenic, barium, and chromium were present at concentrations slightly greater than background. In addition, TPH was detected in one sample at concentrations greater than the method detection limit (MDL). USACHPPM concluded the concentrations of metals and TPH did not pose a threat to human health or the environment and did not violate Oregon Administrative Rule 690-240-030 governing "other holes"; therefore, USACHPPM recommended no further action was required for this area.

2.6.2.3 Former Burn Pit. The burn pit was located approximately 250 feet south of the former landfill. The pit was approximately 10 to 20 feet in diameter and was used to reduce the volume of solid waste entering an offpost landfill after the Camp Rilea landfill was closed in the 1980s. Anecdotal evidence indicated the burn pit may have contained used oil, solvents, and metals. Eight surface soil samples were collected from the former burn pit and analyzed for VOCs, SVOCs, and metals. Several metals were detected in soil samples at concentrations greater than background and lead was detected in one sample at concentrations greater than the toxic characteristic leaching procedure (TCLP) regulatory concentration. USACHPPM recommended removal and proper disposal of all contaminated soil. Reports describing remedial action were not contained in Camp Rilea environmental office or ORARNG files. According to facility personnel, remediation has not occurred and the project is awaiting funding.

2.6.2.4 Small Caliber Ammunition Area. Two areas of Neacoxie Creek may have been used for improper disposal of potentially-hazardous materials. An area of the creek behind the Officers' Club and another near the first causeway were allegedly used to dispose of unfired small arms ammunition. One surface-water and three sediment samples were collected from the creek and analyzed for explosives, SVOCs, pesticides, and PCBs. Analytical data from sediment sample analyses indicated the presence of arsenic, barium, chromium, and mercury, with concentrations decreasing in a downstream direction. The concentration of metals was greatest in the sample collected upstream from the areas in question (intended as a background sample and collected near the NPDES outfall). USACHPPM concluded Neacoxie Creek had not been affected by small arms ammunition disposal or the railroad tie disposal pit, but had been affected by another, unknown source. USACHPPM did not make additional recommendations regarding Neacoxie Creek.

2.6.2.5 Railroad Tie Disposal Area. An area approximately 100 to 150 east of the New (Second) Causeway was used to bury approximately 400 railroad ties in the late 1980s. The railroad ties were likely preserved with creosote and were buried in a shallow pit. The ties may have been contaminated with PCBs from railroad operations. Sample analyses and results are discussed in paragraph 2.6.2.4.

2.6.3 Hutment Spill Investigation. In January 1993, Cascade Earth Sciences, Limited, Corbett, Oregon (CES), performed a subsurface soil investigation at the current location of the headquarters building (Building 7021) (references 11 and 12). Approximately 45 small barracks buildings (known as hutments) were formerly located at this site. The buildings were heated by space heaters that used diesel fuel as a fuel source. The fuel was supplied from 5-gallon fuel containers, inverted and hung on the side of the building, to feed the fuel by gravity. Over the period of usage (approximately WWII to the early 1980s), numerous small leaks and spills had resulted in soil contamination at the site. CES installed three ground-water monitoring wells and drilled three soil borings at the site. Soil and ground-water samples were analyzed for TPH and

benzene, toluene, ethylbenzene, and xylene (BTEX). Analytical data indicated the presence of TPH in soil at concentrations up to 12,000 parts per million (ppm). BTEX was not detected in soil samples at concentrations greater than the MDL. Neither TPH nor BTEX were detected in ground water at concentrations greater than the MDL. CES recommended the site be remediated following Oregon Level 1 clean up standards (remediation to a concentration of 100 ppm). In February 1994, CES provided a report detailing remediation efforts to that date. At that time, buildings 1 through 21 had been remediated by excavation. Approximately 364 cubic yards (yd^3) of soil were transported to the Hillsboro Landfill, Hillsboro, Oregon, for disposal. An additional 388 yd^3 of soil were stockpiled at the site. Remediation at buildings 22 through 45 was still in progress. CES estimated an additional 250 to 350 yd^3 of soil would require removal to complete remediation. Additional reports detailing the final quantity of soil removed, disposal of the 388 yd^3 of stockpiled soil, or closure letters from the ODEQ were not contained in Camp Rilea, ORARNG environmental office, or ODEQ files; however, an undated, anonymous report titled "Summary of Events, Camp Rilea Hutment Cleanup" is contained in ORARNG files. This report details problems encountered prior to construction of the new headquarters building and indicates the remediation was completed. The Spill Prevention, Control, and Countermeasures Plan (SPCCP) for Camp Rilea mentions the hutment site and indicates approximately 1,100 yd^3 of soil were removed from the area and remediated through land farming (reference 13). In addition, a letter from DEQ dated 25 March, 1994 acknowledges receipt of the Cascade Earth Sciences initial report, states the Site Assessment Section of ODEQ considered the site to be a low priority, and indicated the Site Assessment Section of ODEQ would not evaluate the site until higher prioity sites had been examined. The letter further states the Oregon Military Department could enter the Voluntary Cleanup Program, if desired (reference 14). A Memorandum for Record, prepared by the site cleanup project manager, states verbal approval from ODEQ to dispose of contaminated soil in the "treatment cell" provided the contaminated soil was covered with 12 inches of clean topsoil and seeded. According to ORANG personnel, theses tasks were performed (reference 2).

2.6.4 ANG Spill Investigations (reference 15). In April 1994, a spill was discovered near Building 7408 at the former UTES facility, occupied by the 116th ACS of the ANG at the time. A report of stressed vegetation led to an investigation by ORARNG personnel who discovered several stained areas within, and adjacent, the ANG compound. ORARNG subsequently reported the major stained area (a 250 sf area of stressed vegetation) to the ODEQ. Soil samples were collected and submitted to National Environmental Testing, Incorporated, Portland, Oregon, for analyses for TPH (gasoline, diesel, and heavy oil fractions).

2.6.5 Building 7148 (reference 16). Building 7148 is used for vehicle storage. A POL spill occurred in this building and soil sampling was conducted in 2001. The report describing the results of this study was not yet available; however, installation personnel stated the analytical data indicated no parameters tested exceeded ODEQ cleanup concentrations.

2.6.6 Asbestos, Lead, PCBs, and Radon.

2.6.6.1 Asbestos. An installation-wide survey to identify asbestos-containing material (ACM) was conducted by the Hall-Kimbrell Division, Professional Services, Incorporated in 1991 (reference 17). A copy is maintained in the SMS office. ACM was identified in several locations on the installation. ACM is abated as appropriate when demolition or remodelling dictates. Some reports describing specific ACM removals were contained in ORANG and Camp Rilea files. Eastwood Environmental, Incorporated, Portland, Oregon (Eastwood) conducted ACM removal at Building 7246 in January 1992. Six boiler tanks and associated ACM were removed from this building and disposed at Hillsboro Landfill, Hillsboro, Oregon (reference 18). In addition, ACM was detected in soil behind Building 7246. The following quantities of soil and ACM were removed and transported to Hillsboro Landfill for disposal: (3) 85-gallon drums, (7) 55-gallon drums, (9) 35-gallon drums, and (1) 25-gallon drum (reference 19).

2.6.6.2 Lead. No reports detailing lead investigations were noted in ORARNG or Camp Rilea environmental office files; however, the installation has numerous firing ranges located on site. The site has been used as a training area with numerous firing ranges present since 1936.

2.6.6.3 PCBs. No data or reports detailing PCB sampling or abatement studies were contained in the ORARNG or Camp Rilea environmental office files.

2.6.6.4 Radon. Radon samples were collected from each structure on Camp Rilea by the ORARNG environmental office in October 1999. Radon was not detected at concentrations greater than the USEPA action level of 4.0 picoCuries per liter (pCu/L). The highest detected radon concentration was 1.1 pCu/L.

2.7 Inspections and Notice of Violations (NOVs). Environmental Compliance Assessment System (ECAS) audits were conducted at Camp Rilea in May 1994 and April 2001. During the April 2001 inspection, 16 findings were noted (reference 20). The findings are summarized in Table 8.

2.8 Surface Water.

2.8.1 General. Surface water drainage pathways are depicted in Figure 7. Surface water at the site is present in lakes, sloughs, and small creeks within interdunal areas that, due to the rapid infiltration rates of the surface deposits, are recharged more from ground water than

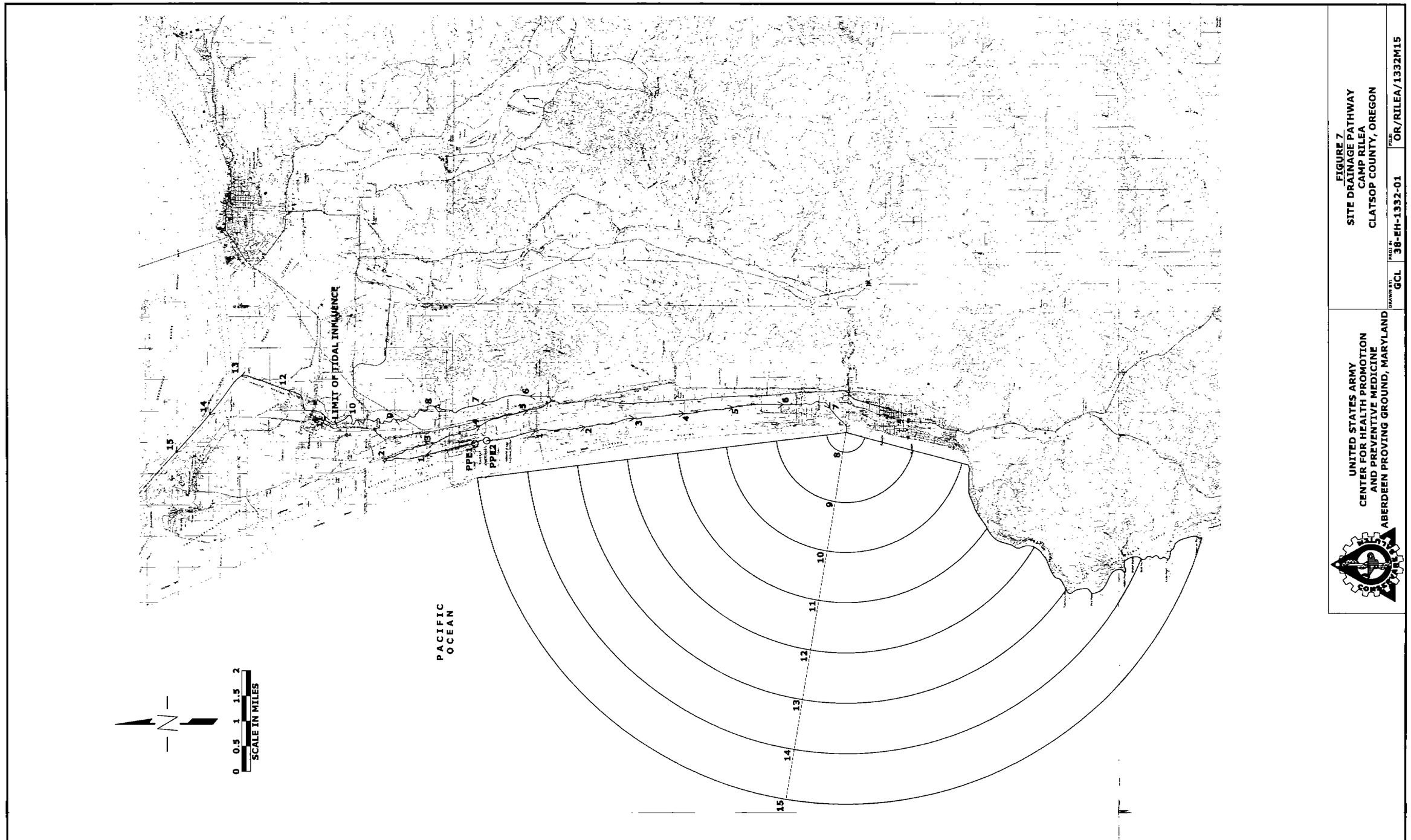

LIMIT OF TIDAL INFLUENCE
PPE1
PPE2
PACIFIC OCEAN
0 0.5 1 1.5 2
SCALE IN MILES
FIGURE 7
SITE DRAINAGE PATHWAY
CAMP RILEA
CLATSOP COUNTY, OREGON
DRAWN BY: GCL
PROJ #: 38-EH-1332-01
FILE: OR/RILEA/1332M15
UNITED STATES ARMY
CENTER FOR HEALTH PROMOTION
AND PREVENTIVE MEDICINE
ABERDEEN PROVING GROUND, MARYLAND

Table 8: Summary of ECAS Findings from April 2001 Audit.

FINDING NUMBER	OPERATION	FINDING DESCRIPTION
PO.0050.01.TEAM 03	Installation	Procedures established in the SPCCP are not implemented.
HW.010.01.TEAM 05	Air National Guard	Waste stream has not been characterized with respect to potential hazardous waste.
PO.020.01.TEAM 02	Air National Guard	POL improperly stored (inadequate secondary containment).
AE.090.05.TEAM 01	Air National Guard	Certification for recycling equipment not submitted to USEPA.
AE.090.05.TEAM 01	State Maintenance Shop	Certification for recycling equipment not submitted to USEPA.
HW.310.01.TEAM 01	State Maintenance Shop	Universal waste improperly labeled or stored.
HW280.02 TEAM 03	State Maintenance Shop	Universal waste storage time not demonstrated.
HW.040.01.TEAM 01	UTES	No weekly inspections of hazardous waste storage areas.
HW.010.01.TEAM 05	UTES	Waste stream has not been characterized with respect to potential hazardous waste.
PO.020.01.TEAM 02	UTES	POL improperly stored (inadequate secondary containment).
PO.065.06.TEAM 01	UTES	POL containers improperly labeled.
HW.030.01.TEAM W1	UTES	Hazardous waste containers, managed as empty, not certified as empty.
HM.001.05.ARNG 09	UTES	Hazardous materials management program not implemented.
HW.020.04.TEAM 01	UTES	Facility does not have signed copies of returned manifests.
PO.015.02.ARNG 01	UTES	Oil discharged to the environment from vehicles.
PO.005.07.TEAM02	UTES	Required spill prevention and response notification training has not been conducted.

directly from surface runoff and precipitation. Exceptions occur in developed areas where storm drains and piping systems are present, such as in parts of the cantonment area. Two separate surface drainage patterns exist within Camp Rilea: the Neacoxie Creek system and the Sunset Lake system (references 2, 10, and 14).

2.8.2 Neacoxie Creek Drainage. A storm drain system conveys surface runoff from much of the cantonment area to an outfall on Neacoxie Creek west of the washrack (Figure 2). The Neacoxie Creek drainage system originates in the cantonment area at the intersection of Clatsop Avenue and North Oregon Street (probable point of entry [PPE] 1) and flows northward to outside the installation boundary. Neacoxie Creek then makes a 180 degree turn and flows southward, parallel to Route 101, within the installation boundaries, crossing Clatsop Avenue near the main gate and flowing southward to outside the south boundary, where it makes a 180 degree turn to the north and flows into the Skipanon River, thence to the Columbia River.

2.8.3 Sunset Lake Drainage. A storm drain system conveys surface runoff from the PM shop area to Sunset Lake (PPE2). Drainage from Sunset Lake originally flowed north into the Neacoxie Creek system; however, the northern end of Sunset Lake was filled during the early

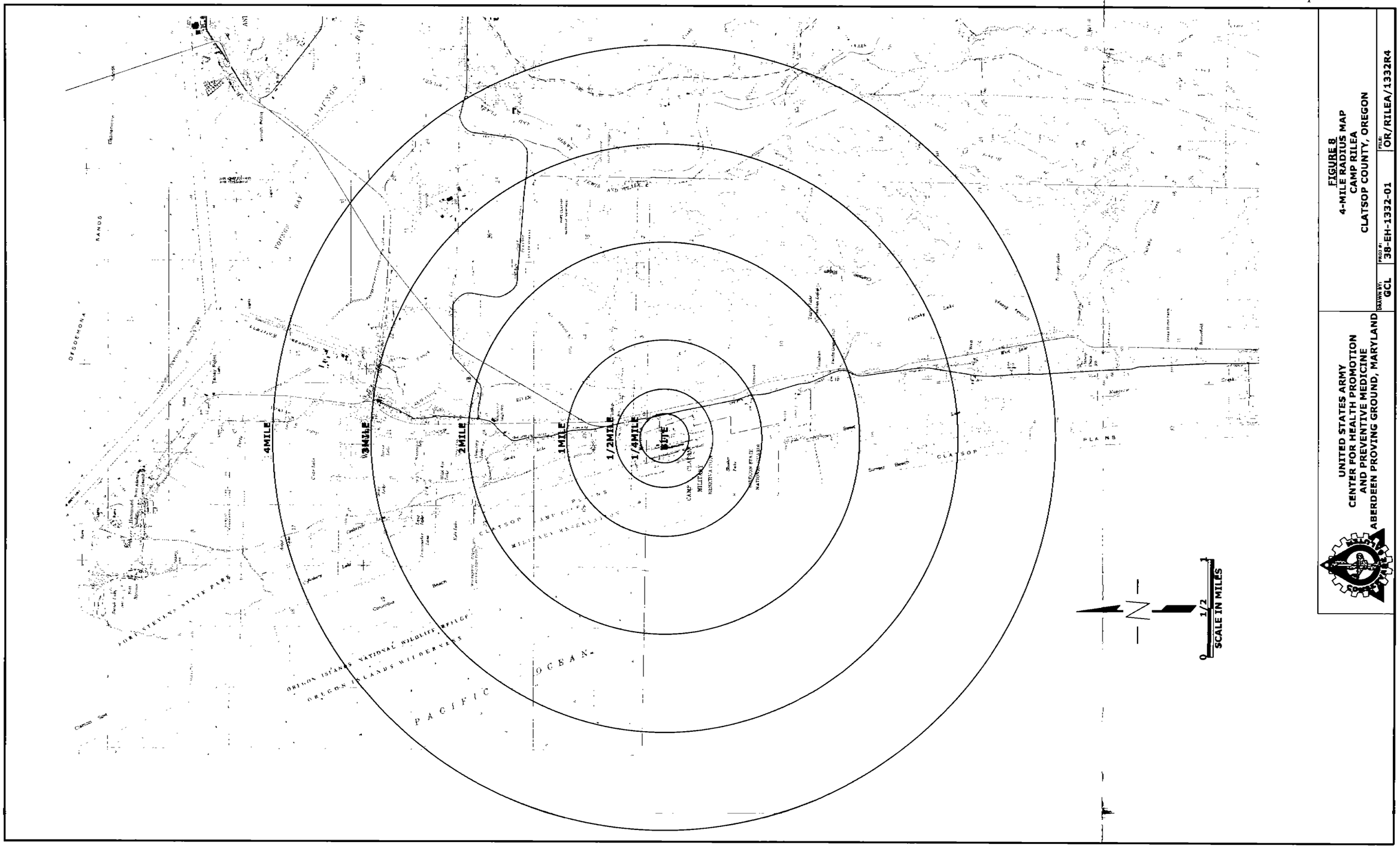
20th century, blocking drainage northward. Drainage from Sunset Lake now flows southward for 7 miles in a slough (labeled Neacoxie Creek on some maps), to the Neacanicum River, thence in the Neacanicum River for 1 mile to the Pacific Ocean.

2.8.4 Discharge Data. Published discharge data are not available for Neacoxie Creek, Skipanon River, Sunset Lake, and the Neacanicum River. Observations made during the site reconnaissance indicate the discharge for Neacoxie Creek and Sunset Lake was less than 10 cubic feet per second (cfs) and discharge for the Skipanon and Neacanicum Rivers was between 10 and 100 cfs; however, the site reconnaissance occurred during the driest time of the year. Discharge will be considerably greater during the rainy season. The Skipanon, Neacanicum, and Columbia Rivers are all influenced by tides; however, a dam at the intersection of the Skipanon River and 4th Street in Warrenton limits the tidal influence upstream from that point.

2.8.5 Sensitive Environments.

2.8.5.1 Endangered or Threatened Species. Thirty-six animals and 15 plants on the Federal list of threatened or endangered species have been documented in Oregon (reference 21). The Oregon Silverspot Butterfly (*Speyeria zerene hippolyta*), a Federally-listed threatened species, has been documented from the site; however, the most recent biological survey indicates the last sighting of female Oregon Silverspots at the installation was 1995 (6 individuals) (reference 22). The installation currently manages known established habitat for the Oregon Silverspot according to procedures outlined in the *Camp Rilea Oregon Silverspot Butterfly Habitat Management Plan* (reference 23). Several listed animals may be present in the Pacific Ocean within the site drainage pathway or adjacent the ocean frontage of Camp Rilea. The Humpback Whale (*Megaptera novaeangliae*), a Federally-listed threatened species, has been documented from the continental slope and shelf habitats off the Oregon Coast (reference 24). Listed species that may use the site through seasonal visitation include the Western Snowy Plover (*Charadrius alexandrinus nivosus*) and the Brown Pelican (*Pelecanus occidentalis*). No Federally-listed threatened or endangered plants are known to exist at from Camp Rilea. Although several plants listed by the Oregon Natural Heritage Program as Category 2 (imperiled and vulnerable to extinction) or Category 4 (of conservation concern) are known from the installation, these plants do not qualify for special consideration under the Hazard Ranking System (HRS) guidelines (references 25 and 26). No Federally-listed threatened or endangered species are reported from land adjacent Camp Rilea. It is possible Federally-listed threatened or endangered species are present within the site drainage pathways (Figure 7) or within a 4-mile radius of the approximate center of the cantonment area (Figure 8) (references 21 through 26).

2.8.5.2 Land Designated for Wildlife Management or as a Natural Area (reference 1). The Oregon Islands Wildlife Refuge and Oregon Islands Wilderness Area are located in the


4MILE
3MILE
2MILE
1MILE
1/2MILE
1/4MILE
SITE
PACIFIC OCEAN
0
1/2
1
SCALE IN MILES
FIGURE 8
4-MILE RADIUS MAP
CAMP RILEA
CLATSOP COUNTY, OREGON
DRAWN BY: GCL
PROJ #: 38-EH-1332-01
FILE: OR/RILEA/1332R4
UNITED STATES ARMY
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ABERDEEN PROVING GROUND, MARYLAND

Pacific Ocean adjacent the beach areas of Camp Rilea and within the site drainage pathway (Figure 3). Fort Clatsop National Memorial is located approximately 2.5 miles northeast from the center of the 4-mile radius of the site. Clatsop State Forest is located approximately 2.5 miles northeast from the center of the 4-mile radius of the site, near Fort Clatsop National Memorial. Portions of Fort Stevens State Park are located between 3 and 4 miles northwest from the center of the 4-mile radius of the site. No additional national or state parks, game lands, natural areas, critical habitat, wilderness areas, wildlife management areas, or other specially-designated areas exist within a 4-mile radius or within the site drainage pathways.

2.8.5.3 Fisheries. Both salt and fresh-water fisheries exist at Camp Rilea and within the site drainage pathway.

2.8.5.3.1 Camp Rilea Fisheries. Slusher Lake, at the southern section of the installation, is used as a fresh-water fishery by base personnel, children (during special fishing days), and former property owners of current Camp Rilea land. One person was observed fishing during the site reconnaissance; however, Slusher Lake (within the boundaries of Camp Rilea) is reserved as a catch-and-release fishery. Species caught include largemouth bass, crappie, bluegill and other sunfish, and catfish. Although Neacoxie Creek may contain both game and non-game species, fishing is not allowed in Neacoxie Creek within installation boundaries. Salt-water fisheries are present along the beach fronting the Pacific Ocean. Beaches in Oregon are considered public property; therefore, all ocean frontage within Camp Rilea is accessible by foot, boat, or 4-wheel drive vehicle. Surf fishing and digging for razor clams are both possible within Camp Rilea boundaries; however, no persons were observed fishing or clamming during the site reconnaissance.

2.8.5.3.2 Other Fisheries Within the Site Drainage Pathway. A large recreational and commercial fishery is based in Clatsop County port towns. Available data indicate 2,446 chinook salmon and 37,949 coho salmon were harvested out of Astoria, Oregon in 2001 (reference 27). It is not possible to determine the number of fish harvested within the site drainage pathway. In addition, numerous other game fish, such as cod, flounder, rockfish, greenling, and sea perch are harvested from the Pacific Ocean and some are undoubtably harvested from within the site drainage pathway. Sunset Lake and Rilea Slough (Neacoxie Creek) are both listed as publicly-accessible warm-water fisheries by the Oregon Department of Fish and Wildlife (reference 28). It is also likely that the Skipanon and Neacanicum Rivers are used as fisheries. Species expected in these rivers would be those common in brackish water of the Pacific northwest.

2.8.5.4 Flood Plain. Camp Rilea is excluded from Federal Emergency Management Agency flood insurance rate maps and the SPCCP for the site does not elaborate on flood plains

within the installation; therefore, it is not known if any portion of the site is within a 100-year or 500-year flood plain (reference 29).

2.8.5.5 Wetlands. Approximately 244.5 acres of wetlands were mapped at Camp Rilea by the Oregon State University Department of Botany and Plant Pathology during plant surveys in 1998 and 1999 (Figure 9) (reference 23). The types of wetlands and associated acreages are listed in Table 9.

Table 9: Wetlands Acreage at Camp Rilea (reference 23).

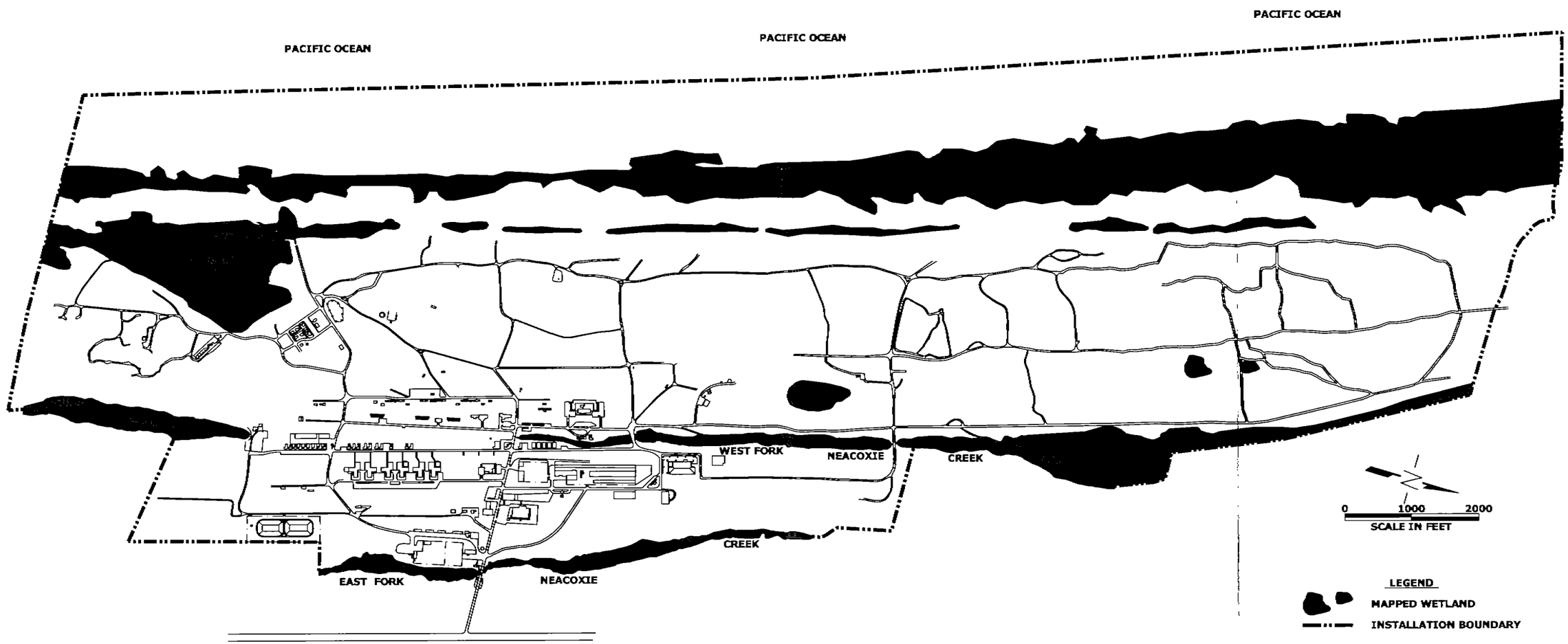
WETLAND TYPE	NUMBER OF AREAS	ACREAGE
Palustrine Aquatic Bed	6	11.3
Palustrine Emergent Wetland	2	16.2
Palustrine Forested Wetland	20	216.1
Palustrine Scrub-Shrub Wetland	1	0.9
TOTAL	29	244.5

Because of the size of the installation, the amount of wetlands within a 0.50 mile radius depends on where the center of the radius rings is located. Approximately 5 acres of eligible wetlands are located within a 0.50 mile radius of the approximate center of the cantonment area. There are more than twenty miles of palustrine emergent wetlands within the site drainage pathways (reference 30). The majority of the Neacanicum, Skipanon, and Columbia Rivers within the site drainage pathways are classified as estuarine intertidal unconsolidated bottom wetlands; however, this wetland type may not qualify as a sensitive environment under the HRS (reference 26).

2.9 Population Distribution and Facility Personnel.

2.9.1 Local Population. According to 1990 census data, approximately 4,023 persons reside within a 4-mile radius of the approximate center of the cantonment area, with the following distribution (reference 31):

0.00 to 0.25 mile:	6	Persons
0.25 to 0.50 mile:	0	Persons
0.50 to 1.00 mile:	0	Persons
1.0 to 2.0 miles:	181	Persons
2.0 to 3.0 miles:	1,295	Persons
3.0 to 4.0 miles:	2,547	Persons
Total:	4,029	Persons



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ABERDEEN PROVING GROUND, MARYLAND

FIGURE 9
WETLANDS MAP
CAMP RILEA
CLATSOP COUNTY, OREGON

DRAWN BY:	PROJ #:	FILE:
GCL	38-EH-1332-01	OR/RILEA/1332WETS

The nearest offsite residence is located along the northern border of Camp Rilea (Figure 1). Population figures were obtained using PCGems software and using the approximate center of the cantonment area as the starting point; thus the apparent discrepancy in the 0.00 to 1.00 populations above. Population figures do not include student or worker populations at nearby schools or office and industrial facilities.

2.9.2 Facility Population. Six persons reside at the installation full-time in three residences. Approximately 93 full-time staff work at Camp Rilea. In addition, approximately 370 persons work within tenant organizations at the installation. During inactive duty training (drill) weekends, an additional 100 to 800 persons per day are present and during two-week annual training periods, an additional 1,400 persons are present. Additional persons (numbers vary) are present at Camp Rilea for Oregon State Police training, unit training, other government agency training, and local civic functions. The numbers of persons at Camp Rilea may change with recent activation of units for anti-terrorist operations (reference 2). Data for the number of persons training at Camp Rilea (excluding offpost land) are presented in Table 10.

Table 10: Number of Persons Training at Camp Rilea (reference 23).

	YEAR				
CATEGORY	**1998**	**1999**	**2000**	**2001**	**2002[1]**
ARNG	20,167[2]	30,640	38,233	27,500	30,250
Non-ARNG	83,034	65,569	107,979	88,000	88,000
TOTAL	103,201	96,209	146,212	115,500	118,250

1) Projected

2) Number given is in person days (1 person training for 1 day).

2.10 Water Supply. Potable water for the site is supplied by the city of Warrenton. Persons residing within a 4-mile radius rely on the city of Warrenton, the Youngs River Lewis and Clark Water District (YRL&C), and private wells for potable water.

2.10.1 City of Warrenton (reference 32). The city of Warrenton supplies water to approximately 9,080 persons, all residing within a 4-mile radius of the site, using surface water from the Lewis and Clark River, southeast of the site and outside the site drainage pathway. In addition, the city of Warrenton sells water to the cities of Gearhart and Astoria. The city of Gearhart supplies water to approximately 2,976 persons (1,240 connections multiplied by 2.40 persons per household for Clatsop County), none residing within a 4-mile radius of the site. No persons served by the city of Astoria reside within a 4-mile radius of the site.

2.10.2 YRL&C (reference 33). YRL&C serves approximately 2,141 persons (892 connections multiplied by 2.40 persons per household for Clatsop County), approximately 504

residing within a 4-mile radius of the site, using surface water from Barney Creek (located southeast of the site and outside the site drainage pathway). YRL&C does not sell water to, or purchase water from, other public water providers.

2.10.3 Private Well Users. The number of persons relying on private wells as a source of potable water was estimated by comparing the service area maps for the city of Warrenton and YRL&C with the 4-mile radius map. Houses identified as not having public water service were then counted for each distance ring, and that number was multiplied by the number of persons per household for Clatsop County (2.40), according to 1990 United States Census data (reference 31). The estimated number of private-well users is as follows:

0.0 to 0.25 mile:	0 Persons
0.25 to 0.50 mile:	0 Persons
0.50 to 1.0 mile:	0 Persons
1.0 to 2.0 miles:	17 Persons
2.0 to 3.0 miles:	150 Persons
3.0 to 4.0 miles:	116 Persons
Total:	283 Persons

2.11 Climate. According to climatological data for the Astoria, Oregon weather station, approximately 4 miles northeast of the site, for 1961 through 1990, the average annual minimum temperature is 43.4 degrees Fahrenheit (° F), the average annual maximum temperature is 58.4° F, and the mean annual temperature is 50.9° F. January is the coldest month, with an average minimum temperature of 35.9° F and an average maximum temperature of 47.9° F (reference 34). August is the warmest month, with an average minimum temperature of 52.7° F and an average maximum temperature of 69.0° F. Total average annual precipitation is 66.42 inches (reference 34). December is the rainiest month, averaging 10.55 inches of precipitation. Snow is rare; the average seasonal snowfall is 4.74 inches (reference 34). The mean annual lake evaporation is approximately 24 to 26 inches (reference 35). A 2-year, 24-hour rainfall would produce approximately 3.5 inches (reference 35).

2.12 Physiography. Camp Rilea lies within the Coastal Plain Section, Pacific Border Province, Pacific Mountain System (references 36 and 37). Elevations at the site range from 0 feet above sea level (asl) near the Pacific Ocean to 75 feet asl on some of the higher dunes (reference 1). Longer slopes at the site vary from near 0 to approximately 5 percent, although steeper slopes are present in localized areas at dune margins (reference 2). The Coastal Plain is characterized by unconsolidated Quaternary sands and gravels deposited as a thin veneer on eroded surfaces of older Coast Range rocks. North-south trending sand dunes cover wide areas and many dormant dunes are now covered by heavy growths of brush and trees. The dunes are commonly separated by lakes, swamps, bogs, and slow-moving creeks (references 36 and 37).

2.13 Soils. Soils at the site consist of beaches, dune lands, Heceta-Waldport fine sands, Waldport fine sand, Warrenton loamy fine sand, and Gearhart fine sandy loam. The soils generally run in parallel strips from north to south, progressing from west to east in the order presented above; however, Warrenton soils are only present in the northeastern area of the site (reference 38).

2.13.1 Beaches (reference 38). Beaches are present along the entire western border of Camp Rilea at the edge of the Pacific Ocean. Beaches consist of highly-permeable sands and coarse shell and rock fragments. There is no soil profile for beach material. Beach sands are not classified into a hydrologic soil group; however, the high infiltration rates of beach sands would correlate with hydrologic soil group A (infiltration rate of greater than 0.30 inches per hour) (reference 35).

2.13.2 Dune Lands (reference 38). Dune lands are present adjacent the beaches along the entire western border of Camp Rilea, near the Pacific Ocean. Beaches consist of highly-permeable light brownish-gray fine sands. There is no soil profile for dune material and the native plants consist of beach grasses. Dune lands are not classified into a hydrologic soil group; however, the high infiltration rates of dune lands would correlate with hydrologic soil group A (infiltration rate of greater than 0.30 inches per hour) (reference 35).

2.13.3 Heceta Series (reference 38). The Heceta series consists of very deep, poorly-drained soils formed in dune sands and located in interdunal depressions. A typical profile consists of a mat of very fine and fine roots, leaves, twigs, and lichens from 0 to 2 inches (O horizon). The O horizon is underlain by a very dark grayish-brown fine sand from 0 to 3 inches (A horizon). The A horizon is underlain by a C horizon consisting of two units: a grayish-brown fine sand with common distinct medium-brown and light brownish-gray mottles from 3 to 17 inches and a light gray sand with few prominent medium-brown mottles from 17 to 60 inches. Heceta soils belong to hydrologic soil group D (reference 35).

2.13.4 Waldport Series (reference 38). The Waldport series consists of very deep, excessively-drained soils formed in dune sands and located on stabilized sand dunes. A typical profile consists of a very dark-brown fine sand surface layer, from 0 to 3 inches and a dark brown fine sand from 3 to 5 inches (together comprising the A horizon). The A horizon is underlain by a pale brown fine sand from 5 to 15 inches and a light brownish-gray fine sand from 15 to 60 inches (together comprising the C horizon). Waldport soils do not exhibit a B horizon. Waldport soils belong to hydrologic soil group A (reference 35).

2.13.5 Warrenton Series (reference 38). The Warrenton series consists of very deep, very poorly-drained soils formed in sand and located on long, narrow interdunal areas. A typical

profile consists of black muck containing twigs, roots, needles, and leaves from 0 to 3 inches (O horizon). The O horizon is underlain by a black loamy fine sand with many fine and medium prominent dark reddish-brown and reddish-brown mottles from 0 to 11 inches (A horizon). The A horizon is underlain by very dark-gray loamy fine sand with many fine, medium, and large prominent dark reddish-brown, reddish-brown, and yellowish-red mottles from 11 to 22 inches and a very dark gray fine sand with few fine and medium prominent reddish brown mottles from 22 to 60 inches (together comprising the C horizon). Warrenton soils do not exhibit a B horizon. Warrenton soils belong to hydrologic soil group D (reference 35).

2.13.6 Gearhart Series (reference 38). The Gearhart series consists of very deep, somewhat excessively-drained soils formed in aeolian sands and located on stabilized sand dunes. A typical profile consists of a layer of leaves, twigs, moss, and roots from 0 to 2 inches (O horizon). The O horizon is underlain by a black fine sandy loam from 0 to 11 inches (A horizon). The A horizon is underlain by a dark-brown loamy fine sand from 11 to 16 inches (B horizon). The B horizon is underlain by a dark-gray fine sand from 16 to 45 inches and a gray sand from 45 to 60 inches (together comprising the C horizon). Gearhart soils belong to hydrologic soil group A (reference 35).

2.14 Geology. Major geologic units at the site consist of Quaternary dune sands that overlie rocks of the Astoria Formation (references 10, 39, 40, 41, and 42).

2.14.1 Quaternary Dune Sands. Pleistocene and Holocene dune sands outcrop at Camp Rilea. Dune development is continuing as sediment is dispersed from the mouth of the Columbia River, north of the site. The dune sands are the primary water-bearing unit in the area. Sand grains are sub-angular to rounded and range from very fine to coarse. The sand is composed primarily of quartz, with lesser amounts of feldspar, magnetite, and mica. The sands are loosely compacted and unconsolidated with occasional thin, discontinuous layers of silt and clay. The dune sands may be greater than 100 feet thick. Well logs for monitoring wells in the installation spray-irrigation field indicate dune sands were encountered to the bottom of the borings (45 feet bgs). Logs for wells drilled in the vicinity of Camp Rilea indicate bedrock was encountered between 82 and 108 feet bgs.

2.14.2 Astoria Formation. Bedrock beneath the site consists of the middle-Miocene Astoria Formation; however, this formation does not outcrop within Camp Rilea. The Astoria Formation is a fine-grained, compacted, relatively impermeable sandstone and shale up to 1,400 feet thick. The Astoria Formation dips gently to the west.

2.15 Hydrogeology (references 10, 40, 41, and 42).

2.15.1 Quaternary Dune Sands. Shallow ground water beneath the site is present under (generally) unconfined conditions in the unconsolidated dune sands (Clatsop Dunes Aquifer). Recharge to this aquifer is from infiltration of precipitation. The high infiltration rate results in little or no surface water runoff. Most surface water results from recharge of shallow ground water and changes in surface water elevation are rapid in response to rain events. Ground-water elevations in three nearby wells (two water supply wells and one observation well) range from 2 to 15 feet bgs; however, well logs for these wells indicate ground water was first encountered at depths from 37 to 65 feet bgs, indicating an upward component to the ground-water flow and/or localized confining conditions. Logs from 10 wells completed within the boundaries of Camp Rilea indicate the depth to ground water is between 22.63 and 32.86 feet bgs at the site. The direction of ground-water flow is generally to the west toward the Pacific Ocean; however, ground-water flow directions may vary locally where ground water is recharging to surface water bodies. Published data indicate the rate of ground-water flow is between 5 and 17 feet per day (reference 40). Although the Clatsop Plains Aquifer has potential to be utilized as a public water supply, it is currently only used for private water supplies within a 4-mile radius of Camp Rilea.

2.15.2 Astoria Formation. The regional bedrock aquifer of the Astoria Formation is recharged in the Coast Range to the east and discharges at the margins of the range to both the east and west. Beneath Camp Rilea, ground-water flow in the bedrock aquifer is toward submarine recharge zones to the west. The bedrock aquifer has a relatively low hydraulic conductivity and there is likely little interaction between the dune sand and bedrock aquifers.

3. OPERATIONAL HISTORY AND WASTE CHARACTERISTICS.

3.1 Hazardous Waste Generation and Handling Practices. Hazardous wastes, or potentially hazardous wastes, are produced primarily at four locations at Camp Rilea: the UTES compound, the ANG compound, the PM shops, and the ranges. Each is discussed in more detail in the following paragraphs. Additional wastes are generated in smaller quantities by tenants or others and usually consist of outdated or unusable supplies with hazardous properties (such as chemical detections kits). These wastes are disposed through prior arrangement with the UTES or PM facilities.

3.1.1 UTES. The UTES provides maintenance and support for approximately 175 to 200 vehicles including 5-ton trucks, 2.5-ton trucks, personnel carriers, tractor trailers, tractors, forklifts, high-mobility multi-wheeled vehicles (humvees), vans, pick-up trucks, and automobiles. Potential hazardous wastes include used oil, used antifreeze, waste gasoline, waste paint, used solvents, contaminated soil (from small spills and leaks), used batteries (NiCad, alkaline, lithium, and magnesium), asbestos-containing brake shoes, and expired supplies (such

as mask filters). Hazardous waste is stored in a commercially-made metal storage locker, located under a covered storage area (Building 7152). Used batteries are also stored in the covered area prior to disposal or exchange (depending on battery type). Used oil is collected and stored in a double-walled, 500-gallon AST located in the POL room near the west wall of Building 7156. A 200-gallon AST, located in Building 7151, is used to collect used oil from an oil/water separator. The used oil is recycled through Spencer Environmental, Incorporated. Used oil will also be collected at the UTES from visiting units with prior arrangements. An Oberg brand filter crusher is available at the UTES for crushing oil and gas filters prior to disposal/recycling. Vehicle batteries are exchanged on a one-for-one basis with Sterling Battery Company, Boise, Idaho. Used antifreeze is stored in 55-gallon drums in the hazardous waste storage area and either recycled through Northwest Antifreeze Recyclers or disposed through Spencer. Five Zep DynaClean parts washers and two Inland Technologies weapons parts washers are located at the UTES facility. All are recycling-type machines that do not require disposal of solvent. Filters are replaced regularly and disposed of as hazardous waste.

3.1.2 ANG. The ANG generates a waste stream similar to the UTES: used oil, used antifreeze, waste gasoline, waste paint, used solvents, contaminated soil (from small spills and leaks), used batteries (NiCad, alkaline, lithium, and magnesium), asbestos-containing brake shoes, and expired supplies (such as mask filters). Hazardous waste is stored in a commercially-made metal storage locker, located in the compound east of Building 7116. Used oil is collected and stored in a double-walled, 300-gallon AST located adjacent the west wall of Building 7116. The tank is emptied when an automatic indicator reaches 280 gallons. The used oil is recycled through Spencer. Used antifreeze is stored in a separate double-walled, 300-gallon AST. Antifreeze is either recycled through Northwest Antifreeze Recyclers or disposed through Spencer.

3.1.3 PM Shops. Hazardous wastes generated by the PM shops include used oil and antifreeze; waste paints, solvents, and related materials; expired cleaners and polishes; and expired miscellaneous materials. The PM shops also generate universal wastes such as fluorescent light bulbs. Hazardous wastes are stored in 30- and 55-gallon drums in Building 7246. Used fluorescent light bulbs are stored in the original shipping containers (cardboard boxes) in Building 7254.

3.1.4 Ranges and Training Areas. Minor leaks and spills of POLs from vehicles in the training areas may occur; however, no maintenance is performed in the field. The most likely potentially hazardous substances associated with range areas are metals and explosives. Lead and cadmium are likely to be present at concentrations exceeding background in impact areas. Explosives may be present in some of the older ranges. No studies documenting the concentrations of these compounds in soil were contained in Camp Rilea, ORARNG environmental office, or ODEQ files.

3.2 Hazardous Waste Disposal. Most hazardous wastes generated at Camp Rilea are disposed through Camp Withycombe, located in Clackamas, Oregon. Camp Withycombe utilizes various contractors, arranged through the Defense Reutilization Marketing Office (DRMO), to dispose of wastes generated at Camp Rilea. In addition, Camp Rilea directly disposes of waste solvent generated in parts-cleaning basins through a recycling program with Safety-Kleen, Incorporated. Antifreeze and used oil are recycled or disposed directly from Camp Rilea through local contractors.

3.3 Hazardous Waste Quantities. The types and quantities of wastes typically generated at Camp Rilea for several previous years are presented in Table 11.

Table 11: Hazardous Waste Streams and Quantities for Camp Rilea.

WASTE	QUANTITY BY YEAR (pounds)						
	1991	1992	1996[1]	1997	1998	1999	2000
Solvent	2,160	4,379	28	68	1,162	131	NR[2]
Asbestos	60	NR	NR	1,655	789	NR	NR
Paint Thinner	240	NR	NR	8,200	NR	NR	NR
Waste Paint	NR	NR	208	NR	585	240	240
Mask Filters	40	NR	NR	39	NR	NR	NR
Batteries	2,079	NR	NR	NR	NR	NR	NR
Nitrogen	1	NR	NR	NR	NR	NR	NR
Methyl ethyl ketone (MEK)	NR	NR	NR	NR	25	NR	NR
Waste Gasoline	NR	NR	NR	NR	130	NR	NR
TCE	NR	NR	NR	NR	105	NR	NR
Sodium hydroxide	NR	NR	NR	NR	67	NR	NR
Petroleum naphtha	NR	NR	NR	NR	NR	16	16
Dimethyl sulfate	NR	NR	NR	NR	NR	42	42
Mineral spirits	NR	NR	NR	NR	NR	36	36
Turpentine	NR	NR	NR	NR	NR	8	8
Denatured alcohol	NR	NR	NR	NR	NR	10	10
Sodium nitrate	NR	NR	NR	NR	NR	106	NR
Inorganic oxidizers	NR	NR	NR	NR	NR	NR	106
M72A2 kits	NR	NR	NR	NR	NR	NR	42

1) Data not available for years 1993 through 1995.
2) This waste stream not generated or reported for this year.

3.4 Universal Waste Types and Quantities. Camp Rilea also generates various universal wastes including fluorescent light bulbs and ballasts, brake shoes and tile containing asbestos, petroleum-stained rags, and waste batteries (Ni-Cad, lead-acid, lithium, and others).

3.5 Areas of Concern. The scope of this investigation is limited to property contained within the current boundaries of Camp Rilea and excludes private and non-National Guard owned land used for training. The following sections describe areas of concern investigated during field reconnaissance. Five areas of concern were identified through interviews with ORARNG personnel and visual observations (reference 2). These areas of concern do not pose imminent threats to site personnel, nearby residents, or the environment; however, they do require attention by the ORARNG to prevent future potential problems. For the purpose of this investigation, a potential source is an area where a potentially hazardous substance may have been spilled, deposited, stored, disposed, or placed, as defined by the USEPA (reference 43). Discussion of these areas of concern is included in this report to document their existence and present information known about the sites at the present time.

3.5.1 Former Burn Area and Former Landfill.

3.5.1.1 Description of Site. An area formerly used for burning is located approximately 250 feet south of the former landfill. The burn pit was approximately 10 to 20 feet in diameter and was used to reduce the volume of solid waste entering an offpost landfill after the Camp Rilea landfill was closed in the 1980s. Anecdotal evidence indicated the burn pit may have contained used oil, solvents, and metals.

3.5.1.2 Potential Contaminants. TCE and metals.

3.5.1.3 Potential for Release of Hazardous Constituents. TCE was detected in ground-water samples and metals were detected in soil samples at concentrations exceeding the maximum allowable ground-water concentrations published in Oregon Administrative Rules OAR 340-122-045.

3.5.2 Burn Area in PM Compound.

3.5.2.1 Description of Site. The burn area is located in the southern section of the PM compound and consists of five concrete barriers arranged on a 12-foot by 15-foot concrete pad. A debris pile consisting of wood, paper, old wood pallets, and other burnable materials is adjacent the burn area. Materials are burned prior to being transported to an offsite landfill to reduce the volume of the solid waste.

3.5.2.2 Potential Contaminants. Solvents, POLs, metals, small caliber UXO.

3.5.2.3 Potential for Release of Hazardous Constituents. Small caliber UXO may explode when exposed to fire, creating a safety hazard. A release of hazardous constituents to air and soil may occur if potentially hazardous substances are placed in material to be burned.

3.5.3 Ranges.

3.5.3.1 Description of Site. Camp Rilea has numerous ranges including: a demolition range, a grenade range, a pistol range, a squad live fire range, an M16/M60 range, an M203 range, a KD range, a modified record fire (MRF) range, a light antitank weapon (LAW) range, an 81 Sabot range, a Squad Engagement Training System (SETS) range (indoor), and an indirect fire range (reference 2).

3.5.3.2 Potential Contaminants. Metals, explosives.

3.5.3.3 Potential for Release of Hazardous Constituents. All range areas may have soils metals concentrations greater than background in impact areas. Potential receptors include personnel performing duties in the range areas.

3.5.4 Small Spills and Stains.

3.5.4.1 Description of Site. Numerous small spills (less than 5-foot diameter) were observed in several vehicle parking areas and compounds during the site reconnaissance. The stains appeared to be from POL leaks and spills.

3.5.4.2 Potential Contaminants. POLs.

3.5.4.3 Potential for Release of Hazardous Constituents. The spills and stains constitute a release of a hazardous substance to the environment; however, all observed spills and stained areas were small and appeared to be limited to the ground surface or near surface. It is unlikely that any observed spills were large enough to significantly affect subsurface soil, surface water, or ground water. Potential receptors include personnel performing duties in the spill areas.

3.5.5 ACM.

3.5.5.1 Description of Site. An installation-wide ACM survey has been conducted, ACM has been identifed, and ACM is tracked and abated, as appropriate, by Camp Rilea personnel. Because of the number of buildings at Camp Rilea, an examination of each building for ACM was beyond the scope of this study. Any ACM that has been compromised or is in poor condition may pose a hazard to personnel.

3.5.5.2 Potential Contaminant. Asbestos.

3.5.5.3 Potential for Release of Hazardous Constituents. A release of a hazardous substance could occur if buildings with ACM were demolished or remodeled without proper precautions for the removal and disposal of ACM. Potential receptors include demolition/construction workers, visitors to the site during demolition activities, and facility personnel present during demolition/remodeling.

4. GROUND-WATER PATHWAYS AND RECEPTORS.

4.1 Pathways. There are no known public water supply wells within a 4-mile radius of the site; therefore, only those persons using private wells rely on ground water as a source of potable water. Data from shallow soil borings conducted during UST removals indicate the depth to ground water is approximately 22 to 32 feet and the direction of ground-water flow is variable, depending on the location of the nearest surface water body.

4.2 Receptors.

4.2.1 Primary Receptors. No primary receptors of potential ground-water contamination were identified.

4.2.2 Secondary Receptors. Secondary receptors include those persons residing within a 4-mile radius of the site and relying on ground water as a source of potable water. For this investigation, it was assumed only those persons using private wells rely on ground water as a source of potable water. The number of potential ground-water users was estimated by comparing the service area maps for the city of Warrenton and YRL&C with the 4-mile radius map. Houses identified as not having public water service were then counted for each distance ring, and that number was multiplied by the number of persons per household for Clatsop County (2.40), according to 1990 United States Census data (reference 31). The estimated number of ground-water users is as follows:

0.0 to 0.25 mile:	0 Persons
0.25 to 0.50 mile:	0 Persons
0.50 to 1.0 mile:	0 Persons
1.0 to 2.0 miles:	17 Persons
2.0 to 3.0 miles:	150 Persons
3.0 to 4.0 miles:	116 Persons
Total:	283 Persons

4.2.3 Wellhead Protection Areas. No portion of the site is within a designated wellhead protection area (references 32 and 33).

5. SURFACE-WATER PATHWAYS AND RECEPTORS.

5.1 Pathways. There are no surface water intakes within either of the site drainage pathways (references 32 and 33) (Figure 7). Flood plain maps for the installation are not available; however, it is unlikely any areas of concern are within a 100-year flood plain (references 1 and 29). A surface water drainage pathway description is presented in paragraph 2.8.

5.2 Receptors.

5.2.1 Primary Receptors. No primary receptors of potential surface-water contamination were identified.

5.2.2 Secondary Receptors. The following secondary receptors were identified within the surface-water pathway:

5.2.2.1 Fisheries. Both salt and fresh-water fisheries exist at Camp Rilea and within the site drainage pathway.

5.2.2.1.1 Camp Rilea Fisheries. Slusher Lake, at the southern section of the installation, is used as a fresh-water fishery by base personnel, children (during special fishing days), and former property owners of current Camp Rilea land. One person was observed fishing during the site reconnaissance; however, Slusher Lake (within the boundaries of Camp Rilea) is reserved as a catch-and-release fishery. Species caught include largemouth bass, crappie, bluegill and other sunfish, and catfish. Although Neacoxie Creek may contain both game and non-game species, fishing is not allowed in Neacoxie Creek within installation boundaries. Salt-water fisheries are present along the beach fronting the Pacific Ocean. Beaches in Oregon are considered public property; therefore, all ocean frontage within Camp Rilea is accessible by foot, boat, or 4-wheel drive vehicle. Surf fishing and digging for razor clams are both possible within

Camp Rilea boundaries; however, no persons were observed fishing or clamming during the site reconnaissance.

5.2.2.1.2 Other Fisheries Within the Site Drainage Pathway. A large recreational and commercial fishery is based in Clatsop County port towns. Available data indicate 2,446 chinook salmon and 37,949 coho salmon were harvested out of Astoria, Oregon in 2001 (reference 27). It is not possible to determine the number of fish harvested within the site drainage pathway. In addition, numerous other game fish, such as cod, flounder, rockfish, greenling, and sea perch, are harvested from the Pacific Ocean and some are undoubtably harvested from within the site drainage pathway. Sunset Lake and Rilea Slough (Neacoxie Creek) are both listed as publicly-accessible warm-water fisheries by the Oregon Department of Fish and Wildlife (reference 28). It is also likely that the Skipanon and Neacanicum Rivers are used as fisheries. Species expected in these rivers would be those common in brackish water of the Pacific northwest.

5.2.2.2 Endangered or Threatened Species. The Oregon Silverspot Butterfly (*Speyeria zerene hippolyta*), a Federally-listed threatened species, has been documented from the site; however, the most recent biological survey indicates the last sighting of female Oregon Silverspots at the installation was 1995 (6 individuals) (reference 22). Several listed animals may be present in the Pacific Ocean within the site drainage pathway or adjacent the ocean frontage of Camp Rilea. The Humpback Whale (*Megaptera novaeangliae*), a Federally-listed threatened species, has been documented from the continental slope and shelf habitats off the Oregon Coast (reference 24). Listed species that may use the site through seasonal visitation include the Western Snowy Plover (*Charadrius alexandrinus nivosus*) and the Brown Pelican (*Pelecanus occidentalis*). No Federally-listed threatened or endangered plants are reported from Camp Rilea.

5.2.2.3 Land Designated for Wildlife Management or as a Natural Area (reference 1). The Oregon Islands Wildlife Refuge and Oregon Islands Wilderness Area are located in the Pacific Ocean adjacent the beach areas of Camp Rilea and within the site drainage pathway (Figure 3). Fort Clatsop National Memorial is located approximately 2.5 miles northeast from the center of the 4-mile radius of the site. Clatsop State Forest is located approximately 2.5 miles northeast from the center of the 4-mile radius of the site, near Fort Clatsop National Memorial. Portions of Fort Stevens State Park are located between 3 and 4 miles northwest from the center of the 4-mile radius of the site.

5.2.2.4 Sensitive Environments. There are more than twenty miles of palustrine emergent wetlands within the site drainage pathways (reference 30). The majority of the Neacanicum, Skipanon, and Columbia Rivers within the site drainage pathways are classified as

estuarine intertidal unconsolidated bottom wetlands; however, this wetland type may not qualify as a sensitive environment under the HRS (reference 26).

6. SOIL EXPOSURE PATHWAYS AND RECEPTORS.

6.1 Pathways. Some minor staining was observed in military vehicle parking areas at the site during the site reconnaissance.

6.2 Receptors. Six persons reside at the installation in three residences and there are approximately 370 full-time workers at the site. An additional 118,250 person days (1 person for 1 day) of training occurred at the installation in 2000. Population distribution is presented in paragraph 2.9. No silviculture, agriculture, or livestock production are conducted within 0.50 mile of the approximate center of the cantonment area; however, agriculture and livestock production are conducted adjacent the southern boundary of the installation (reference 2). A Federally-listed threatened species, the Oregon silverspot butterfly (*Speyeria zerene hippolyta*) has been documented at the site (reference 22). Approximately 244.5 acres of wetlands have been mapped at the site (reference 23). There are no residences, schools, or daycare facilities within 200 feet of any area of concern (reference 1).

7. AIR PATHWAYS AND RECEPTORS.

7.1 Releases Impacting Air. No citizen complaints, reports of odors, or ill health effects resulting from the migration of contaminants along the air pathway were identified in interviews with ORARNG personnel. There were no observations of hazardous substances released to the air during the site reconnaissance; however, legal open burning has occurred at the installation. In 1993, demolition debris from the hutments, consisting of wood containing lead-based paint, was legally burned near the former landfill. Although there was likely a release of lead and other metals to the air, the burn area was in the center of the installation, there were no residences nearby, and analytical data from subsequent soil sampling indicated the lead concentration in soil was below any state-mandated action levels (suggesting the lead concentrations in any air releases was also minimal) (reference 44). Because of the number of buildings at Camp Rilea, an examination of each building for ACM was beyond the scope of this study. Any ACM that is compromised or is in poor condition may pose a hazard to personnel. In addition, a release of a hazardous substance could occur if buildings with ACM were demolished or remodeled without proper precautions for the removal and disposal of ACM. Potential receptors include demolition/construction workers, visitors to the site during demolition activities, and facility personnel present during demolition/remodeling.

7.2 Receptors. There are no primary receptors for potential releases impacting air. Secondary receptors include demolition/construction workers, visitors to the site during demolition activities, facility personnel present during demolition/remodeling, full-time facility residents, and adjacent residents. Population figures for each distance ring are presented in paragraph 2.9. Approximately 244.5 acres of wetlands have been mapped at the site (reference 23) (Figure 9). No silviculture, agriculture, or livestock production are conducted within 0.50 mile of the approximate center of the cantonment area; however, agriculture and livestock production are conducted adjacent the southern boundary of the installation (reference 2). A Federally-listed threatened species, the Oregon silverspot butterfly (*Speyeria zerene hippolyta*) been documented at the site (reference 22). The Humpback Whale (*Megaptera novaeangliae*), a Federally-listed threatened species, has been documented from the continental slope and shelf habitats off the Oregon Coast (reference 24). There are no residences, schools, or daycare facilities within 200 feet of any area of concern (reference 1).

8. CONCLUSIONS.

8.1 Areas of Concern. Five areas of concern were identified at the site: the former burn area and former landfill, the current burn area in the PM compound, range areas, small spills in various vehicle parking areas and compounds, and ACM in various buildings on site.

8.1.1 Former Burn Area and Former Landfill. An area formerly used for burning is located approximately 250 feet south of the former landfill. The burn pit was approximately 10 to 20 feet in diameter and was used to reduce the volume of solid waste entering an offpost landfill after the Camp Rilea landfill was closed in the 1980s. Anecdotal evidence indicated the burn pit may have contained used oil, solvents, and metals. In 1996, eight surface-soil and seven ground-water samples were collected from the former burn pit and landfill area by USACHPPM and analyzed for VOCs, SVOCs, and metals. Several metals were detected in soil samples at concentrations greater than background. Arsenic was detected in four samples and lead was detected in one sample at concentrations exceeding the maximum allowable soil concentration for industrial uses (3 and 2,000 milligrams per kilogram, respectively). Lead was also detected in one sample at concentrations greater than the toxic characteristic leaching procedure (TCLP) regulatory concentration (2.0 milligrams per liter). TCE was detected in one ground-water sample at a concentration of 6.2 μg/l. This concentration exceeded the maximum allowable ground-water concentration of 2.0 μg/l (all referenced concentrations are those published in Oregon Administrative Rules OAR 340-122-045). USACHPPM recommended removal and proper disposal of all contaminated soil and concluded that due to the hydrologic conditions at the site, the absence of water well near the former landfill, and the nature of the analytical results, the trichloroethylene did not pose a threat to human health or the environment. Reports describing remedial action were not contained in Camp Rilea environmental office or ORARNG

files. According to facility personnel, remediation has not occurred and the project is awaiting funding.

8.1.2 Burn Area in PM Compound. A small burn area is located within the fenced PM compound. Small caliber UXO was observed in material to be burned and control of what material is placed in the burn pile appears inadequate. A release to soil and air is possible if potentially hazardous materials are burned. Potential receptors include personnel working in the area. In addition, a safety hazard exists if UXO is placed in the burn pit. A release to surface water or ground water is not likely, due to the limited quantities of materials.

8.1.3 Ranges. Several ranges have been in use at Camp Rilea since WWII. Analytical data indicating what, if any, potentially hazardous substances may be present are not available; however, range areas often contain lead and cadmium (small arms ranges) and explosives (artillery and large caliber ranges) at concentrations greater than background. Potential receptors include personnel training on the ranges. A release to ground and/or surface water is also possible. Although the near-surface aquifer is used for private wells and is recognized as a regional aquifer by the ODEQ, the nearest ground-water receptors are approximately 2 miles south of the site and ground-water flow is likely to the west (although localized variations toward surface water bodies are possible). The aquifer is not currently used for public water supply in the vicinity of Camp Rilea. Potential surface water receptors include wetlands and fisheries located within the site drainage pathway.

8.1.4 Small Spills and Stains. Numerous small spills (less than 5-foot diameter) were observed in several vehicle parking areas and compounds during the site reconnaissance. The stains appeared to be from POL leaks and spills. The spills and stains constitute a release of a hazardous substance to the environment; however, all observed spills and stained areas were small and appeared to be limited to the ground surface or near surface. It is unlikely any observed spills were large enough to significantly affect subsurface soil, surface water, or ground water. Potential receptors include personnel performing duties in the spill areas.

8.1.5 ACM. An installation-wide survey to identify ACM was conducted in 1991 and a copy of the report is maintained in the SMS office. ACM was identified in several locations on the installation. ACM is abated as appropriate when demolition or remodelling dictates. ACM could be released if buildings are demolished or remodeled without proper precautions. In addition, compromised ACM, if present, could pose a hazard to facility personnel or visitors.

8.2 Receptors. No primary receptors were identified during the SAS. It is possible that a release of hazardous constituents from the areas of concern could present a risk to human health or the environment *via* secondary receptors in the surface-water, soil, and/or air pathways.

9. RECOMMENDATIONS.

9.1 Former Burn Area and Former Landfill. The ORARNG should follow through on recommendations made by USACHPPM regarding the former burn pit. Affected soil should be removed and disposed following all applicable Federal, State, local, and Department of Defense regulations. Confimation sampling should be conducted to ensure all potentially contaminated material is removed. Because documentation detailing the closure of the landfill is lacking, the ORARNG should confer with the appropriate State agencies and present the results of the 1996 USACHPPM investigation to determine if closure was actually issued, or if additional investigations are required.

9.2 Burn Area in PM Compound. Although the practice is legal under Oregon State statutes, access to the burn area is not adequately controlled. During the site reconnaissance, potentially-hazardous substances were observed in material to be burned. In addition, past open burning in other installation areas has resulted in environmental problems. According to Camp Rilea personnel, open burning has been discontinued since the site reconnaissance. The material near the burn area should be disposed according to all applicable Federal, State, local, and Department of Defense regulations and the burn area should be dismantled to discourage further open burning.

9.3 Ranges. The ORARNG should consider conducting studies to establish baseline data regarding metals and explosives concentrations in soil and shallow ground water in the various range areas and determine if concentrations of these parameters are causing a negative impact on the environment.

9.4 Small Spills and Stains. The ORARNG should collect, drum, label, and dispose of affected soil with other POL-contaminated soil according to all applicable Federal, State, local, and Department of Defense regulations. Should the affected area be significantly larger than expected from visual observations, or if the affected area extends to ground water, soil and/or ground-water sampling may be required. Drip pans or other acceptable methods should be used to prevent future spills.

9.5 ACM. A release of a hazardous substance could occur if the buildings with ACM were demolished or remodeled. If the buildings are demolished or remodeled, proper precautions for the removal and disposal of ACM should be followed.

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APPENDIX A

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PHOTOGRAPH LOG

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Camp Rilea Armed Forces Training Center

Clatsop County, Oregon

Final
Integrated Natural Resources Management Plan

June, 2001

For Calendar Years 2001 – 2005

Prepared by:

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Camp Rilea
Clatsop County, Oregon
Final Integrated Natural Resources Management Plan

2001-2005

This Integrated Natural Resources Management Plan (INRMP) meets the requirements for such plans listed in the Sikes Act (16 U.S.C. 670a *et seq.*) and Sikes Act Improvement Amendments, Army Regulation 200-3, applicable Department of Defense directives, and National Guard Bureau guidance and memoranda (specifically the All-States Memorandum of June 15, 2000). The INRMP also complies with all applicable state and federal regulatory requirements. The INRMP sets appropriate and adequate guidelines for conserving and protecting the natural resources to the maximum extent practicable, without unduly limiting or restricting training activities and opportunities of the Camp Rilea Armed Forces Training Center.

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Executive Summary

Camp Rilea is a 1,750-acre State-owned military training area located on the Pacific Coast in northwestern Oregon, about six miles south of Astoria. Used primarily by Oregon Army National Guard units, the camp contains a wide variety of facilities, including six firing ranges, over 120 support buildings, and miles of access roads. Training use is expected to increase slightly, along with developed facilities, which is discussed in this plan.

This plan describes how the Oregon Military Department (OMD), prepared with input from state and federal regulatory and natural resource agencies, will manage natural resources in conjunction with military training at Camp Rilea for the next five years. The OMD is adopting eight natural resource management goals for the site as follows:

- Ensure no net loss of mission training lands and training opportunities
- Identify and maintain the carrying capacity of training areas for military training
- Ensure compliance with all federal, state, and local environmental laws and regulations
- Minimize adverse impacts to natural ecosystems, communities, and resources
- Identify sustainable long-term uses of natural resources at the camp
- Control the spread of non-native species, especially nuisance species that restrict training and adversely impact wildlife habitat
- Limit the amount of soil erosion and restore actively eroding areas
- Increase or maintain the natural biodiversity (native ecosystems, communities, and species)
- Increase the structural integrity and amount of native species in the forested areas

There are also numerous specific management objectives for each of the 11 management units described in this plan. Management units and objectives are presented in Chapter 5. Objectives support the goals of the plan, particularly the focus on sustainable long-term use of the site for military training and the conservation/ restoration of native biodiversity.

This plan is required by Army and National Guard Bureau (NGB) policy; specific guidance is contained in All-States Memorandum P00-0039 (15 June 2000). Ecosystem management and adaptive management, integrated with the military mission, training, and other management programs, is emphasized. Several new policies have been made in order to meet regulatory requirements, NGB policies, the training and stewardship missions, and to achieve the goals of the plan. The new policies are:

- Implement an INRMP and review periodically, with a plan revision every 5 years
- Apply the concepts of adaptive management and ecosystem management to the camp (defined below) to enhance training opportunities and natural resource stewardship
- Promote native species and enhance the natural biodiversity and ecological communities of the camp, while ensuring sustainment and compatibility with the camp's military mission
- Protect and preserve special status resources (e.g., wetlands, listed species, rare species)
- Allow limited public access and use of the camp as long as the military and conservation missions are not unduly compromised
- Support sustainable use of the camp's resources
- Cooperate with adjacent landowners and public agencies in the management of area ecosystems and natural resources

The participation of state and federal wildlife agencies in the development of this plan was also required, and has been obtained (see Appendix 8). Although this plan is focused on natural resource management and natural resource projects, it seeks to accommodate and enhance military training needs and opportunities to the greatest degree practicable. Therefore, training and training plans are thoroughly discussed to demonstrate plan support of training requirements, integration of training with natural resources management, and whether there is a net loss of training lands or opportunities (Chapters 3 and 5).

The camp contains many different ecosystems, ranging from coastal meadows to spruce/fern forest. Over 270 plant species and 165 species of wildlife have been documented at the camp. This includes two state-listed birds and several sensitive plants. Topography is dune and swale, oriented north-south (elevation 90 feet to sea level). Soils are mostly fine sands, and there is one stream (two forks) and two lakes.

Using the dominant vegetation, the landscape has been divided into 11 plant communities, which make up the management units. Figure 11 illustrates the management units. Table 1 (in this section) lists these management units or plant communities, and summarizes the plans for training and natural resource conservation, including specific projects. Many projects are geared towards the protection of sensitive and important natural resources. Large-scale removal of Scots broom and conversion of planted pine forest to spruce/hemlock forest is planned. Non-native Scots broom dominates the understory of large areas of the camp, limiting training opportunities and wildlife habitat values. Table 6 (page 46) lists the natural resource projects, shows how the natural resource projects may be implemented, gives the schedule for completion, and suggests the funding source for the projects.

Wetlands protection/restoration, upland meadow restoration, and potential Western snowy plover recovery are the major natural resource issues. To best protect wetlands functions and values, and ensure compliance with state and federal regulations, ground-disturbing training has been restricted from these areas. Non-jurisdictional wetlands (unregulated by state and federal agencies) have been included as a means of providing a buffer zone. Many areas dominated by Scot's broom will be restored to upland sedge meadows; native plants will be restored in existing meadows. This will make good habitat conditions for many wildlife species, including the Oregon silverspot butterfly (OSB), a federally-threatened invertebrate. However, this would not impact on military training in these upland meadows, since the OMD has an approved OSB habitat management plan which incorporates a safe harbor concept and designates 68 acres as official habitat that is off-limits to training. At this point whether the beachfront at Camp Rilea should be an area hosting Western snowy plover recovery efforts is undetermined. This plan only commits the OMD to discussing the appropriateness and feasibility of the idea with state and local agencies, since it could involve OMD property. If a recovery project is agreed to and pursued, it would likely lead to some training limitations and a small loss of training area.

Training activities and opportunities are spatially limited in some cases, but all needed opportunities are available on the site and training requirements can be met now and in the future. Thus, the training mission is fully supported by this plan. Overall, natural resource projects do not decrease training opportunities; most small losses are offset by increases in training opportunities.

Monitoring will be undertaken to assess the effects of management and training, and to determine if the objectives of the plan are being met. Monitoring is summarized in Chapter 5. This natural resource management plan has been integrated with the other plans and operating procedures for the camp. This plan has also been circulated or made available to state, federal, and local agencies; relevant Native American tribes; and the local community. Plan amendments will also include public involvement. The plan will be revised no later than 2006.

Table 1. Summary of Camp Rilea Management Plan

MGMT. UNIT/ PLANT COMM.*	OBJECTIVES	ENV. CONSTRAINTS	TRAINING RESTRICTIONS	PROJECTS
Coastal zone meadows (353 ac.)	Maintain dune stability and vegetative cover	Potentially unstable dunes; extreme tsunami risk; CSWCD Zone 1	All vehicles must stay on existing roads; no digging with heavy equipment	Posting signs; monitoring for bare sand
Floating aquatic/ surface waters (11 ac. & 55 ac.)	Protect water quality and flora and fauna, especially fish	Maintenance of water quality; protection of fishery; rare plants (Colombia watermeal)	No vehicles/equipment except at engineer bridging sites and Navy boat operations areas	Improvement of bridging sites; non-native bank vegetation removal; water quality monitoring
Sweet gale wetlands (1 ac.)	Maintain native vegetation	Wetlands; rare plant species (Sweet gale)	No training allowed	Posting signs; vegetation monitoring
Forested wetlands (216 ac.)	Maintain area and native wetland flora and fauna	Wetlands; areas with high/extreme tsunami risk; CSWCD Zone 1	No digging; all vehicles must stay on existing roads	Monitoring of red-legged frogs; posting signs; drainage study
Planted pine forest (515 ac.)	Conversion to native conifer forest; maintain dune stability; maximize military training	Areas of high soil erosion potential; areas with high/extreme tsunami risk; areas in CSWCD Zone 1	Tracked vehicles only on designated course; no digging with heavy equipment	Tree thinning; non-native plant removal; tree planting; limb removal; vegetation monitoring
Deciduous forest (18 ac.)	Expand area and maintain native flora and fauna	Valuable wildlife habitat	No deep digging or heavy equipment operations; tracked vehicles only on designated course	Vegetation monitoring
Spruce/fern forest (39 ac.)	Expand area and maintain native flora and fauna	Valuable wildlife habitat; areas of high soil erosion potential	No deep digging or heavy equipment operations; tracked vehicles only on designated course	Vegetation monitoring
Scots broom/ beachgrass (141 ac.)	Conversion to upland meadows; maintain dune stability; maximize military training	Rare plants (Big-headed sedge and yellow sand verbena); areas of high soil erosion potential and high/extreme tsunami risk; areas in CSWCD Zone 1	Tracked vehicles only on designated course; digging with heavy equipment only at approved sites	Restoration plan; non-native vegetation removal; prescribed burning; planting of native vegetation; monitoring
Upland sedge meadows (92 ac.)	Expand area and native flora and fauna; preserve Oregon silverspot butterfly (OSB)	OSB habitat; rare plants (Big-headed sedge and yellow sand verbena); areas of high soil erosion potential	No training in OSB habitat areas; tracked vehicles only on designated course; digging with heavy equipment only at approved sites	OSB management per habitat plan; prescribed burning; selective herbicide treatments; monitoring
Wet sedge meadows (16 ac.)	Maintain area and native wetland flora and fauna	Wetlands	No digging; all vehicles must stay on existing roads	Posting signs; creation of buffer zone; loosestrife control; monitoring
Cultivated grasslands (229 ac.)	Maintain area and native flora and fauna, especially rare plants	Rare plants (Big-headed sedge and yellow sand verbena); areas of high soil erosion potential	Tracked vehicles only on designated course; digging with heavy equipment only at approved sites	Prescribed burning; monitoring

*64 acres of developed area not included.

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CHAPTER 1. PURPOSE, GOALS, AND MANAGEMENT APPROACH

Purpose of the Plan

The purpose of this Integrated Natural Resources Management Plan (INRMP) is to guide natural resource management at Camp Rilea for the next five years (2001-2005) and ensure compatibility with military training and other activities. The Oregon Military Department (OMD)/Oregon Army National Guard (ORARNG) anticipates an increasing level of training over this period, and must manage/maintain training areas to maximize use and maintain carrying capacities without long-term degradation of the environment. This plan will support the military mission at the camp, provide for sound land management/stewardship, and ensure compliance with the various laws and regulations designed to protect and conserve our nation's natural resources and quality of life.

Management Plan Goals

The OMD/ORARNG has adopted the following goals for natural resources management at Camp Rilea:

- Identify and maintain the carrying capacity of training areas for military training
- Ensure no net loss of mission training lands and training opportunities
- Ensure compliance with all federal, state, and local environmental laws and regulations
- Minimize adverse impacts to natural ecosystems, communities, and resources
- Identify sustainable long-term uses of natural resources at the camp
- Control the spread of non-native species, especially nuisance species that restrict training and adversely impact wildlife habitat
- Limit the amount of soil erosion and restore actively eroding areas
- Increase or maintain the natural biodiversity (native ecosystems, communities, and species)
- Increase the structural integrity and amount of native species in the forested areas

Plan objectives, arranged by management unit, are presented in the management plan chapter (Chapter 5).

Oregon Military Department/Oregon Army National Guard Policies

The OMD/ORARNG has adopted the following policies regarding natural resources at Camp Rilea:

- Implement an INRMP and review periodically, with a plan revision every 5 years
- Apply the concepts of adaptive management and ecosystem management to the camp (defined below) to enhance training opportunities and natural resource stewardship
- Promote native species and enhance the natural biodiversity and ecological communities of the camp, while ensuring sustainment and compatibility with the camp's military mission
- Protect and preserve special status resources (e.g., wetlands, listed species, rare species)

- Allow limited public access and use of the camp as long as the military and conservation missions are not unduly compromised
- Support sustainable use of the camp's resources
- Cooperate with adjacent landowners and public agencies in the management of area ecosystems and natural resources

Ecosystem and Adaptive Management

The Department of Defense (DOD) has endorsed ecosystem management as the basis for future management of DOD lands and waters. The National Guard has defined ecosystem management as "management with fire, native species, erosion control, and other techniques to support the military mission and maximum biodiversity . . ." (Imlay, 1995). This can best be accomplished through maintenance of indigenous ecosystems, which includes native species, associations, and functions such as fire, grazing, predation, nutrient cycles, unevenage forests, and unfragmented habitats (Imlay, 1995).

Another, more general, definition of ecosystem management is that of a holistic approach focusing on systemic qualities, rather than on single species or elements (Trame and Tazik, 1995). Thus, goals of this approach are such things as enhancing biodiversity, ecosystem health, and biotic/ecologic integrity. Integrating human activities into naturally functioning communities and taking a landscape perspective are also emphasized (Trame and Tazik, 1995).

For this plan, management units are used that are based on plant communities developed by the Oregon State University Department of Botany and Plant Pathology. Where it was reasonable, plant communities were combined to make larger, more easily managed units. The plant communities (both versions) and the management plans are discussed in Chapters 4 and 5 respectively. In most cases, protecting and restoring native species/ecosystems and natural processes has been emphasized. In addition, attempts have been made to incorporate disturbance events.

Adaptive Management is essentially treating management actions and decisions as experiments that need to be tested to verify their effectiveness in reaching the desired results (Leslie, et.al., 1996). Monitoring programs are used for testing or verification of these experiments. Monitoring results are then incorporated into the decision-making process to either support current actions and decisions or to revise them into new experiments (actions and decisions). Thus, a feedback loop is established to continually evaluate and update management. Some maintain that this is synonymous with ecosystem management (Leslie, et.al., 1996).

Integrated Training Area Management

Integrated training area management (ITAM) is a U.S. Army program and formal strategy for focusing on sustained use of training and testing lands. The intent of the ITAM Program is to systematically provide a uniform training land management capability across the total Army. The Army will manage its' lands in a sound manner to ensure no net loss of training capabilities and support current and future training and mission requirements. The effective integration of stewardship principles into training land and conservation management practices ensures that the

Army's lands remain viable to support future training and mission requirements. The U.S. Army and the Army National Guard have embraced this approach and are implementing it on their installations and training areas. The goal of ITAM is to achieve and sustain the optimum use of training lands to support training and mission requirements indefinitely, while ensuring protection of natural resources. ITAM consists of four components: Land Condition Trend Analysis; Training Requirements Integration; Land Rehabilitation and Maintenance; and Environmental Awareness. The ORARNG is implementing ITAM at Camp Rilea and other training areas in Oregon.

Land Condition Trend Analysis

Land Condition Trend Analysis (LCTA) is a management procedure that inventories and monitors land conditions. It incorporates relational database and Geographic Information System (GIS) technologies into the land use decision process. LCTA collects physical and biological resources data from training land in order to relate land conditions to training and testing activities. These data provide the information to effectively manage land use and natural and cultural resources. It is anticipated that a limited LCTA effort will be started at Camp Rilea in 2001.

Training Requirements Integration and Procedures

Training Requirements Integration is a decision support procedure that integrates all requirements for land use with natural and cultural resources management processes. It integrates the installation training and testing requirements for land use derived from the Range and Training Land Program (RTLP); the range operations and training land management processes; and the installation training readiness requirements with the installation's natural resources conditions. The Army Training and Testing Area Carrying Capacity (ATTACC) program is the standard ITAM methodology for estimating training land carrying capacity by relating training load, land condition, and land maintenance practices. The integration of all requirements occurs through continuous consultation among the Directorate of Plans, Training, and Operations, natural and cultural resources managers, and other environmental staff members. The output of this process is incorporated in the installation's INRMP.

The procedure for conducting training at Camp Rilea begins with either a written or electronic request from the unit or group to the Range Control Office. Range Control verifies the information submitted and reserves the appropriate facilities and areas needed by the unit, using the Range Facility Management Support System (RFMSS). Priorities, resource conditions, and the suitability of the training area for the requested use are considered along with unit needs when training areas are assigned and reservations are confirmed. After the unit completes its training, after action reports are completed and filed with Range Control. RFMSS information is then edited to reflect the actual training that occurred. This data is then used to help identify LRAM projects and for analysis with existing LCTA data.

Land Rehabilitation and Maintenance

Land rehabilitation and maintenance is a preventive and corrective procedure that reduces the long-term impacts of training and testing on an installation. It mitigates training and testing effects by combining preventive and corrective land rehabilitation, repair, and/or maintenance practices. It includes training area redesign and/or reconfiguration to meet training requirements.

Official ITAM-funded land rehabilitation and maintenance projects were started in federal fiscal year 1998 upon implementation of the ITAM program, and are ongoing.

Environmental Awareness

Environmental awareness provides a means to educate land users on their environmental stewardship responsibilities. It provides for the development and distribution of educational materials to land users. These materials relate the principles of land stewardship and the practices of reducing training and/or testing impacts. Environmental awareness also includes information provided to environmental professionals concerning operational requirements. ITAM-funded awareness projects that have been completed at the camp are informational signs for the Oregon silverspot butterfly habitat areas and an environmental video for briefing using units prior to training.

Specific ITAM projects for Camp Rilea are discussed in Chapters 5 and 6.

CHAPTER 2. COMPLIANCE AND RESPONSIBILITIES

Legal Requirements for INRMPs

Most requirements for preparation of integrated natural resources management plans derive from Department of Defense (DOD) or U.S. Army policies and regulations. These policies and regulations were drafted for the protection of the environment. The three most relevant requirements are summarized below:

DOD Instruction 4715.3, Environmental Conservation Program. This establishes a formal conservation program for all property under DOD control, sets policies, and mandates preparation of INRMPs.

Army Regulation (AR) 200-1, *Environmental Protection and Enhancement.* Among other things, this regulation requires conducting "an integrated, multi-use, natural resource and land management program" on lands under Army jurisdiction (1-39(10)).

AR 200-3, *Natural Resources – Land, Forest, and Wildlife Management.* This outlines the policy, procedures, and responsibilities for the conservation, management, and restoration of military land and resources. Chapter 9 describes the requirements for INRMPs.

These documents are all applicable to Army National Guard properties supported with federal funding that are over 500 acres in size, regardless of ownership (Army Memorandum of 21 March 1997 and NGB Memorandum of 30 June 1997). In addition, the ORARNG has its own regulation that establishes the conservation and management of natural resources as a major goal of its environmental program.

If the property is DOD controlled, the primary authority for INRMP preparation is the Sikes Act (Public Law 86-797) and Sikes Improvement Act of 1997. Since Camp Rilea is not federal property, the Sikes Act does not technically apply and U.S. Army policy is the primary

authority for this INRMP. However, NGB and Army policy require that the plan be consistent with the Sikes Act. The Sikes Act mandates certain plan elements and requires: Cooperative preparation of plans with the U.S. Fish and Wildlife Service and the appropriate state agency (for the fish and wildlife portions); that plans provide for conservation and rehabilitation of natural resources, sustainable multipurpose use of natural resources, and appropriate public access to facilitate such use; that plans address or contain natural resource management and wildlife-oriented recreation, habitat enhancements or modifications, wetland protection, enhancement, and restoration; integration of and consistency among plan activities, establishment of natural resource goals and objectives, sustainable public use of resources consistent with fish and wildlife needs, appropriate public access, enforcement of natural resource laws and regulations, no net loss of capability to support the military mission, and other activities determined to be appropriate; and that no sales or leases of lands occur that are incompatible with the plan.

Environmental Review (NEPA Compliance)

The National Environmental Policy Act (NEPA) was created to identify and evaluate the potential environmental impacts of federal actions. Almost all OMD/ORARNG actions are subject to NEPA since some federal funding is normally used. The OMD uses NEPA to help ensure its actions are properly planned, coordinated, documented, and implemented, with respect to minimizing unwanted adverse impacts to the human and natural environment.

NEPA is a three-stage process, as defined in the Department of the Army implementing instructions (AR 200-2, *Environmental Effects of Army Actions*).

1. If the proposed action meets a Categorical Exclusion and the screening criteria as listed in Appendix A of AR 200-2, a Record of Environmental Consideration document is prepared for the action, and the action may proceed as planned. These are the most commonly prepared documents.

2. An Environmental Assessment (EA) may be required when the conditions for a Categorical Exclusion are not met. This often happens when extensive new military exercises, major construction, or land acquisition is planned; when the planned action involves a large area, or when wetlands, endangered species, or cultural resources are involved. A Finding of No Significant Impact is required for the action to proceed as planned. EAs are comprehensive documents that describe a proposed action, alternatives to the action, and environmental consequences. Review periods are provided for agency, tribal, and public comments on draft and final documents.

3. If more study is needed or a Finding of No Significant Impact cannot be prepared, an Environmental Impact Statement must be written or the project abandoned. These can be lengthy documents that require significant time and money to prepare.

This INRMP is a proposed federal action that must be reviewed in accordance with NEPA and AR 200-2 prior to implementation of the plan and the projects and other actions found within. An EA will be written to address the implementation of this plan. Topics to be addressed in the EA are related to the potential effects of the proposed plan.

Other Environmental Regulations

There are numerous federal and state laws and regulations, as well as DOD and U.S. Army requirements, that apply to natural resources management. Required and relevant environmental regulations (both federal and state, including those discussed above) are referenced in Appendix 1. Copies of most of these laws and regulations are maintained in the OMD Environmental Branch for easy access.

Responsibilities

National Guard Bureau

The Environmental Programs Division (NGB-ARE) is responsible for reviewing and approving the INRMP and advising the OMD before formal submission to the U.S. Fish and Wildlife Service, the Oregon Department of Fish and Wildlife, the State Historic Preservation Office, and other state agencies. NGB-ARE ensures operational readiness by promoting environmental quality and an environmental ethic throughout the ARNG, and is responsible for tracking projects, providing technical assistance, quality assurance of written materials, and funding to support the programs.

Oregon Military Department/Oregon Army National Guard

The Adjutant General (TAG) is responsible for the operation and maintenance of Camp Rilea, including implementation of this INRMP. TAG ensures that all installation land users are aware of, and comply with, procedures, requirements, or applicable laws and regulations that accomplish the goals and objectives of the INRMP. TAG also ensures coordination of projects and construction between environmental, training, and engineering staffs.

The Deputy Chief of Staff, Operations has the primary responsibility for scheduling military training and safety of all personnel while training exercises are being conducted. Secondary to scheduling is maintaining a high-quality training environment.

The OMD Environmental Branch (AGI-ENV) is responsible for characterizing the natural and cultural resources of the training sites; identifying compliance needs; and advising the OMD/ORARNG on the best ways to comply with federal and state environmental laws and regulations. AGI-ENV provides technical assistance to training site personnel including: developing projects, securing permits, conducting field studies, providing environmental awareness materials, locating and mapping natural and cultural resources, preparing plans, and revising the INRMP every five years. AGI-ENV also coordinates the ITAM program and oversees the NEPA process for the OMD/ORARNG.

Camp Rilea staff, primarily the Post Commander, Facilities Manager, Range Control/Operations, Facilities Engineer, and State Maintenance Supervisor and staff, is the primary stakeholder, who will ultimately implement this plan and assure its success. Camp Rilea staff has intimate knowledge of all aspects of the training area, including training scheduling (and conflicts), locations of training facilities, impairments or problems with human-made structures or natural functions, and needs for improvement or maintenance of the training land. Along with AGI-ENV, Camp Rilea staff will ensure that: LRAM projects are identified and executed; vegetative cover is maintained on highly erodible soils; wetlands, rare species, and

important habitat areas are protected from construction and training activities; integrated pest management actions are implemented as planned; and environmental awareness materials are distributed to the using units.

The statewide Construction and Facilities Management Office (CFMO) provides a full range of engineering disciplines for all facilities under the jurisdiction of the OMD, including Camp Rilea. The CFMO is responsible for master planning and ensuring that all construction projects comply with environmental regulations by consulting with AGI-ENV prior to any construction by ORARNG engineers or contractors. The CFMO also provides necessary assistance with design of construction projects, such as roads and erosion control projects.

The Public Affairs Office is expected to provide expertise in the development and production of Environmental Awareness materials for distribution to training site managers and troop commanders, and functions as a liaison with the public in public meetings and community educational events.

The Staff Judge Advocate is expected to advise the TAG, CFMO, Operations, and AGI-ENV on laws and regulations that affect training, land use, and environmental compliance. Depending on the issue, this responsibility may be shared with the State Attorney General, as mandated by state law.

CHAPTER 3. TRAINING AREA OVERVIEW

Camp Location and Historical Background

Camp Rilea is a 1,750-acre training facility on the Pacific Coast in northwestern Oregon, six miles south of Astoria (Figure 1). It is located on the Clatsop Plains, an area that was at least seasonally inhabited by the Clatsop tribe. By 1840 Euro-American pioneers began settling on the plains. The camp was created in 1927 through the purchase of private farmland by the OMD, who continues to own and manage the training area. By World War II most of the facilities and structures located in the cantonment were in place, and many still date from that period. A more complete history of the area and camp can be obtained from the cultural resource survey report, Integrated Cultural Resources Management Plan, or archaeological survey report (see references).

The camp contains a wide variety of ecosystems, ranging from natural beaches to forests dominated by introduced pine trees. Camp Rilea is classified by NGB to be a major training area and offers classroom, maneuver, and specialized training opportunities in realistic field settings, with most of the necessary support facilities. The camp also has a land use agreement to use over 200,000 acres of private forestland and over 140,000 acres of public forestland located to the east for infantry maneuver/field training exercises. However, this plan does not address the use or management of those lands.

Camp Military Mission

Camp Rilea's mission is to provide an integrated training package for military units up to battalion size (Nakata, 1999). However, the camp specializes in training for small infantry and engineer units. Although the focus is on providing training opportunities for ORARNG units (who receive priority when scheduling), training facilities are used by National Guard units of other states and the active components of the U.S. military. The training package includes billets, dining facilities, equipment issue and maintenance, logistics, classrooms, weapons firing ranges, training courses, and maneuver training areas. ORARNG units and the Oregon Air National Guard are permanent tenants at the camp.

Current Training

Units of the ORARNG, National Guard units from other states, the active U.S. Army, and other branches of the U.S. military conduct training activities at the camp. Most military training is done by engineer and infantry units. In addition, there is some use by other public agencies and non-military groups, such as the state police. Military training typically occurs at squad (5-10 soldiers), platoon (15-45 soldiers), company (90-150 soldiers), or battalion (500-1000 soldiers) levels, and usually lasts either two days (e.g., weekend drills) or two weeks (annual training). The two types of training that are most common and relevant to natural resources management are live fire exercises and field exercises. Live fire exercises include all training which uses live ammunition or ordnance (e.g., firing rifles, hand grenades, and demolitions). Because of potential threats to public and soldier safety, live fire exercises are tightly controlled and occur only at designated locations (i.e., the weapons firing ranges). Field exercises involve a much wider variety of activities such as vehicle maneuvers, land navigation, aviation operations, bivouacking, construction of fortifications and obstacles, and deploying equipment and weapons. This type of training can take place in all training areas outside of the cantonment area. It is common to have several units engaged in different training activities simultaneously.

Camp Rilea has been divided into 13 different training areas (Figure 2), primarily for the purpose of controlling the physical location of soldiers in the field. This is necessary for ensuring their safety and to meet management and training objectives. Training Areas range in size from 49 to 174 acres. Except for tracked vehicle operations (which are only allowed on the designated tracked vehicle route shown on Figure 3), all types of field training are allowed in any of the 13 training areas, as long as the standard operating procedures are followed. For example, digging and bivouacking is allowed only at pre-approved sites. Training Areas 6 and 13 are the designated areas for engineer training that disturbs the soil. Therefore, engineer units are given priority over other units for these areas. All other training areas have not been designated for certain types of training. In general, the training areas have been managed as all-purpose training areas to support whatever training is requested (within reason). This has meant providing roads, trails, open areas, and wooded areas, and minimizing hazards in all of them.

Military units that train at Camp Rilea are scheduled and tracked using the Range Facility Management Support System (RFMSS). Information on training activities, dates, number of soldiers that participated, ranges/training areas used, equipment used, and bivouac/command center locations is recorded.

Camp Rilea totaled 106,182 person days (one person for one day) in training year (TY) 1998; 104,400 in TY99; and 152,724 in TY2000. These numbers include soldiers training in the adjacent forest land. This and other data are presented in Table 2.

Table 2. Camp Rilea Training Data and Projected Training Data*

	1998	1999	2000	2001	2002	2003	2004	2005
INFANTRY - firing ranges	8,484	10,645	14,827	9,500	10,450	11,495	12,645	13,910
INFANTRY - field exercises	8,877	20,479	18,763	22,000	24,200	26,620	29,280	32,210
ENGINEER - firing ranges	2,828	3,548	5,453	3,700	4,070	4,475	4,920	5,410
ENGINEER - field exercises	2,959	4,159	5,702	3,250	3,575	3,930	4,320	4,750
TOTAL - FIRING RANGES	11,312	11,493	20,280	13,200	14,520	15,970	17,565	19,320
TOTAL - FIELD EXERCISES	11,836	24,638	24,465	25,250	27,775	30,550	33,600	36,960
ARNG TOTAL (includes adjacent forestland)	23,148	38,831	44,745	38,450	42,295	46,520	51,165	56,280
ARNG TOTAL (Rilea only)	20,167	30,640	38,233	27,500	30,250	33,275	36,600	40,260
NON-ORARNG - firing ranges	56,323	44,385	63,592	62,000	62,000	62,000	62,000	62,000
NON-ORARNG - field exercises	26,711	21,148	44,387	26,000	26,000	26,000	26,000	26,000
TOTAL NON-ORARNG	83,034	65,569	107,979	88,000	88,000	88,000	88,000	88,000
GRAND TOTAL	106,182	104,400	152,724	126,450	130,295	134,520	139,165	144,280

* Data is in person days. 1997-2000 are actual data; the remainder is projected. ARNG usage assumed to increase by 10% each year from TY2001, which is an average of the four previous TYs. Non-ARNG usage includes other military and civilian law enforcement, and was assumed to remain the same as TY2001.

Existing Facilities

Most camp facilities can be grouped into two categories: the cantonment area, and the adjacent training areas/ranges. The approximately 272-acre cantonment area (see Figure 2) consists of housing, simulation centers, administrative buildings, and supporting structures/infrastructure. There are over 120 buildings, including billets, barracks, huts, classrooms, mess halls, warehouses, latrines, staff residences, offices, a medical clinic, and an armory. A Unit Training Equipment Site (UTES) for the issue, storage, repair, and maintenance of military equipment and vehicles occupies the northeast corner of the cantonment area. There is also a wastewater treatment plant in the southeast corner. Paved roads and all utilities run throughout the cantonment area.

The adjacent training areas include the following facilities for training exercises:

- Military Operations in Urban Terrain (MOUT) site;
- Multiple Integrated Laser Engagement System (MILES) course;
- Rappel Tower;
- Hand Grenade Range;
- Pistol Range;
- Rifle Known Distance/Zero I Range;
- Rifle/Machine Gun/Zero II Range;
- Rifle/Machine Gun/Zero III Range;

- Claymore Mine Range;
- Demolitions Training Range;
- Modified Record Fire (MRF) Range;
- Infantry Squad Battle Course;
- LAW (Light Anti-Tank Weapon)/M-203 Range;
- Confidence Obstacle Course;
- Day/night land navigation compass course;
- Nuclear, Biological, Chemical (NBC) Chamber;
- Squad Engagement Training System (SETS) Building;
- Theater-Specific Individual Readiness Training (IRT) Lanes (Checkpoints Charlie and Saudi).

In addition, there are designated engineer dig areas, air assault/helicopter landing/drop zones, beach amphibious assault zones, and engineer bridging sites. Figure 3 shows the locations of most of these facilities and sites. The remainder of the camp can be considered as undeveloped maneuver training areas with little or no facilities other than access roads.

Future Facility Plans and Changes in Training

There will likely be many changes to the cantonment area to upgrade facilities and provide new training opportunities. For example, a Simulations Center is planned and new replacement latrines, huts, and classrooms will eventually be built. However, cantonment developments will be addressed in the updated camp master plan, and are not part of this management plan. This section will discuss proposed developments in the training area around the cantonment.

The OMD/ORARNG intends to greatly expand the field training opportunities that are offered at Camp Rilea over the next five years. The following projects have been proposed (locations are shown on Figure 3):

- Enhancement of Infantry Squad Battle Course (ISBC) to a Platoon Live Fire Battle Course (Training Areas 5,6,7,9, and 10))

This would involve constructing a new range tower, shoot house, fighting positions, bunkers, safety fence, and foot bridges; installing bleachers, sand tables, barber poles, a flag pole, new targets, lights, and a public address system; altering and moving the firing line; and ground leveling as necessary. The course would contain the ISBC and M-203/LAW Range within it and allow for these types of training as well.

- Pistol Range Upgrade

Existing targets need to be automated, with new targets added. The range tower should be rebuilt, to include lights, heating system, insulation, shelving, and a sound system.

- MOUT Expansion

Four new buildings are needed to complete the different types that should be offered. Construction of a tunnel system with the correct diameter is also needed. Lights, targets, a tower, and a public address system are proposed.

- Construction of new Combat Pistol Qualification Course (CPQC)

This would involve constructing a new 25 meter range with pop-up and specialized targets. It would be located south of the existing grenade impact range.

- Construction of Police Situation Bins (Training Area 4 or 5)

This would involve creating four earthen embayments of about 3,000 sq.ft. each. Officers of state and local law enforcement agencies would use them to simulate enforcement situations they could encounter on the job. The exact location for this facility has not yet been identified.

- Reconstruction of NBC Chamber

The existing NBC Chamber would be rebuilt with new exterior walls, roof, and other needed improvements.

- Improvement of Slusher Lake Bridging Site

This would involve construction of concrete footings and laying additional gravel to protect the lake bank and support engineer bridging operations at the three designated points.

Other planned improvements are: a new wooden Fast Rope Tower by the rappel tower; new equipment building at the MRF Range; new fencing around the Demolitions Training Range; repairing fencing on the north boundary and other locations as necessary; installing culverts at all beach access roads to facilitate drainage and keep roads open (pending completion of a drainage study); and new gravel for selected roads to improve and maintain all-weather use.

Finally, it is expected that training levels (e.g., numbers of soldier days) will increase over time as facilities are expanded. Projected future training levels were presented in Table 2.

Mission-Essential Natural Resources, Training Effects, and Natural Resource Limitations

Natural resources are required for field training exercises that must be completed to meet the military training mission. Realistic landscapes are needed to provide real world training scenarios. An un-vegetated, flat landscape offers few realistic training opportunities. The best training areas are those that contain a wide variety of topographic features and vegetative cover types that are capable of supporting exercises by large military units. For example, hilly areas of woody vegetation interspersed with open, thinly wooded areas are ideal for defensive concealment, and for providing infantry units different types of terrain to negotiate. There should also be numerous open, relatively level grassy areas for field exercises such as mechanized maneuvers, bivoacking, and engineer operations. Having all areas covered with the same vegetation would limit some types of training. Since Camp Rilea has a good mix of vegetation types, which would be improved and maintained under this plan, it has a lot of potential for training opportunities. However, past dune stabilization efforts have led to a

landscape that is largely dominated by non-native vegetation. This plan has been designed to reverse that trend.

In general, military field training activities can have both positive and negative effects on natural resources. The greatest positive effect of the OMD/ORARNG mission on natural resources is the military presence. OMD control of the land keeps it in mostly undeveloped open space. Furthermore, the implementation of good land use practices, such as maintaining vegetation cover and wetlands, and lack of the need for intensive landscape alterations (i.e., agricultural tillage, large-scale pesticide and fertilizer application, commercial forestry, and recreational vehicle damage) means that natural communities are relatively undisturbed and protected. This is certainly true for Camp Rilea.

The adverse effects of military training on natural resources are directly related to the type of training that occurs. Engineer heavy equipment operations and mounted maneuvering (using tracked vehicles) have by far the greatest potential negative effect on natural resources. Excavation and maneuvering heavy tracked and wheeled vehicles across even the best-suited landscapes on an infrequent basis can cause damage to vegetation and soils. In addition, regularly used areas such as trails, bivouac sites, and firing points can experience loss of vegetation and soil impacts, especially if heavy equipment or vehicles are used. Adverse impacts can lead to soil erosion, soil compaction, loss of wildlife habitat, and the presence of unwanted pests and weeds. Wildlife can also be adversely affected by training noise. Fortunately, training that disturbs soils and vegetation is extremely limited at Camp Rilea. The vast majority of field training at the camp involves non-disturbing infantry exercises. Therefore, adverse effects are much less than at other training areas.

The physical setting and natural resources of Camp Rilea present both opportunities and limitations to field training activities. The topography, vegetative cover, roads, and open areas provide excellent conditions for undertaking the field training tasks required for fulfilling the military mission. However, there are numerous large wetlands scattered around the camp, soils with severe erosion potential, one federally-threatened species with 68 acres of protected habitat, plant species of concern, a public beach, a shallow water table, and potentially unstable sand dunes where vegetative cover must be maintained. These all limit the appropriate area for many types of training if adverse environmental impacts are to be minimized.

Future Military Mission and Training Effects on Natural Resources

The future military mission is not expected to change much during the next five years. Development of new field training facilities and expansion of training activities to provide more and better training opportunities will cause some adverse impacts to the natural resources of Camp Rilea. Limited, controlled disturbance of soils and vegetation in the areas targeted for new facilities is anticipated. Some loss of wildlife habitat is also likely. However, the measures outlined in this management plan will help to avoid and minimize and mitigate these and other future adverse effects. The environmental assessment prepared for implementation of this plan addresses the effects of both future training and management plan actions on the human and natural environment, but only evaluates the proposed management of natural resources for purposes of NEPA. Additional NEPA documentation would be required for the development of

training facilities. If the proposed training activities and facilities meet the categorical exclusions listed in AR 200-2, an internal NEPA document will be prepared. If not, an environmental assessment with public involvement would be completed.

It should be noted that the military mission could change with little notice. If this should happen then training and facilities development plans would have to be modified. Obviously this may affect natural resources differently than what is anticipated. Therefore, this management plan would need to be re-examined if the mission changed substantially.

CHAPTER 4. NATURAL RESOURCES OF CAMP RILEA

Land Use Setting

The area adjacent to the camp is rural residential (zoned residential agriculture), except for the ocean to the west. Residential areas of the City of Warrenton start at the north boundary. Approximately 300 households are within one mile of the camp boundaries. With some subdivision of property occurring, the rural residential population is expected to grow, although this should be limited by land use restrictions. Most of Camp Rilea is zoned by Clatsop County as a military reserve; some of the land is listed as open space, parks and recreation. Surface waters and wetlands are in the Lake and Wetlands Zone. Appendix 2 contains the county regulations for land use in these three zones.

Past the residences next to the camp's eastern boundary is U.S. Highway 101, the major coastal transportation route. East of the highway, past the rural residential lands and agricultural areas, is over 350,000 acres of commercial forest land, owned by private timber companies and the State of Oregon. Camp Rilea has permission to use much of this forest land for certain training activities.

Ecological Setting and Climate

Camp Rilea is located within the Coastal lowlands ecoregion. Ecoregions are areas of similarity in ecosystems and in the type, quality, and quantity of environmental resources (Pater, et.al., 1998). This is an area of estuarine marshes, freshwater lakes, black-water streams, marine terraces, and sand dunes. These ecosystems still characterize the landscape of the camp.

The climate is considered marine temperate, and is dominated by the proximity to the Pacific Ocean. Winters are wet and cool, with summers drier and warmer. Average annual precipitation is 60 to 85 inches. More than 50 percent of this falls from November through March. The mean high temperature is 58.4 degrees F and the mean low temperature is 43.4 degrees F. The frost free period is 200-240 days.

Geology and Topography

The Coastal lowlands ecoregion is composed of Quaternary marine and non-marine terrace deposits, beach, and dune sands (Pater, et.al., 1998). The Clatsop Plains geographical area (which includes Camp Rilea) is believed to consist of an ancient terrace of marine and

estuarine sedimentary rocks overlain by a sand dune complex built from Columbia River derived sediments (Cherry, 1977; Tasa and Connolly, 1994). This dune complex can be described as a series of ridge foredunes running parallel to the coastline separated by nearly flat interdune areas, which are often swales (Flitcroft, 1998; Tasa and Connolly, 1994). Deposition and outbuilding on this accreting coastline and vegetative stabilization created this topography. The dunes range in height from 5 to 30 meters (15 to 90 feet) above sea level (ASL) and in width from 250 to over 400 feet.

Camp Rilea has five dune ridges and five interdune areas, oriented north-south. Wetland or open water is present in all the interdune areas, except where fill material has been placed. Elevations range from about 30 meters ASL to sea level (Figure 4). Slopes are mostly gentle, only rarely exceeding 10 percent.

Management Implications

The dune topography presents challenges for many land uses. Active coastal dunes are unstable, and inactive dunes can become unstable if vegetative cover is removed. This can lead to large movements of sand as discussed further below.

Soils

Description and Classification

Camp Rilea has six soil components within its boundaries, counting beaches and dunes, with two subdivided into various slope classes (U.S. Soil Conservation Service, 1988). Figure 5 shows the eight soil mapping units, and Table 3 provides area and other data.

Table 3. Soils Data

MAP UNIT NAME	SYMBOL	ACRES	EROSION RISK
Beaches	4	136.6	severe, wind and water
Dune Land	15	230.8	severe, wind and water
Gearhart fine sandy loam, 15-30 percent slopes	19D	99.3	water slight, wind moderate
Gearhart fine sandy loam, 3-15 percent slopes	19C	111.1	water slight, wind moderate
Heceta-Waldport fine sands, 0-15 percent slopes	24C	155.1	water slight, wind severe
Waldport fine sand, 15-30 percent slopes	70D	560.1	water slight, wind severe
Waldport fine sand, 3-15 percent slopes	70C	372.8	water slight, wind severe
Warrenton loamy fine sand, 0-3 percent slopes	72A	42.1	slight, wind and water

As can be seen, individual soil mapping units tend to run north-south in rectangular bands similar to the dune topography. Beaches occur farthest west and are made up of sand and course rock fragments, with little slope. East of this is the dune land component, an area of fine sand with a slope range of 3 to 30 percent. Next in line is Heceta-Waldport fine sands. Heceta soils are very deep and poorly drained, with slopes of 0 to 3 percent. They tend to form in interdunal depressions. Waldport soils are also very deep, but excessively drained, and form on stabilized sand dunes. Slope is 3 to 15 percent (for this component). In this mapping unit, Heceta soils account for 50 percent of the area and Waldport 35 percent. To the east of this mix is a wide area of Waldport fine sand in two mapping units: 3 to 15 percent slopes and 15 to 30 percent slopes.

Finally, along the eastern edge are the Gearhart and Warrenton soils. The former is a very deep fine sandy loam of stabilized sand dunes, somewhat excessively drained, in two slope classes: 3 to 15 percent and 15 to 30 percent. Warrenton is a loamy fine sand with little slope (0-3 percent), very deep and poorly drained, which forms in interdunal depressions.

Erosion Potential

According to the soil survey, the beaches and dune land series have severe erosion potential from both wind and water. All other series have slight erosion potential from water. As for wind, the Waldport series has a severe erosion potential; Gearhart and Heceta-Waldport have moderate erosion potential; and Warrenton has slight erosion potential.

Using the revised universal soil loss equation, potential soil loss and erodibility indices were calculated for each soil mapping unit by the Natural Resources Conservation Service. This data is presented in Appendix 3. Potential soil loss is an estimate of the tons per acre per year that would be eroded away by running water if the soil is devoid of vegetative cover (Campbell, personal communication). Therefore, it is a worst-case scenario. The erodibility index is a measure of the maintenance of soil productivity over time, derived by factoring soil depth into the equation (Campbell, personal communication). Since the camp is not engaged in commercial agricultural or forestry, potential soil loss is more relevant and is depicted in Figure 6 by soil mapping unit. As can be seen, the fine sandy soils with the steepest slope classes and the dune land have the highest potential soil loss.

Management Implications

The beaches and dune land series are not appropriate for most developments due to the severe erosion potential and their limited load supporting capacities. Training that eliminates the ground cover over large areas would also not be appropriate as it would lead to soil/dune instability. The Gearhart and Waldport series are excessively drained with rapid permeability. Therefore, activities and developments that have a high level of risk of introducing contaminants should be located elsewhere. In addition, Waldport soils are susceptible to wind erosion, so vegetative cover should be maintained where these soils occur. The dune land and fine, sandy soil mapping units have high potential soil erosion so vegetative cover should be maintained or replaced quickly if removed.

Water Resources

Coastal Zone

Camp Rilea has three miles of beach frontage. However, the beach is a public resource managed by the Oregon Parks and Recreation Department, and not part of the camp. The camp boundary ends at the beach zone line, which is the high tide line, more or less corresponding to the ocean-ward extent of vegetation. Therefore, beach management beyond the vegetation line is not part of this plan.

The camp is wholly within the coastal shorelands, a near-ocean planning zone defined by the Oregon Department of Land Conservation and Development. Land use is regulated in the coastal shorelands by the county under the coastal zone management program, and in accordance with the applicable statewide planning goals. To protect the dunes and coastal resources, Clatsop

County has created a Beaches and Dunes Overlay District, which covers the entire camp property. Regulations for this district are in Appendix 2. The Clatsop Soil and Water Conservation District (CSWCD) also regulates activities that affect vegetative cover of the coastal dunes. District regulations take precedence over county regulations. Actions that involve sand removal, dune grading, dune breaching, and that have the potential to cause erosion require approval of the District. This regulation applies to areas mapped as Zone 1 and 2 (Figure 7). Except for approved variances, no structures or unimproved (informal, un-maintained) roads are allowed in Zone 1 and all disturbed areas must be revegetated in both zones.

The Oregon coast is at risk for a tsunami event, which is an unusually large ocean wave. Tsunamis typically result from seismic activity. Distant tsunamis could strike the Oregon coast from earthquakes far out to sea, or local tsunamis could result from an earthquake along the nearby Cascadia subduction zone fault system. Geologic evidence indicates that past earthquakes of large magnitudes on this fault system have created large waves up to 40 feet in height that have periodically inundated coastal areas (Fiedorowicz, 1997). The recurrence interval suggests that an event such as this could occur anytime in the next 300 years. In response to this threat, the state Department of Geology and Mineral Industries has developed maps showing tsunami risk zones, based largely on topography. There are four zones along the coast ranging from extreme to low risk, with risk declining as you move inland. The first three zones would need to be evacuated if an off-shore earthquake occurred. Figure 7 presents the tsunami risk zones for Camp Rilea. (The zones for the southern third of the camp were developed by the OMD based on the 20, 30, and 40 foot contours.) Most coastal communities have developed evacuation plans. Camp Rilea has not because only undeveloped training areas are present in the three zones requiring evacuation.

Lakes, Streams, and Floodplains

There are two lakes on Camp Rilea: Slusher Lake and Sunset Lake (Figure 8). Slusher Lake is a 23 acre triangle-shaped body of water totally within the camp boundaries. Depth averages five feet (maximum is seven feet) and volume averages 80 acre-feet (Sanderson, et.al. 1973). There is no inflow or outflow, except when heavy rains cause the lake to rise and flow north over Slusher Lake Road into a forested wetlands. Sunset Lake (sometimes also called Neacoxie Lake) is long (over three miles) and narrow (50-700 feet), and about 110 acres in size (Sanderson, et.al., 1973). Only about 15 acres of the lake is within the camp boundaries. Maximum depth is 20 feet and volume averages 975 acre-feet (Swan, 1970). The lake outlets south into Neacoxie Creek. Water quality data for both lakes do not indicate any problems, although coliform counts in Sunset Lake can be high, with seasonal blue-green algal blooms.

There is one stream flowing through the camp, Neacoxie Creek (see Figure 8). The hydrology of this creek is confusing given the past drainage alterations and its very low gradient. A recent hydrology review indicates that Neacoxie Creek originates in the Coffenbury Lake area and flows south, breaking up into two forks near the northern boundary of the camp (Scheller, personal communication). Here the East Fork continues south past the entrance to the camp, on under Highway 101, and into the Skipanon River just shy of Cullaby Lake. The West Fork has virtually no flow, but extends south through the eastern edge of Camp Rilea towards Sunset Lake. The surface water stops about 3,000 feet short of the lake; this area was filled in the 1930's or 1940's. Water ponds here every winter and there is probably subsurface flow to Sunset

Lake. The West Fork outflows from Sunset Lake and continues south for 3.5 miles where it flows into Necanicum Bay.

Although the surface drainage is obscure and poorly understood, most of the camp seems to be within the Skipanon River Watershed and drains south and east to that stream (Scheller, personal communication). The southern third, which includes the two lakes, is in the Necanicum River Watershed, and drains south to Neacoxie Creek, a tributary. According to the Clatsop County Planning Department, there are no 100-year floodplains within the camp. Most of the camp is classified as Flood Zone C (areas with minimal flooding).

Wetlands

Camp Rilea has many large wetland areas. These were surveyed and mapped during the OSU Department of Botany and Plant Pathology (OSU Botany) floristic surveys in 1998 and 1999. OSU Botany mapped the camp's vegetation types using the existing vegetation (discussed below). The vegetation type classes with wetlands vegetation were then compared to the classes of the U.S. Fish and Wildlife Service (USFWS) wetlands classification system (Cowardin, 1979), and the appropriate USFWS wetlands class was assigned to each type. This became the camp's wetlands inventory, useful only for planning purposes, since the minimum mapping unit from the vegetation type mapping was one to one and a half acres. Therefore, boundaries and acreages are not exact. In any case, the inventory indicates that there are approximately 244 acres of wetlands in 29 separate areas, ranging in size from about one acre to 159 acres. All but nine are of the palustrine forested class, and this class accounts for 216 acres. Figure 8 and Table 4 shows the location of and present data on these wetlands. As can be seen, most are in the depression between the foredune and second dune.

Table 4. Wetlands Data

COWARDIN CLASS	NO. OF AREAS	ACRES
palustrine aquatic bed (PA)	6	11.3
palustrine emergent wetland (PE)	2	16.2
palustrine forested wetland (PF)	20	216.1
palustrine scrub-shrub wetland (PS)	1	0.9
TOTALS	29	244.5

Groundwater

The Quaternary marine and non-marine deposits and dune sands contain the principal aquifer of the area. This Clatsop Plains sand-dune aquifer is a complete local flow system recharged almost entirely by infiltrating precipitation (Sweet, Edwards, and Associates, 1981). Groundwater movement within the system is down-gradient from recharge to discharge zones. In the western half of the camp, lateral groundwater movement is towards the ocean. Conversely, the eastern portion of the southern half moves to Sunset Lake, while the eastern portion of the northern half moves to Neacoxie Creek (Frank, 1968). The entire camp can be considered a recharge area (Miller, 1999). The water table ranges in elevation from sea level to about 20 feet (Frank, 1968). Groundwater meets the surface at Slusher Lake, which rises and falls with the water table.

The aquifer is the primary water source for most persons living on the Clatsop Plains. Fortunately, water quality of this aquifer is good. Much of Camp Rilea sits above the downstream end of the Clatsop Plains aquifer, close to where it begins its submarine discharge. Nevertheless, Clatsop County has designated the entire area north of Slusher Lake and north of the cantonment area all the way to the northern camp boundary as an Aquifer Reserve Overlay District. Construction of sewage disposal systems, over-application of fertilizers, and inadequately protected oil and gas storage facilities are prohibited in this area.

Management Implications

Over two-thirds of the camp is within CSWCD regulated dune protection zones. This means all unvegetated areas must be quickly revegetated. Furthermore, in Zone 1 structures and unmaintained roads cannot be built. Any facilities built in the western third of the camp would also be at risk of destruction from tsunamis, which also could cause loss of life if bivouacking units could not be evacuated in time. The numerous wetlands impose further restrictions on training and facilities development, since fill or excavation is not allowed in these areas without a permit, and avoidance is stressed, with adverse impacts mitigated if avoidance is not possible. Finally, since maintenance of groundwater quality is such a high priority, there is a need to guard against accidental contamination from spills. This is especially true for surface waters as they are often direct linked to the aquifer.

Natural History and Vegetation

Pre-Settlement Vegetation and Post-Settlement Changes

The first written accounts describing the vegetation of the Clatsop Plains came from the journals of the Lewis and Clark expedition. Visiting in 1805, they found the area to be open, rangy prairie and boggy with many large trees (Flitcroft, 1998). The trees were probably mostly Sitka spruce and alder. The former is considered to be the climax tree species of the forest (Sundberg, 1999). Research of the natural process of coastal sand dune construction indicates that forested areas would have developed in the more stable areas away from the accreting, active dunes, except where disturbance was too frequent (Wiedemann, 1984). However, large expanses of native grasses predominated, probably maintained through annual burning by Native Americans. In the near ocean areas sand deposition, wind, and salt spray would have limited the vegetation to dunegrasses and other dune-adapted herbaceous plants (Wiedemann, 1984).

Sketches and descriptions from Lewis and subsequent research indicate that the ocean shoreline was much further to the east at that time, approximately parallel with the western edge of Slusher Lake (Cherry, 1977). Thus, the western third of Camp Rilea did not exist at that time. Much of the remainder was probably part of the near ocean area and covered by open beach and dunegrass. Further inland vegetative cover likely changed to native grasses, except along the drainages where trees and shrubs would be expected.

The pre-settlement vegetation and natural dune-building process began to change with Euro-American settlement in the 1840s. Settlers built homesteads, drained bogs, and began farming and livestock grazing on the plains (Flitcroft, 1998). By the 1880s the new land use, particularly over-grazing, had created an environment much less stable than under natural

conditions and a problem of moving sand dunes (Flitcroft, 1998). Jetties constructed at the mouth of the Columbia River in the late 19th century exacerbated the problem, by altering the historic sediment distribution/sand deposition patterns and vastly increasing deposition south of the river. In reaction to this dune instability problem, a massive dunes stabilization project was launched in the 1930s. The Civilian Conservation Corps was brought in to plant millions of grass, shrub, and tree starts. The three main species used were European beachgrass, Scots broom, and shore pine. Over 3,000 acres of moving sands were successfully stabilized with these non-native vegetation communities that still exist today.

The actual changes in vegetation communities at Camp Rilea from 1939 to 1996 have been documented (Flitcroft, 1998). Flitcroft examined aerial photographs from 1939, 1958, 1971, and 1996 and presented a chronological series showing how the vegetation evolved over time. Vegetation classes were mapped and acreages calculated for each of the four years. Figure 9 presents a graph showing the trends in grouped vegetation communities. Basically, the camp evolved from an area covered mostly by unvegetated sand and dunegrasses (over 1,450 acres in 1939), to one dominated by shrub and wooded communities (over 1,100 acres in 1971 and over 1,400 acres in 1996). Although this mimics the expected successional trend for a natural dune system, the existing communities are not natural and it is unclear whether they can or should be maintained.

Current Plant Communities

The existing plant communities are a direct result of the dune stabilization plantings of the 1930s. Therefore, there are few areas dominated by native vegetation. Much of the camp is covered with closed canopy forests of shore pine. Large areas of European beachgrass and forested wetlands are also present. This landscape neither resembles what was present in the past or what would have evolved under natural conditions, except perhaps the wetlands.

Using the U.S. National Vegetation Classification System (USNVCS), OSU Botany classified the existing plant communities into vegetation types during its floristic surveys of 1998-1999. Types were classified down to the Community Association level in the established hierarchy. The USNVCS is heavily based on existing vegetation and uses qualitative or quantitative data. A total of 20 vegetation types (excluding non-vegetated and developed) were recognized and are shown on Figure 10. The 20 types are described below (from Sundberg, 1999):

Open water: The open water category is actually non-vegetated, although submerged rooted and floating aquatic plants do occur in shallow water throughout the camp. Canadian waterweed (*Elodea canadensis*) and water buttercup (*Ranunculus aquatilis*) are rooted aquatics commonly found here. Common duckweed (*Lemna minor*), dotted water-flaxseed and duckweed fern are the most abundant floating aquatic species. South American water milfoil, a floating rooted aquatic species, occurs in patches too small to be mapped in that vegetation type.

Floating rooted aquatic (*Nuphar polysepala-Nymphaea odorata* Community Association): This vegetation type occurs in both forks of Neacoxie Creek, Sunset Lake, and Slusher Lake, although many patches are too small to be mapped. Dominant species are the native species, yellow pond lily (*Nuphar polysepala*) or the non-native species, fragrant water lily (*Nymphaea odorata*).

Sea rocket strand (*Cakile edentula-Cakile maritima* Community Association): This strand of vegetation occurs at and slightly above maximum high tide. It is dominated by two species of sea rocket (*Cakile edentula* and *Cakile maritima*) which are both non-native species. At the upper edge of the strand searocket co-occurs with beachgrass species (*Ammophila* spp.) of the accretion foredune.

Accretion foredune meadow (*Ammophila spp.-Leymus mollis* Community Association): The accretion foredune lies inland from the searocket strand. It is dominated by the non-native species European beachgrass and short-liguled beachgrass (*Ammophila breviligulata*), and the American dunegrass, which is native. These were originally planted in the camp to stabilize sand dunes and have spread extensively. This seaward portion of the foredune is partially covered by sand each year.

Foredune meadow (*Leymus mollis-Lathyrus japonicus* Community Association): The foredune meadow extends from the accretion foredune meadow to the west to the interdune meadow to the east. It spans the top of the foredune ridge. Vegetation consists of the native species American dunegrass and maritime peavine (*Lathyrus japonicus*). European beachgrass also occurs in some portions of the foredune meadow.

Interdune meadow (*Ammophila arenaria – Leymus mollis* Community Association): The interdune meadow is a rich mosaic of several plant communities that occur in patches too small to map in the current study. Most of the area is dominated by European beach grass and/or dune grass, with patches of the native species coastal strawberry (*Fragaria chiloensis*), yarrow (*Achillea millefolium*), pearly everlasting (*Anaphalis margaritacea*), non-native common velvetgrass (*Holcus lanatus*) and dozens of other native and non-native species. Wetland slough sedge, wetland willow, and upland Scots broom scrub are common vegetation inclusions in the Interdune meadow vegetation type.

Disturbed European beachgrass meadow (*Ammophila arenaria–Holcus lanatus* Community Association): This vegetation type occurs in scattered areas where soils have been disturbed in recent years. It is dominated by European beach grass and typically includes assorted other non-native grasses and forbs.

Upland sedge meadow (*Carex pansa-Anthoxanthum odoratum* Community Association): Upland sedge meadows are found in the central portion of the camp. These are the "butterfly meadows" that are mowed annually to provide habitat for the Oregon silverspot butterfly. These meadows have a rich mix of native and non-native plant species. Sand sedge (*Carex pansa*) and sweet vernalgrass (*Anthoxanthum odoratum*) are dominant species. Several native species are conspicuous but not dominant, including hillside rein orchid (*Piperia elegans*), chocolate lily (*Fritillaria affinis*), elegant brodiaea (*Brodiaea elegans*), and hooked spur violet (*Viola adunca*), the larval host for the silverspot butterfly.

Planted/cultivated grassland (*Agrostis tenuis* or *Festuca arundinacea* Community Association): Planted/cultivated grasslands are maintained lawns or other managed grass areas. They surround most buildings in the cantonment area and are found in several other areas of the camp.

Slough sedge wet meadow (*Carex obnupta* Community Association): Slough sedge (*Carex obnupta*) wet meadows mostly occur in the depression inland from the foredune, adjacent to wetland willow forest vegetation. They also are found in small patches in the interdune meadow and along the edge of West Neacoxie Creek. Few species other than slough sedge occur in this vegetation type, and these are not significant components of the vegetation. Slough sedge meadows are typically inundated most of the year, drying up late in the summer and in the fall.

Cusick's sedge wet meadow (*Carex cusickii* Community Association): This vegetation type is found in one area along the edge of West Neacoxie Creek, in the northeastern portion of the camp. Much of the wetland consists of sedge hummocks surrounded by water, and thus soils are saturated or inundated all year. Groundwater level is typically at or within a few centimeters of the surface. Cusick's sedge (*Carex cusickii*) and other sedge species dominate Cusick's sedge meadow. The invasive weed purple loosestrife is scattered through much of the meadow, as is South American water milfoil, which occurs in pools interspersed throughout the wetland. Sphagnum moss (*Sphagnum* sp.) grows in small patches in a few areas.

Upland Scots broom scrub (*Cytisus scoparius*/grasses Community Association): Dominated by Scots broom, typically in dense thickets 2-3 meters tall with scattered grasses, this vegetation type is widespread in disturbed areas of the camp.

Wetland sweet gale scrub (*Myrica gale* Community Association): Sweet gale scrub occurs in scattered, nearly monospecific patches of low shrubs along the shore of East Neacoxie Creek.

Upland planted pine forest (*Pinus contorta, P. nigra and/or P. sylvestris* forest with *Cytisus scoparius* understory Vegetation Type): This includes even-age stands of shore pine, Scots pine (*Pinus sylvestris*), black pine (*Pinus nigra*) and/or Sitka spruce (*Picea sitchensis*). Maritime pine (*Pinus pinaster*) was also found during the plant surveys, but was not widely planted. These tree species were planted for dune stabilization over much of Camp Rilea. In some places the shrubs have been removed from the understory. There is little stratification of the canopy. The understory is typically sparsely vegetated, and in some areas consists mostly of a carpet of moss species. In many areas the non-native species, Scots broom is abundant. Native shrub species include evergreen huckleberry (*Vaccinium ovatum*) and Pacific wax myrtle (*Myrica gale*). Forbs and grasses present include western rattlesnake plantain (*Goodyera oblongifolia*) and sweet vernalgrass.

Upland spruce/swordfern forest (*Picea sitchensis/Polystichum munitum* Community Association): This forest type is dominated by Sitka spruce and sword fern (*Polystichum munitum*). It is less disturbed than other forests in the camp. The canopy is typically stratified, with cascara (*Rhamnus purshiana*), red alder (*Alnus rubra*), red huckleberry (*Vaccinium parvifolium*) and Pacific blackberry (*Rubus ursinus*) dominating different levels of the canopy. The herbaceous stratum is dominated by sword fern and includes a rich mix of forbs and grasses.

Upland managed woodland (open spruce or shore pine with mowed understory): Managed woodland forest includes widely spaced Sitka spruce and/or shore pine trees. The understory in

most of this forest type is managed by shrub removal and in some areas by mowing herbaceous vegetation.

Wetland willow forest (*Salix hookeriana/Carex obnupta* Community Association): Dominated by Hooker's willow (*Salix hookeriana*), this forest of trees approximately 7-8 meters tall, is flooded much of the year. The understory is dominated by slough sedge or is bare where the ground remains ponded for longer periods of time.

Wetland alder forest (*Alnus rhombifolia/Carex obnupta* Community Association): This forest type is dominated by white alder (*Alnus rhombifolia*) and slough sedge. It is restricted to one wetland that lies in a depression between old vegetated dunes west of North Neacoxie Road.

Wetland shore pine forest (*Pinus contorta/Carex obnupta* Community Association): This forest type occurs in a north-south-oriented band adjacent to wetland willow forests in the depression behind the foredune. Shore pine trees grow on low hummocks in a wetland that remains inundated late into the spring. The understory is dominated by slough sedge. This forest type also includes patches of red alder (*Alnus rubra*) and Sitka spruce trees.

Upland mixed deciduous forest (*Alnus rubra – Rhamnus purshiana* Community Association): This forest type is typically dominated by red alder, and cascara but may also include Hooker's willow, western crabapple (*Malus fusca*) and along the southern border of the camp, black locust (*Robinia pseudoacacia*).

Due to similarities in some of the above communities and how they will be managed and used, it was reasonable to combine a few. In addition, some types were renamed to facilitate interpretation. These combined and/or renamed plant communities form the management units for this plan. The final 11 modified plant communities/management units are shown in Table 5.

Table 5. Plant Community/Management Unit Data

MODIFIED PLANT COM/MGMT. UNIT NAME	USNVCS NAME	NO. OF AREAS	ACRES	TRAINING AREAS
coastal zone meadows	sea rocket strand; accretion foredune, foredune, and interdune meadows	1	352.9	2-5,7,8,11
floating aquatic	floating rooted aquatic and open water	6	11.3	Cantonment
sweet gale wetland	wetland sweet gale scrub	1	0.9	Cantonment
forested wetland	wetland shore pine forest; wetland alder forest; and wetland willow forest	21	216.1	1-8, 10, 11,13
planted pine forest	upland planted pine forest and managed woodland	21	514.8	all
deciduous forest	upland mixed deciduous forest	12	18.2	1,6
spruce/fern forest	upland spruce/swordfern forest	15	38.7	1,6,10,13
Scots broom/beachgrass	upland Scots broom scrub and disturbed European beachgrass	52	141.2	all
upland sedge meadow	upland sedge meadow	5	91.5	1,3,4,6,9,10
wet sedge meadow	Cusick's and slough sedge wet meadows	2	16.2	2,10
cultivated grassland	planted/cultivated grassland	20	229.3	1,2,3,4,6,10

Figure 11 shows the spatial distribution of these 11 modified plant communities/ management units. Table 5 also lists the acreage of each and the training areas within which they are located. Representative photographs of each community are in Appendix 7.

Floristic Survey Results

The survey documented 274 plant species at Camp Rilea (Appendix 4). This is approximately six percent of the 4,423 plant species known to grow outside of cultivation in Oregon (Sundberg, 1999). Sixty-four families and 186 genera are represented. Forty-one percent of the species at Rilea are non-native; by comparison approximately 18 percent of plant species are non-native statewide. It was estimated that 95 percent of the plant species, subspecies and varieties were documented at Camp Rilea (Sundberg, 1999).

Although there are no Endangered Species Act listed plant species within the camp, there are four notable, rare native species present. These are discussed below:

Columbia watermeal (*Wolffia columbiana*) is a tiny, ellipsoidal, floating aquatic about one millimeter long. It is one of the smallest flowering plants in the world. It grows in several areas along West Fork Neacoxie Creek within Camp Rilea (Figure 12) and it is likely to periodically occur along the entire length of the creek. It has not been found on East Fork Neacoxie Creek. The species is listed as Category 2 (threatened or endangered in Oregon) by the ONHP but has no State or Federal status. Columbia watermeal is widely distributed in the Americas and is most commonly collected in the eastern United States and Argentina (Landolt 1986). The population at Camp Rilea is healthy and apparently stable. There are no apparent threats to the plant as long as the hydrology of the creek is maintained and the water does not become polluted to the extent that it is toxic to the plants.

Sweet gale (*Myrica gale*) is a medium-sized wetland shrub with fragrant leaves and inconspicuous flowers. Individual plants are either male or female. The species grows at the edge of Camp Rilea in dense stands along East Fork Neacoxie Creek (Figure 12) and constitutes the dominant species in the Wetland sweet gale scrub vegetation type (see Figure 10). This species has no State or Federal status, but has ONHP Category 3 status (Review list). Sweet gale is distributed along the Pacific Coast from Alaska to Oregon, east to Wisconsin, from Nova Scotia to North Carolina, and in Eurasia (Hitchcock and Cronquist 1973). The population at Camp Rilea is healthy and stable. There are no apparent threats to the plant as long as the hydrology of the creek is maintained and the water does not become excessively polluted.

Yellow sand verbena (*Abronia latifolia*) is a sprawling, sticky, succulent herb with round leaves and yellow flowers. In 1993 ONHP botanists found three plants north of Slusher Lake Road and north of Millersburg training area (MOUT site). In 1997 and 1999, additional plants were found in the MOUT site (Figure 12 and Appendix 7). In 1999 one plant was found growing in a sand pit in the newly constructed obstacle course north of Slusher Lake Road. Several vigorous plants were also seen in the M203 Range and in the Infantry Squad Live Fire Range, on either side of Second Causeway. In each case the ground had been disturbed in the past few years and the ground cleared of competing vegetation. It is likely that the species cannot tolerate annual disturbance. However, it is also apparent that it will not survive in many areas of Camp Rilea unless the ground is periodically cleared of vegetation. Yellow sand verbena has no State or

Federal status. It is considered Category 4 (Watch list) by the ONHP. Yellow sand verbena occurs from southern Vancouver Island to the central California coast (Hitchcock and Cronquist 1973, Spellenberg 1993).

Big-headed sedge (*Carex macrocephala*) is a grass-like plant in the sedge family. It is notable for its clusters of flowers, which are the largest of any Oregon sedge. The species has no State or Federal status but is listed as Category 4 (Watch list) by the ONHP. It is sparsely distributed at Camp Rilea, occurring mainly on patches of open sand (Figure 12 and Appendix 7). It also periodically requires soil disturbance, as it does not persist in areas where European beachgrass and other plants cover the ground. Big-headed sedge grows from Coos County, on the central Oregon coast to Alaska, China and Japan (Hitchcock and Cronquist 1973, Wilson et al. 1999).

There are also a number of species that are not often found, yet are not sufficiently uncommon to be considered rare. Leather grapefern (*Botrychium multifidum*) and golden eyed grass (*Sisyrinchium californicum*) are examples. Black knotweed (*Polygonum paronychium)*, sea purslane (*Honckenya peploides*), footsteps of spring (*Sanicula arctopoides*) and silver beachweed (*Ambrosia chamissonis*) are typical native dune species that are present, but not abundant at the camp. These species are not commonly seen.

Non-native vegetation is widespread on the camp and is a problem as it often restricts training and wildlife habitat. The most abundant non-native species at Camp Rilea were planted for dune stabilization, including European beachgrass, Scots broom, Scots pine (*Pinus sylvestris*) and black pine (*Pinus nigra*). Scots broom is now considered an invasive plant species in western Oregon. Other invasive or noxious weeds found at the site include purple loosestrife (*Lythrum salicaria*), English ivy (*Hedera helix*), tansy ragwort (*Senecio jacobaea*), South American water milfoil (*Myriophyllum aquaticum*), English holly (*Ilex aquifolium*), and meadow knapweed (*Centaurea pratensis*). Several non-native grass species are especially abundant, and many exotic species of forbs are found commonly throughout the camp. Species that have escaped cultivation include daffodil (*Narcissus pseudonarcissus*), European privet (*Ligustrum vulgare*), Etruscan honeysuckle (*Lonicera etrusca*), and tapegrass (*Vallisneria americana*), which is often grown in freshwater aquaria.

Management Implications

The plant communities illustrate the general biodiversity of the camp. If each native community is maintained, the existing biodiversity is likely to be maintained as well. Locations of important natural communities that are rare or that contain desired conditions for other, non-native areas are also shown (e.g., wet sedge meadows and spruce/fern forest), and can therefore, be more easily protected. Undesired communities (Scots broom/disturbed beachgrass) are highlighted for treatment and monitoring. Although not required by regulations, rare plant species should also be protected to maintain total species biodiversity and meet stewardship goals. Protection does not necessarily mean making locations off-limits to training and management activities; some species like or need disturbance, and training opportunities can often be enhanced by proper management. Based on field observations, Big-headed sedge and yellow sand verbena appear to be two such plants. Several species of non-native plants could

cause future problems if they become dominant, which has already happened with Scots broom. The distribution of non-native plants should be closely monitored.

Wildlife

USGS Faunal Inventory

The Forest and Rangeland Ecosystem Science Center, Biological Resources Division of the U.S. Geological Survey (USGS) conducted a vertebrate faunal inventory at Camp Rilea from November, 1997 through March, 1999. Methods included avian point counts, small mammal trapping, arboreal mammal trapping, infrared monitoring, mist netting, spotlighting, amphibian and reptile searches, habitat measurements, and incidental observations. USGS staff made 72 visits to the camp and documented the presence of 124 bird species, 33 mammal species, and 12 species of amphibians and reptiles. Avian point counts conducted in the spring were the most productive, and riparian areas had the greatest species richness and diversity. White-crowned sparrows (*Zonotrichia leucophrys*), American robins (*Turdus migratorius*), and Savannah sparrows (*Passerculus sandwichensis*) had the highest frequency and relative abundances. American widgeons (*Anus americana*) were the most observed waterfowl species and sanderling (*Calidrus alba*) and dunlins (*Calidrus alpina*) the most frequently recorded shorebirds. The willow wetlands plant community had the highest diversity index for small mammals. Deer mice (*Peromyscus maniculatus*) were the most frequently captured species. Only one species of bats was captured during mist netting, with one additional species identified from incidental observations. The most commonly encountered amphibians/reptiles species was Pacific chorus frogs (83.8%) during terrestrial surveys, and red-legged frogs (95.8%) during aquatic surveys. Appendix 5 contains the species lists for birds, mammals, and amphibians and reptiles. Additional data can be obtained from the full report (Henny, et. al., 1999).

Of all the species recorded, nine were non-native. Five of them were mammals, three were birds, and one frog. The European starling (*Sturnus vulgaris*), cat (*Felis catus*), black rats, and bullfrogs are considered to be problems or pests. Starlings may be adversely affecting cavity nesting bird species and cats are likely to be a major predator of birds and small mammals. These four species are potentially reducing species richness and avian biodiversity at the camp.

A number of key habitat areas that appeared to be important for wildlife were noted. The riparian areas supported a diverse faunal community, and represented a major percentage of the plant communities available. The lakes, creeks, sloughs, willow wetlands, and open beach were also important habitat components. Riparian areas contained the highest species richness for birds from point counts, as well as the highest mean number of birds encountered per point. This area was important to the avian community during breeding and wintering seasons. Small mammal observations showed the willow wetland to have the highest species richness, although this varied with season. In spring when many lowlands were inundated, the adjacent beachgrass, and to some extent coniferous woodland, were important areas for small mammals. By fall, the now-dry willow wetlands had exceeded all other plant communities in species diversity. When considering overall species diversity on Camp Rilea, the open water, creeks, and beach zone were all important to their respective genera. Without question, the beach zone serves as an important area for migrant shorebirds, as shown by the large number of transient flocks and individuals observed. Inland permanent water was used throughout the year by resident and

migrant waterfowl, and also served as brood rearing habitat. The presence of nest boxes on Neacoxie Creek enabled larger cavity nesters to use the area, especially given the absence of mature timber and snags. This added significantly to the creek's overall diversity.

Since the USGS inventory only lasted one year, much of the year-to-year variation of wildlife populations and their use of habitat was missed. For example, a plant community that contains high numbers of species one year may prove to be less significant the following year with changes in annual precipitation, land use on adjacent properties, and a host of other variables. Data from one- or two-year inventories can only provide a partial look at the identification of key habitats on a study site. Furthermore, some species that were expected to occur were not recorded (see table in Appendix 5). Therefore, multi-year assessments of wildlife and habitats would be needed to account for this variation.

Wood Duck Nesting Box Project

In 1990, science students from Jewell High School started a project to install and monitor nest boxes for wood ducks (*Aix sponsa*) on the Clatsop Plains (Jewell High School, 1997). Fifteen boxes were located in Camp Rilea, all along the west fork of Neacoxie Creek. The boxes have been visited every year and reproductive data gathered. For example, in 1997 the Camp Rilea boxes contained 292 wood duck eggs of which 170 hatched (58%). Hooded mergansers also used some of the boxes (44 eggs; 16 hatches). The Camp Rilea boxes averaged 314 wood duck and 22 hooded merganser eggs from 1990-97. For all of the project boxes, wood duck clutch size averaged 15 eggs (11 excluding dump nests). Hatch success averaged 43% for wood ducks and 53% for hooded mergansers. Most hatching occurred in either May or June. On average, over 45% of the boxes contained dump nests. Dump nests (over 16 eggs in a box) result when one wood duck female deposits her eggs on top of another clutch. It is believed to be related to the conspicuousness of nest boxes. Jewell High School intends to continue this project indefinitely.

Deer and Elk

Black-tailed deer and Roosevelt elk are present at Camp Rilea. However, no studies of deer or elk at Camp Rilea have been conducted. Therefore, anecdotal information, observations, and statistics from Oregon Department of Fish and Wildlife's (ODFW) Saddle Mountain Management Unit are the only sources of information.

The deer population appears to be rather dense at the camp. Camp Rilea and OMD staff report that it is common to see numerous deer, often in small herds (e.g., 6-12), while driving around or in the field. Since deer are not highly mobile and have home ranges approximating one square mile, these deer are probably year round residents (Nuzum, 1999). Saddle Mountain Unit census data from 1990-1998 suggest that there would be about 60 deer residing at Rilea. This was based on the Eastman model and assumes average habitat. Since Rilea's habitat is above average, it is likely that more deer are present. As for demographics, the census data suggest that around 12 percent of these animals would be bucks and 30 percent fawns.

Information on elk at Rilea is much better as a result of an ODFW live trapping program that has been going on for about 10 years. This trap and remove program is in response to private landowner complaints of elk property damage. Observations in 1998 indicate that there

are apparently three herds of elk west of Highway 101, with two of these regularly visiting and using Camp Rilea. One herd has 16 individuals left (1998 trapping removed 7), the second has 14 (1998 trapping removed 17), and the third has 29 (1998 trapping removed 5). The middle herd is the one spending the most time at the camp, while the last herd has never been observed there (Harrison, 1999). It is believed that all three herds move up and down the coast from Hammond to Gearhardt and use Camp Rilea, which is consistent with their behavior and estimated home range size (Nuzum, 1999). Although they are in close proximity, the herds do not seem to co-mingle (Harrison, 1999). There has been little change in total numbers observed over the last four years. The herds grow through reproduction and adults moving west from the Coast Ranges, and then are reduced through the trapping program (Harrison, 1999). Using Saddle Mountain Unit census data from 1990-1998, there are probably around 8-10 bulls and 20-25 calves west of Highway 101.

Fish and other Aquatic Animal Species

Information on fish is fairly limited and non-existent for other aquatic animal species for the surface waters of Camp Rilea. The ODFW has done intermittent gill netting and electroshocking for decades to gather information on the fisheries of Sunset and Slusher Lakes. The last survey was in June, 1995. Both lakes have bluegill, largemouth bass, yellow perch, sculpins, carp, and bullhead species. Sunset also has stocked rainbow trout, salmon, and steelhead (bluegill and bass are also stocked in this lake). For some unknown reason the warmwater fish in Sunset do not survive past the juvenile stage. Thus, what was once a good, popular warmwater fishery has declined to a poor state. The ODFW would like to investigate this problem and improve this fishery (Sheahan, 1999). No sampling has been done in Neacoxie Creek above Sunset Lake. Due to the stagnation of this creek, fish are thought to be absent (Sheahan, 1999).

Management Implications

Again, in order to maintain the existing biodiversity that exists, the full range of natural plant communities and wildlife habitats should be maintained. However, some are more important than others, such as wetlands and open water; these have a higher priority for protection. Upland meadows should be maintained to provide habitat for deer and elk. In addition, within the communities structural elements that increase habitat value should be identified and maintained. These structural elements include well-developed understory vegetation, snags, forest openings, and downed wood. Control efforts may be needed for the four non-native species (cats, rats, bullfrogs, and starlings) if they are shown to be significantly affecting biodiversity. Good surface water quality should be maintained to help preserve aquatic faunal communities.

Threatened, Endangered, and Special Status Species

Appendix 6 lists the federal, state, and Oregon Natural Heritage Program (ONHP) species of concern that may occur on Camp Rilea. Species of concern includes those listed as threatened or endangered under the federal or Oregon Endanger Species Act (ESA), as well as candidates for ESA listing, state-critical, state-vulnerable, and ONHP watch list categories. The list was based on information provided by ONHP in November, 1999.

The highlights of the list are as follows: Seven listed birds could be present (six state and federally-listed and one state-listed only); one federally-threatened fish (state critical list); one federally-threatened invertebrate; and one state-endangered plant. In addition, one mammal is on the state critical list; one other bird species is on the state critical list; one amphibian is on the state critical list; one reptile is on the state critical list; two other fish species are candidates for the federal list; and four plants are candidates for state ESA listing. All of these species are highlighted on the Appendix 6 list. The federally-threatened Stellar sea lion is not included since the ocean and beach are not part of Camp Rilea. However, no observations of this species have occurred in the coastal area adjacent to the camp.

Camp Rilea has known that the federally-threatened Oregon silverspot butterfly is present since 1982 and began managing habitat for this species shortly after this discovery. The number of female silverspot butterflies annually observed at the camp during late summer monitoring has varied from 82 to zero, declining steadily (Hammond, 1999). Currently 68 acres of meadow habitat is designated as protected habitat and maintained by periodic mowing to help perpetuate the existence of this habitat and, hopefully, the species on the Clatsop Plains (Figure 13). The OMD has completed the Section 7 (Endangered Species Act) process with the U.S. Fish and Wildlife Service (USFWS) and has adopted a formal habitat management plan for the Oregon silverspot butterfly. This plan should be consulted for detailed information on the biology, management, and monitoring of this species.

Three separate efforts have been made to determine whether any other special status species are present within the camp, particularly the species highlighted on the Appendix 6 list. The first was a brief inventory conducted by the ONHP in the spring/summer of 1993. This inventory failed to document the occurrence of any sensitive species other than the Oregon silverspot butterfly (Kagan, 1993). It was also reported that a lack of suitable habitat precluded the presence of most listed species.

The second effort was for vascular plants only, and consisted of floristic surveys by OSU Botany. Surveys were conducted during the growing season in both 1998 and 1999. No state or federally-listed plants or candidates were discovered. However, four species were encountered that are on the ONHP watch list and considered rare. These plants are: Columbia watermeal, sweet gale, yellow sand verbena, and big-headed sedge. The four species were described in the section on natural history and vegetation. The observed locations of these plants are shown on Figure 12.

The third effort consisted of vertebrate faunal surveys by the Biological Resources Division of the USGS during 1997-1999 (discussed above). During their 72 visits to the camp USGS recorded three listed bird species: The brown pelican (state and federally endangered); the Bald Eagle (state and federally threatened); and the peregrine falcon (state endangered). In addition, one bird species (pileated woodpecker) and one frog species (northern red-legged frog) that the state or USFWS considers vulnerable or of concern were recorded (see Appendix 6).

Management Implications

Preservation and management of silverspot butterfly habitat is required by the USFWS and the ESA. This entails annual mowing, monitoring, and a complete restriction on all training

in these areas. At present the three ESA listed bird species are all occasional visitors, which limits concern to prevention of harassment, injuries, or deaths. Although not required by law, the species of concern (the four plants discussed in the previous section, the pileated woodpecker, and the northern red-legged frog) and their important habitat areas should be protected to help maximize camp biodiversity, avoid potential future listings, and assist the OMD in meeting its stewardship responsibilities. Western snowy plovers were not observed, and habitat conditions are not very favorable for this species at present. This situation could be changed if Camp Rilea wanted to participate in Western snowy plover recovery efforts.

CHAPTER 5. NATURAL RESOURCES MANAGEMENT

Introduction

Management plans are presented below organized by plant community, which make up the management units (see Figure 11). In addition, the management of subjects that cut across plant communities is discussed after the eleven communities/units. Table 1 in the Executive Summary presents a summary of the plans for each plant community/management unit. Representative photographs of each plant community are in Appendix 7. "Training Activities" describes the kinds of training activities that are incompatible with the management objectives; these activities would not be allowed. The "Management Approach" explains how and why management decisions were made and why any training activities are restricted. In short, although this plan limits some future training opportunities, it does not result in a loss of training lands, except for those areas restricted due to the Endangered Species Act, and it generally provides for overall support of the military mission. All required training activities can be completed somewhere on Camp Rilea.

In order to implement ecosystem management and ITAM, the carrying capacity of each management unit for sustained training should be established. Carrying capacity would be determined over time using quantitative LCTA data, empirical observations, and data from monitoring efforts described below. At this time carrying capacity cannot be determined due to lack of data. It is hoped that future data will confirm that the management approach used in this plan has set military training at a level that can be sustained indefinitely (at or under carrying capacities).

Coastal Zone Meadows

Management Objective

Maintain dune stability and vegetative cover in compliance with Clatsop County regulations and Oregon Statewide Planning Goal 18. Preserve native dune vegetation and where possible, restore native plant species or encourage natural re-colonization. Participate in Western snowy plover recovery efforts if appropriate.

Training Activities

No vehicles will be allowed off-road. Digging with heavy equipment is also not authorized. This plant community will be used primarily for airborne (paratroopers) and air assault (rappelling, jumping from aircraft, etc.) operations, and infantry training.

Management Approach and Projects

Due to the sensitivity of the dunes to potential erosion, and the regulations drafted to protect the dunes, some military training is not appropriate. Using units, camp staff, and OMD project planners will be briefed on dune erosion sensitivity and state and local regulations. Public use will be restricted in this area. The open character of this ecosystem is desirable since it is within the beach drop zone (air assault training). The flora is dominated by European beachgrass, a non-native plant. An exception is the foredune meadow, which is dominated by American dunegrass and maritime peavine. This plant community is globally imperiled and Camp Rilea contains one of the best examples of what little remains; it is perhaps the most important habitat within the camp (Kagan, personal communication). If feasible and cost-effective, attempts may be made to increase or restore the extent of this ecosystem and reduce the amount of European beachgrass. Any restoration projects in the coastal zone meadows will use native species such as American dunegrass. Because of the heavy beach traffic, it is questionable whether Western snowy plover recovery projects should be undertaken. However, potential participation in recovery efforts should be explored further.

Specific projects identified at this time are:

- Posting ITAM environmental awareness signs (for the military and the public).
- Coordinate with USFWS, ODFW, ODOT, and local government agencies to determine if Western snowy plover recovery projects should be planned and implemented at the camp.

Monitoring

Objective: Observe no decrease in extent of foredune meadow and American dunegrass. Observe no unvegetated areas within 100 meters of the camp boundaries.
Methods: Permanent photo points and ground surveys (annual); aerial photography or videography (five year intervals) to estimate dunegrass acreage.

Floating Aquatic (includes surface waters)

Management Objective

Protect water quality and ensure compliance with the Clean Water Act and DEQ/DSL regulations; maintain existing fishery and aquatic fauna; preserve rare plant species that are present; control non-native vegetation; minimize impact from engineer water training (bridging operations).

Training Activities

No training activities that involve putting motorized vehicles into surface waters are allowed except as follows: Engineer bridging operations will be allowed at the three designated sites and Navy boat operations will occur in the three water training areas (see Figure 3). This does not change current training operations.

Management Approach and Projects

The Clean Water Act and DEQ/DSL regulations require a permit to discharge pollutants into or engage in removal/fill activities in these areas. DEQ regulations are being extended to

include non-point sources (e.g., sediments). Surface waters are directly linked to the aquifer that serves most residents of the Clatsop Plains. Sunset Lake is also a popular fishery for stocked rainbow trout. The rare Columbia watermeal floats in at least two locations in Neacoxie Creek (see Figure 12). Therefore, training activities in these areas will be carefully reviewed to avoid potential contamination of water, to protect this rare plant, and to avoid conflicts with the fishery. Exception is made for engineer bridging operations, a required training task that should be done over water, which poses minimal risk to water quality. In addition, the banks of surface waters will be protected and enhanced to provide high-quality riparian wildlife habitat and buffer the surface waters from upland activities (except for the designated bridging sites). Bank protection is defined as preserving/restoring native vegetation and not disturbing soils.

Specific projects identified at this time are:

- Selective removal of Scots broom, blackberries, and other non-native vegetation along banks.
- Planting native trees and shrubs along the banks of surface waters.
- Hardening of banks (i.e., concrete or gravel) at engineer bridge points to avoid bank erosion. Introducing fill into surface waters will be avoided as much as possible and the proper permit obtained if total avoidance is not possible.
- Posting ITAM environmental awareness signs and/or Siber stakes on surface water banks.

Monitoring
Objectives: Observe no significant change in turbidity, conductivity, and dissolved oxygen in surface waters from baseline numbers. Observe presence of Columbia watermeal in Neacoxie Creek.
Methods: Annual water quality sampling. Columbia watermeal surveys every three years.

Sweet Gale Wetlands

Management Objective
Preserve areal extent of the community and the Sweet gale vegetation. Comply with Section 404 of the Clean Water Act and the DSL removal/fill law.

Training Activities
None; area is off-limits to training. Area is very small and has not been used for training in the past, so this restriction will not impact training and is compatible with training requirements.

Management Approach and Projects
This is a shrub-scrub wetland plant community composed entirely of a rare plant species. Section 404 of the Clean Water Act and the DSL removal/fill law both prohibit removal/fill activities without a permit. Sweet gale is not listed, so it has no protection under the ESA. However, it is a small area (most plants located in a <1 acre area in the East Fork Neacoxie Creek) and not needed for any required training, so officially designating it an off-limits area is acceptable and meets stewardship requirements. Shading from Himalayan blackberry is a threat; therefore, blackberry growth should be monitored. Using units, camp staff, and OMD project

planners will be briefed on the location and sensitivity of this community and state and federal wetlands regulations.

Specific projects identified at this time are:

- Creating a 10-foot buffer (no ground disturbance) to help ensure avoidance.
- Posting ITAM environmental awareness signs and/or Siber stakes within the buffer zone.

Monitoring
Objective: Observe no decrease in extent of Sweet gale vegetation. Observe no encroachment of Himalayan blackberry into Sweet gale areas.
Methods: Permanent photo points (annual; points in the creek will by needed) and aerial photography or videography (five year intervals).

Forested Wetlands

Management Objective
Maintain existing area, but increase Sitka spruce patches within the area. Preserve the existing native vegetation and wildlife; especially rare Northern red-legged frogs and their important habitat areas. Comply with Section 404 of Clean Water Act and the DSL removal/fill law.

Training Activities
No digging; vehicles allowed only on existing roads/trails. This does not change current training operations and is compatible with training requirements. This community is used almost exclusively for infantry training.

Management Approach and Projects
These wetlands provide flood control, water quality protection, and high-quality wildlife habitat. Section 404 of Clean Water Act and the DSL removal/fill law require a permit for any removal/fill activities. This community has a high level of biodiversity, and harbors some rare species. Sitka spruce dominated wetlands are very rare, so increasing the amount of these would be positive (Kagan, personal communication). Nevertheless, most training can be allowed without serious risk to the functions and values of this community, or the existence of the rare species. Using units, camp staff, and OMD project planners will be briefed on the location, value, and sensitivity of this community and state and federal wetlands regulations. It may be desirable to improve water circulation within the western wetlands strip via road culverts at the crossroads (see Figure 8). The effects on this community and drainage within and outside of the camp would be studied before this project is pursued.

Specific projects identified at this time are:

- Identifying and eliminating all reed canary grass, such as by the boat dock at Slusher Lake.
- Posting ITAM environmental awareness signs and/or Siber stakes at the wetlands edge.
- Selective vegetation removal to enhance growth of Sitka spruce.

- Conducting a hydrological study of water movement and drainage with and without road culverts, and an analysis of the need and cost-effectiveness of installing these culverts.

Monitoring
Objectives: Observe no decrease in extent of forested wetlands. Observe an increase in area of Sitka spruce. Observe no decrease in the population trend of Northern red-legged frogs. Observe no large areas of reed canary grass.
Methods: Permanent photo points (annual) and aerial photography or videography (five year intervals). Red-legged frog surveys every three years. Reed canary grass surveys and herbicide spraying (herbicides approved for use around water) every three years.

Planted Pine Forest

Management Objective

Decrease the acreage of this community through conversion to other forest community types. Also change the structural composition of much of the remainder by lowering the density of shore pines; creating small openings in forest interiors or connecting existing openings; and removing the non-native understory vegetation, especially around the silverspot butterfly habitat areas. Dune stability would be maintained and military training maximized.

Training Activities

Tracked vehicles are allowed only on the designated course (selected roads and trails). Deep digging/digging with heavy equipment is not allowed. This does not change the current training situation. This community is heavily used for all types of training, as appropriate.

Management Approach and Projects

Due to the condition of this community, it has limited value for both training and wildlife habitat. Conversion and manipulation (treatments) of the vegetation in this community should greatly increase training opportunities and acreage, while increasing biodiversity as well. In addition, this community is senescent and unstable based on field observations and the lifespan of the dominant tree species (shore pine). Therefore, a more stable, late-successional forest type (spruce/fern or western hemlock) is desired. Selected areas will receive treatments (listed as projects below), which in some cases will be experimental. Not all areas in this community will receive these treatments, and treatments will vary in intensity across the community. Removal of non-native understory vegetation around silverspot habitat should enhance that species use of the forest fringe and therefore, will receive priority.

Specific projects (or treatments) identified at this time are:

- Tree thinning to lower stand density in areas showing good regrowth of trees. Trees to be removed will be flagged by the OMD/ORARNG. Flagged trees and non-native shrubs will be cut and removed. Care will be taken to avoid damaging the natural regrowth that has occurred.
- Tree limb removal (under seven feet height) to increase dismounted maneuver safety. This would occur everywhere except in control areas and clear-cut areas.

- Clear-cutting extremely dense areas that have little or no regrowth of trees. This may also include creating small openings (one acre or less) within forest interiors, or cutting to connect existing openings to facilitate training operations and wildlife habitat connectivity.
- Removing non-native understory vegetation (e.g., Scots broom, holly, English ivy, Himalayan blackberry). Areas by silverspot butterfly habitat will receive priority.
- Planting Sitka spruce and other native conifers and shrubs in clear cut areas and in some thinned areas as necessary. Seedlings will come from Camp Rilea trees or a local source.

Monitoring

Objectives: Observe a decrease in the extent of non-native species within this community. Observe an increase in native species diversity within this community.

Methods: Permanent photo points (annual) and aerial photography or videography (five year intervals). In addition, a small number of LCTA plots will be installed to get quantitative data for plant frequencies, better erosion calculations, and input into a U.S. Army training carrying capacity model.

Deciduous Forest

Management Objective

Conserve native vegetation and wildlife; maximize training opportunities (except for riparian [streamside] areas).

Training Activities

This community is used for all types of training, as appropriate. No deep trenching or heavy equipment operations allowed (engineer training). Tracked vehicles limited to tracked vehicle course. Riparian areas are for infantry training only, with no digging.

Management Approach and Projects

This is an early-successional community very limited in extent (only 18 acres). It is also a very common community type, and not especially valuable for conservation purposes (except for where it occurs by streams). However, it provides a type of forest very different from the conifer forests covering much of the camp. Therefore, it provides a different training environment. It is believed that the general camp-wide training management strategy is adequate for conserving the native vegetation and wildlife. Conversely, the riparian areas are very critical for protecting water quality and water-dependant species. These areas should be protected like wetlands.

Specific projects identified at this time are:

- Creating a 25-foot buffer zone (no ground disturbance) around riparian areas to help ensure avoidance. Areas designated for engineer training would be excepted.
- Posting ITAM environmental awareness signs and/or Siber stakes within the buffer zone.
- Removing non-native understory vegetation (e.g., Scots broom, holly, English ivy, Himalayan blackberry).

Monitoring
Objectives: Observe no destruction of native vegetation in riparian areas. Observe no increase in non-native plant species.
Methods: Permanent photo points (annual) and aerial photography or videography (five year intervals). Non-native plant surveys with removal every three years.

Spruce/Fern Forest

Management Objective

Preserve existing area and native vegetation and wildlife; attempt to increase the acreage of this community and late-successional development.

Training Activities

No deep digging (e.g., trenching or heavy equipment operations) allowed. No track vehicles off-road (must stay on designated course). This community is used for all types of training, as appropriate. This does not change the current training situation.

Management Approach and Projects

At present this community is very limited in extent (only 39 acres). However, it is a very desirable type of conifer forest for both maintaining biodiversity and providing realistic training environments. It also serves as a model for the desired future conditions of the non-native conifer forest. This desirability comes primarily from the late-successional characteristics, namely the openness of the understory and the longevity/stability of this community. These conditions are lacking in the non-native conifer forests. Thus, a large increase in the acreage of this type of forest is desired. It is believed that the general camp-wide training restrictions are enough to protect the health, functions, and values of this community.

Specific projects identified at this time are:

- Vegetation monitoring to document conditions and help identify the desired conditions that would be needed in other areas to expand this type of community.
- Seed collection and propagation for use in re-vegetating the non-native conifer forest.
- Renovation of existing greenhouse for use in native plant propagation.

Monitoring
Objectives: Observe an increase in the extent of this community. Observe an increase in late-successional characteristics. Observe no increase in non-native plant species frequency.
Methods: Permanent photo points (annual) and aerial photography or videography (five year intervals). In addition, a small number of LCTA plots will be installed to get quantitative data for forest characteristics, better erosion calculations, and input into a U.S. Army training carrying capacity model.

Scots Broom/Beachgrass Community

Management Objective

Eliminate or reduce the extent of this community through conversion to native upland meadows; preserve rare plant species that are present; maintain dune stability; and maximize military training opportunities.

Training Activities

Engineer digging and heavy equipment operations only allowed in designated areas. No track vehicles off-road (must stay on designated course). This community is heavily used for all types of training, as appropriate. This does not change the current training situation.

Management Approach and Projects

This community has little value for training or wildlife habitat. Scots broom forms a virtually impenetrable cover over most of it (except the disturbed beachgrass areas, which it is probably invading). Elimination of the non-native species and conversion to upland meadows would greatly increase training opportunities and acreage, and increase biodiversity as well. The big-headed sedge and yellow sand verbena occur in this community in the Infantry Squad Battle Course, LAW range, and by the MOUT site. Range maintenance activities, which includes prescribed burning, appear to be perpetuating the existence of these plants and suppressing Scots broom and should be continued.

Specific projects identified at this time are:

- Preparation of a restoration plan that identifies the proper methods, sources for plant materials, and prioritizes locations.
- Removing all unwanted vegetation in the target areas using methods described in the restoration plan (e.g., prescribed burning and herbicides, as appropriate and necessary), and planting native grasses and herbaceous vegetation. The Oregon Department of Forestry (ODF) will be in charge of any burning, and a detailed fire plan will be developed first.
- Continued prescribed burning of the selected firing ranges, to reduce fuel loads and assist native plant propagation, including big-headed sedge and yellow sand verbena, which appear to need disturbance events. ODF will continue to be in charge of the burning.

Monitoring

Objectives: Observe a decrease in the areal extent of this community. Observe an increase in the frequency of native vegetation, including big-headed sedge and yellow sand verbena.
Methods: Permanent photo points (annual) and aerial photography or videography (five year intervals). Big-headed sedge and yellow sand verbena surveys every three years. In addition, a small number of LCTA plots will be installed to get quantitative data for native plant frequencies, better erosion calculations, and input into a U.S. Army training carrying capacity model.

Upland Sedge Meadows

Management Objective

Preserve existing areal extent and native vegetation and wildlife (particularly the rare plant species that are present). Attempt an increase in the acreage of this community, and the amount of red fescue and native forbs. Comply with federal ESA and approved habitat management plan (for the 68 acres of Oregon silverspot butterfly habitat). Expand silverspot butterfly habitat without incurring additional training restrictions.

Training Activities

No training is allowed in the protected habitat of the Oregon silverspot butterfly (OSB, see Figure 13). Engineer digging and heavy equipment operations are not allowed except in designated areas. No track vehicles off-road (must stay on designated course). This community is used for most types of training, as appropriate. This does not change the current training situation.

Management Approach and Projects

In compliance with the federal ESA, the designated OSB habitat must be preserved and managed as outlined in the USFWS approved habitat management plan. This involves annual mowings, monitoring, and a complete ban on training to meet regulatory requirements. Other areas of this community type are valuable open areas required for many training tasks. All areas of this community type are important foraging areas for deer and elk as well, and harbor many native herbaceous plants. Therefore, it is important for both maintaining biodiversity and providing different, realistic training environments. An increase in this community and the native grass red fescue and native forbs would be positive. This would not expand officially designated OSB habitat or lead to restrictions on training per the safe harbor concept in the approved silverspot habitat management plan. Big-headed sedges and yellow sand verbena occur in this community by the MOUT site. MOUT related disturbance appears to be perpetuating the existence of these plants.

Specific projects identified at this time are:

- Transplanting of violets into OSB Habitat Area 10 from the cantonment area as described in the OSB Habitat Management Plan.
- Prescribed burning of selected areas, such as the LAW range, to reduce fuel loads and assist native plant propagation, including big-headed sedge and yellow sand verbena, which appear to need disturbance events. This would not occur in any OSB habitat areas without the agreement of the USFWS, obtained through Section 7 consultation. However, areas adjacent to silverspot butterfly habitat will receive priority as requested by USFWS.
- Early spring herbicide treatments of selected areas to reduce non-native grasses. Areas adjacent to OSB habitat will receive priority as requested by USFWS. Treatment areas may include designated OSB habitat areas if agreeable to the USFWS (through consultation).

Monitoring

Objective: Observe an increase in the extent of this community and the frequency of native grasses and herbaceous vegetation.

Methods: Permanent photo points (annual) and aerial photography or videography (five year intervals). Big-headed sedge and yellow sand verbena surveys every three years. Herbaceous plant surveys every five years during violet sampling for silverspot butterfly management. In addition, a small number of LCTA plots will be installed to get quantitative data for native plant frequencies, better erosion calculations, and input a U.S. Army training carrying capacity model.

Wet Sedge Meadows

Management Objective

Preserve existing areal extent of the community and native vegetation and wildlife. Comply with Section 404 of the Clean Water Act and the DSL removal/fill law.

Training Activities

No tracked or wheeled vehicles are allowed off roads. No digging allowed.

Management Approach and Projects

These emergent wetlands provide flood control, water quality protection, high-quality wildlife habitat, and have high biodiversity. Section 404 of the Clean Water Act and the DSL removal/fill law require a permit for removal/fill activities. The Cusick's sedge community in the northeast edge of the camp (see Figure 10) is a unique community by itself; it is very rare in the lower 48 states. The invasive non-native plant purple loosestrife is widespread in the Cusick's sedge community. Biological controls have been shown to work well on this plant, although it takes a long time to achieve significant reductions after their introduction. Most training can be allowed without serious risk to the functions and values of the wet meadows. Using units, camp staff, and OMD project planners will be briefed on the location, value, and sensitivity of this community and state and federal wetlands regulations.

Specific projects identified at this time are:

- Creating a 25-foot buffer (no ground disturbance) around these wetlands to help ensure avoidance by vehicles.
- Posting ITAM environmental awareness signs and/or Siber stakes in the buffer zone as necessary.
- Control of purple loosestrife. Initially, herbicides approved for use around water (spot treatment that avoids non-target species) and manual methods (cutting and bagging of seed heads) will be used. Biological control organisms may be used after this initial attack.
- Investigation of source of purple loosestrife seeds. If suspected upstream sources are located, work with local landowners/agencies to eliminate this seed source.

Monitoring

Objectives: Observe no decrease in the extent of this community. Observe a decrease in non-native plant species frequency, especially purple loosestrife.

Methods: Permanent photo points (annual) and aerial photography or videography (five year intervals). Qualitative non-native plant surveys with removal every three years.

Cultivated Grasslands

Management Objective

Maintain the areal extent and existing conditions of this community; protect rare plant species that are present.

Training Activities

Engineer digging and heavy equipment operations are not allowed except in designated areas. No track vehicles off-road (must stay on designated course). This does not change the current training situation.

Management Approach and Projects

Much of this community is occupied by the firing ranges and other developed training facilities, or is within the cantonment area. Still, it is valuable open space required for many training tasks. This community type also serves as foraging areas for deer and elk. Therefore, it is important for both maintaining biodiversity and providing different, realistic training environments. A slight increase in this community would be acceptable. Big-headed sedges and yellow sand verbena occur in this community in the Infantry Squad Battle Course and LAW range. Range maintenance activities appear to be perpetuating the existence of these plants and should be continued.

Specific projects identified at this time are:

- Prescribed burning of selected areas, such as the LAW range, to reduce fuel loads and assist native plant propagation, including big-headed sedge and yellow sand verbena, which appear to need disturbance events.

Monitoring

Objectives: Observe no decrease in the extent of this community. Observe no decrease in extent of big-headed sedge and yellow sand verbena.
Methods: Permanent photo points (annual) and aerial photography or videography (five year intervals). Big-headed sedge and yellow sand verbena surveys every three years.

Cantonment (Developed) Area Management

Management of the cantonment area is not part of this plan. Management of this area will be covered in an updated camp master plan. However, activities within and the management of natural resources within the cantonment will sometimes affect natural resources in the training areas, so cantonment area management should not conflict with the goals and objectives of this plan. Thus, water quality will be protected, soil erosion limited, and non-native species controlled in a manner similar to that planned for the management units. Projects such as bat box installation, nutria and bullfrog control, best management practices to limit erosion, and water quality monitoring will be extended into the cantonment area as desired and necessary.

General Fish and Wildlife Management

Management by plant communities addresses the needs of much wildlife. However, many wildlife species use multiple plant communities. This is particularly true for wide-ranging species like birds and mammals. Therefore, a general wildlife management section is appropriate.

The restoration of native ecosystems and planned increases in native vegetation should greatly increase food, shelter, and nesting opportunities for wildlife. Measures beyond those discussed in each plant community are not really necessary (except for elk, as discussed below). However, there are several general management measures that will be undertaken. Bat and bird houses will be installed and maintained around the camp to ensure that there are ample places for native songbirds and bats to nest or roost. These houses will be monitored. Undesired, non-native nuisance wildlife species such as bullfrogs, nutria, English sparrows, and European starlings will be controlled to the extent possible to lessen competition with native fauna. A survey of moths and butterflies will be completed to establish a species list to serve as a baseline for future biodiversity analysis. Cavity-nesting songbird and pileated woodpecker surveys will be done every three years to monitor the health of these populations as an indicator of habitat management effectiveness.

Elk Management

The Clatsop Plains elk herds have been a source of damage complaints from private landowners. This has led to management actions by ODFW, including trapping and removal of elk to lower the population. Ft. Stevens State Park has recently initiated an elk management effort in cooperation with ODFW. Since elk frequently reside on Camp Rilea, an elk management plan is needed and is presented below.

Like Ft. Stevens, the OMD and Camp Rilea consider the elk to be an asset. They are part of the camp's ecosystems and contribute to the native biodiversity. Therefore, the goal of elk management at Camp Rilea is to maintain their presence. The more specific objective is to keep the elk population at a level where it doesn't impact training or degrade camp vegetation through overgrazing and lead to excessive damage complaints from adjacent private landowners.

To meet this objective, the OMD and Camp Rilea will cooperate with and participate in the efforts being undertaken by ODFW and Ft. Stevens. Forage availability for elk will be improved on the camp, mainly as a result of the planned projects to restore native vegetation in the upland meadows and convert Scots broom/beachgrass and planted pine forest to upland meadows and spruce/hemlock forest respectively. Elk forage needs will also be considered during the selection of species when reseeding and replanting areas, such as the existing forest openings where restoration is planned. These efforts are expected to result in elk spending more time within the camp.

The OMD and Camp Rilea will also continue to allow ODFW to trap and remove elk from the camp at their discretion. However, the need to do this should be based on the objectives of this plan, ODFW population data, or damage complaints, and the long-term viability of the

Clatsop Plains elk population must not be jeopardized by this action. Hunting will not be used to reduce elk numbers at Camp Rilea.

Finally, the OMD will assist with the monitoring effort outlined in the Ft. Stevens State Park Elk Management Plan. This may include monitoring elk usage of areas within the camp and monitoring vegetation plots to get quantitative data to assess forage production and usage.

Threatened and Endangered Species Management

The Oregon silverspot butterfly is the only threatened or endangered species that actually resides within the camp boundaries. A formal habitat management plan has been completed by the OMD and approved by the USFWS. The plan describes in detail how the OMD will preserve and maintain 68 acres of meadow habitat for this species (Hammond, 1999). The objectives of the plan are to maintain an adequate number of the key plants (goldenrod and violets), observe silverspot butterflies, and have a low vegetation height in the fall. Mowing is the chief management tool being employed to keep the vegetation low and give a competitive edge to the native plants required by the silverspot. Plant monitoring and silverspot monitoring are conducted annually to assess habitat condition and check for the presence of the butterfly. Despite the management efforts, which plant monitoring shows to be improving habitat conditions, silverspots have not been observed at Camp Rilea since 1995. It is thought that the lack of other habitat areas may have caused the Clatsop Plains population to drop below a recoverable level (Hammond, 1999). Nevertheless, the Camp Rilea silverspot habitat will be maintained in the hope that the species will return, or to serve as a reintroduction site if the silverspot recovery group and/or USFWS approves that action and the OMD agrees to allow it. The approved habitat management plan should be consulted for more detailed information. A biological assessment was written for implementation of the habitat management plan and a no-jeopardy biological opinion was received. Since this habitat management plan is being incorporated into this plan, a new biological assessment is not required.

The bald eagle and peregrine falcon are occasional visitors to the camp and do not nest there. There are no specific management efforts geared to either species, other than preserving the warmwater fishery and the various bird species, which provide food for these species. In addition, any future documented bald eagle perching or roosting trees will be preserved unless they pose a risk to property or human safety. A biological assessment is not necessary for these species as it is believed that implementing this plan will not affect either one.

At this point it has not been determined if Western snowy plover recovery efforts should be undertaken. They may not be appropriate given the heavy beach use, which is not under the OMD's control or jurisdiction. Recovery efforts and potential projects will be explored with the USFWS, ODFW, ODOT and local government agencies. If it is agreed that these should be pursued, plans and projects will be developed and added to this plan.

Soil Erosion Management

To maintain the productivity of the land and to keep excess sediment from entering streams and other surface waters, it is necessary to control soil erosion or potential soil erosion. This is especially true for areas with high potential soil loss estimates or erodibility indexes (see

Figure 6). Bare ground areas should be promptly covered with soil amendments and vegetation. Areas of high-frequency, ground disturbing training should be considered for hardening with gravel or other materials provided training values are not unduly compromised. This is an especially good idea for wet or streamside areas. Best management practices developed for western Oregon will be employed at Camp Rilea. These include using native grasses and other plants, and the use of geotextile fabrics and straw mulches, among other things. The Clatsop County Soil and Water Conservation District and U.S. Natural Resources Conservation Service would be contacted to ensure that erosion control projects are properly designed and implemented, as appropriate.

Integrated Pest Management

Integrated pest management (IPM) activities will affect the natural resources of the camp. Much of this effort involves controlling unwanted vegetation and animal pests in the cantonment area. However, IPM activities will occur in the training areas, such as removal of non-native vegetation (Scots broom, English ivy, etc.) and mosquito control. A statewide Integrated Pest Management Plan that included Camp Rilea was completed in 1998. This plan encourages non-chemical control over chemical, but allows for controlled use of pesticides, herbicides, and insecticides. Use of chemicals is curtailed or banned around certain natural resources, such as wetlands and OSB habitat. Therefore, very little use of chemicals usually occurs in the training areas. Except for uncontrolled infestations of invasive plants, it is likely that non-chemical methods can effectively control pest plants and animals in the training areas. Selective use of herbicides on hardened areas, fencelines, and on Scots broom or other nuisance or noxious plants is foreseen, but only if biological, mechanical, and manual methods do not work well enough or have been shown by others to be ineffective without herbicides.

Cultural Resources Management

In December, 1994 an inventory of buildings and structures at Camp Rilea was completed which identified a number of historic structures and recommended the creation of two historic districts (Caywood and Mighetto, 1994). The State Historic Preservation Officer (SHPO) reviewed the inventory, inspected the structures, and determined that 34 buildings and several miscellaneous structures were eligible for the National Register of Historic Places. These eligible buildings and structures are all located in the cantonment area. The SHPO did not agree with the proposal for historic districts or the significance of many of the structures. Since then, a number of these buildings have been demolished in consultation with the SHPO. In addition, three historic structures were identified in the northwest corner of the camp that were overlooked by the 1994 inventory.

A systematic archaeological field survey and subsurface testing was conducted over the entire camp in November and December 1999 by Applied Archaeological Research (Solimano et al. 2000). No archaeological sites or isolates were identified during the pedestrian survey or the excavation of shovel test probes. No archaeological deposits, sites, or isolates were located as a result of the archaeological survey of the area. An inventory of Traditional Cultural Properties remains to be completed.

A Statewide Integrated Cultural Resources Management Plan (ICRMP), currently in draft form, more thoroughly addresses compliance with Federal and State laws and regulations, as well as the DOD Annotated Policy on Indian Tribes and Alaska Natives of October 1999. This plan should be examined for more detailed information. Several projects designed to mitigate past and future adverse effects on cultural resources are being planned and are discussed in the ICRMP. Most of these projects will occur in the cantonment area and are not likely to affect natural resources. Recently the entire Camp Rilea landscape has been recommended as a potential historic resource. If determined to be a historic resource eligible for the National Register of Historic Places, the general character of the landscape should be maintained. This plan, while altering the vegetation of the camp to a more natural state, will maintain the general character since the area in each plant community and mix of open versus wooded space will not change that much.

There are no known Native American concerns regarding natural resource issues. However the federally recognized tribes are afforded the ongoing opportunity to coordinate and consult with the ORARNG to ensure that tribal interests are given due consideration in a manner consistent with tribal sovereign authority for cultural and natural resource management.

Noise Management

Noise management is also not part of this plan. The OMD/ORARNG should attempt to work with the local community to develop a noise management program for Camp Rilea. The program should be in compliance with AR 200-1 and include mitigation measures and documentation of sound levels, among other things. (A noise complaint resolution process has existed since 1994.)

Hazardous Materials/Waste Management

Hazardous materials and wastes must be dealt with according to state and federal regulations (see Appendix 1). In addition, the OMD has completed a statewide Hazardous Waste Management Plan (ORARNGR 420-47) and a Pollution Prevention Plan. A statewide Installation Spill Contingency Plan (ISCP) also exists (ORARNGR 210-6). Furthermore, Camp Rilea has a Spill Prevention Control and Countermeasure Plan (to address water quality protection), and standard operating procedures based on the statewide plans that detail the exact behavior and process that is expected when dealing with pollution prevention issues. Taken together, these documents help ensure that strict procedures are followed in order to ensure pollution prevention and minimize environmental impacts. In general, storage of hazardous materials and wastes is limited to facilities designed for that purpose, and use/handling is primarily by persons trained to deal with these materials and wastes. Except for chemicals used to control problem-causing non-native species, all hazardous materials and wastes used or created in the training areas are promptly removed to approved facilities in the developed area of the camp. Wastes are then disposed of in accordance with state and federal regulations.

Public Use and Outdoor Recreation

Public use of Camp Rilea is allowed, but is heavily restricted during training. No hunting is allowed. Fishing is allowed in the two lakes with a state license (catch and release only), but

very little fishing actually occurs. There is considerable public use of the beach, but again this is not part of the camp. Some beach users cross over the foredune into the camp, but usually do not stay and recreate. There is a recreational vehicle park in the cantonment area, but it is only open to active, reserve, and retired military personnel. Fort Clatsop National Memorial has proposed creating a trail from the memorial south to the Lewis and Clark Salt Works in Seaside, which will likely be routed through the southeastern portion of the camp. This project has been endorsed by the OMD and is described in the ICRMP. If the project is completed, increased public use (i.e., hiking) is expected. The trail is not likely to affect important natural resources; wetlands and rare plant locations would be avoided. In addition, wetland boardwalks may be built at selected locations, both near the proposed trail and at other locations away from the firing ranges, to facilitate wildlife viewing by the users of Camp Rilea and the public. Any required state or federal permits would be obtained prior to construction.

Public Safety

Public safety and enforcement of agency regulations is the responsibility of camp staff, primarily the Range Control Office. Additional law enforcement and control of access are provided by a private security company. Range Control and camp staff also provide emergency services, including fire response. Unplanned fires will be extinguished immediately. Other law enforcement agencies and local emergency services, such as fire departments, are requested as necessary to supplement Camp Rilea resources.

CHAPTER 6. PLAN IMPLEMENTATION

Public Involvement and NEPA

Numerous state, local, and federal agencies; relevant Native American tribes; and local organizations were consulted and given the opportunity to participate during development of this plan (see References and Agencies/ Persons Contacted sections). This included meetings at the camp to discuss management concepts and project ideas. The USFWS, ODFW, ODA, CSWCD all participated. The management approach and projects were then communicated to the local community and various agencies and organizations through letters and newspaper advertisements during the environmental assessment (EA) process required to implement the plan.

In accordance with the DOD Annotated Policy on Indian Tribes and Alaska Natives, the OMD formally contacted the relevant federally recognized tribes to initiate meaningful communication in order to address tribal concerns that may exist between the tribes and the management of Camp Rilea. Initial coordination and consultation were initiated through formal correspondence to tribal officials of the relevant federally recognized tribes with potential interest in the camp. Tribal technical staff were also contacted to ensure that tribal interests were given due consideration, and that they had an opportunity to participate in plan development and the decision making process. No formal response from the tribes was received; however the OMD is committed to continued good faith consultation and coordination throughout the decision making process and implementation of the INRMP.

The EA addressed all projects listed in the management chapter. When further project details are developed or amendments made to the plan, NEPA documentation will be updated as necessary. Again, the EA for this plan does not cover future training developments discussed in Chapter 3. Separate NEPA documentation is required for these, if not already completed.

Relationship to Other Plans and Standard Operating Procedures

A Real Property Development Plan, Range/Training Land Assessment, Integrated Cultural Resources Management Plan, Integrated Pest Management Plan, Hazardous Waste Management Plan, Pollution Prevention Plan, and Installation Spill Contingency Plan have all been prepared for Camp Rilea or prepared for the ORARNG and apply to Camp Rilea. All of these documents were examined for consistency with this plan at the time it was written and are incorporated by reference. Any subsequent changes to these documents should be coordinated with this plan to maintain consistency. In addition, Camp Rilea has completed standard operating procedures (SOPs) for users of the camp. The SOPs will be revised to be consistent with this plan. If a master plan is written for the cantonment area, it will incorporate and be made consistent with this plan. Finally, this plan has also been closely coordinated with the ITAM program and is consistent with the five-year ITAM workplan, which describes the projects that will be undertaken with ITAM funds. Several of the projects in this plan are being funded through the ITAM program as shown in the following section. However, this is not a commitment to obligate ITAM funds.

Project Implementation

Table 6 lists the projects that will be implemented with this plan. How the project would be accomplished, the project schedule (by fiscal years-FY), and the source of funding are also shown. Estimated project costs are not subject to public disclosure, but are available from AGI-ENV to authorized persons. Projects will be established in the NGB Environmental Program Requirements Report or ITAM Workplan and undertaken as funding becomes available. Inclusion of projects on this list does not obligate the OMD/ORARNG to complete required actions if funding is not available from federal sources.

Table 6. INRMP Project List

PROJECT	HOW ACCOMPLISHED	SCHEDULE	FUNDING SOURCE
Wetlands/riparian buffer; signs or stakes for these areas and the dunes	AGI-ENV Natural Resources Specialist (NRS) and camp staff	FY01	ITAM
Water sampling	NRS, camp staff, contract lab	FY01-05	AGI-ENV
Control of reed canary grass and purple loosestrife	NRS, camp staff, ODA, and contractor	FY01-05	AGI-ENV
Purple loosestrife source investigation and control	NRS, ODA, and local agencies and landowners	FY01-05	AGI-ENV
Butterfly/moth survey	OSU	FY01-02	AGI-ENV

PROJECT	HOW ACCOMPLISHED	SCHEDULE	FUNDING SOURCE
Elk monitoring	NRS, ONHP, and/or ODFW	FY01-05	AGI-ENV
LCTA monitoring (plots, photo points, orthophoto	NRS, ONHP, and/ or USFWS	FY02-05	ITAM; USFWS*
Planted pine forest tree removal flagging	NRS and camp staff	FY02-05	ITAM
Tree, limb, and shrub removal in planted pine forest (thinning/clear cutting)	Contractor and/or camp staff	FY02-05	ITAM
Upland meadow restoration plan (includes burn plan)	NRS, ODF, and USFWS	FY02	AGI-ENV; USFWS*
Native plant seed collection and propagation (includes greenhouse renovation)	NRS, camp staff, USFWS, and/or contractor	FY02-05	ITAM; USFWS*
Tree and shrub planting in planted pine forest	Contractor and/or camp staff	FY02-05	ITAM
Bank protection, non-native plant control, and riparian tree/shrub planting	Contractor and/or camp staff	FY02 and 05	ITAM
Rare plant, red-legged frog, pileated woodpecker, and cavity nesting songbird surveys/monitoring	ONHP or USFWS	FY02 and 05	AGI-ENV; USFWS*
Installation of nest boxes	NRS and camp staff	FY02 and 05	AGI-ENV
Non-native fauna control (campwide)	NRS, ONHP, and/or contractor	FY02-05	AGI-ENV
Undesired plant survey and removal (campwide)	NRS, ONHP, USFWS, and/or ODA	FY02 and 05	AGI-ENV; USFWS*
Prescribed burning and herbicide treatments (areas not in upland meadow restoration)	NRS, camp staff, ONHP, and/or USFWS (ODF for prescribed burning)	FY02-05	AGI-ENV; USFWS*
Hydrology investigation and culvert study	OSU or Contractor	FY02	Rilea
Orthophotography and/or videography	Contractor	FY02	ITAM
Ecological restoration monitoring	ONHP	FY02-05	AGI-ENV
Implementation of upland meadow restoration plan (to include prescribed burning and herbicide treatments)	NRS, camp staff, ONHP, USFWS, and contractors (ODF for prescribed burning)	FY03-05	AGI-ENV; USFWS*

* USFWS funding source would be in-kind labor

Plan Revision and Amendment Process

This plan will be officially revised no later than 2006. Plan revision will include consultation and coordination with the appropriate state and federal agencies, Native American tribes, and local community. A NEPA document will also be completed for the revised plan. Prior to the scheduled revision, it may be necessary to amend the plan to reflect management changes. Changes are likely since the philosophy of adaptive management is embraced and information is constantly being improved. Proposed amendments will be drafted into a letter and mailed to the appropriate state and federal agencies, Native American tribes, and local community for review and comments. If no comments are received, or if there is no significant issue raised, the amendment will be adopted into the plan.

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AGENCIES/PERSONS CONTACTED

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Oregon Department of Parks and Recreation
Andy Robinson, Plant Ecologist, USFWS
Amy Horstman, USFWS
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Jim Closson, CREST
Ron Figler-Barnes, Clatsop Soil and Water Conservation District
Jim Scheller, Skipanon Watershed Council and Water Control District
Ron Grina, Clatsop County Planning Department
Steve Campbell, NRCS
Steve Gisler, ODA
Tim Butler, Weed Specialist, ODA
Jan Glarum, Emergency Services Coordinator, Clatsop County Sheriff's Office
Jimmy Kagan, ONHP
Jay Worley, Oregon Department of Forestry

Larry Devroy, Division of State Lands
Scott Sundberg, OSU Department of Botany and Plant Pathology
Cliff Adams, Confederated Tribes of Grande Ronde
Mike Kennedy, Confederated Tribes of Siletz
Clay Penhollow, Confederated Tribes of Warm Springs

GLOSSARY OF COMMONLY USED ACRONYMS

AGI-ENV – Installations Division, Environmental Branch
CSWCD – Clatsop Soil and Water Conservation District
DOD – Department of Defense
DSL – Oregon Division of State Lands
EA – Environmental Assessment, a NEPA document that evaluates potential impacts from Federal actions
ESA – Endangered Species Act
INRMP – Integrated Natural Resources Management Plan
ITAM – Integrated Training Area Management
LAW – Light Anti-Tank Weapon
LCTA – Land Condition Trend Analysis, an ecological monitoring ITAM program to assess training impacts on the landscape.
LRAM – Land Rehabilitation and Maintenance, an ITAM program to repair training impacts on natural resources and maintain landscape conditions.
MILES – Multiple Integrated Laser Engagement System
MOUT – Military Operations in Urban Terrain
NEPA – the National Environmental Policy Act
NGB – National Guard Bureau
ODA – Oregon Department of Agriculture
ODFW – Oregon Department of Fish and Wildlife
OMD - Oregon Military Department
ONHP – Oregon Natural Heritage Program
ORARNG – Oregon Army National Guard
OSB – Oregon silverspot butterfly
OSU – Oregon State University
RFMSS – Range Facility Management Support System, software for compiling data on training
USFWS – U.S. Fish and Wildlife Service
USGS – U.S. Geological Survey
UTES – Unit Training Equipment Site

FIGURES (starting on page 52)

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3. Existing training area facilities and proposed facilities
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5. Soils
6. Potential soil loss
7. Tsunami risk zones and CSWCD regulatory zones
8. Wetlands and surface waters
9. Grouped community trends graph
10. USNVCS plant communities
11. Modified plant communities/management units
12. Locations of plant species of concern
13. OSB habitat areas

APPENDICES

1. Environmental Regulations
2. Clatsop County Land Use Regulations
3. Soil Erosion Hazard Data
4. Plant Species List
5. Wildlife Species List
6. ONHP List
7. Modified Plant Community and Species Photographs
8. USFWS and ODFW letters

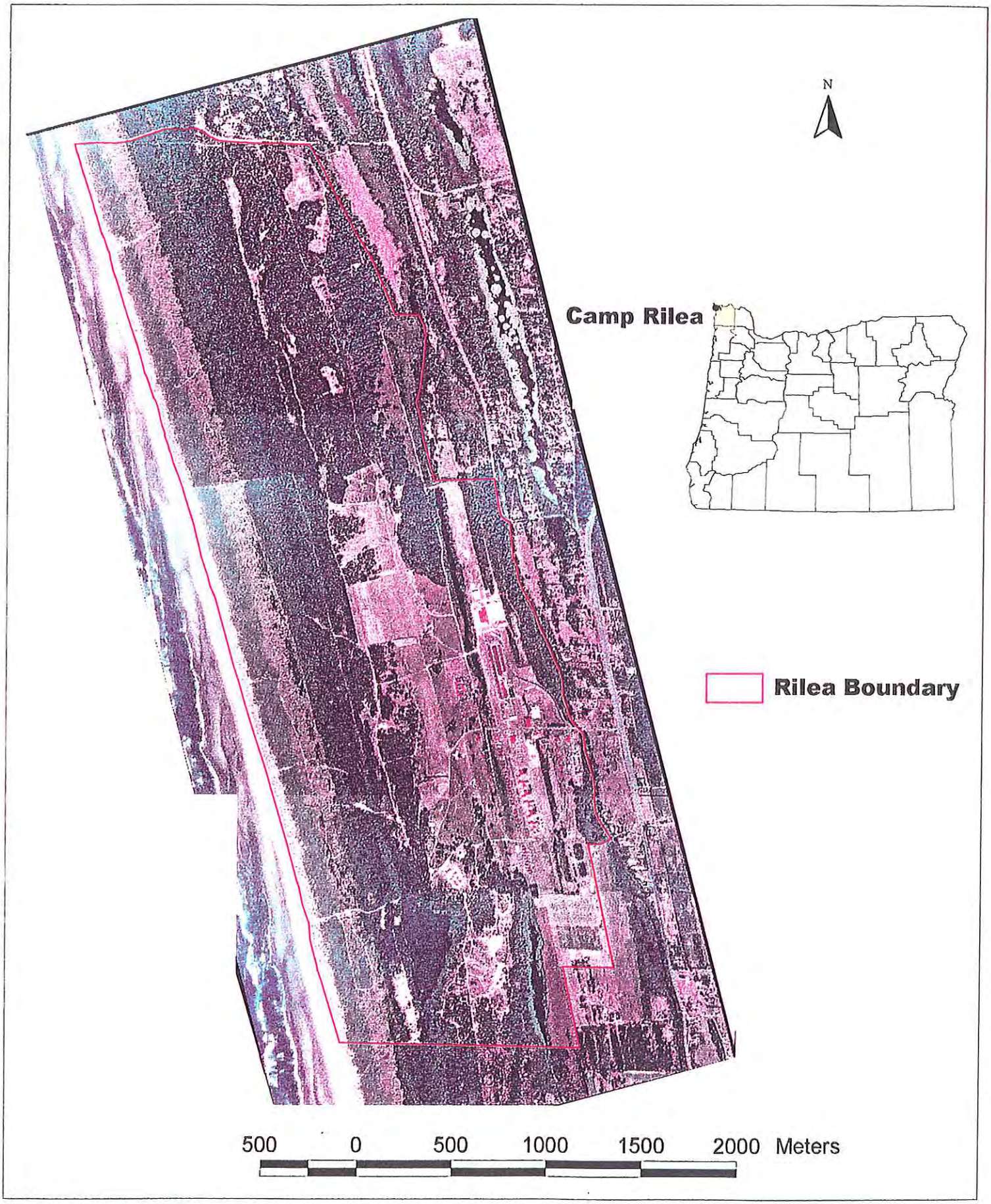

Figure 1. Camp Rilea

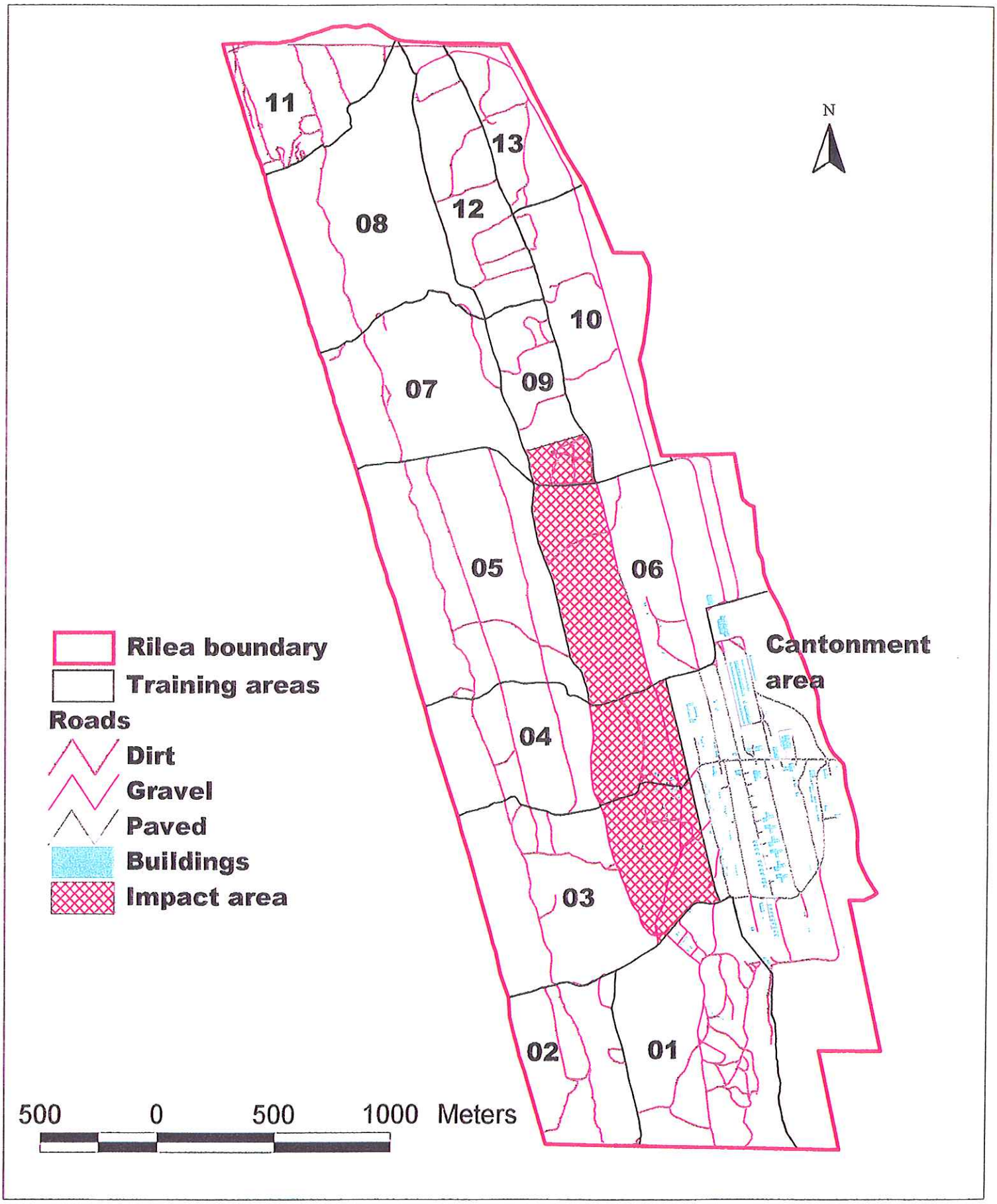

Figure 2. Training areas and roads

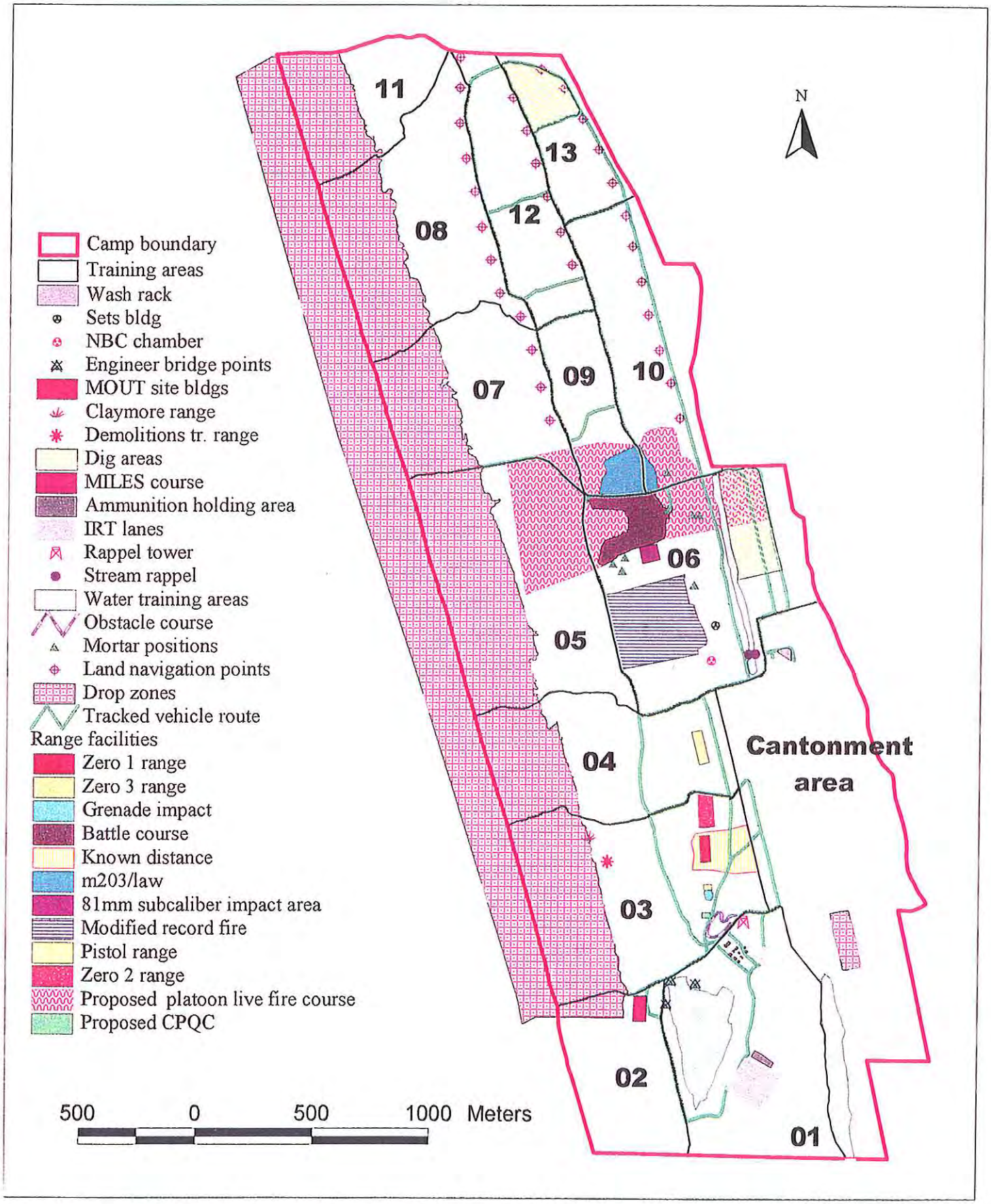

Figure 3. Existing training area facilities and proposed facilities

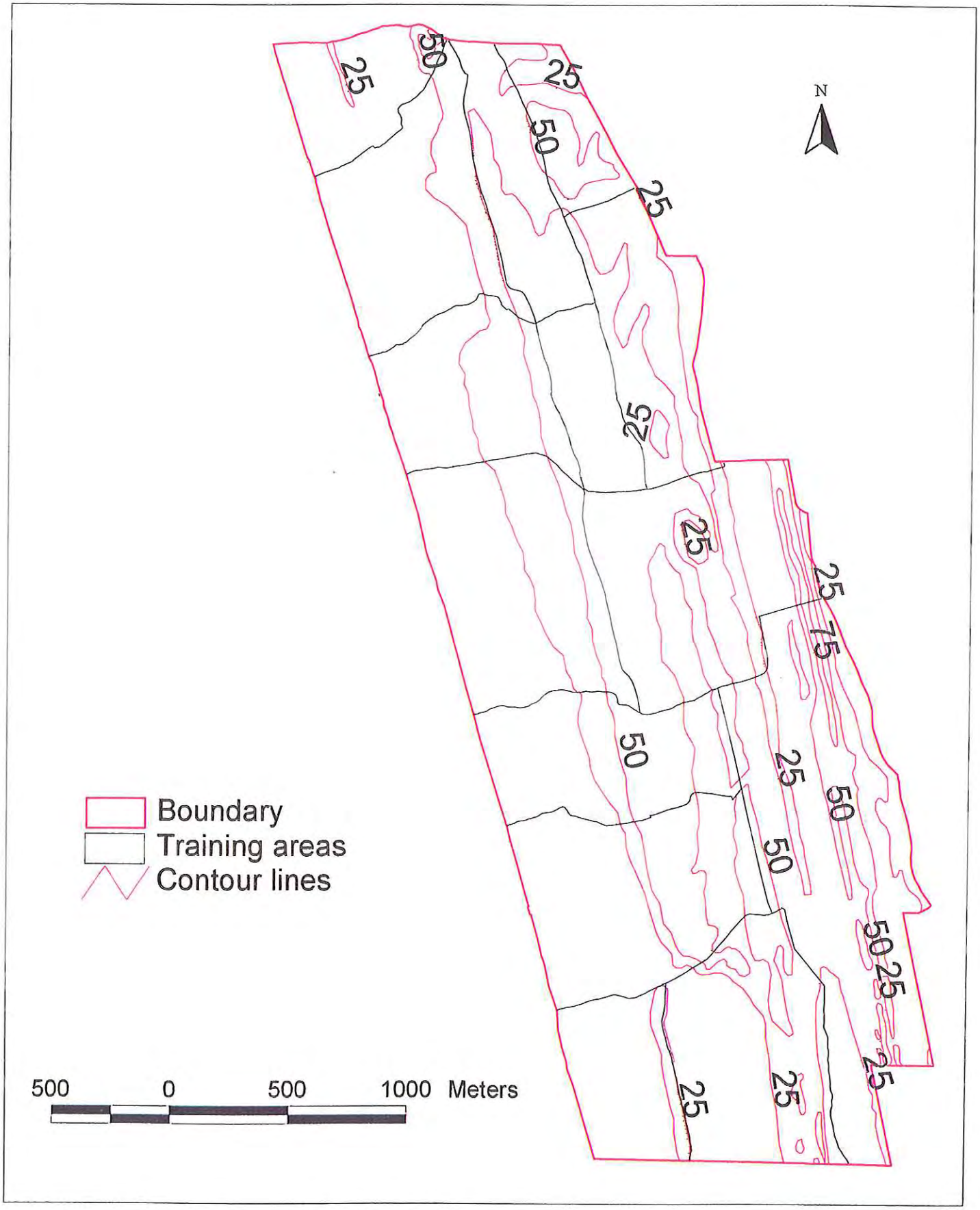

Figure 4. Topography (ft. ASL)

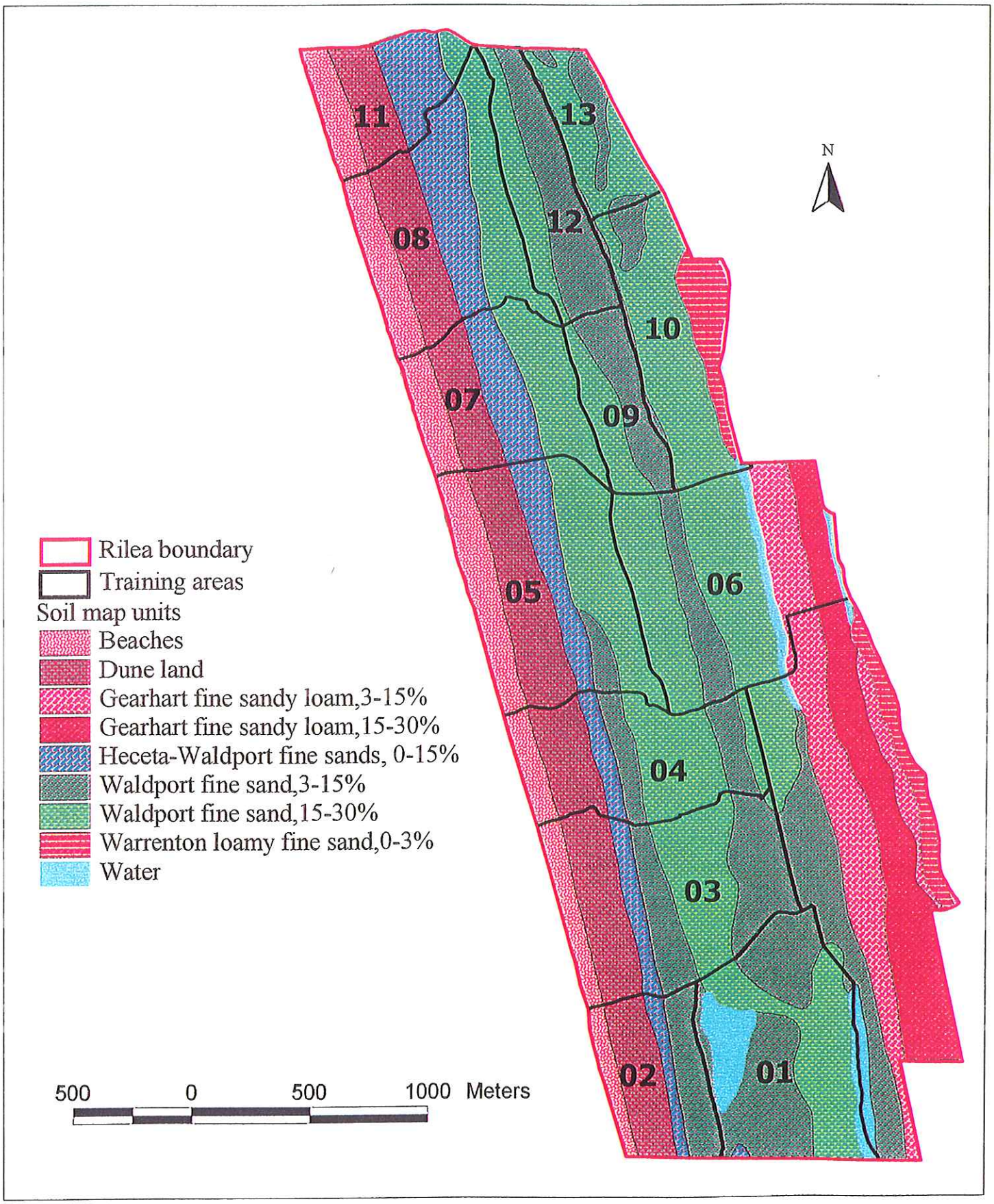

Figure 5. Soils

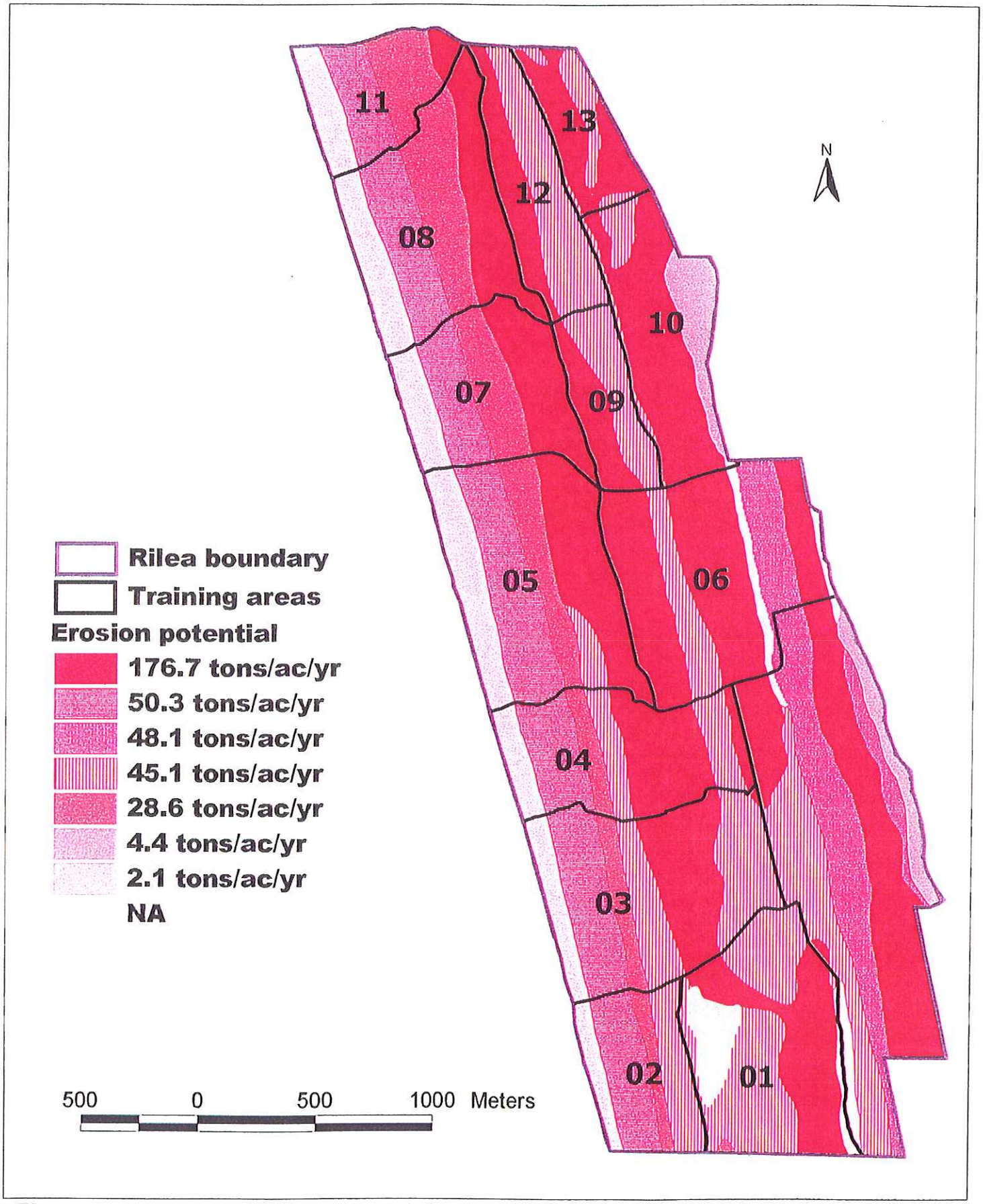

Figure 6. Potential soil loss (sheet erosion)

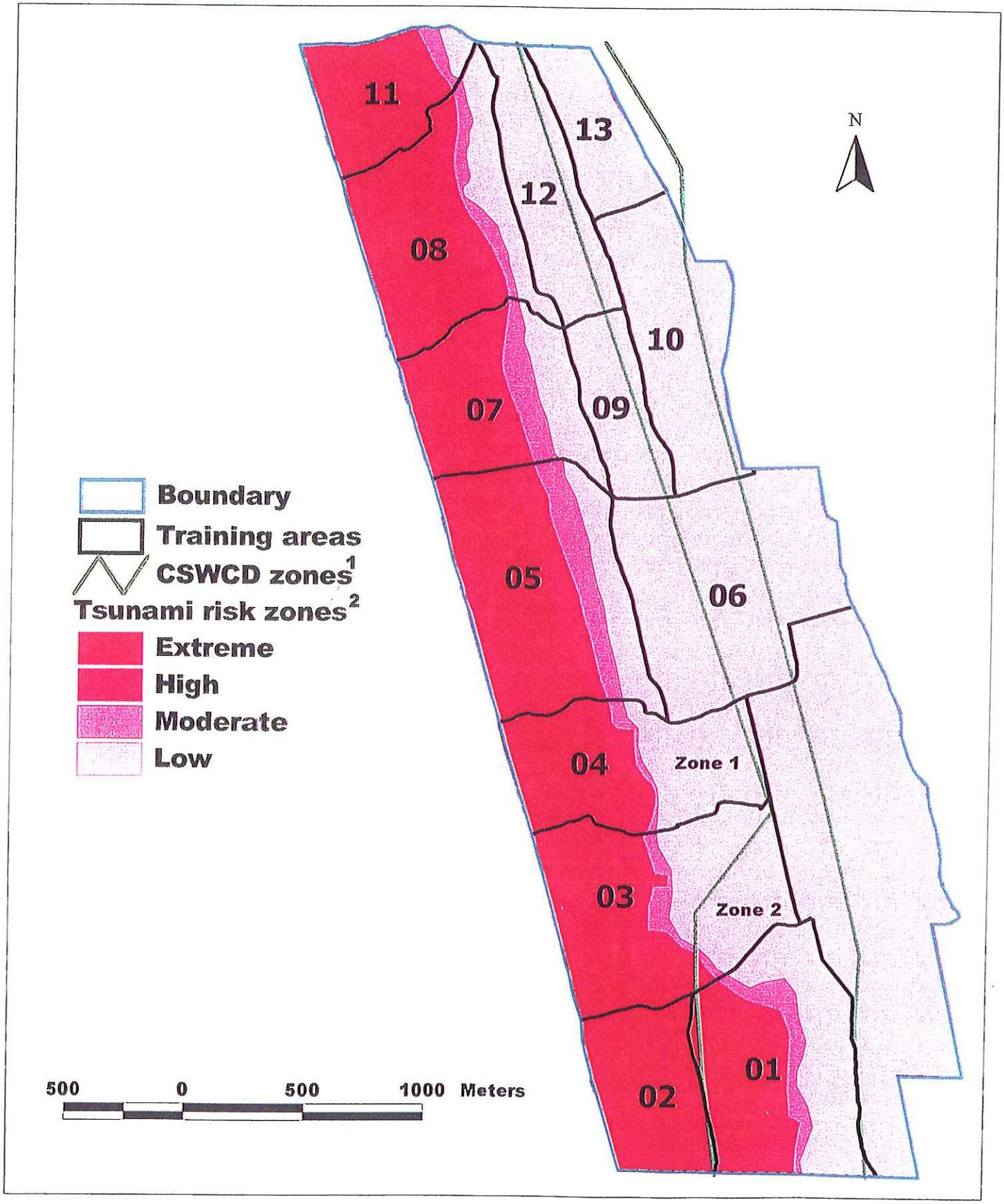

Figure 7. Tsunami risk zones and CSWCD regulatory zones

1. Interpolated from CSWCD map.
2. Southern third interpolated from topography.

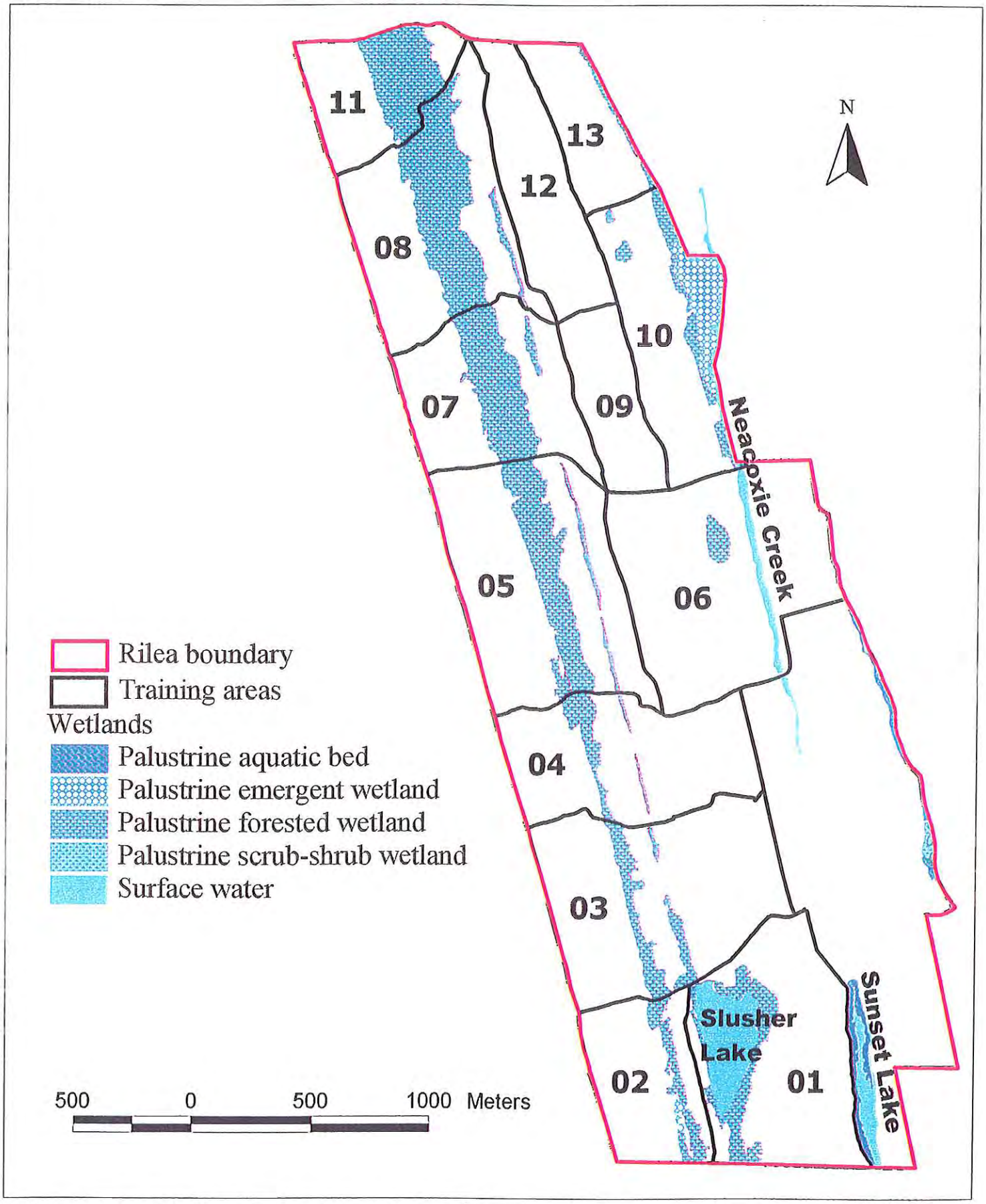

Figure 8. Wetlands and surface waters

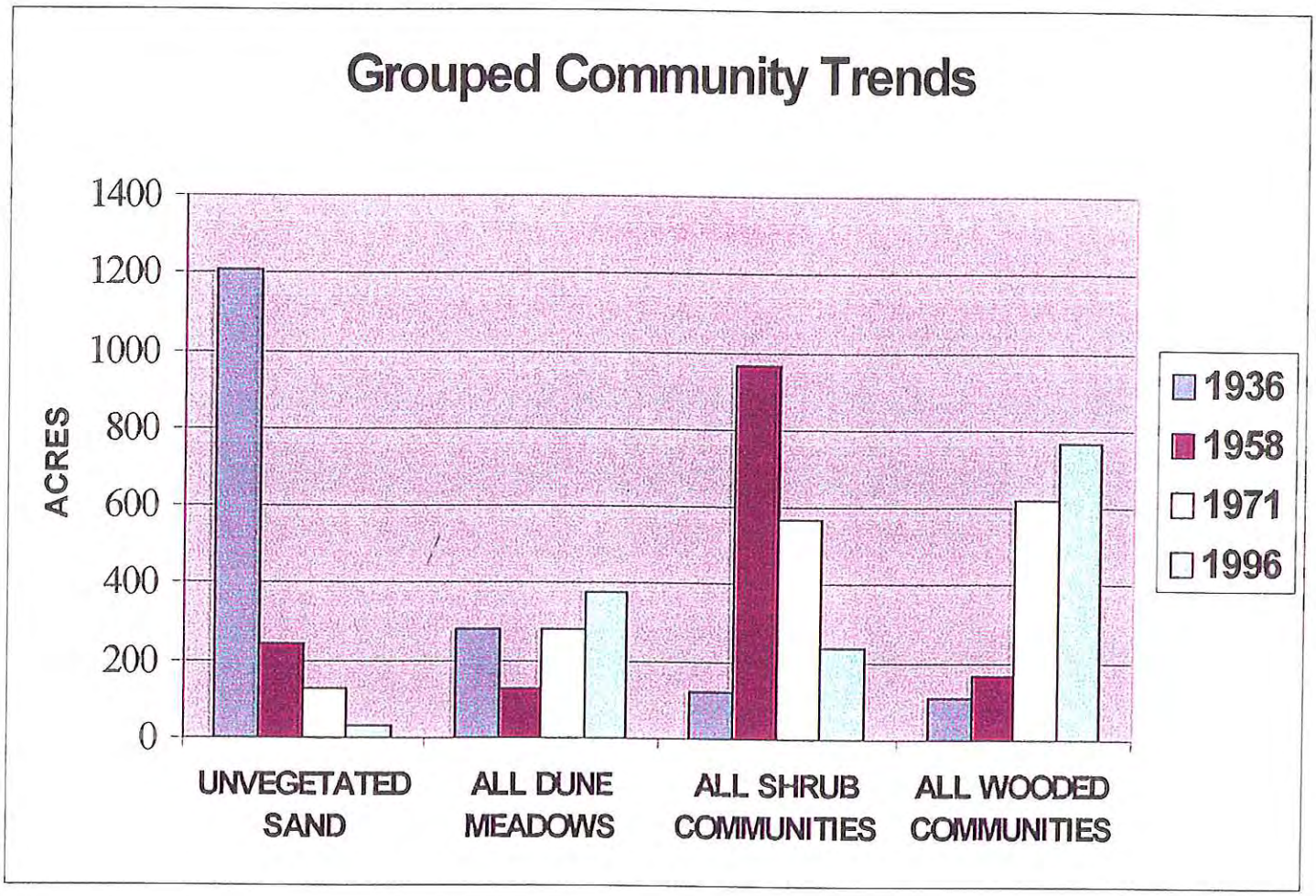

Figure 9. Grouped Community Trends Graph.

This graph contains groupings of individual categories. Unvegetated sand is the only one that has not been grouped. The "All Dune Meadows" category includes: Accretion Dune Meadow, Foredune Meadow and Complex Interdune Meadow. "All Shrub Communities" includes Shrub Wetland and shrub. "All Wooded Communities" includes Wooded and Wooded Wetland.

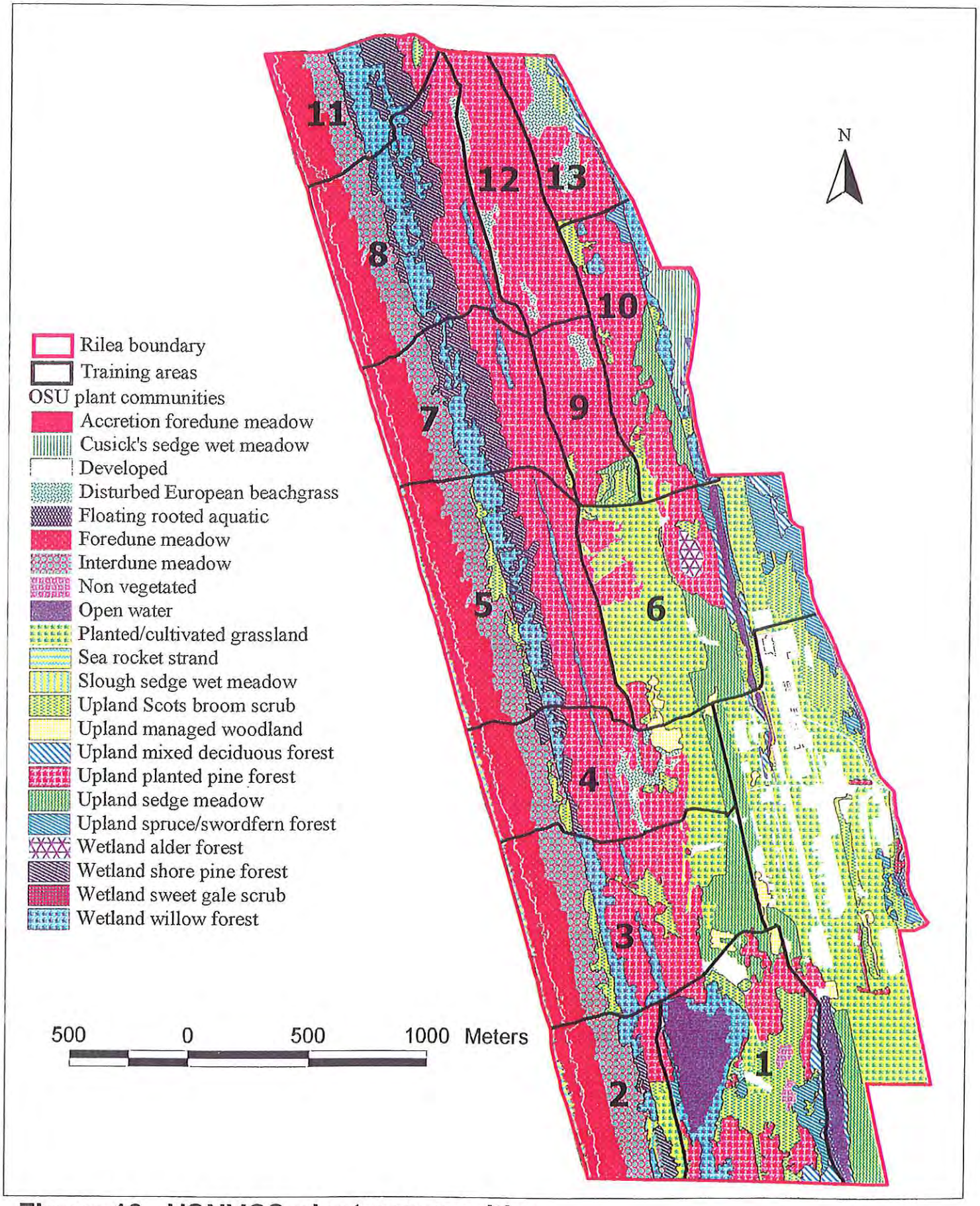

Figure 10. USNVCS plant communities

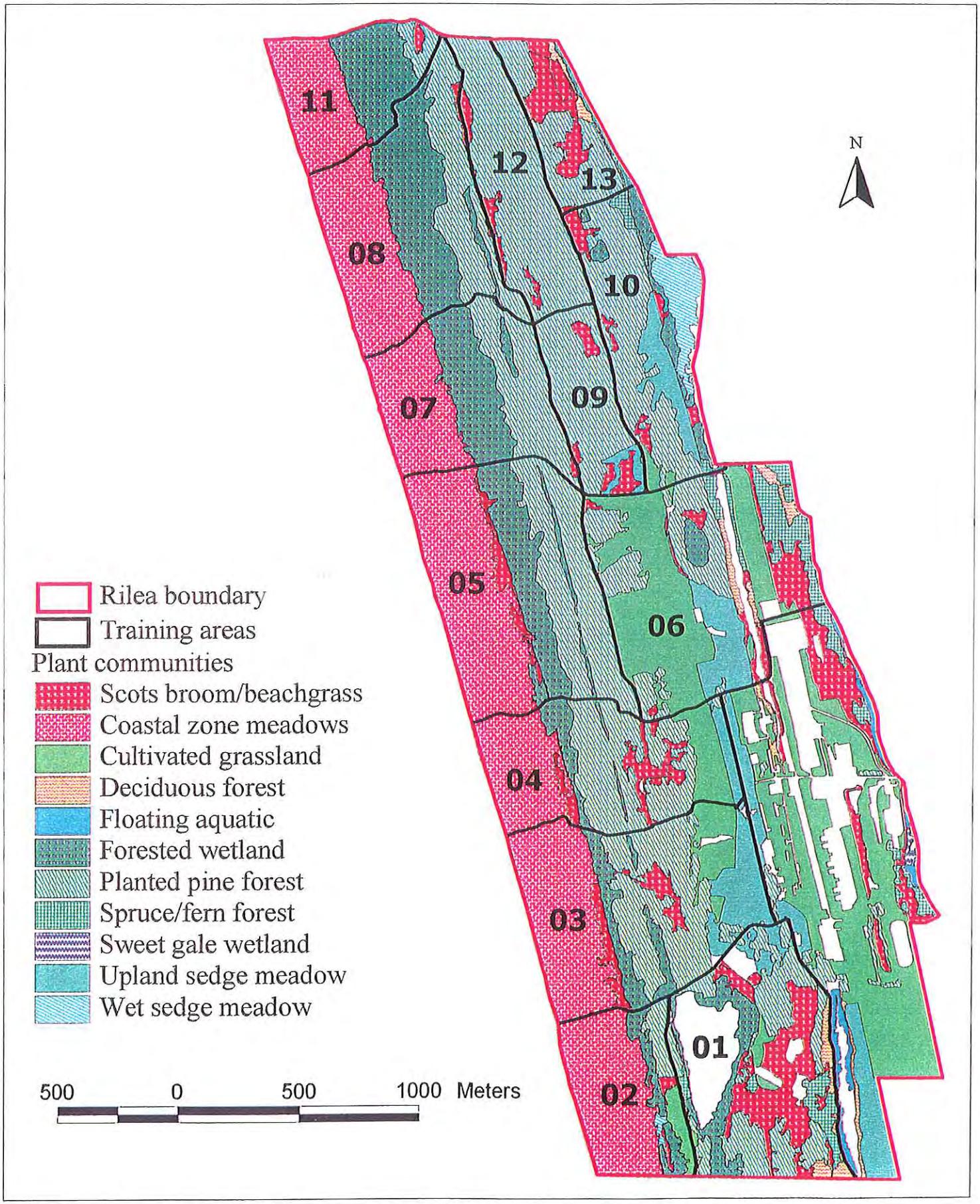

Figure 11. Modified plant communities/management units

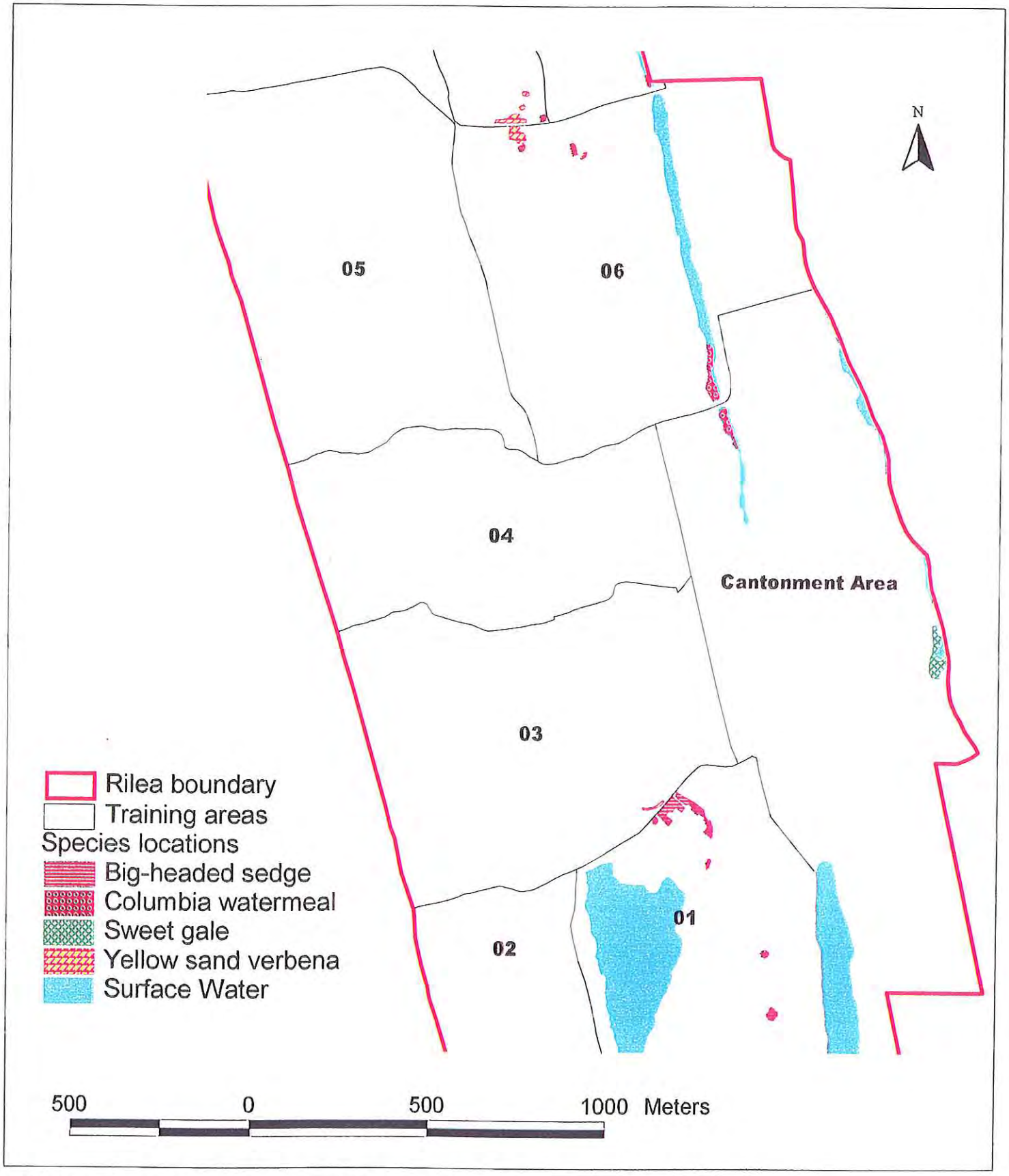

Figure 12. Locations of plant species of concern

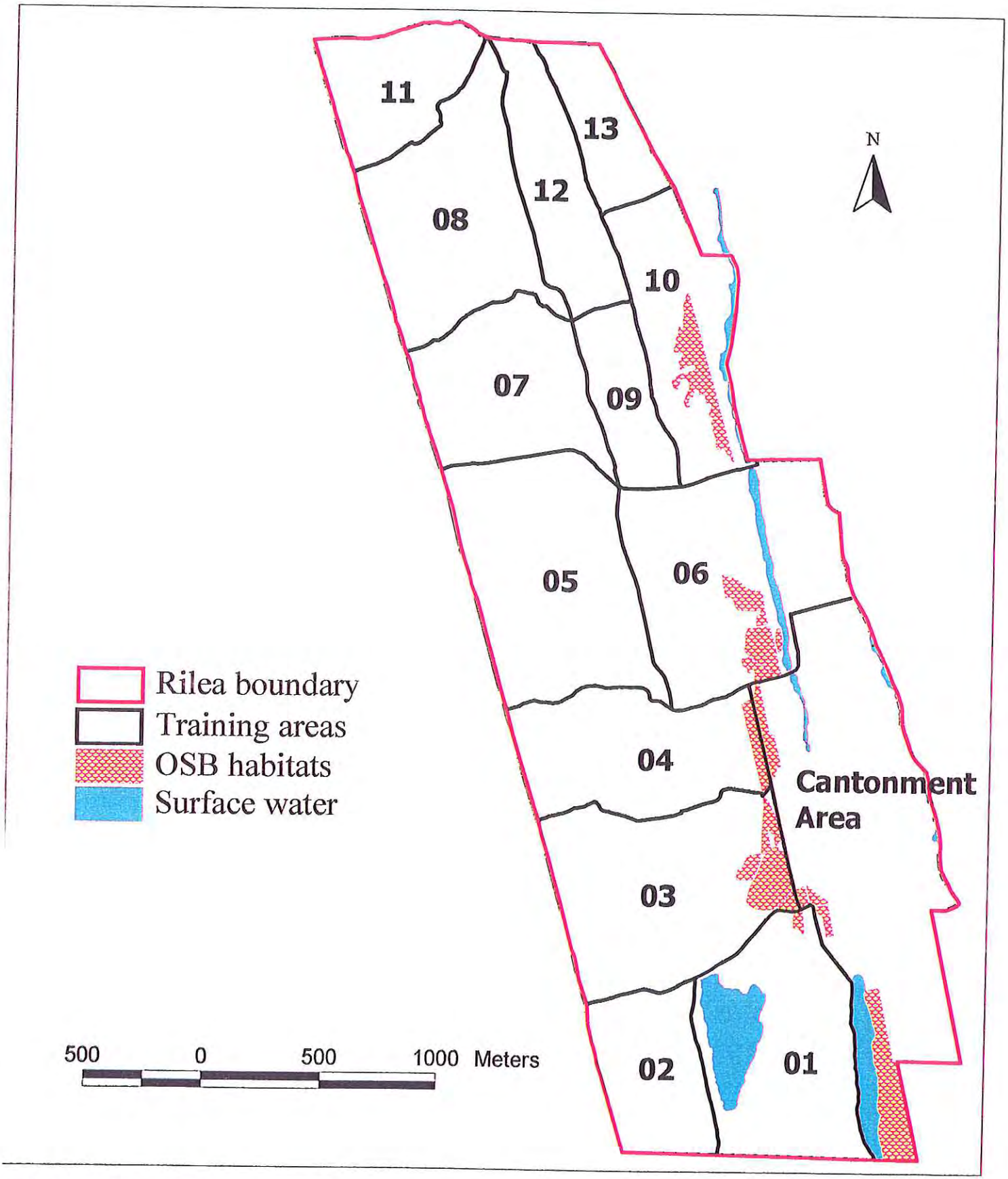

Figure 13. OSB habitat areas

APPENDIX 1. Required and Relevant Environmental Regulations

Federal Laws, Regulations, and Executive Orders

- Animal Damage Control Act ..... 7 U.S.C. 426 et seq.
- Animal Damage Control on Federal Lands ..... Executive Order 11870
- Archaeological and Historical Preservation Act of 1974 ..... 16 U.S.C. 469 et seq.
- Archaeological Resources Protection Act of 1979(16 U.S.C. 470 et seq.) 32 CFR 22 and 229
- Bald and Golden Eagle Protection Act ..... 16 U.S.C. 668 et seq.
- Clean Air Act, as amended ..... 42 U.S.C. 7401 et seq.
- Endangered and Threatened Wildlife and Plants ..... 50 CFR 17
- Endangered Species Act of 1973, as amended ..... 16 U.S.C. 1531 et seq.
- Entering Military, Naval, or Coast Guard Property ..... 18 U.S.C. 1382
- "Environmentally and Economically Beneficial Practices on Federal Landscaped Grounds", William Clinton, Presidential Memorandum, April 26, 1994
- Exotic Organisms ..... Executive Order 11987
- Floodplain Management ..... Executive Order 11988
- Farmland Protection Act .....(7 U.S.C. 4201 et seq.); (10 U.S.C. 2667 et seq.) 7 CFR 658
- Federal Compliance with Pollution Control Standards ..... 42 USC 4321
- Federal Insecticide, Fungicide, and Rodenticide Act, as amended ..... 7 U.S.C. 136 et seq.
- Federal Land Policy and Management Act ..... 43 U.S.C. 1701 et seq.
- Federal Noxious Weed Act ..... 7 U.S.C. 2801 et seq.
- Federal Water Pollution Control Act (Clean Water Act) ..... 33 U.S.C. 1251 et seq.
- Fish and Wildlife Conservation Act ..... 16 U.S.C. 2901 et seq.
- Fish and Wildlife Coordination Act ..... 16 U.S.C. 661 et seq.
- Hunting and Fishing on Federal Lands ..... 10 U.S.C. 2671 et seq.
- Land and Water Conservation Act of 1965 ..... 16 U.S.C. 4601 et seq.
- Legacy Resource Protection Program Act ..... P.L. 101-511
- Migratory Bird Conservation Act ..... 16 U.S.C. 715 et seq.
- Migratory Bird Treaty Act ..... 16 U.S.C. 703-711
- Mineral Exploration and Leasing ..... 43 U.S.C. 155 et seq.
- National Environmental Policy Act of 1969, as amended ..... 42 U.S.C. 4321 et seq.
- National Historic Preservation Act of 1966 ..... 16 U.S.C. 470 et seq.
- National Register of Historic Places, current edition .... 36 CFR 60 Parts 78,79,800, and 1228
- National Trails System Act ..... 16 U.S.C. 1241 et seq.
- Off Road Vehicles Use on Public Lands ..... Executive Order 11989
- Oil Pollution Liability and Compensation ..... 33 U.S.C. 2701 et seq.
- Outleasing for Grazing and Agriculture on Military Lands ..... 10 U.S.C. 2667
- Protection and Enhancement of the Cultural Environment ..... Executive Order 11593
- Protection and Enhancement of Environmental Quality ..... Executive Order 11514
- Protection of Wetlands ..... Executive Order 11990
- Sales of Forest Products on Federal Lands ..... 10 U.S.C. 2665 et seq.
- Sikes Act "Conservation Programs on Military Reservations" ..... 16 U.S.C. 670a et seq.
- Soil and Water Conservation Act ..... 16 U.S.C. 2001 et seq.
- Water Pollution Prevention and Control ..... 33 U.S.C. 1251 et seq.

Federal Guidelines

- Cooperative Agreement between the U.S. Department of Defense (DOD) and The Nature Conservancy (TNC) for assistance in natural resources inventory

- Memorandum Of Agreement (MOA) for Professional And Technical Assistance Conducting Biological Surveys, Research And Related Activities between The Department Of Defense and The National Biological Service of The Department Of The Interior

- Memorandum of Understanding (MOU) between the U.S. Environmental Protection Agency and the DOD with respect to Integrated Pest Management

- Memorandum of Agreement (MOA) for Federal Neotropical Migratory Bird Conservation Program and addendum ("Partners in Flight-Aves De Las Americas,,) among DOD, through each of the Military Services, and over 110 other Federal and State agencies and nongovernmental organizations

- Memorandum of Understanding (MOU) for Watchable Wildlife Programs

- Memorandum of Understanding between the U.S. Army Environmental Center and the Soil Conservation Service for Watershed and Environmental Enhancement of U.S. Army Installations

Department of Defense Regulations and Guidance

- Environmental Conservation Program ..... DOD Instruction 4715.3
- Environmental Effects of Army Actions ..... AR 200-2
- Environmental Protection and Enhancement ..... AR 200-1
- Fish and Wildlife Management ..... TM 5-633
- Forest Management ..... TM 5-631
- Granting Use of Real Estate ..... AR 405-80
- Historic Preservation ..... AR 420-40
- Land Management ..... TM 5-630
- Natural Resources - Land, Forest, and Wildlife Management ..... AR 200-3
- Natural Resources - Land, Forest, and Wildlife Management ..... DA Pam 420-7
- Pest Management ..... AR 420-76
- Training Land ..... TC 25-1
- Integrated Training Area Management ..... AR 350-4
- Use of Off-Road Vehicles on Army Lands ..... AR 210-9

Applicable State Laws and Regulations

- Pacific Ocean Resources Compact ..... ORS § 196.175 *et. seq.*
- Ocean Resources Management ..... ORS § 196.405 *et. seq.*
- Removal/Fill Law ..... ORS § 196.600 *et. seq.*
- Comprehensive Land Use Planning ..... ORS Chapter 197

- Solid Waste Management.....ORS Chapter 459
- Hazardous Waste and Hazardous Materials I .....ORS Chapter 465
- Reduction of Use of Toxic Substances
  and Hazardous Waste Generation .....ORS § 465.03 *et.seq.*
- Removal Or Remedial Action.....ORS § 465.200
- Hazardous Waste and Hazardous Materials II.....ORS Chapter 466
- Storage, Treatment, and Disposal of Hazardous Waste and PCB .....ORS § 466.005 *et. seq.*
- Spill Response and Cleanup of Hazardous Materials.....ORS § 466.605 *et. seq.*
- Oil Storage Tanks..... ORS § 466.706 *et. seq.*
- Air Pollution Control.....ORS § 468A.005 *et. seq.*
- Water Pollution Control.....ORS § 468B.005 *et. seq.*
- Oregon Wildlife Laws.....ORS Title 41 (Chapters 496 to 501)
- Oregon Forest Practices Act.....ORS § 527.610 *et. seq*
- Watershed Management and Enhancement..... ORS § 541.351 *et. seq.*
- Wildflowers; Threatened or Endangered Plants..... ORS Chapter 564
- Preservation of Property of Historic Significance..... ORS § 358.635 *et. seq.*
- Archaeological Objects and Sites.....ORS § 358.905 *et. seq.*
- Archaeological Sites and Historical Material.....ORS § 390.235 *et. seq.*
- Indian Graves and Protected Objects..... ORS § 97.740 *et. seq.*

APPENDIX 2

Clatsop County Land Use Regulations for the Military Reserve;
Open Space, Parks, and Recreation; and Lakes and Wetlands Zones

Section 3.845. Military Reserve Zone (MR).

Section 3.847. Purpose. The MR zone is intended to accommodate the immediate foreseeable demand for military activities in areas where a commitment to such activities has already occurred through existing uses by the military. In areas where residential development has already occurred, the MR zone is intended to separate these uses from conflicting uses that may occur on the Military Reserve.

Section 3.849. Development and Use Permitted. The following development and their accessory developments are permitted under a Type I procedure subject to applicable development standards:

1. Military reserve and activities directly related such as:
   a. Training of military personnel.
   b. Movement of military personnel.
2. Dwelling units for military personnel stationed on the military reserve.
3. One caretaker's residence for every one hundred acres of land in the military reserve.
4. Storage facilities for military equipment and supplies.
5. Minor utilities.
6. Property line adjustment.
7. Low intensity recreation.

Section 3.851. Conditional Development and Use. The following developments and their accessory developments may be permitted only under a Type II procedure and Sections 5.000 to 5.030 and subject to applicable standards:

1. Public/semi-public development.
2. Utilities necessary for public service.
3. Extraction, processing, and stockpiling of rock, sand, mineral and other surface materials.
4. Airports, heliports.
5. Public or private recreation facilities such as riding stables, golf courses, boating docks or ramps etc. subject to the provisions of Section S4.200-S4.234.

Section 3.853. Additional Conditional Development and Use. The following developments and their accessory developments may be permitted only under a Type III procedure and shall be subject to conditions set by the Planning Director or Planning Commission:

1. Storage of hazardous wastes.
2. Nuclear power generation facilities.

Section 3.855. Development and Conditional Development and Use Standards.

1. Development shall be permitted as required to meet State sanitation requirements and local setback and Ordinance requirements. The following shall be the criteria for determining requirements of each development proposed:

   a. The nature of the proposed use in relation to the impacts on nearby properties, and

b. Consideration of State sanitation requirements, local setbacks and other standards of this Ordinance.

c. All residential development shall be subject to the standards of Section 3.180 (RA-1) of this Ordinance.

2. Maximum building height: 35 feet.
With the exception of antennas, control towers, and field training facilities for military personnel.

3. All new development shall indicate on the building permit how storm water is to be drained from the property. The Building Official shall require the installation of culverts, dry wells or retention facilities in cases where development has major storm drainage impacts.

4. The setback requirements for all structures shall be seventy-five (75) feet from the line of non-aquatic vegetation.

5. Chapters 1, 2, 5 and 6 and Section 3.180 of Chapter 3 of this Ordinance along with Chapters 2 Section S2.010-S2.300 and Chapter 3 Section S3.010-S3.152, S3.158-S3.214, S3.550-S3.708 of the Standards Document of this Ordinance.

6. An accessory structure separated from the main building shall be located in accordance with yard setback requirements.

Section 3.857. Additional Development and Use Standards.

A buffer zone a minimum of 200 feet around the perimeter of any new Military Reserve zone and within the property boundaries of any military use area shall be established. This buffer shall be designated OPR and subject to the restrictions set forth in Chapter 4 in the Standards Document of this Ordinance and subject to Section 3.580 of this Ordinance.

Section 3.859. State and Federal Permit. If any state or federal permit is required for a development or use, an applicant, prior to issuance of a development permit or action, shall submit to the Planning Department a copy of the state or federal permit.

Section 3.580. Open Space, Parks, and Recreation Zone (OPR).

Section 3.582. Purpose. The OPR zone is intended to provide for the conservation of open space; the protection and development of areas uniquely suited for outdoor recreation and the protection of designated scenic, natural and cultural resource areas.

Section 3.584. Development and Use Permitted. The following developments and their accessory developments are permitted under a Type I procedure subject to applicable development standards.

1. Farm use.
2. Forest use.
3. Wildlife refuge or management area.
4. Public regional park or recreation area excluding campgrounds.
5. Historical or archaeological site/area.
6. Golf courses except in areas identified as Coastal Shorelands.
7. R.V. Park subject to Section S3.550-S3.552 except in the Clatsop Plains Planning Area.
8. Other watersheds.
9. Public or private neighborhood park or playground.
10. Golf driving range.
11. Municipally owned watersheds.
12. Accessory development customarily provided in conjunction with the above developments.
13. Property line adjustment.
14. Low intensity recreation.

Section 3.586. Conditional Development and Use. The following developments and their accessory developments may be permitted under a Type II procedure and Sections 5.000 to 5.030 subject to applicable criteria and development standards and site plan review.

1. Campground, primitive except in areas identified as Coastal Shorelands.
2. Group camping facilities (e.g. youth, church) except in areas identified as Coastal Shorelands.
3. Hunting and fishing clubs except in areas identified as Coastal Shorelands.
4. Hiking, nature observation or horse trails.
5. Marinas, boat launchings and moorage facilities.
6. Structures for viewing or exhibition of natural resources.
8. Cemetery except in areas identified as Coastal Shorelands.
9. Other developments within a historical structure provided the use would not result in the modification of the outward appearance of the structure.
10. Riding stables except in areas identified as Coastal Shorelands.
11. Accessory development customarily provided in conjunction with the above developments.

Section 3.588. Conditional Development and Use Criteria. The following limitations and requirements shall apply to conditional developments:

1. The proposed development shall be consistent with the Clatsop County Comprehensive Plan.
2. The development shall be compatible with and appropriate to the natural resources and features, recreational characteristics and current predominant land use of the area for which it is proposed.
3. In no event shall the proposed development destroy or endanger the natural and recreational resources giving value to the area.
4. The proposed development shall include adequate measures to reduce fire hazards and prevent the spread of fire to surrounding areas.
5. The location of buildings, signs, parking, recreation areas and open space shall be compatible with adjacent areas and the natural scenic amenities of the locality.

Section 3.590. Development and Use Standards. The following standards are applicable to permitted and conditional developments in this zone:

1. Setbacks. No structures shall be placed closer than 100 feet to perennial streams, lakes or other water bodies or closer than 60 feet to arterials, collectors or public roads and highways or closer than 20 feet to other roads and property lines.

2. Utility Services. All utility services, including power and telephone, shall be installed underground where physical conditions permit.

3. Building Height. Maximum height for all structures shall be 35 feet or the maximum height allowed in an adjacent zone that has a lower maximum height standard.

4. Area and Lot Size. The minimum area and lot size shall be that determined to be necessary for the protection of health and natural resources.

5. An accessory structure separated from the main building shall be located in accordance with yard setback requirements.

Section 3.592. State and Federal Permits. If any state or federal permit is required for a development or use, an applicant, prior to issuance of a development permit or action, shall submit to the Planning Department a copy of the state or federal permit.

Section 3.610. Lake and Wetlands Zone (LW).

Section 3.611. Purpose. The purpose of the LW zone is to assure the conservation of important shoreland and wetland biological habitats and conserve examples of different natural ecosystem types and to assure a diversity of species and ecological relations in Clatsop County.

Low intensity uses which do not result in major alterations are appropriate in this zone. Low to moderate intensity recreation is appropriate in coastal lakes.

This zone includes coastal and non-coastal lakes, significant non-estuarine freshwater marshes and important upland biological habitat.

The freshwater marshes in this district are of two categories: those designated under Goal 17 which were formed by coastal processes, and those designated under Goal 5.

Section 3.612. Zone Boundaries. The zone shall be designated on the Clatsop County Land and Water Development and Use Ordinance zoning map, and shall conform to the 1" to 400' photocontour maps entitled "Significant Shoreland and Wetland Biological Habitats" on file at the Clatsop County Department of Planning and Development office and hereby adopted by reference.

Section 3.613. Development and Use Permitted. The following developments are permitted under a Type I procedure subject to the applicable development standards:

1. Low intensity recreation.
2. Passive restoration.
3. Vegetative shoreline stabilization.
4. Submerged cable, sewerline, waterline or other pipeline.
5. Maintenance and repair of existing structures.
6. Cultivation and harvest of cranberries, including irrigation equipment, pumps and ditches necessary for the management and protection of cranberries. This use is permitted only in the Delmoor Loop Road area as described in the County's Goal 5 Element.
7. Bridges and pile supported walkways or other piling supported structures under 500 sq.ft., other than docks.
8. Property line adjustment.

Section 3.614. Conditional Development and Use Permitted. The following developments may be permitted under a Type II procedure and Sections 5.000 to 5.030 subject to applicable criteria and development and site plan review:

1. Active restoration.
2. Structural shoreline stabilization limited to riprap.
3. Boat launch.
4. Bridges and pile supported walkways or other piling supported structures 500 sq.ft. or greater, other than docks.
5. Individual docks limited to 500 square feet for recreational or fishing use and necessary piling.

6. Vegetation removal from coastal lakes east of U.S. Highway 101 that is acceptable to the Oregon Department of Fish and Wildlife and other state and federal agencies.
7. Developments necessary for and accessory to cranberry cultivation and harvest, including equipment storage sheds, access roads and temporary cranberry storage facilities, but not including a residence. This use is permitted conditionally only in the Delmoor Loop Road area as described in the County's Goal 5 Plan Element.

Section 3.615. Additional Conditional Uses and Activities Permitted in Goal 5 Wetlands. The following uses may be permitted under a Type II procedure and Sections 5.000 to 5.030 subject to applicable standards. In addition, the use must be analyzed by the procedure in the Goal 5 Administrative Rule (OAR 660-16) and meet either Section 3B or 3C of that rule.

1. Low intensity, non-structural agricultural uses subject to standards in S4.602.
2. Selective harvesting of timber, subject to standards in S4.604.

Section 3.616. Development and Conditional Development and Use Standards.

1. All standards as set forth in the Clatsop County Development Standards Document 80-14, as amended.
2. Uses that are not water-dependent or water-related shall be set back to the extent of riparian vegetation identified in the Comprehensive Plan. Riparian vegetation shall be protected in accordance with Section S4.500. At such time that a development is proposed in the vicinity of the wetlands area, the county may require a site investigation to determine the exact location or the boundary. The site investigation shall be performed by a qualified expert, such as a biologist from the U.S. Army Corps of Engineers, Oregon Division of State Lands, or the Oregon Department of Fish and Wildlife. Nothing in this provision shall allow for a redefinition or major alteration of the wetlands boundary. In order to maintain consistency, the site investigation shall employ the same criteria originally used to identify freshwater wetlands in the County. (The study performed by Dr. Duncan Thomas of CREST, entitled "Significant Shoreland and Wetland Habitats in the Clatsop Plains").

Section 3.617. State and Federal Permits. If any state or federal permit is required for a development or use, an applicant, prior to issuance of a development permit or action, shall submit to the Planning Department a copy of the state or federal permit.

Section 4.060. Beaches and Dunes Overlay District (/BDO).

Section 4.061. Purpose. The intent of this section is to regulate actions in those areas identified as coastal beaches and dunes including built and committed active dunes for which an Exception to Goal 18 Beaches and Dunes has been taken but not for other active dunes in order to:

(1) Ensure the protection and conservation of coastal beach and dune resources.
(2) Prevent economic loss by encouraging development consistent with the natural capability of beach and dune landforms.
(3) Provide for clear procedures by which the natural capability of dune landforms can be assessed prior to development.
(4) Prevent cumulative damage to coastal dune resources due to the incremental effects of development.
(5) Provide for such protection of beach and dune resources above and beyond that provided by the underlying zoning district.

Section 4.062. Mapping. The /BDO District is applied to all coastal beach and dune landforms, except active dunes but including active dunes for which a built and committed Exception has been taken. The Beach and Dune forms are identified in the Clatsop County Comprehensive Plan.

Section 4.063. Intent. The requirements imposed by the /BDO District shall be in addition to those imposed by the underlying zone district. Where the requirements of the /BDO District conflict with those of the underlying zoning district, the more restrictive requirements shall apply.

Section 4.064. Development and Use Permitted. Any permitted or conditional development and use allowed in the underlying zone is permitted subject to applicable standards except as may be provided otherwise in Section 4.065.

Section 4.065. Special Uses. The following specified developments and uses, and no others, may be permitted under a Type I procedure subject to applicable development criteria and standards:

(1) (a) Uses.
    (i) Buried fuel tanks.
  (b) Criteria.
    (i) The tanks are entirely free of leaks and have an impermeable coating,
    (ii) The tank is located, to the greatest extent feasible, in a well-drained area,
    (iii) The tank is not on active dunes or other foredunes which are conditionally stable and that are subject to ocean undercutting or wave overtopping.
    (iv) and meets DEQ standards.
(2) (a) Uses.
    (i) Hiking, equestrian, and nature trails.
    (ii) Prescribing the time, amounts and types of materials and the methods to be used in restoration of dune vegetation.
    (iii) Prescribing setbacks greater than required in the underlying zone in order to comply with the intent of the Clatsop County Comprehensive Plan and this Ordinance.
    (iv) Prescribing the location, design and number of proposed developments.

Section 4.066. Other Special Uses. The following developments and their accessory development may be permitted as a Conditional Development and Use under a Type IIa procedure and Sections 5.000 to 5.030 subject to applicable criteria and development standards and site plan review:

(1) (a) Uses.
  (i) Public beach access.
  (b) Criteria.
  (i) Public need must be shown for the establishment of State public beach access points. If it is found to be needed, the State must satisfactorily prove why this location for the proposed beach access, when compared with other locations, best serves the public need.

(2) (a) Uses.
  (i) Commercial removal of sand.
  (b) Criteria.
  (i) The area is not an ocean beach.
  (ii) Historic surplus accumulations of sand exist.
  (iii) A Site Investigation Report, as specified by Section 4.069 below is conducted.
  (iv) Removal of surplus sand can be accomplished without significant impairment of the natural functions of the beach and dune system, and hydraulic processes, according to the Site Investigation Report and a Conditional Development and Use Permit has been granted.

(3) (a) Uses.
  (i) Foredune breaching.
  (b) Criteria and Conditions.
  (i) The breaching is required to replenish sand supply in interdune areas; or
  (ii) Emergencies on a temporary basis.
  (iii) Such breaching does not endanger existing development.
  (iv) The breaching does not adversely impact critical wildlife habitat or Coastal Lake or Freshwater Wetland zone areas.
  (v) The areas affected by the breaching are restored according to an approved restoration plan.

(4) (a) Uses.
  (i) Commercial drift log removal from beaches.
  (b) Criteria.
  (i) The removal will result in significant public benefit, improved recreational access, improved scenic values, or protection of wildlife habitat.
  (ii) The removal will not result in increased beach or foredune erosion which will endanger existing development.
  (iii) Secure approval of a permit from the State (Oregon Department of Transportation).

(5) (a) Uses.
  (i) Beachfront protective structures.
  (b) Criteria.
  (i) The structure is to protect development existing on January 1, 1977.
  (ii) Visual impacts are minimized.

(iii) Public access is preserved.
(iv) Negative impacts on adjacent property are minimized.
(v) Long-term or recurring costs to the public are avoided.
(vi) There is a demonstration that the development is being threatened by erosion hazard.
(vii) There is a demonstration that maintenance of existing riparian vegetation and/or planting of new riparian vegetation will not provide adequate protection.

Section 4.067. Additional Site and Development Requirements. The Beach and Dune Area Requirements of Sections S4.100 to S4.138 of Chapter 4 of the Development and Use Standards Document and the following requirements apply to all development except the harvesting of timber as allowed by the District with which the /BDO District is combined. Timber harvesting activities shall conform to Oregon Forest Practices rules regulating logging practices in dune areas:

(1) Development shall not result in the clearance of natural vegetation in excess of that which is necessary for the structures, required access, fire safety requirements and the required septic and sewage disposal system.
(2) Vegetation-free areas which are suitable for development shall be used instead of sites which must be artificially cleared.
(3) Areas cleared of vegetation during construction in excess of those indicated in Section 4.064-4.066 above shall be replanted within nine months of the termination of major construction activity.
(4) Sand stabilization shall be required during all phases of construction and post-construction as specified by standards set forth in the Standards Document or by Soil Conservation Service.
(5) Developments shall result in the least topographic modification of the site as is possible.
(6) All conditions shall be found by the Department of Planning and Development to provide for or protect the public health, safety or general welfare, protect the dune, and protect adjacent properties both present and in the future.
(7) Conditions of approval shall be sufficient to protect the property from erosion by wind or water or both, the dune from the loss of stabilizing vegetation, and the permanent drawdown of the groundwater supply.

Section 4.068. Procedures. Application for the construction of all structures and construction of developments permitted subject to conditions in Section 4.064-4.066 are required and shall be made to the Planning Director or his designate on forms prescribed by Clatsop County. The applicant shall be required to provide at least the following information:

1. a map showing the location of the proposed developments and surrounding developments including structures, vegetation, etc.
2. description of the extent to which a sand dune will be altered as a result of the proposed development; and
3. other such information as is needed to determine conformance with this Ordinance.

Section 4.069. Site Investigation Report. A site specific investigation report performed by a qualified person such as a geologist, soils scientist, or geomorphologist shall be required by the Planning Director prior to the issuance of a development permit in areas that the Planning Director feels may be subject to wind erosion or other hazard potential.

Section 4.070. Guarantee of Performance. The applicant for the development permit shall be required to post a performance bond to insure that safeguards recommended in the detailed site investigation report are in fact provided if the Planning Director determines that such bond is necessary. The method of guarantee, inspection and certification and release of guarantee are specified in Section 10.110 of this Ordinance.

Section 4.071. Time Limits. Prior to approval of the permit the subdivider or developer and the Department of Planning and Development shall agree upon a deadline for the completion of the required improvements, such deadline not to exceed one year from the time of the permit. The County shall have the power to extend the deadline for improvements for one additional year when the subdivider or developer can present substantial reason for doing so.

The subdivider or developer shall restore the vegetation within the first planting season (October to April) using the amounts and types of materials and methods prescribed by the Department of Planning and Development.

The timing of the permits should be made so that restoration may be started as early in the planting season as possible.

Section 4.072. State and Federal Permits. Any use authorized by the provisions of this overlay district shall also require the securing of any necessary State or Federal permit, lease, easement or similar type of authorization.

Section 4.120. Aquifer Reserve Overlay District (/ARO).

Section 4.122. Purpose. The purpose of the aquifer reserve overlay zoning district is to protect the aquifer as a future drinking water source by controlling activities which may occur on the ground surface. These sections apply as additional restrictions to the underlying zones. Should the regulations of this overlay district be in conflict with the underlying zone, the conflict shall be resolved by the application of the more stringent regulation.

Section 4.123. Development and Uses Permitted. Unless otherwise listed in Section 4.125, any use permitted in the underlying zone may be allowed within the boundaries of this special district.

Section 4.124. Conditional Development and Use. Unless otherwise listed in Section 4.125, any use conditionally allowed in the underlying zone may be allowed within the boundaries of this special district subject to the applicable standards of that zone.

Section 4.125. Prohibited Development and Use. The following developments are prohibited in this district unless determined by the Planning Director as set out in Section 4.116 below that such use will not adversely affect the aquifer:

1. Construction of subsurface sewage disposal systems.
2. Application of fertilizers in amounts and concentrations which would add nitrates to the groundwater.
3. Construction of oil and gas storage facilities unless they are adequately protected to prevent spillage from reaching groundwater.
4. Other activities which, in the opinion of the Planning Director, would cause the degradation of groundwater as a potable water source.

Section 4.126. Determination by the Planning Director. Any activities which, in the opinion of the Planning Director, would adversely affect the aquifer as a potable water source, are prohibited by Section 4.125 above. To aid in this determination, the Planning Director may require certification from a qualified professional engineer or hydrologist that a proposed activity will not cause such degradation.

APPENDIX 3. Camp Rilea Soil Erosion Hazard Data

MAP UNIT SYMBOL	MAP UNIT NAME	COMPONENT NAME	R	K	Kf	SLOPE LOW (%)	SLOPE HIGH (%)	SLOPE AVG. (%)	AVG. SLOPE LENGTH (FT)	AVG. RUSLE LS	T	POTENTIAL SOIL LOSS (R x K x LS) tons/acre/yr - bare soil surface	RUSLE Erodibility Index (EI)
4	Beaches	BEACHES	120	0.05	0.05	0	3	2	300	0.35	5	2.1	0.4
15	Dune land	DUNE LAND	120	0.10	0.10	3	30	17	200	4.19	5	50.3	10.1
19C	Gearhart fine sandy loam, 3-15%	GEARHART	120	0.17	0.17	3	15	9	400	2.36	2	48.1	24.1
19D	Gearhart fine sandy loam, 15-30%	GEARHART	120	0.17	0.17	15	30	23	350	8.66	2	176.7	88.3
24C	Heceta-Waldport fine sands, 0-15%	HECETA	120	0.10	0.10	0	15	8	300	1.77	5	21.2	4.2
24C	Heceta-Waldport fine sands, 0-15%	WALDPORT	120	0.17	0.17	0	15	8	300	1.77	5	36.1	7.2
70C	Waldport fine sand, 3-15%	WALDPORT	120	0.17	0.17	3	15	9	350	2.21	5	45.1	9.0
70D	Waldport fine sand, 15-30%	WALDPORT	120	0.17	0.17	15	30	23	350	8.66	5	176.7	35.3
72A	Warrenton loamy fine sand, 0-3%	WARRENTON	120	0.10	0.10	0	3	2	400	0.37	5	4.4	0.9

APPENDIX 4. Camp Rilea Plant List

Family	Plant Name	Common name	Origin	Abundance
Apiaceae	Angelica lucida	sea watch	Native	common
Apiaceae	Cicuta douglasii	Douglas water hemlock, w. water hemlock	Native	occasional
Apiaceae	Conioselinum pacificum	Pacific hemlock parsley	Native	common
Apiaceae	Daucus carota	wild carrot, Queen Anne's lace	Exotic	common
Apiaceae	Heracleum lanatum	cow parsnip	Native	common
Apiaceae	Hydrocotyle ranunculoides	floating marsh pennywort	Native	common
Apiaceae	Lomatium nudicaule	barestem lomatium	Native	occasional
Apiaceae	Oenanthe sarmentosa	Pacific water parsley	Native	common
Apiaceae	Osmorhiza berteroi	mountain sweet cicely	Native	common
Apiaceae	Sanicula arctopoides	footsteps of spring, bear's foot sanicle	Native	occasional
Apiaceae	Sanicula crassicaulis	Pacific snakeroot, western snakeroot	Native	occasional
Aquifoliaceae	Ilex aquifolium	English holly	Exotic	common
Araceae	Lysichiton americanus	skunk cabbage	Native	scarce
Araliaceae	Hedera helix	English ivy	Exotic	common
Asteraceae	Achillea millefolium	yarrow, milfoil	Native	abundant
Asteraceae	Ambrosia chamissonis var. chamissonis	silver beachweed, beach bur	Native	scarce
Asteraceae	Anaphalis margaritacea	pearly everlasting	Native	abundant
Asteraceae	Anthemis arvensis	corn chamomile, field chamomile	Exotic	occasional
Asteraceae	Anthemis cotula	mayweed chamomile, dogfennel	Exotic	occasional
Asteraceae	Anthemis tinctoria	yellow chamomile, golden marguerite	Exotic	scarce
Asteraceae	Artemisia suksdorfii	Suksdorf's sagewort, coastal mugwort	Native	common
Asteraceae	Aster chilensis	common California aster, Pacific aster	Native	common
Asteraceae	Bellis perennis	English daisy, lawn daisy	E	common
Asteraceae	Bidens cernua	nodding beggar ticks, bur marigold	N	occasional
Asteraceae	Centaurea cyanus	bachelor's button, cornflower	E	scarce
Asteraceae	Centaurea pratensis	meadow knapweed	E	common
Asteraceae	Cichorium intybus	wild succory, common chicory	E	scarce
Asteraceae	Cirsium edule	Indian thistle, edible thistle	N	common
Asteraceae	Cirsium vulgare	bull thistle, common thistle	E	common
Asteraceae	Conyza canadensis	Canadian fleabane, horseweed	N	common
Asteraceae	Cotula coronopifolia	brass buttons	E	occasional
Asteraceae	Crepis capillaris	smooth hawksbeard	E	occasional
Asteraceae	Erechtites minima	Australian burnweed, toothed coast fireweed	E	common
Asteraceae	Gnaphalium californicum	California cudweed, California everlasting	N	occasional

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Asteraceae	Gnaphalium purpureum	purple cudweed	N	common
Asteraceae	Gnaphalium uliginosum	marsh cudweed	E	common
Asteraceae	Hypochaeris radicata	rough cat's ear, hairy cat's ear	E	abundant
Asteraceae	Leontodon taraxacoides ssp. taraxacoides	hairy hawkbit, rough hawkbit	E	common
Asteraceae	Leucanthemum vulgare	oxeye daisy	E	common
Asteraceae	Matricaria discoidea	pineapple weed	N	occasional
Asteraceae	Petasites frigidus var. palmatus	sweet coltsfoot, western coltsfoot	N	scarce
Asteraceae	Senecio jacobaea	tansy ragwort	E	common
Asteraceae	Senecio sylvaticus	woodland groundsel, wood groundsel	E	common
Asteraceae	Senecio vulgaris	old man in the spring, common groundsel	E	occasional
Asteraceae	Solidago canadensis var. salebrosa	Canada goldenrod, meadow goldenrod	N	common
Asteraceae	Solidago simplex var. spathulata	dune goldenrod, coast goldenrod	N	common
Asteraceae	Sonchus asper	prickly sow thistle	E	occasional
Asteraceae	Tanacetum camphoratum	dune tansy	N	common
Asteraceae	Taraxacum officinale	common dandelion	E	common
Azollaceae	Azolla filiculoides	duckweed fern	N	occasional
Betulaceae	Alnus rhombifolia	white alder	N	common
Betulaceae	Alnus rubra	red alder, Oregon alder	N	abundant
Blechnaceae	Blechnum spicant	deer fern	N	occasional
Boraginaceae	Myosotis discolor	yellow and blue forget me not or scorpion grass	E	occasional
Boraginaceae	Myosotis scorpioides	common forget me not; water scorpian grass	E	scarce
Brassicaceae	Barbarea orthoceras	American wintercress	N	occasional
Brassicaceae	Cakile edentula var. edentula	American searocket	E	abundant
Brassicaceae	Cakile maritima	European searocket, searocket	E	abundant
Brassicaceae	Cardamine breweri var. orbicularis	coast bittercress	N	occasional
Brassicaceae	Cardamine oligosperma	little western bittercress	N	common
Brassicaceae	Raphanus raphanistrum	jointed charlock	E	occasional
Brassicaceae	Teesdalia nudicaulis	shepherd's cress, teesdalia	E	common
Callitrichaceae	Callitriche stagnalis	pond water starwort	E	occasional
Caprifoliaceae	Lonicera etrusca	Etruscan honeysuckle	E	occasional
Caprifoliaceae	Lonicera involucrata var. ledebourii	coastal twinberry	N	common
Caprifoliaceae	Sambucus racemosa var. arborescens	red elderberry	N	common
Caryophyllaceae	Arenaria sp.	sandwort	E	scarce
Caryophyllaceae	Cardionema ramosissima	sandmat	N	abundant
Caryophyllaceae	Cerastium glomeratum	sticky chickweed, sticky cerastium	E	common

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Caryophyllaceae	Cerastium nutans	nodding chickweed, nodding mouse ear	N	scarce
Caryophyllaceae	Dianthus armeria	Deptford pink, grass pink	E	occasional
Caryophyllaceae	Honckenya peploides	sea purslane, seabeach sandwort	N	scarce
Caryophyllaceae	Sagina apetala	common pearlwort, arctic pearlwort	N	occasional
Caryophyllaceae	Sagina decumbens ssp. occidentalis	western pearlwort	N	occasional
Caryophyllaceae	Scleranthus annuus	annual knawel	E	abundant
Caryophyllaceae	Spergula arvensis	stickwort, cornspurry	E	abundant
Caryophyllaceae	Spergularia rubra	red sandspurry	E	scarce
Caryophyllaceae	Stellaria borealis ssp. sitchana	few flowered northern starwort	N	common
Caryophyllaceae	Stellaria longipes var. longipes	longstalk starwort	N	common
Caryophyllaceae	Stellaria media	common chickweed	E	common
Ceratophyllaceae	Ceratophyllum demersum	hornwort, coontail	N	occasional
Chenopodiaceae	Chenopodium album	lamb's quarter, pigweed	E	scarce
Convolvulaceae	Calystegia sepium	hedge bindweed, lady's nightcap	E	occasional
Cyperaceae	Carex canescens	silvery sedge	N	occasional
Cyperaceae	Carex cusickii	Cusick's sedge	N	common
Cyperaceae	Carex lenticularis var. limnophila	lakeshore sedge	N	occasional
Cyperaceae	Carex macrocephala (1)	big headed sedge	N	occasional
Cyperaceae	Carex obnupta	slough sedge	N	abundant
Cyperaceae	Carex pansa	sand sedge	N	abundant
Cyperaceae	Eleocharis palustris	creeping spike rush	N	abundant
Cyperaceae	Scirpus microcarpus	panicled bulrush, small fruited bulrush	N	common
Dennstaedtiaceae	Pteridium aquilinum var. pubescens	bracken fern, brake fern	N	common
Dryopteridaceae	Athyrium filix-femina var. cyclosorum	northwestern lady fern	N	common
Dryopteridaceae	Polystichum munitum	common sword fern	N	abundant
Equisetaceae	Equisetum arvense	field horsetail, common horsetail	N	common
Equisetaceae	Equisetum hyemale var. affine	common scouring rush	N	scarce
Ericaceae	Erica carnea	spring heath	E	scarce
Ericaceae	Gaultheria shallon	salal	N	common
Ericaceae	Pyrola asarifolia	alpine pyrola, bog wintergreen	N	scarce
Ericaceae	Vaccinium ovatum	evergreen blueberry	N	common
Ericaceae	Vaccinium parvifolium	red bilberry, red huckleberry	N	common
Fabaceae	Cytisus scoparius	Scots broom	E	abundant
Fabaceae	Lathyrus japonicus var. glaber	maritime peavine, beach pea	N	common
Fabaceae	Lathyrus littoralis	beach peavine, gray beach pea	N	occasional

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Fabaceae	Lotus corniculatus	birdsfoot trefoil	E	common
Fabaceae	Lotus micranthus	field lotus, small flowered lotus	N	occasional
Fabaceae	Lupinus arboreus	tree lupine, yellow bush lupine	E	occasional
Fabaceae	Lupinus littoralis	seashore lupine	N	common
Fabaceae	Medicago lupulina	black medic, hop clover	E	occasional
Fabaceae	Robinia pseudoacacia	black locust	E	occasional
Fabaceae	Trifolium arvense	hare's foot, rabbitfoot clover	E	occasional
Fabaceae	Trifolium dubium	least hop clover	E	occasional
Fabaceae	Trifolium pratense	red clover	E	common
Fabaceae	Trifolium repens	white clover, Dutch clover	E	common
Fabaceae	Trifolium subterraneum	subterranean clover	E	common
Fabaceae	Trifolium wormskjoldii	springbank clover	N	common
Fabaceae	Vicia gigantea	giant vetch	N	occasional
Fabaceae	Vicia hirsuta	hairy vetch, tiny vetch	E	occasional
Fabaceae	Vicia sativa var. angustifolia	common vetch, tare	E	occasional
Fabaceae	Vicia villosa var. glabrescens	hairy vetch	E	occasional
Gentianaceae	Centaurium erythraea	common centaury, European centaury	E	occasional
Geraniaceae	Erodium cicutarium	filaree	E	occasional
Geraniaceae	Geranium dissectum	cutleaf geranium	E	occasional
Geraniaceae	Geranium molle	dovefoot geranium	E	occasional
Grossulariaceae	Ribes divaricatum	coast black gooseberry, straggly gooseberry	N	occasional
Grossulariaceae	Ribes laxiflorum	trailing black currant, coast trailing currant	N	occasional
Haloragaceae	Myriophyllum aquaticum	South American water milfoil, parrot's feather	E	common
Hippuridaceae	Hippuris vulgaris	mare's tail	N	scarce
Hydrocharitaceae	Egeria densa	Brazilian waterweed, South American waterweed	E	common
Hydrocharitaceae	Elodea canadensis	Canadian waterweed, Rocky Mountain waterweed	N	common
Hydrocharitaceae	Vallisneria americana	tapegrass, American water celery	E	scarce
Hypericaceae	Hypericum perforatum	Klamathweed, common St. John's wort	E	common
Iridaceae	Iris pseudacorus	yellow flag, yellow iris	E	occasional
Iridaceae	Sisyrinchium bellum	handsome or beautiful blue eyed grass	N	occasional
Iridaceae	Sisyrinchium californicum	golden eyed grass	N	scarce
Juncaceae	Juncus articulatus	jointed rush, jointed leaved rush	N	common
Juncaceae	Juncus breweri	salt rush, Brewer's rush	N	abundant
Juncaceae	Juncus bufonius	toad rush	N	common
Juncaceae	Juncus effusus var. effusus	common rush	N	common

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Juncaceae	Juncus effusus var. gracilis	shiny rush	N	common
Juncaceae	Juncus effusus var. pacificus	Pacific rush, common rush	N	common
Juncaceae	Juncus falcatus var. sitchensis	sickle leaved rush	N	occasional
Juncaceae	Juncus nevadensis var. inventus	Oregon rush	N	occasional
Juncaceae	Luzula comosa	common woodrush	N	occasional
Lamiaceae	Lycopus uniflorus	northern bugleweed	N	scarce
Lamiaceae	Mentha arvensis var. canadensis	field mint, corn mint	N	occasional
Lamiaceae	Mentha piperita ssp. piperita	peppermint	E	occasional
Lamiaceae	Prunella vulgaris var. lanceolata	native heal all	N	common
Lamiaceae	Stachys cooleyae	great betony, Cooley's hedgenettle	N	occasional
Lemnaceae	Lemna minor	common duckweed, water lentil	N	common
Lemnaceae	Spirodela polyrrhiza	greater duckweed, duckmeat	N	common
Lemnaceae	Spirodela punctata (2)	dotted duckweed	E	common
Lemnaceae	Wolffia columbiana (3)	Columbia water meal	N	common
Liliaceae	Allium cernuum	nodding onion	N	occasional
Liliaceae	Brodiaea elegans ssp. hooveri	elegant brodiaea	N	common
Liliaceae	Fritillaria affinis	checker lily, mission bells	N	occasional
Liliaceae	Lilium columbianum	Columbia lily, Oregon lily	N	occasional
Liliaceae	Maianthemum dilatatum	false lily of the valley, beadruby	N	common
Liliaceae	Narcissus pseudonarcissus	dafodil	E	scarce
Liliaceae	Prosartes smithii	fairy lanterns, largeflower fairybells	N	scarce
Liliaceae	Triteleia hyacinthina	hyacinth triteleia, hyacinth brodiaea	N	occasional
Lythraceae	Lythrum portula	purslane loosestrife, water purslane	E	scarce
Lythraceae	Lythrum salicaria	purple loosestrife	E	common
Myricaceae	Myrica californica	Pacific wax myrtle	N	common
Myricaceae	Myrica gale (4)	sweet gale	N	common
Nyctaginaceae	Abronia latifolia (5)	yellow sandverbena	N	common
Nymphaeaceae	Nuphar polysepala	yellow pond lily, wakas	N	abundant
Nymphaeaceae	Nymphaea odorata	fragrant water lily	E	common
Oleaceae	Ligustrum vulgare	European privet	E	scarce
Onagraceae	Epilobium ciliatum ssp. watsonii	Pacific willowherb	N	common
Onagraceae	Ludwigia palustris	false loosestrife	N	scarce
Ophioglossaceae	Botrychium multifidum	leather grapefern	N	common
Orchidaceae	Goodyera oblongifolia	western rattlesnake plantain, rattlesnake orchid	N	abundant
Orchidaceae	Piperia elegans	hillside rein orchid, elegant rein orchid	N	common

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Orchidaceae	Spiranthes romanzoffiana	hooded ladies tresses	N	scarce
Orobanchaceae	Orobanche uniflora	naked broomrape	N	scarce
Oxalidaceae	Oxalis corniculata	creeping yellow wood sorrel	E	occasional
Pinaceae	Picea sitchensis	Sitka spruce	N	abundant
Pinaceae	Pinus contorta var. contorta	shore pine	N	abundant
Pinaceae	Pinus nigra	black pine	E	common
Pinaceae	Pinus pinaster	maritime pine	E	occasional
Pinaceae	Pinus sylvestris	Scots pine	E	abundant
Pinaceae	Pseudotsuga menziesii var. menziesii	coast Douglas fir, Douglas fir	N	scarce
Pinaceae	Tsuga heterophylla	western hemlock	N	common
Plantaginaceae	Plantago lanceolata	English plantain, buckhorn plantain	E	common
Plantaginaceae	Plantago major	common plantain	E	common
Plumbaginaceae	Armeria maritima var. californica	California thrift, California sea pink	N	common
Poaceae	Agrostis capillaris	colonial bentgrass	E	common
Poaceae	Agrostis exarata	spike bentgrass	N	common
Poaceae	Agrostis stolonifera	fiorin creeping bent	E	abundant
Poaceae	Aira caryophyllea	diffuse hairgrass, elegant hairgrass	E	common
Poaceae	Aira praecox	early hairgrass, little hairgrass	E	common
Poaceae	Ammophila arenaria	European beachgrass	E	abundant
Poaceae	Ammophila breviligulata	American beachgrass	E	abundant
Poaceae	Anthoxanthum odoratum	sweet vernalgrass	E	abundant
Poaceae	Bromus carinatus	California brome	N	occasional
Poaceae	Bromus hordeaceus	soft brome	E	common
Poaceae	Bromus rigidus	ripgut brome	E	occasional
Poaceae	Calamagrostis nutkaensis	Pacific reedgrass	N	occasional
Poaceae	Cynosurus echinatus	hedgehog dogtail	E	common
Poaceae	Dactylis glomerata	orchard grass, cock's foot grass	E	abundant
Poaceae	Danthonia californica	California danthonia, California oatgrass	N	occasional
Poaceae	Digitaria sanguinalis	hairy crabgrass	E	occasional
Poaceae	Echinochloa crusgalli	large barnyard grass	E	occasional
Poaceae	Festuca arundinacea	tall fescue	E	abundant
Poaceae	Festuca rubra var. rubra	red fescue	E	common
Poaceae	Holcus lanatus	common velvetgrass, Yorkshire fog	E	common
Poaceae	Leymus mollis ssp. mollis	American dunegrass, dune wildrye	N	abundant
Poaceae	Lolium perenne	perennial ryegrass	E	occasional

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Poaceae	Melica smithii	Smith melic	N	occasional
Poaceae	Melica subulata	Alaska oniongrass	N	occasional
Poaceae	Panicum capillare	witchgrass	N	occasional
Poaceae	Phalaris arundinacea	reed canary grass	N	common
Poaceae	Poa annua	annual bluegrass	E	common
Poaceae	Poa pratensis ssp. pratensis	Kentucky bluegrass	E	abundant
Poaceae	Poa trivialis	roughstalk bluegrass	E	occasional
Poaceae	Polypogon monspeliensis	rabbitfoot grass, annual beardgrass	E	occasional
Poaceae	Torreyochloa pallida var. pauciflora	pale false mannagrass, weak mannagrass	N	scarce
Poaceae	Triticum aestivum	wheat	E	scarce
Poaceae	Vulpia myuros	foxtail fescue, rat tail fescue	E	occasional
Polygonaceae	Polygonum arenastrum	common knotweed, doorweed	E	common
Polygonaceae	Polygonum hydropiperoides	waterpepper	N	occasional
Polygonaceae	Polygonum lapathifolium	curltop ladysthumb, willow weed	N	scarce
Polygonaceae	Polygonum paronychia	black knotweed, nailwort knotweed	N	occasional
Polygonaceae	Polygonum persicaria	spotted ladysthumb, heartweed	E	occasional
Polygonaceae	Rumex acetosella	sheep sorrel, sour dock	E	abundant
Polygonaceae	Rumex conglomeratus	clustered dock	E	occasional
Polygonaceae	Rumex crispus	curly dock	E	common
Polypodiaceae	Polypodium glycyrrhiza	licorice fern	N	common
Portulacaceae	Claytonia exigua ssp. exigua	pale springbeauty	N	occasional
Portulacaceae	Claytonia rubra ssp. depressa	redstem springbeauty	N	occasional
Portulacaceae	Claytonia sibirica	Siberian candyflower	N	common
Potamogetonaceae	Potamogeton richardsonii	Richardson's pondweed	N	common
Ranunculaceae	Ranunculus aquatilis var. aquatilis	stiff leaved water buttercup	N	common
Ranunculaceae	Ranunculus flammula	creeping buttercup, lesser spearwort	N	occasional
Ranunculaceae	Ranunculus occidentalis var. occidentalis	western buttercup	N	common
Ranunculaceae	Ranunculus repens	creeping buttercup	E	scarce
Rhamnaceae	Rhamnus purshiana	cascara, chittam	N	common
Rosaceae	Aphanes occidentalis	western lady's mantle	N	occasional
Rosaceae	Cotoneaster franchetii	orange cotoneaster	E	occasional
Rosaceae	Crataegus monogyna	one seeded hawthorn, English hawthorn	E	occasional
Rosaceae	Crataegus suksdorfii	Suksdorf's hawthorn	N	occasional
Rosaceae	Fragaria chiloensis	coastal strawberry, Chilean strawberry	N	abundant
Rosaceae	Malus fusca	western crabapple, Oregon crabapple	N	occasional

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Rosaceae	Oemleria cerasiformis	osoberry	N	common
Rosaceae	Potentilla anserina ssp. pacifica	Pacific silverweed	N	abundant
Rosaceae	Potentilla palustris	marsh cinquefoil, purple cinquefoil	N	occasional
Rosaceae	Rosa nutkana var. nutkana	Nootka rose	N	common
Rosaceae	Rubus armeniacus	Himalayan blackberry	E	common
Rosaceae	Rubus laciniatus	evergreen blackberry, cut leaved blackberry	E	occasional
Rosaceae	Rubus parviflorus	thimbleberry	N	common
Rosaceae	Rubus spectabilis	salmonberry	N	occasional
Rosaceae	Rubus ursinus	Pacific blackberry, Pacific dewberry	N	abundant
Rosaceae	Spiraea douglasii var. douglasii	Douglas spiraea	N	common
Rubiaceae	Galium aparine	stickywilly, cleavers	N	common
Rubiaceae	Galium trifidum var. pacificum	small bedstraw	N	common
Rubiaceae	Galium triflorum	sweetscented bedstraw	N	common
Rubiaceae	Sherardia arvensis	blue field madder	E	scarce
Salicaceae	Salix hookeriana	coastal willow, Hooker's willow	N	abundant
Salicaceae	Salix lucida ssp. lasiandra	Pacific willow	N	occasional
Saxifragaceae	Tellima grandiflora	large fringecup	N	scarce
Saxifragaceae	Tiarella trifoliata var. trifoliata	trefoil foamflower	N	occasional
Scrophulariaceae	Digitalis purpurea	foxglove	E	common
Scrophulariaceae	Parentucellia viscosa	yellow parentucellia	E	common
Scrophulariaceae	Triphysaria pusilla	dwarf triphysaria, dwarf owl clover	N	occasional
Scrophulariaceae	Veronica americana	American brooklime	N	common
Scrophulariaceae	Veronica arvensis	common speedwell	E	occasional
Scrophulariaceae	Veronica scutellata	marsh speedwell, skullcap speedwell	N	common
Solanaceae	Solanum dulcamara	bittersweet, climbing nightshade	E	occasional
Sparganiaceae	Sparganium emersum	simple stem bur reed	N	scarce
Typhaceae	Typha latifolia	common cattail, broad leaf cattail	N	common
Valerianaceae	Plectritis brachystemon	shortspur white plectritis	N	occasional
Violaceae	Viola adunca	hookedspur violet, western longspur violet	N	abundant
Violaceae	Viola palustris	marsh violet	N	scarce

APPENDIX 5.

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COMMON NAME	GENUS/SPECIES
Birds	
American Coot	*Fulica americana*
American Crow	*Corvus brachyrhynchos*
American Goldfinch	*Carduelis tristis*
American Green-winged Teal	*Anas crecca*
American Kestrel	*Falco sparverius*
American Pipit	*Anthus rubescens*
American Robin	*Turdus migratorius*
American Widgeon	*Anas americana*
Bald Eagle (T)	*Haliaeetus leucocephalus*
Band-tailed Pigeon	*Columba fasciata*
Barn Swallow	*Hirundo rustica*
Belted Kingfisher	*Ceryle alcyon*
Bewick's Wren	*Thryomanes bewickii*
Black Brandt	*Branta bericla*
Black Turnstone	*Arenaria melanocephala*
Black-bellied Plover	*Pluvialis squatarola*
Black-capped Chickadee	*Parus atricapillus*
Black-throated Gray Warbler	*Dendroica nigrescens*
Bonaparte's Gull	*Larus philadelphia*
Brown Pelican (E)	*Pelecanus occidentalis*
Brown-headed Cowbird	*Molothrus ater*
Bufflehead	*Bucephala albeola*
California Gull	*Larus californicus*
Canada Goose (I)	*Branta canadensis*
Canvasback	*Aythya valisineria*
Caspian Tern	*Sterna caspia*
Chestnut-backed Chickadee	*Parus rufescens*
Cinnamon Teal	*Anas cyanoptera*
Cliff Swallow	*Hirundo pyrrhonota*
Common Bushtit	*Psaltriparus minimus*
Common Goldeneye	*Bucephala clangula*
Common Loon	*Gavia immer*
Common Merganser	*Mergus merganser*
Common Raven	*Corvus corax*
Common Snipe	*Gallinago gallinago*
Common Yellowthroat	*Geothlypis trichas*
Cooper's Hawk	*Accipiter cooperii*
Dark-eyed Junco	*Junco hyemalis*
Double-crested Cormorant	*Phalacrocorax auritus*
Downy Woodpecker	*Picoides pubescens*
Dunlin	*Calidris alpina*
European Starling (I)	*Sturnus vulgaris*
Eurasian Widgeon	*Anas penelope*
Evening Grosbeak	*Coccothraustes vespertina*
Fox Sparrow	*Passerella iliaca*
Gadwall	*Anas strepera*
Glaucous Gull	*Larus hyperboreus*

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COMMON NAME	GENUS/SPECIES
Golden-crowned Kinglet	*Regulus satrapa*
Golden-crowned Sparrow	*Zonotrichia atricapilla*
Great Blue Heron	*Ardea herodias*
Great Horned Owl	*Bubo virginianus*
Greater White-fronted Goose	*Anser albifrons*
Greater Yellowlegs	*Tringa melanoleuca*
Green-backed Heron	*Butorides striatus*
Hairy Woodpecker	*Picoides villosus*
Heerman's Gull	*Larus heermanni*
Hermit Thrush	*Catharus guttatus*
Herring Gull	*Larus argentatus*
Hooded Merganser	*Lophodytes cucullatus*
Horned Grebe	*Podiceps auritus*
Hudsonian Godwit	*Limosa haemastica*
Hutton's Vireo	*Vireo huttoni*
Killdeer	*Charadrius vociferus*
Least Sandpiper	*Calidris minutilla*
Lesser Scaup	*Aythya affinis*
Long-billed Curlew	*Numenius americanus*
MacGillivray's Warbler	*Oporornis tolmiei*
Mallard	*Anas platyrhynchos*
Marbled Godwit	*Limosa fedoa*
Marsh Wren	*Telmatodytes palustris*
Merlin	*Falco columbaris*
Mew Gull	*Larus canus*
Northern Flicker	*Colaptes auratus*
Northern Harrier	*Circus cyaneus*
Northern Pintail	*Anas acuta*
Northern Shoveler	*Anas clypeata*
Orange-crowned Warbler	*Vermivora celata*
Osprey	*Pandion haliaetus*
Pacific Golden-Plover	*Pluvialis fulva*
Peregrine Falcon (E)	*Falco peregrinus*
Pied-billed Grebe	*Podilymbus podiceps*
Pileated Woodpecker (S)	*Dryocopus pileatus*
Pine Siskin	*Carduelis pinus*
Purple Finch	*Carpodacus purpureus*
Red Crossbill	*Loxia curvirostra*
Red-breasted Merganser	*Mergus serrator*
Red-breasted Nuthatch	*Sitta canadensis*
Red-tailed Hawk	*Buteo jamaicensis*
Red-winged Blackbird	*Agelaius phoeniceus*
Redhead	*Aythya americana*
Ring-billed Gull	*Larus delawarensis*
Ring-necked Duck	*Aythya collaris*
Ring-necked Pheasant (I)	*Phasianus colchicus*
Ruby-crowned Kinglet	*Regulus calendula*
Ruddy Duck	*Oxyura jamaicensis*

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COMMON NAME	GENUS/SPECIES
Ruddy Turnstone	*Arenaria interpres*
Ruffed Grouse	*Bonasa umbellus*
Rufous Hummingbird	*Selasphorus rufus*
Rufous-sided Towhee	*Pipilo erythrophthalmus*
Sanderling	*Calidris alba*
Savannah Sparrow	*Passerculus sandwichensis*
Semipalmated Plover	*Charadrius semipalmatus*
Sharp-shinned Hawk	*Accipiter striatus*
Snow Bunting	*Plectrophenax nivalis*
Song Sparrow	*Melospiza melodia*
Sora	*Porzana carolina*
Steller's Jay	*Cyanocitta stelleri*
Surf Scoter	*Melanitta perspicillata*
Swainson's Thrush	*Catharus ustulatus*
Tree Swallow	*Tachycineta bicolor*
Unknown Gull (Immature)	*Larus*
Varied Thrush	*Ixoreus naevius*
Violet-green Swallow	*Tachycineta thalassina*
Virginia Rail	*Rallus limicola*
Western Flycatcher	*Empidonax difficilis*
Western Grebe	*Aechmophorus occidentalis*
Western Gull	*Larus occidentalis*
Western Meadowlark	*Sturnella neglecta*
Western Sandpiper	*Calidris mauri*
White-crowned Sparrow	*Zonotrichia leucophrys*
White-winged Scoter	*Melanitta fusca*
Wilson's Warbler	*Wilsonia pusilla*
Winter Wren	*Troglodytes troglodytes*
Wood Duck	*Aix sponsa*
Yellow-rumped Warbler	*Dendroica coronata*

124 species; 1272 detections

Mammals

Bat, Big Brown	*Eptesicus fuscus*
Bat, Little Brown	*Myotis lucifugus*
Beaver	*Castor canadensis*
Cat (I)	*Felis catus*
Chipmunk, Townsend's	*Eutamias townsendii*
Coyote	*Canis latrans*
Deer, Black-tailed	*Odocoileus hemionus columbianus*
Elk, Roosevelt	*Cervus elaphus*
Ground Squirrel, Beechy	*Spermophilus beecheyi*
Jumping Mouse, Pacific	*Zapus trinotatus*
Mink	*Mustela vison*
Mole	*Scapanus*
Mouse, Deer	*Peromyscus maniculatus*
Muskrat	*Ondatra zibethicus*
Nutria (I)	*Myocastor coypus*

APPENDIX 5.

Camp Rilea Wildlife List

COMMON NAME	GENUS/SPECIES
Opposum, Virginia (I)	*Didelphis virginianus*
Otter, River	*Lutra canadensis*
Pocket Gopher, Mazama	*Thomomys mazama*
Rabbit, Brush	*Sylvilagus bachmani*
Raccoon	*Procyon lotor*
Rat, Black (I)	*Rattus rattus*
Rat, Norway (I)	*Rattus norvegicus*
Shrew, Baird's	*Sorex bairdii*
Shrew, Marsh	*Sorex bendirei*
Shrew, Trowbridge	*Sorex trowbridgii*
Shrew, Vagrant	*Sorex vagrans*
Skunk, Stripped	*Mephitis mephitis*
Squirrel, Douglas	*Tamiasciurus douglasi*
Squirrel, Northern Flying	*Glaucomys sabrinus*
Vole, Creeping	*Microtus oregoni*
Vole, Townsend's	*Microtus townsendii*
Weasel, Short-tailed	*Mustela erminea*
32 species; 351 detections	
Amphibians and Reptiles	
Northwestern Salamander	*Ambystoma gracile*
Rough-skinned Newt	*Taricha granulosa*
Pacific Chorus Frog	*Pseudacris regilla*
Red-legged Frog	*Rana aurora*
Bullfrog (I)	*Rana catesbiana*
Northwestern Garter Snake	*Thamnophis ordinoides*
Common Garter Snake	*Thamnophis sirtalis*
7 species; 1092 detections	

T = state or federally threatened
E = state or federally endangered
S = state sensitive
I = introduced (non-native)

Species Expected to Occur, but not Observed,
Camp Rilea, 1998.

Birds:	**Justification**[a]
Turkey Vulture (*Cathartes aura*)	1,2
California Quail (*Laphortyx californicus*) (I)	1,2
Common Egret (*Casmerodius albus*)	1,2
Western Snowy Plover (*Charadrius alexandrinus*)	1
Mourning Dove (*Zenaidura macroura*)	1,2
Screech Owl (*Otus asio*)	1,2
Barn Owl (*Tyto alba*)	1,2
Red-Breasted Sapsucker (*Sphyrapicus ruber*)	1,2,3
Purple Martin (*Progne subis*)	2
Common Nighthawk (*Chordeiles minor*)	2
House Wren (*Troglodytes aedon*)	1,2
Cedar Waxwing (*Bombycilla cedrorum*)	1,2
Townsend's Warbler (*Dendroica townsendi*)	1
Brewer's Blackbird (*Euphagus cyanocephalus*)	1,2
House Sparrow (*Passer domesticus*) (I)	1, 2
Mammals:	
Red Fox (*Vulpes vulpes*)	1,2,3
Spotted Skunk (*Spilogale gracilis*)	1,2
Long-tailed Weasel (*Mustela frenata*)	1
Bushy-tailed Woodrat (*Neotoma cinerea*)	1,2
Porcupine (*Erethizon dorsatum*)	1
California Myotis (*Myotis californicus*)	1,2
Mountain Beaver (*Aplodontia rufa*)	1,2,3
Bobcat (*Lynx rufus*)	1,2
Amphibians and Reptiles:	
Ensatina (*Ensatina eschscholtzi*)	1
Long-toed Salamander (*Ambystoma macrodactylum*)	1
Western Toad (*Bufo boreas*)	1
Northern Alligator Lizard (*Elgaria coerulea*)	1

a - 1 = Appropriate habitat exists on the training site, and site is within the distribution range of this species.

2 = This species was observed on lands adjacent (within 1 km) to the training base boundary during 1999.

3 = Evidence of this species past presence was found on Camp Rilea, i.e. Sapsucker bark damage to deciduous trees, anecdotal accounts of Red Fox.

(I) = Introduced (non-native) species

APPENDIX 6

Oregon Natural Heritage Program List of Species of Concern for Camp Rilea

Scientific Name	Common Name	Fed	State	HP	Doc
Mammals					
Arborimus albipes	White-footed vole	SoC	SU	3*	B
Corynorhinus towsendii townsendii	Pacific western big-eared bat	SoC	**SC**	3	
Eumetopias jubatus	Steller sea lion	**LT**	SV	3	
Lasionycteris noctivagans	Silver-haired bat		SU	3*	
Martes americana	American marten		SV	3*	
Myotis evotis	Long-eared myotis	SoC	SU	4*	
Myotis thysanodes	Fringed myotis	SoC	SV	3	B
Myotis volans	Long-legged myotis	SoC	SU	3	B
Myotis yumanensis	Yuma myotis	SoC		4*	
Sciurus griseus	Western gray squirrel		SU	3*	
Birds					
Brachyramphus marmoratus	Marbled murrelet	**LT**	**LT**	1	
Branta canadensis leucopareia	Aleutian Canada goose	**LT**	**LE**	1	
Branta canadensis occidentalis	Dusky Canada goose			4*	
Charadrius alexandrinus nivosus	Western snowy plover	**LT**	**LT**	1	B
Contopus cooperi	Olive-sided flycatcher	SoC	SV	3*	
Drycopus pileatus	Pileated woodpecker		SV	4*	
Gavia immer	Common loon			2-ex	
Empidonax traillii brewsteri	Little willow flycatcher	SoC	SV	3*	
Falco peregrinus anatum	American peregrine falcon		**LE**	1	
Haliaeetus leucocephalus	Bald eagle	**LT**	**LT**	1	B
Oceanodroma furcata	Fork-tailed storm-petrel		SV	2	
Pelecanus occidentalis	Brown pelican	**LE**	**LE**	2	
Ptychoramphus aleuticus	Cassin's auklet			3*	
Progne subis	Purple martin		**SC**	3	
Strix occidentalis caurina	Northern spotted owl	**LT**	**LT**	1	
Amphibians					
Aneides ferreus	Clouded salamander		SU	3*	
Ascaphus truei	Tailed frog	SoC	SV	3	
Bufo boreas	Western toad		SV	3*	
Dicampotodon copei	Cope's giant salamander		SU	2	
Rana aurora aurora	Northern red-legged frog	SoC	SU	3*	
Rhyacotriton kezeri	Columbia seep salamander		**SC**	3	

Reptiles					
Clemmys marmorata marmorata	Northwestern pond turtle	SoC	**SC**	2	
Fish					
Acipenser medirostris	Green sturgeon	SoC		3	B
Lampetra ayresi	River lamprey	SoC		4*	
Lampetra tridentata	Pacific lamprey	SoC	SV	3*	
Oncorhynchus clarki clarki	Coastal cutthroat trout	**C**	SV	3	
Oncorhynchus kisutch	Coho salmon (Oregon coast)	**LT**	**SC**	1	Bh
Oncorhynchus mykiss	Steelhead (Oregon coast)	**C**	SV	1	
Invertebrates					
Archilestes californica	California giant damselfy			4*	
Bembidion tigrinum	Cryptic beach carabid beetle			3*	
Cicindela hirticollis siuslawensis	Siuslaw sand tiger beetle			3*	
Deroceras hesperium	Evening fieldslug			1	
Eusattus rectus	Sandbar darkling beetle			3*	
Gomphus kurilis	California clubtail dragonfly			3*	
Hemphillia glandulosa	Warty jumping-slug			2	
Incisalia polia obscura	Hoary elfin butterfly			2	
Lygus oregonae	Oregon lygus bug			2	
Megomphix hemphilli	Oregon megomphix (snail)			1	
Mesovelia mulsanti	Mulsant's small water strider			3*	
Nabicula propinqua	Marsh nabid (bug)			3*	
Ostrea lurida	Native oyster			3*	
Pinalitus solivagus	True fir pinalitus (bug)			3*	
Philocasca oron	Clatsop philocascan caddisfly	SoC		3	
Physella columbiana	Rotund physa (snail)			1	
Platylygus pseudotsugae	Douglas-fir platylygus (bug)			3*	
Plebejus saepiolus insulanus	Insular blue butterfly			1	
Prophysaon dubium	Papillose tail-dropper (slug)			2	
Speyeria zerene hippolyta	Oregon silverspot butterfly	**LT**		1	D
Vorticifex neritoides	Nerite ramshorn (snail)			3	
Plants					
Abronia latifolia	Yellow sandverbena			4*	
Abronia umbellata ssp breviflora	Pink sandverbena	SoC	**LE**	1	
Carex brevicaulis	Short stemmed sedge			3*	
Carex livida	Pale sedge			2	
Carex pluriflora	Many-flowered sedge			2	

Cimicifuga elata	Tall bugbane	SoC	C	1
Cyperus bipartitus	Shining cyperus			3*
Eriophorum chamissonis	Russet cotton-grass			2
Juncus gerardii	Mud rush			3*
Lilaea scilloides	Flowering quillwort			3*
Lycopodiella inundata	Stiff club-moss			2
Montia howellii	Howell's montia	SoC	C	1
Myrica gale	Sweet gale			3*
Ophioglossum pusillum	Adder's-tongue			2
Plantago macrocarpa	North pacific plantain			2
Poa marcida	Weak bluegrass			4*
Polypodium calirhiza	Hotroot polypody			3*
Samolus parvilforus	Water-pimpernel			3*
Scirpus subterminalis	Water clubrush			2
Sidalcea hendersonii	Henderson's sidalcea			2
Sidalcea hirtipes	Bristly-stemmed sidalcea		C	1
Spirodela punctata	Dotted water-flaxseed			3*
Triglochin striata	Three-ribbed arrow-grass			3*
Utricularia gibba	Humped bladderwort			2
Utricularia minor	Lesser bladderwort			2
Vaccinium oxycoccos	Wild bog cranberry			4*
Viola langsdorfii	Aleutian viola			3*
Wolffia borealis	Dotted water-meal			2
Wolffia columbiana	Columbia water-meal			2
Liverworts				
Diplophyllum plicatum	(no common names)			2
Herbertus aduncus				2
Herbertus sakuraii				2
Metzgeria temperata				2
Plagiochila semidecurrens var. alaskana				2
Radula brunnea				2
Mosses				
Campylopus schmidii	(no common names)			2
Iwatsukiella leucotricha				2
Limbella fryei		SoC	C	1
Tetraplodon mnioides				2
Lichens				
Bryoria bicolor	(no common names)			3*

Bryoria subcana		3*
Erioderma sorediatum		2
Hypogymnia pulverata		2
Hypogymnia subphysodes		2
Niebla cephalota		3*
Ochrolechia subplicans		3*
Pannaria rubiginosa		3*
Pseudocyphellaria rainierensis		3*
Telochistes flavicans		2
Usnea hesperiana		3*
Usnea rubicunda		3*
Fungi		
Asterophora parasitica	(no common names)	3*
Bondarzewia mesenterica		3*
Chamonixia caespitosa		3*
Clitocybe senilis		3*
Dichostereum boreale		3*
Elaphomyces decipiens		3*
Nolanea staurospora var. incrustata		3*
Phaeocollybia gregaria		3*
Phaeocollybia lilacifolia		3*
Pseudoaleuria quinaultiana		3*
Radiigera bushnellii		3*
Rhizopogon clavitisporus		3*
Tuber asa		3*

FEDERAL STATUS DEFINITIONS

LE = Listed Endangered. Taxa listed by the U.S. Fish and Wildlife Service (USFWS) or the National Marine Fisheries Service (NMFS) as Endangered under the Endangered Species Act (ESA), or by the Departments of Agriculture (ODA) and Fish and Wildlife (ODFW) of the state of Oregon under the Oregon Endangered Species Act of 1987 (OESA).

LT = Listed Threatened. Taxa listed by the USFWS, NMFS, ODA, or ODFW as Threatened.

PE = Proposed Endangered. Taxa proposed by the USFWS or NMFS to be listed as Endangered under the ESA or by ODFW or ODA under the OESA.

PT = Proposed Threatened. Taxa proposed by the USFWS or NMFS to be listed as Threatened under the ESA or by ODFW or ODA under the OESA.

C = Candidate taxa for which NMFS or USFWS have sufficient information to support a proposal to list under the ESA, or which is a candidate for listing by the ODA under the OESA.

SoC = Species of Concern. Former C2 candidates which need additional information in order to propose as Threatened or Endangered under the ESA. These are species which USFWS is reviewing for consideration as Candidates for listing under the ESA.

STATE STATUS DEFINITIONS (animals only)

CRITICAL (SC) - Species for which listing as threatened or endangered is pending; or those for which listing as threatened or endangered may be appropriate if immediate conservation actions are not taken. Also considered critical are some peripheral species which are at risk throughout their range, and some disjunct populations.

VULNERABLE (SV) - Species for which listing as threatened or endangered is not believed to be imminent and can be avoided through continued or expanded use of adequate protective measures and monitoring. In some cases the population is sustainable, and protective measures are being implemented; in others, the population may be declining and improved protective measures are needed to maintain sustainable populations over time.

PERIPHERAL OR NATURALLY RARE (SP) - Peripheral species refer to those whose Oregon populations are on the edge of their range. Naturally rare species are those which had low population numbers historically in Oregon because of naturally limiting factors. Maintaining the status quo for the habitats and populations of these species is a minimum requirement. Disjunct populations of several species which occur in Oregon should not be confused with peripheral.

UNDETERMINED STATUS (SU) - Animals in this category are species for which status is unclear. They may be susceptible to population decline of sufficient magnitude that they could qualify for endangered, threatened, critical or vulnerable status, but scientific study will be required before a judgement can be made.

ONHP LIST DEFINITIONS

List 1 contains taxa that are threatened with extinction or presumed to be extinct throughout their entire range

List 2 contains taxa that are threatened with extirpation or presumed to be extirpated from the state of Oregon. These are often peripheral or disjunct species which are of concern when considering species diversity within Oregon's borders. They can be very significant when protecting the genetic diversity of a taxon. ORNHP regards extreme rarity as a significant threat and has included species which are very rare in Oregon on this list.

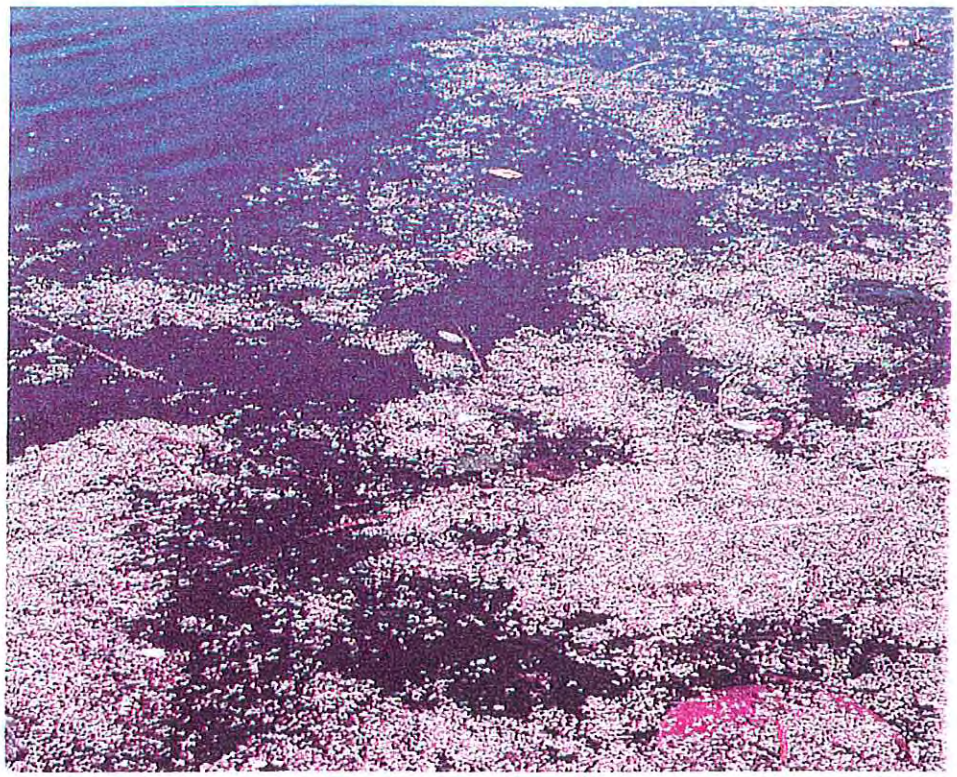
List 3 contains species for which more information is needed before status can be determined, but which may be threatened or endangered in Oregon or throughout their range.

List 4 contains taxa which are of conservation concern but are not currently threatened or ndangered. This includes taxa which are very rare but are currently secure, as well as taxa which are declining in numbers or habitat but are still too common to be proposed as threatened or endangered. While these taxa currently may not need the same active management attention as threatened or endangered taxa, they do require continued monitoring.

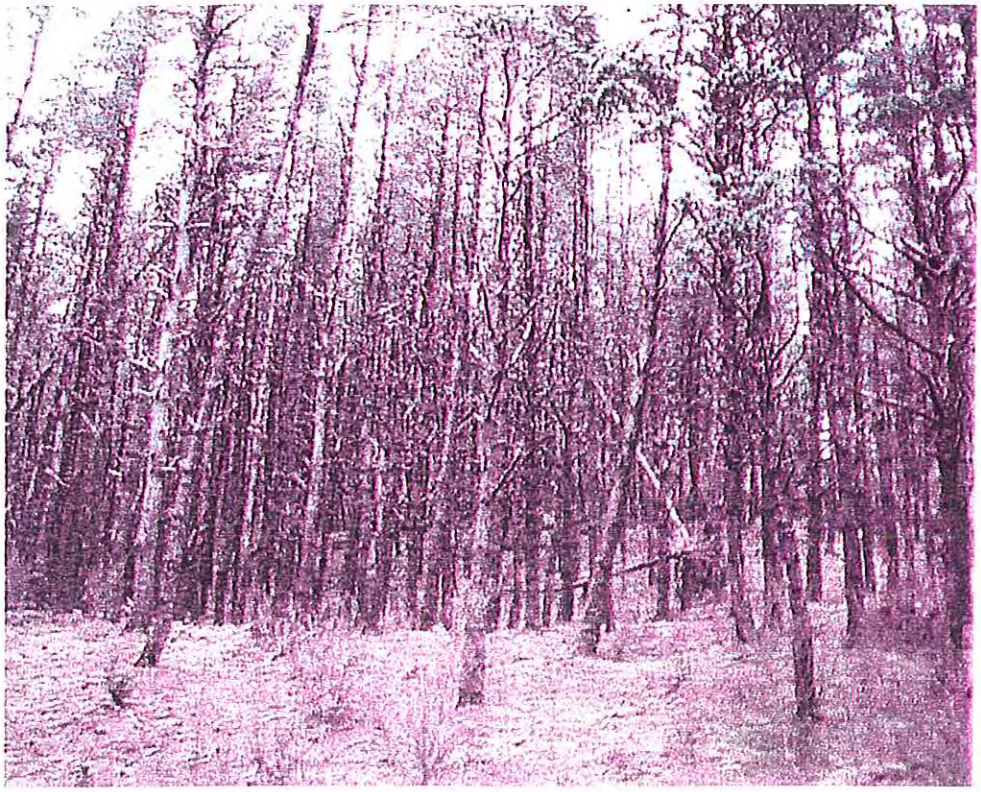
An "ex" noted after the HP List number means that it is considered to be extirpated from the state of Oregon, e.g. a species with "1-ex" is considered threatened or endangered throughout its range and is also presumed extirpated from Oregon. A "2-ex" species is more abundant elsewhere but presumed extirpated from Oregon.

APPENDIX 7. Modified Plant Community and Species Photographs

Coastal Zone Meadows

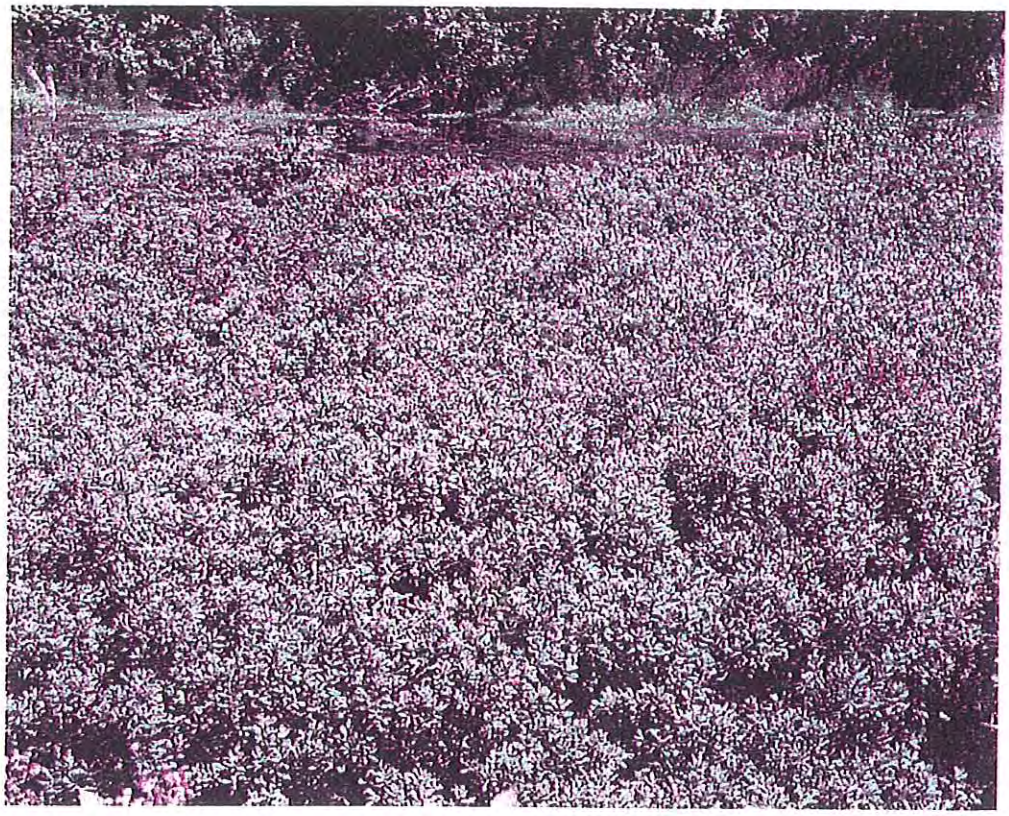


Floating Aquatic



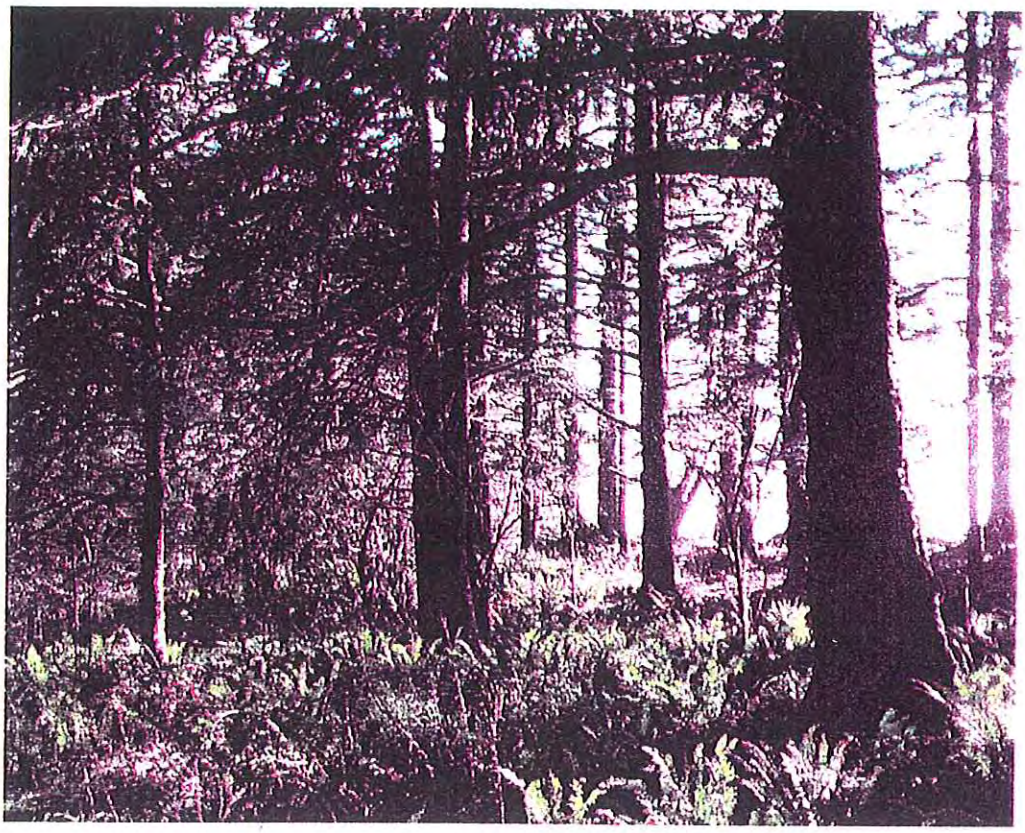
Planted Pine Forest

Deciduous Forest



Sweet Gale Wetlands

Forested Wetlands



Spruce/Fern Forest

Scot's Broom/Beachgrass

Upland Sedge Meadows

Wet Sedge Meadows

Cultivated Grasslands

Big-headed Sedge

Yellow sand verbena

Elk

APPENDIX 8. USFWS and ODFW Correspondence

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Oregon Fish and Wildlife Office
2600 S.E. 98th Avenue, Suite 100
Portland, Oregon 97266
(503) 231-6179 FAX: (503) 231-6195

5582
Reply To: 8330.~~5452~~(01)
File Name: omd-Rilea- sikes-01.wpd
OALS Number: 01-1742

April 30, 2001

Sergeant Major Gerald E. Elliot
Environmental Program Manager
Oregon Military Department
Headquarters, Oregon National Guard
1776 Militia Way
P.O. Box 14350
Salem, Oregon 97309-5047

RE: Sikes Act Response to Integrated Natural Resource Management Plan for Camp Rilea

Dear Sergeant Major Elliot:

This is in reply to your agency's letter of March 16, 2001, requesting Fish and Wildlife Service (Service) review and comment on Oregon Military Department's (OMD) Integrated Natural Resource Management Plan (INRMP) for Camp Rilea, pursuant to the Sikes Act (16 U.S.C. 670a *et seq.*). Camp Rilea represents a major public landholding in the Clatsop Plains, offering a unique opportunity to provide conservation and restoration of coastal natural resources in a manner compatible with military training. Camp Rilea is geographically positioned to provide a major contribution to the recovery of the federally threatened Oregon silverspot butterfly (*Speyeria zerene hippolyta*).

The Service applauds OMD's on-going efforts to protect and enhance 68 acres of habitat for the silverspot butterfly. Management actions for this species were set forth in OMD's Oregon Silverspot Butterfly Habitat Management Plan of 1998 and under a Biological Opinion issued by the Service on December 10, 1998 (Log 1-7-98-F-317). As such, the INRMP does not address conservation or management of this species. Any proposed management or landuse changes which would effect the conservation areas would need to be addressed through formal consultation [section 7(a)(2) of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et. seq.*)].

Service biologists Andy Robinson and Amy Horstman met with OMD Natural Resource Specialist Greg Mitchell on September 26, 2000, to provide initial comments on the INRMP. Overall, we are supportive of the INRMP goals of promoting native biological diversity, protecting and preserving special status species, controlling the spread of non-native species, and protection and restoration of wetlands.

The INRMP identifies as priorities the preparation of the following restoration plans: 1) conversion of Scots broom areas to native upland meadows, and 2) expansion of native upland sedge meadows with particular emphasis on increasing native red fescue (*Festuca rubra*) and native forbs, including expansion of the Oregon silverspot butterfly habitat areas without incurring additional training restrictions. We agree that development and timely implementation of these plans are important and we would be happy to provide specific technical assistance as necessary to assist OMD.

Thank you for the opportunity to comment on this plan. If you have any further questions regarding this correspondence, please contact Amy Horstman or Rollie White at (503) 231-6179. We appreciate your concern for listed species and natural areas management.

Sincerely,

for Kemper M. McMaster
State Supervisor

Oregon
John A. Kitzhaber, M.D., Governor

Department of Fish and Wildlife
North Coast Fish & Wildlife District
4909 Third Street
Tillamook, OR 97141
(503) 842-2741
FAX (503) 842-8385

April 10, 2001

Gerald E. Elliott – Environmental Program Manager
Oregon Military Department
P. O. Box 14350
Salem, OR 97309-5047

Dear Sir,

I have reviewed the draft Integrated Natural Resources Management Plan (INRMP) and draft Environmental Assessment for Camp Rilea which your office provided in a mailing dated March 16th. This letter is to indicate that ODFW approves of the draft INRMP and the plans for habitat and species management therein. Having participated in several phases of the INRMP process, I have been impressed with its thoroughness and endorse its approach of non-native species (both animal and plant) control and maintenance of habitat diversity.

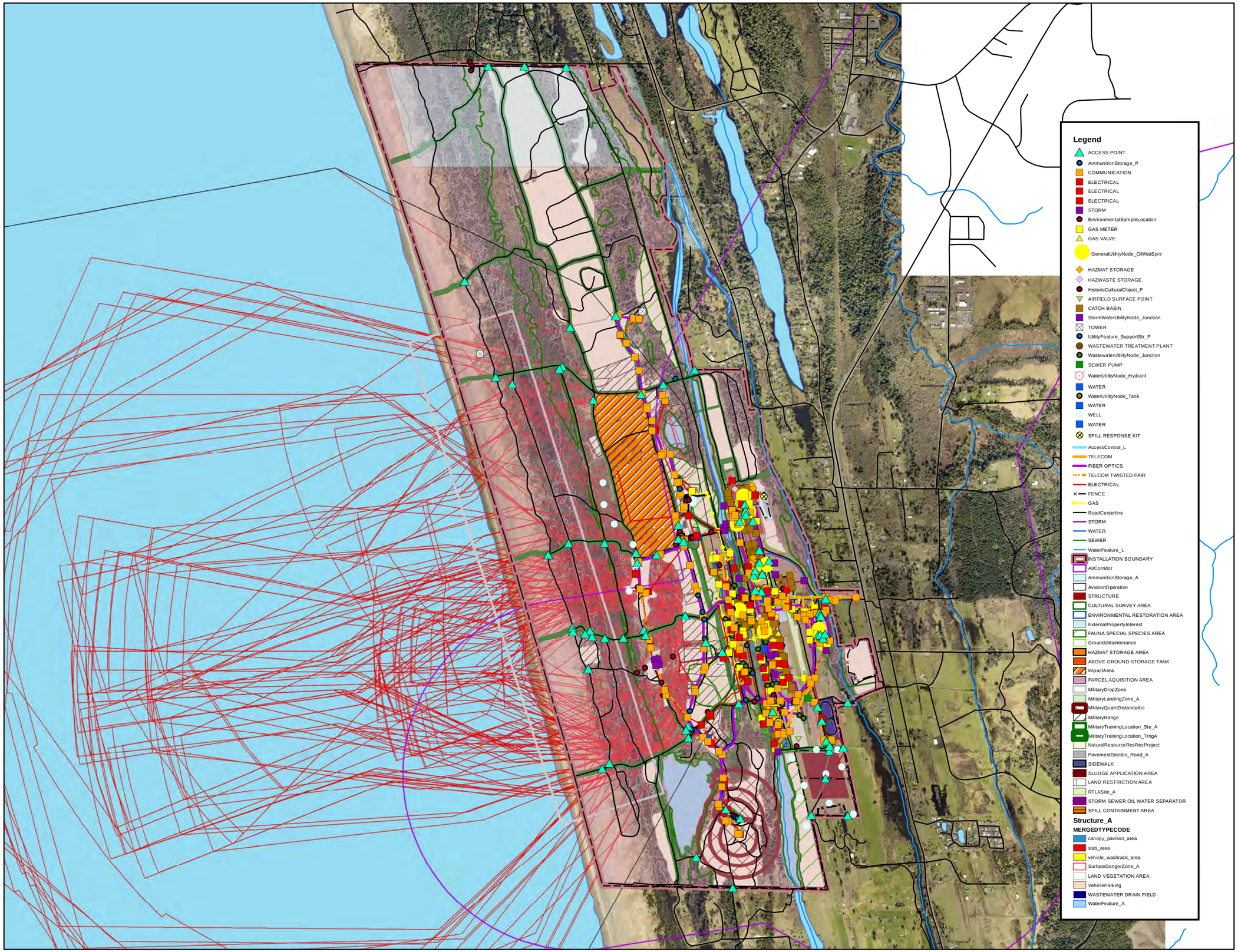
If you have any questions or I can be of any further technical assistance as plans are developed and implemented, I may be reached at the number above.

Sincerely,

David Nuzum
Assistant Wildlife Biologist
North Coast Watershed District

RECEIVED AGI
2001 APR 12 A 10: 45
MILITARY DEPARTMENT
STATE OF OREGON

Site # 41C30
MTA Camp Rilea



N

Address:
33168 Patriot Way
Warrenton, OR
97146

1 inch = 1,667 feet

0 500 1,000 2,000 3,000 4,000 Feet

T: 7 N R: 10 W Sec: 4
NAD 83 UTM Zone 10 North
Projection: Transverse Mercator
Aug 2018

No warranty is made by the Oregon Military Department as to the accuracy, reliability, or completeness of this data for individual or aggregate use with other data.This map is a "Living document," in that it is intended to change as new data becomes available and are incorporated into the OMD Enterprise GIS database

Camp Rilea

33168 Patriot Way

Warrenton, OR 97146

Inquiry Number: 5436294.3

September 26, 2018

Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

09/26/18

Site Name:	Client Name:
Camp Rilea	AECOM
33168 Patriot Way	12120 Shamrock Plaza
Warrenton, OR 97146	Omaha, NE 68154
EDR Inquiry # 5436294.3	Contact: Brittany Kirchmann

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Certification # FA6C-4C18-B7BF

PO # NA

Project Camp Rilea

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Sanborn® Library search results

Certification #: FA6C-4C18-B7BF

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Camp Rilea

33168 Patriot Way

Warrenton, OR 97146

Inquiry Number: 5436294.5

September 27, 2018

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

09/27/18

Site Name:

Camp Rilea
33168 Patriot Way
Warrenton, OR 97146
EDR Inquiry # 5436294.5

Client Name:

AECOM
12120 Shamrock Plaza
Omaha, NE 68154
Contact: Brittany Kirchmann

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

Search Results:

Year	***Scale***	***Details***	***Source***
2016	1"=500'	Flight Year: 2016	USDA/NAIP
2012	1"=500'	Flight Year: 2012	USDA/NAIP
2009	1"=500'	Flight Year: 2009	USDA/NAIP
2005	1"=500'	Flight Year: 2005	USDA/NAIP
1994	1"=500'	Acquisition Date: August 30, 1994	USGS/DOQQ
1990	1"=750'	Flight Date: September 04, 1990	USGS
1985	1"=500'	Flight Date: August 28, 1985	USGS
1981	1"=500'	Flight Date: August 06, 1981	USDA
1977	1"=500'	Flight Date: July 01, 1977	USGS
1956	1"=500'	Flight Date: April 09, 1956	USGS

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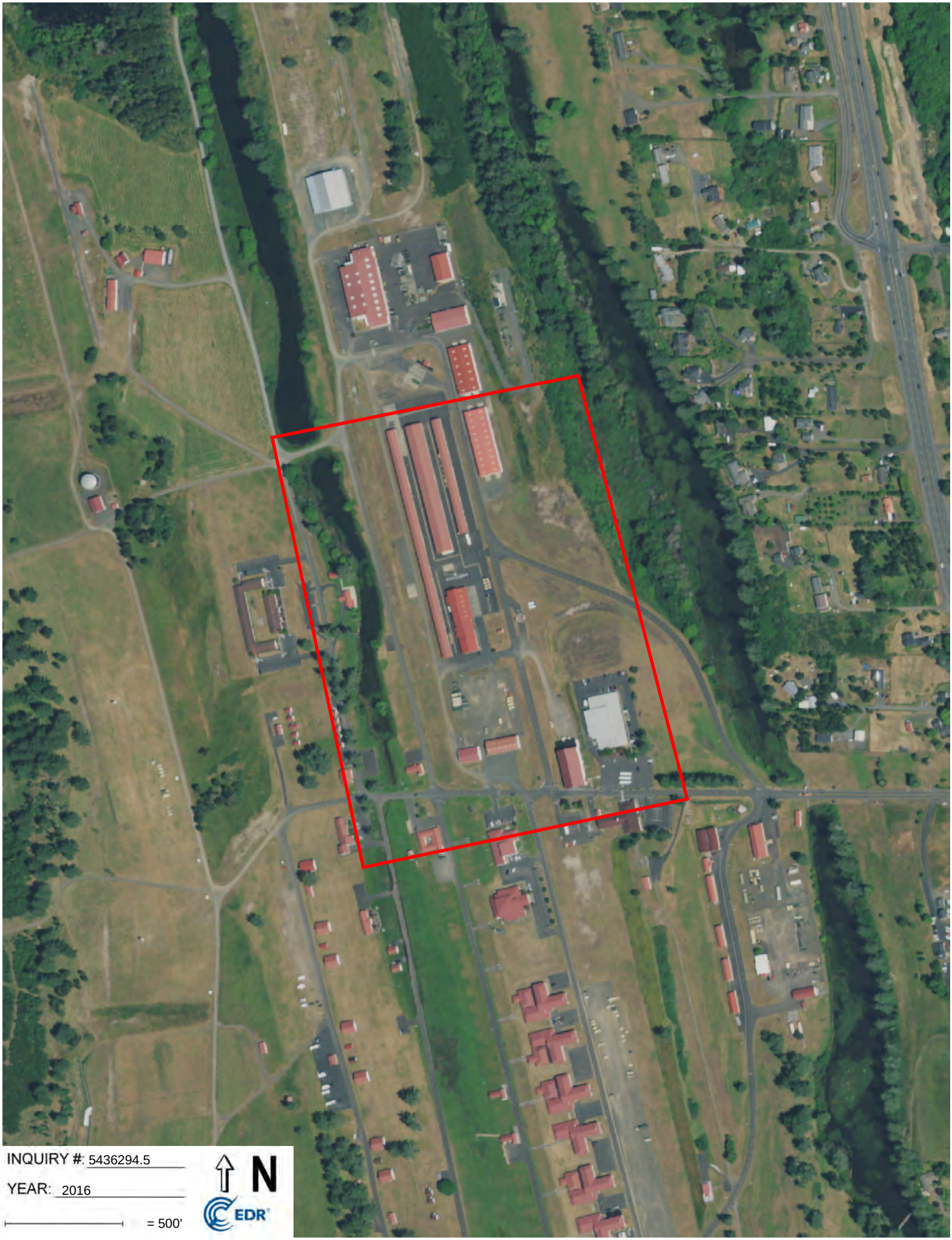
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YEAR: 2016
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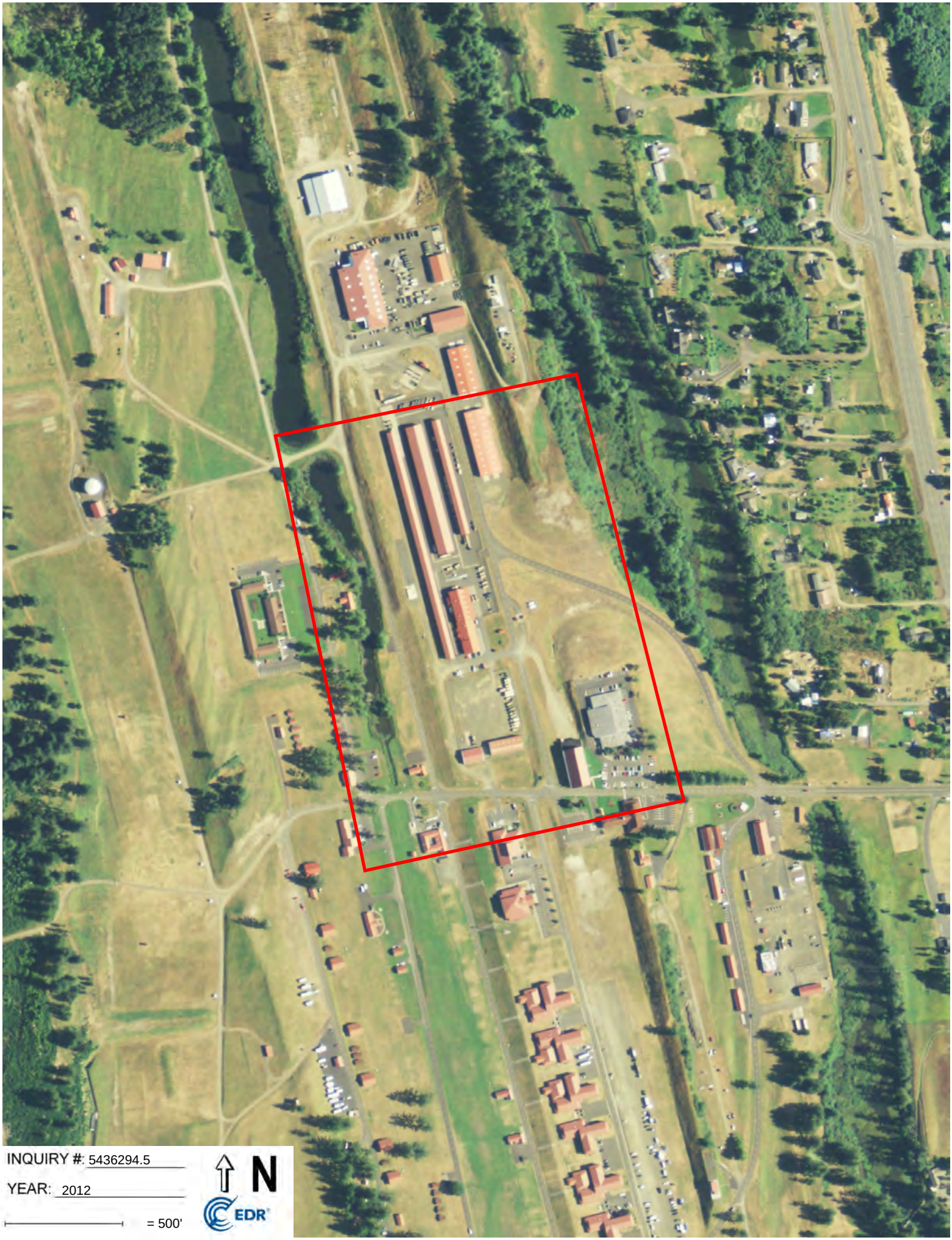
EDR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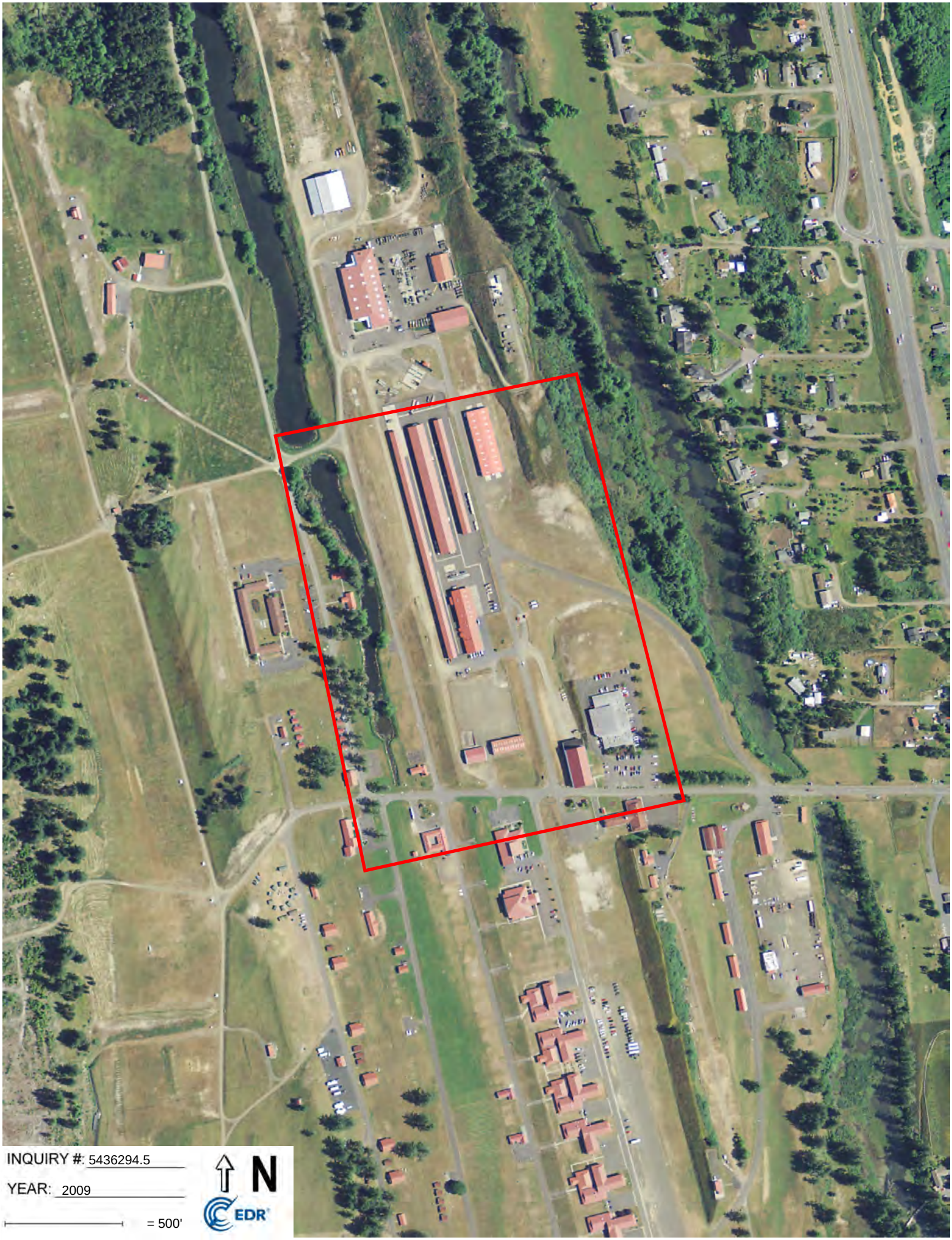
EDR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EDR

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YEAR: 2005
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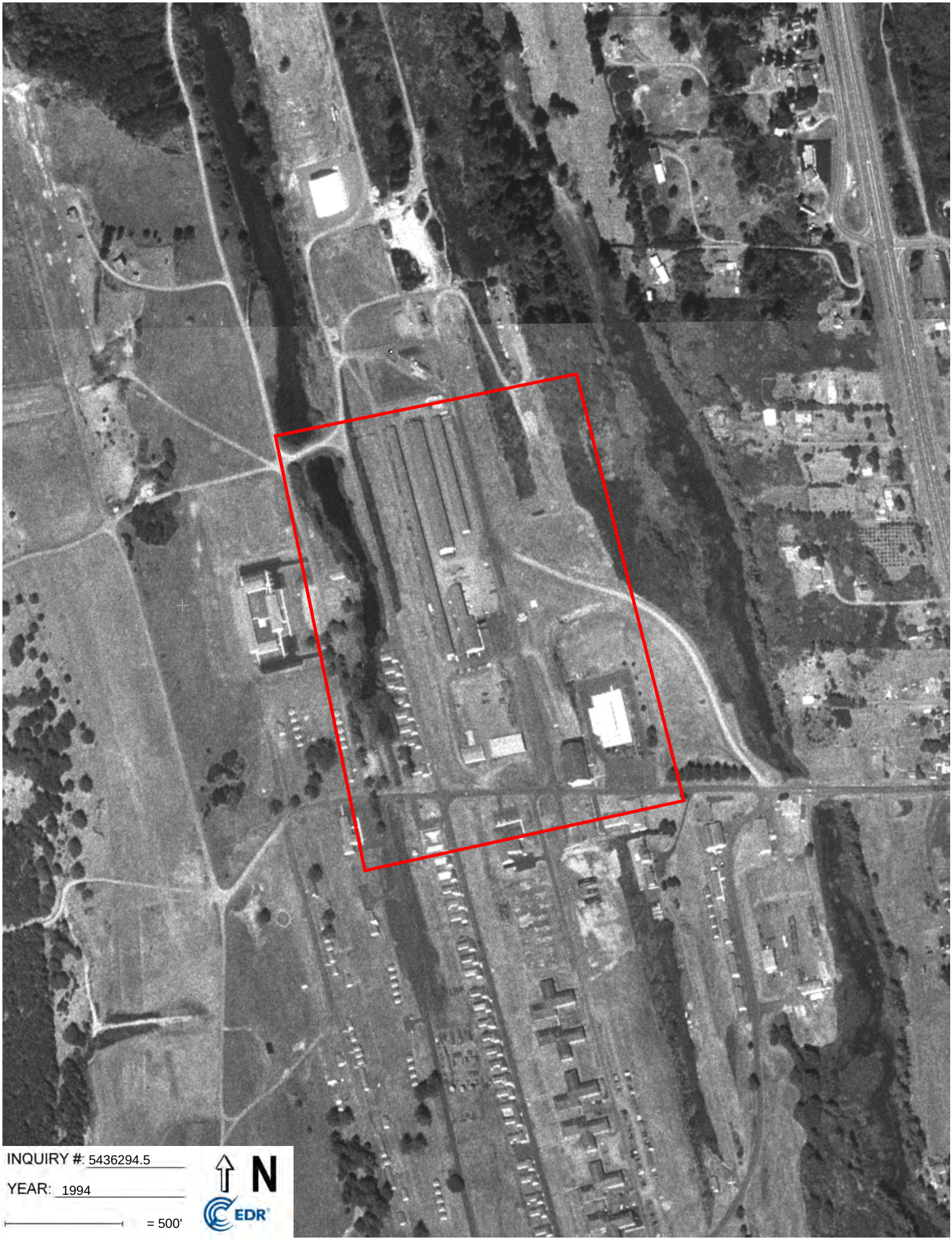
EDR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YEAR: 1994
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EDR

INQUIRY #: 5436294.5

YEAR: 1990

= 750'

N

EDR

Subject boundary not shown because it exceeds image extent or image is not georeferenced.

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= 500'
N
EDR

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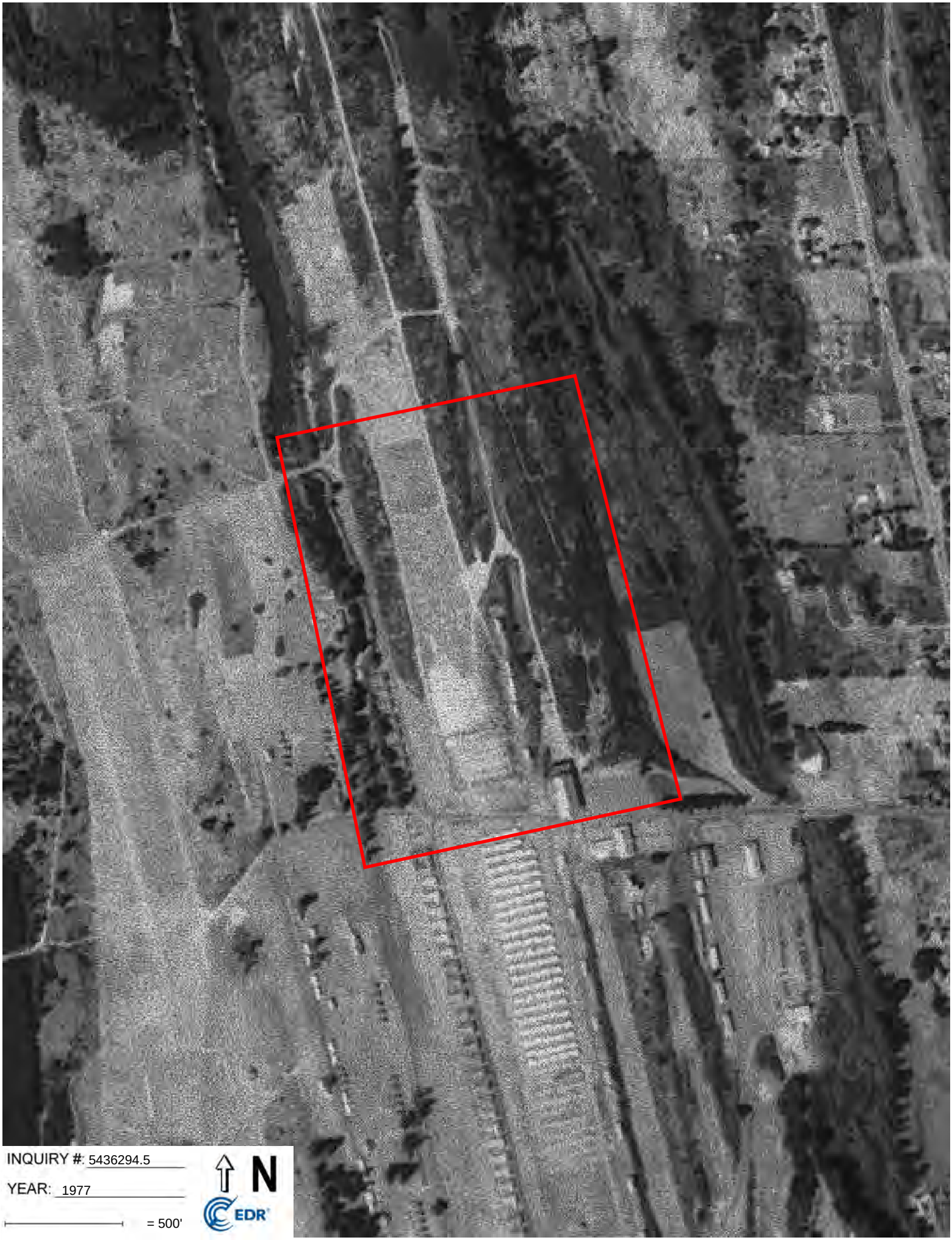
YEAR: 1981
= 500'
N
EDR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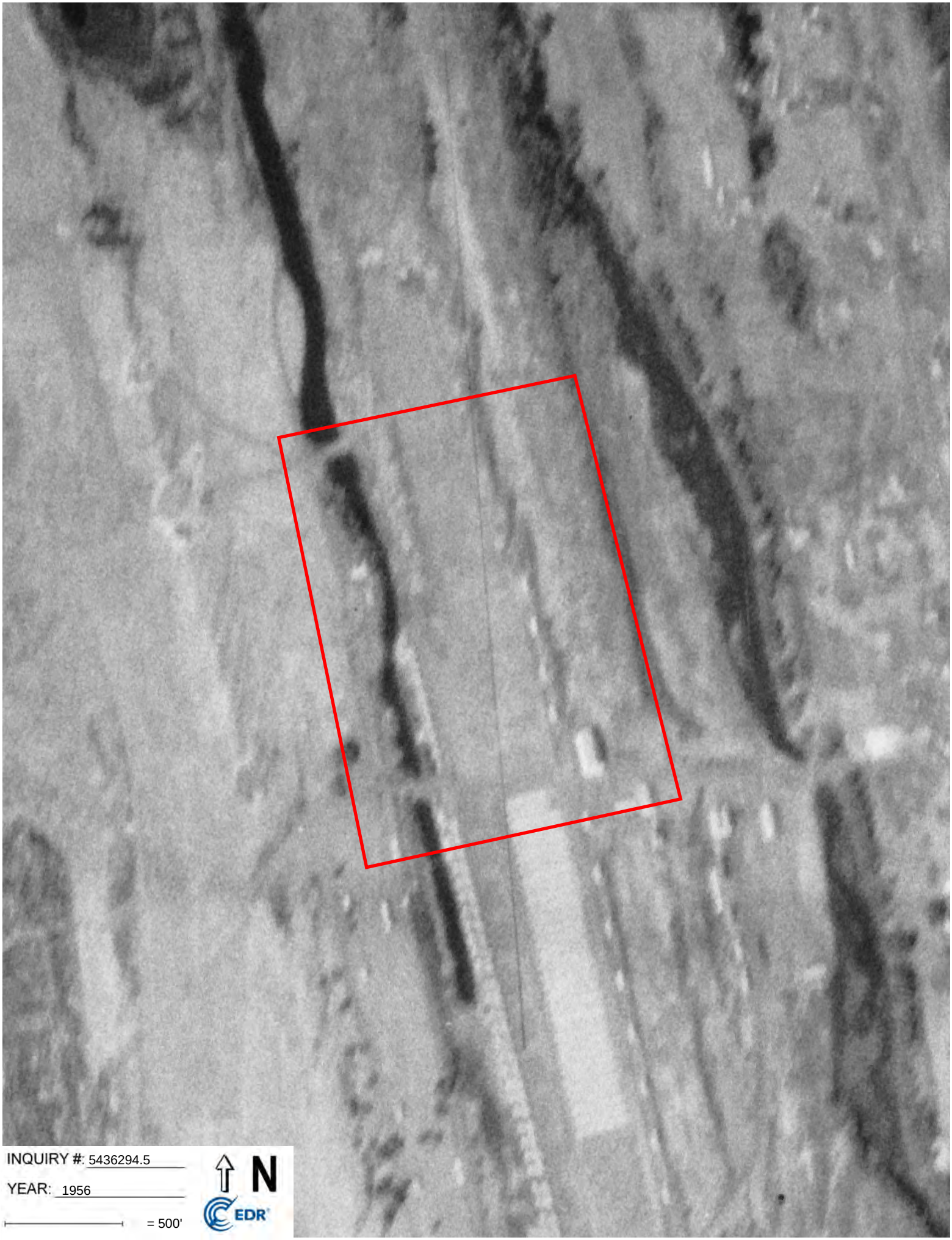
EDR


INQUIRY #: 5436294.5
YEAR: 1956
= 500'
N
EDR

Camp Rilea
33168 Patriot Way
Warrenton, OR 97146

Inquiry Number: 5436294.2s
September 26, 2018

The EDR Radius Map™ Report with GeoCheck®

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

33168 PATRIOT WAY
WARRENTON, OR 97146

COORDINATES

Latitude (North):	46.1248760 - 46˚ 7' 29.55''
Longitude (West):	123.9344370 - 123˚ 56' 3.97''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	427805.2
UTM Y (Meters):	5108128.5
Elevation:	50 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	6066050 GEARHART, OR
Version Date:	2014
North Map:	6066062 WARRENTON, OR
Version Date:	2014

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20140622
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
33168 PATRIOT WAY
WARRENTON, OR 97146

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
A1	CAMP RILEA	33168 PATRIOT WAY	RGA HWS		TP
A2	US ARMY NATIONAL GUA	33168 PATRIOT WAY	TRIS		TP
A3	ORARNG CAMP RILEA	33168 PATRIOT WAY	RCRA-LQG, PADS		TP
A4	ARMY NATIONAL GUARD	33168 PATRIOT WAY	ECSI, AST, FINDS, ECHO, HSIS, MANIFEST, UIC		TP
Reg	CAMP RILEY MILITARY		DOD	Same	1 ft.
5	MTA CAMP RILEA READI	333168 PATRIOT WAY	ECSI, VCP	Lower	1 ft.
6	WILLIAMS, LINDA	33325 PATRIOT WAY	LUST, FINDS	Lower	737, 0.140, ESE
7	TAGG PIONEER FARM	91146 PIONEER FARM R	ECSI, VCP	Lower	2915, 0.552, SE
8	COLUMBIA BEACH MILIT	HIGHWAY 101	ECSI	Higher	4341, 0.822, ESE

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was identified in the following records. For more information on this property see page 8 of the attached EDR Radius Map report:

Site	Database(s)	EPA ID
CAMP RILEA 33168 PATRIOT WAY WARRENTON, OR	RGA HWS	N/A
US ARMY NATIONAL GUA 33168 PATRIOT WAY WARRENTON, OR 97146	TRIS TRIS ID: 9714WCMPRL9124R	9714WCMPRL9124R
ORARNG CAMP RILEA 33168 PATRIOT WAY WARRENTON, OR 97146	RCRA-LQG EPA ID:: ORD980988414 PADS EPAID:: ORD980988414	ORD980988414
ARMY NATIONAL GUARD 33168 PATRIOT WAY WARRENTON, OR 97146	ECSI Investigation: No Further Action State ID Number: 1524 AST Facility Id: 016410 FINDS Registry ID:: 110014227265 ECHO Registry ID: 110014227265 HSIS Facility Id: 016410 MANIFEST Status: LQG Status: SQG Status: Small quantity generator Status: Large quantity generator EPA Id: ORD980988414 UIC Facility Status: Formal Closure UIC Number: 10607	N/A

EXECUTIVE SUMMARY

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL ..... National Priority List
Proposed NPL ..... Proposed National Priority List Sites
NPL LIENS ..... Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ..... National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY ..... Federal Facility Site Information listing
SEMS ..... Superfund Enterprise Management System

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE ..... Superfund Enterprise Management System Archive

Federal RCRA CORRACTS facilities list

CORRACTS ..... Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ..... RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-SQG ..... RCRA - Small Quantity Generators
RCRA-CESQG ..... RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

LUCIS ..... Land Use Control Information System
US ENG CONTROLS ..... Engineering Controls Sites List
US INST CONTROL ..... Sites with Institutional Controls

Federal ERNS list

ERNS ..... Emergency Response Notification System

State- and tribal - equivalent CERCLIS

CRL ..... Confirmed Release List and Inventory

EXECUTIVE SUMMARY

State and tribal landfill and/or solid waste disposal site lists

SWF/LF..... Solid Waste Facilities List

State and tribal leaking storage tank lists

INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

FEMA UST..... Underground Storage Tank Listing
UST..... Underground Storage Tank Database
INDIAN UST..... Underground Storage Tanks on Indian Land

State and tribal institutional control / engineering control registries

ENG CONTROLS..... Engineering Controls Recorded at ESCI Sites
INST CONTROL..... Institutional Controls Recorded at ESCI Sites

State and tribal voluntary cleanup sites

INDIAN VCP..... Voluntary Cleanup Priority Listing

State and tribal Brownfields sites

BROWNFIELDS..... Brownfields Projects

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

HIST LF..... Old Closed SW Disposal Sites
SWRCY..... Recycling Facility Location Listing
INDIAN ODI..... Report on the Status of Open Dumps on Indian Lands
ODI..... Open Dump Inventory
DEBRIS REGION 9..... Torres Martinez Reservation Illegal Dump Site Locations
IHS OPEN DUMPS..... Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

AOCONCERN..... Columbia Slough
US HIST CDL..... Delisted National Clandestine Laboratory Register
CDL..... Uninhabitable Drug Lab Properties
US CDL..... National Clandestine Laboratory Register

Local Land Records

LIENS 2..... CERCLA Lien Information

Records of Emergency Release Reports

HMIRS..... Hazardous Materials Information Reporting System

SPILLS	Spill Database
OR HAZMAT	Hazmat/Incidents
SPILLS 90	SPILLS 90 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR	RCRA - Non Generators / No Longer Regulated
FUDS	Formerly Used Defense Sites
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR	Financial Assurance Information
EPA WATCH LIST	EPA WATCH LIST
2020 COR ACTION	2020 Corrective Action Program List
TSCA	Toxic Substances Control Act
SSTS	Section 7 Tracking Systems
ROD	Records Of Decision
RMP	Risk Management Plans
RAATS	RCRA Administrative Action Tracking System
PRP	Potentially Responsible Parties
ICIS	Integrated Compliance Information System
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS	Material Licensing Tracking System
COAL ASH DOE	Steam-Electric Plant Operation Data
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER	PCB Transformer Registration Database
RADINFO	Radiation Information Database
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS	Incident and Accident Data
CONSENT	Superfund (CERCLA) Consent Decrees
INDIAN RESERV	Indian Reservations
FUSRAP	Formerly Utilized Sites Remedial Action Program
UMTRA	Uranium Mill Tailings Sites
LEAD SMELTERS	Lead Smelter Sites
US AIRS	Aerometric Information Retrieval System Facility Subsystem
US MINES	Mines Master Index File
ABANDONED MINES	Abandoned Mines
DOCKET HWC	Hazardous Waste Compliance Docket Listing
UXO	Unexploded Ordnance Sites
FUELS PROGRAM	EPA Fuels Program Registered Listing
AIRS	Oregon Title V Facility Listing
COAL ASH	Coal Ash Disposal Sites Listing
DRYCLEANERS	Drycleaning Facilities
Enforcement	Enforcement Action Listing
Financial Assurance	Financial Assurance Information Listing
NPDES	Wastewater Permits Database

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP	EDR Proprietary Manufactured Gas Plants
EDR Hist Auto	EDR Exclusive Historical Auto Stations
EDR Hist Cleaner	EDR Exclusive Historical Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF	Recovered Government Archive Solid Waste Facilities List

EXECUTIVE SUMMARY

RGA LUST..... Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

State- and tribal - equivalent CERCLIS

ECSI: The Environmental Cleanup Site Information System records information about sites in Oregon that may be of environmental interest. The data come from the Department of Environmental Quality.

A review of the ECSI list, as provided by EDR, and dated 07/01/2018 has revealed that there are 3 ECSI sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
COLUMBIA BEACH MILIT Investigation: Suspect State ID Number: 3968	HIGHWAY 101	ESE 1/2 - 1 (0.822 mi.)	8	126

Lower Elevation	Address	Direction / Distance	Map ID	Page
MTA CAMP RILEA READI Investigation: Suspect State ID Number: 6245	***333168 PATRIOT WAY***	***0 - 1/8 (0.000 mi.)***	***5***	***120***
TAGG PIONEER FARM Investigation: No Further Action State ID Number: 4186	***91146 PIONEER FARM R***	***SE 1/2 - 1 (0.552 mi.)***	***7***	***122***

State and tribal leaking storage tank lists

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the Department of Environmental Quality's LUST Database List.

A review of the LUST list, as provided by EDR, and dated 07/02/2018 has revealed that there is 1 LUST site within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
WILLIAMS, LINDA	***33325 PATRIOT WAY***	***ESE 1/8 - 1/4 (0.140 mi.)***	***6***	***122***

EXECUTIVE SUMMARY

Facility ID: 04-02-5196
Cleanup Complete: 03/18/2002

State and tribal voluntary cleanup sites

VCP: Responsible parties have entered into an agreement with DEQ to voluntarily address contamination associated with their property.

A review of the VCP list, as provided by EDR, and dated 06/29/2018 has revealed that there is 1 VCP site within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
MTA CAMP RILEA READI	***333168 PATRIOT WAY***	***0 - 1/8 (0.000 mi.)***	***5***	***120***
ECS Site ID: 6245				

ADDITIONAL ENVIRONMENTAL RECORDS

Other Ascertainable Records

DOD: Consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

A review of the DOD list, as provided by EDR, and dated 12/31/2005 has revealed that there is 1 DOD site within approximately 1 mile of the target property.

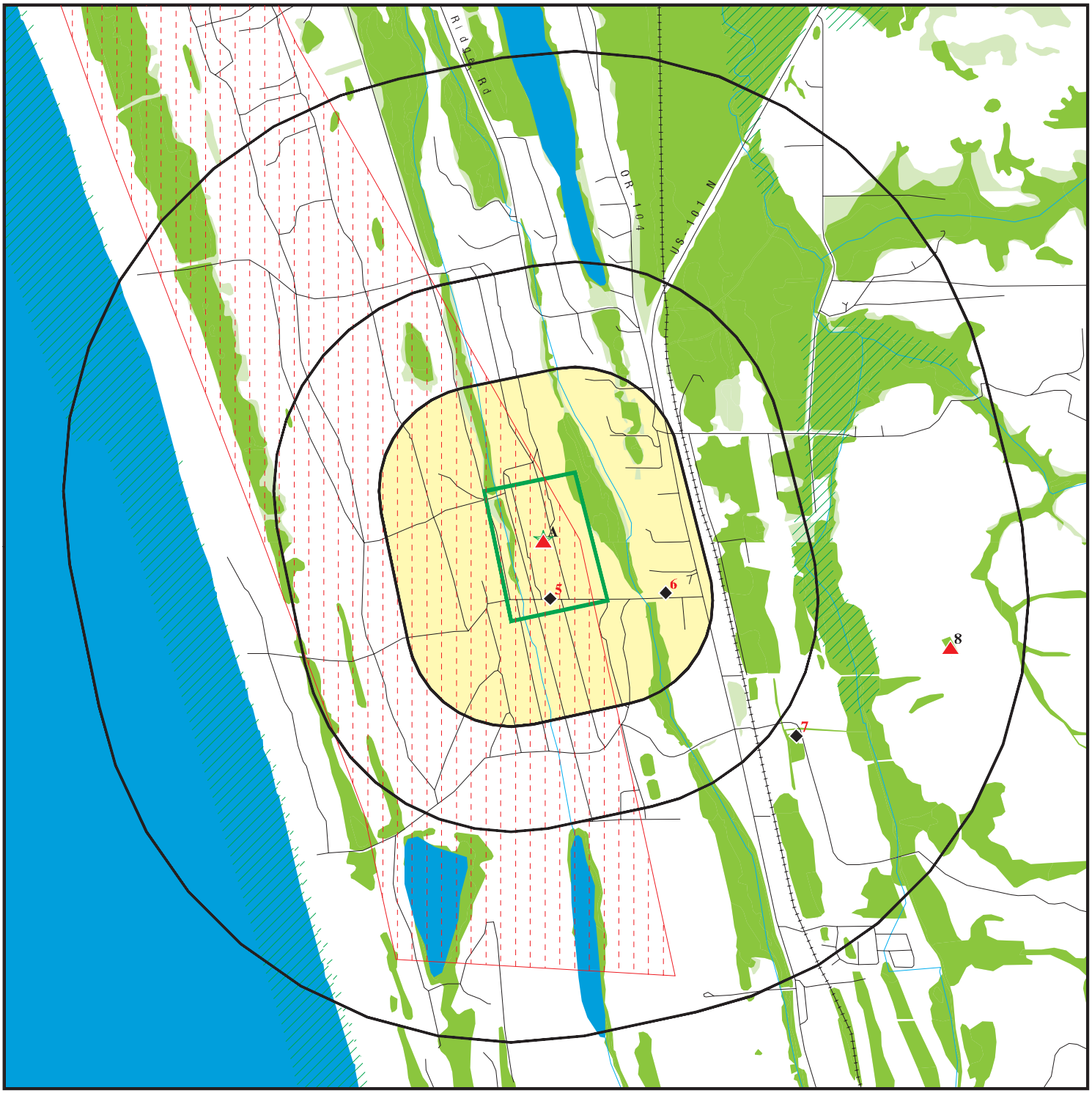
Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
CAMP RILEY MILITARY		0 - 1/8 (0.000 mi.)	0	120

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 2 records.

Site Name	Database(s)
WARRENTON HIGH SCHOOL	LUST, UST
CAMP RILEA	RGA HWS

OVERVIEW MAP - 5436294.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

0 1/4 1/2 1 Miles

Indian Reservations BIA

100-year flood zone

500-year flood zone

National Wetland Inventory

State Wetlands

Upgradient Area

Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Camp Rilea	CLIENT: AECOM
ADDRESS: 33168 Patriot Way Warrenton OR 97146	CONTACT: Brittany Kirchmann
LAT/LONG: 46.124876 / 123.934437	INQUIRY #: 5436294.2s
	DATE: September 26, 2018 6:08 pm

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DETAIL MAP - 5436294.2S

0 1/16 1/8 1/4 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Camp Rilea	CLIENT: AECOM
ADDRESS: 33168 Patriot Way Warrenton OR 97146	CONTACT: Brittany Kirchmann
LAT/LONG: 46.124876 / 123.934437	INQUIRY #: 5436294.2s
	DATE: September 26, 2018 6:09 pm

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	TP		NR	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site list								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250	1	0	0	NR	NR	NR	1
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	TP		NR	NR	NR	NR	NR	0
State- and tribal - equivalent CERCLIS								
ECSI	1.000	1	1	0	0	2	NR	4
CRL	1.000		0	0	0	0	NR	0
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST	0.500		0	1	0	NR	NR	1
INDIAN LUST	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
UST	0.250		0	0	NR	NR	NR	0
AST	0.250	1	0	0	NR	NR	NR	1
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal institutional control / engineering control registries								
ENG CONTROLS	0.500		0	0	0	NR	NR	0
INST CONTROL	0.500		0	0	0	NR	NR	0
State and tribal voluntary cleanup sites								
VCP	0.500		1	0	0	NR	NR	1
INDIAN VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
HIST LF	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
AOCONCERN	1.000		0	0	0	0	NR	0
US HIST CDL	TP		NR	NR	NR	NR	NR	0
CDL	TP		NR	NR	NR	NR	NR	0
US CDL	TP		NR	NR	NR	NR	NR	0
Local Land Records								
LIENS 2	TP		NR	NR	NR	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
SPILLS	TP		NR	NR	NR	NR	NR	0
OR HAZMAT	TP		NR	NR	NR	NR	NR	0
SPILLS 90	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		1	0	0	0	NR	1

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
TRIS	TP	1	NR	NR	NR	NR	NR	1
SSTS	TP		NR	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
PADS	TP	1	NR	NR	NR	NR	NR	1
ICIS	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	TP	1	NR	NR	NR	NR	NR	1
DOCKET HWC	TP		NR	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
ECHO	TP	1	NR	NR	NR	NR	NR	1
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
AIRS	TP		NR	NR	NR	NR	NR	0
COAL ASH	0.500		0	0	0	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
Enforcement	TP		NR	NR	NR	NR	NR	0
Financial Assurance	TP		NR	NR	NR	NR	NR	0
HSIS	TP	1	NR	NR	NR	NR	NR	1
MANIFEST	0.250	1	0	0	NR	NR	NR	1
NPDES	TP		NR	NR	NR	NR	NR	0
UIC	TP	1	NR	NR	NR	NR	NR	1

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA HWS	TP	1	NR	NR	NR	NR	NR	1
RGA LF	TP		NR	NR	NR	NR	NR	0
RGA LUST	TP		NR	NR	NR	NR	NR	0
- Totals --		11	3	1	0	2	0	17

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

A1 Target Property | **CAMP RILEA**
33168 PATRIOT WAY
WARRENTON, OR | **RGA HWS** | **S115332057**
N/A

Site 1 of 4 in cluster A

Actual: 50 ft.

RGA HWS:

2012	CAMP RILEA	33168 PATRIOT WAY
2011	CAMP RILEA	33168 PATRIOT WAY
2010	CAMP RILEA	33168 PATRIOT WAY
2009	CAMP RILEA	33168 PATRIOT WAY
2008	CAMP RILEA	33168 PATRIOT WAY
2007	CAMP RILEA	33168 PATRIOT WAY

A2 Target Property | **US ARMY NATIONAL GUARD CAMP RILEA RANGES**
33168 PATRIOT WAY
WARRENTON, OR 97146 | **TRIS** | **1012208967**
9714WCMPRL9124R

Site 2 of 4 in cluster A

Actual: 50 ft.

TRIS:

Click this hyperlink while viewing on your computer to access
1 additional US_TRIS: record(s) in the EDR Site Report.

A3 Target Property | **ORARNG CAMP RILEA**
33168 PATRIOT WAY
WARRENTON, OR 97146 | **RCRA-LQG**
PADS | **1015757983**
ORD980988414

Site 3 of 4 in cluster A

Actual: 50 ft.

RCRA-LQG:

Date form received by agency:	12/31/2017
Facility name:	ORARNG CAMP RILEA
Facility address:	33168 PATRIOT WAY WARRENTON, OR 97146-9711
EPA ID:	ORD980988414
Mailing address:	PO BOX 14350 SALEM, OR 97309-5047
Contact:	TODD FARMER FACILITY MANAGE
Contact address:	33168 PATRIOT WAY WARRENTON, OR 97146-9711
Contact country:	US
Contact telephone:	503-836-4007
Contact email:	Not reported
EPA Region:	10
Land type:	State
Classification:	Large Quantity Generator
Description:	Handler: generates 1,000 kg or more of hazardous waste during any calendar month; or generates more than 1 kg of acutely hazardous waste during any calendar month; or generates more than 100 kg of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month; or generates 1 kg or less of acutely

ORARNG CAMP RILEA (Continued) **1015757983**

hazardous waste during any calendar month, and accumulates more than 1 kg of acutely hazardous waste at any time; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates more than 100 kg of that material at any time

Owner/Operator Summary:

Owner/operator name:	OREGON MILITARY DEPARTMENT
Owner/operator address:	PO BOX 14350 SALEM, OR 97309
Owner/operator country:	US
Owner/operator telephone:	503-584-3914
Owner/operator email:	Not reported
Owner/operator fax:	Not reported
Owner/operator extension:	Not reported
Legal status:	Federal
Owner/Operator Type:	Operator
Owner/Op start date:	12/31/2017
Owner/Op end date:	Not reported

Owner/operator name:	OREGON MILITARY DEPARTMENT
Owner/operator address:	PO BOX 14350 SALEM, OR 97309
Owner/operator country:	US
Owner/operator telephone:	503-584-3914
Owner/operator email:	Not reported
Owner/operator fax:	Not reported
Owner/operator extension:	Not reported
Legal status:	State
Owner/Operator Type:	Owner
Owner/Op start date:	12/31/2017
Owner/Op end date:	Not reported

Handler Activities Summary:

U.S. importer of hazardous waste:	No
Mixed waste (haz. and radioactive):	No
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	No
Furnace exemption:	No
Used oil fuel burner:	No
Used oil processor:	No
User oil refiner:	No
Used oil fuel marketer to burner:	No
Used oil Specification marketer:	No
Used oil transfer facility:	No
Used oil transporter:	No

. Waste code: NA
. Waste name: NA

Historical Generators:
Date form received by agency: 12/31/2016

ORARNG CAMP RILEA (Continued) **1015757983**

Site name: ORARNG CAMP RILEA
Classification: Large Quantity Generator

. Waste code: NA
. Waste name: NA

Date form received by agency: 12/31/2015
Site name: ORARNG CAMP RILEA
Classification: Large Quantity Generator

. Waste code: NA
. Waste name: NA

Date form received by agency: 12/30/2015
Site name: ORARNG CAMP RILEA
Classification: Large Quantity Generator

. Waste code: D001
. Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.

. Waste code: D003
. Waste name: A MATERIAL IS CONSIDERED TO BE A REACTIVE HAZARDOUS WASTE IF IT IS NORMALLY UNSTABLE, REACTS VIOLENTLY WITH WATER, GENERATES TOXIC GASES WHEN EXPOSED TO WATER OR CORROSIVE MATERIALS, OR IF IT IS CAPABLE OF DETONATION OR EXPLOSION WHEN EXPOSED TO HEAT OR A FLAME. ONE EXAMPLE OF SUCH WASTE WOULD BY WASTE GUNPOWDER.

. Waste code: D005
. Waste name: BARIUM

. Waste code: D006
. Waste name: CADMIUM

. Waste code: D007
. Waste name: CHROMIUM

. Waste code: D008
. Waste name: LEAD

. Waste code: D009
. Waste name: MERCURY

. Waste code: D010
. Waste name: SELENIUM

. Waste code: D018
. Waste name: BENZENE

. Waste code: D028
. Waste name: 1,2-DICHLOROETHANE

ORARNG CAMP RILEA (Continued) **1015757983**

. Waste code: D029
. Waste name: 1,1-DICHLOROETHYLENE

. Waste code: D035
. Waste name: METHYL ETHYL KETONE

. Waste code: F003
. Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NON-HALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS, AND, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F005
. Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: U154
. Waste name: METHANOL (I)

Date form received by agency: 12/31/2014
Site name: ORARNG CAMP RILEA
Classification: Large Quantity Generator

. Waste code: NA
. Waste name: NA

Date form received by agency: 12/31/2013
Site name: ORARNG CAMP RILEA
Classification: Small Quantity Generator

. Waste code: D001
. Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.

. Waste code: D002
. Waste name: A WASTE WHICH HAS A PH OF LESS THAN 2 OR GREATER THAN 12.5 IS CONSIDERED TO BE A CORROSIVE HAZARDOUS WASTE. SODIUM HYDROXIDE, A CAUSTIC SOLUTION WITH A HIGH PH, IS OFTEN USED BY INDUSTRIES TO CLEAN OR DEGREASE PARTS. HYDROCHLORIC ACID, A SOLUTION WITH A LOW PH, IS USED BY MANY INDUSTRIES TO CLEAN METAL PARTS PRIOR TO PAINTING. WHEN THESE CAUSTIC OR ACID SOLUTIONS BECOME CONTAMINATED AND MUST BE

ORARNG CAMP RILEA (Continued) **1015757983**

DISPOSED, THE WASTE WOULD BE A CORROSIVE HAZARDOUS WASTE.

. Waste code: D005
. Waste name: BARIUM

. Waste code: D006
. Waste name: CADMIUM

. Waste code: D007
. Waste name: CHROMIUM

. Waste code: D008
. Waste name: LEAD

. Waste code: D009
. Waste name: MERCURY

. Waste code: D011
. Waste name: SILVER

. Waste code: D018
. Waste name: BENZENE

. Waste code: F003
. Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NON-HALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS, AND, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F005
. Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: U103
. Waste name: DIMETHYL SULFATE

. Waste code: NA
. Waste name: NA

Date form received by agency: 12/31/2013
Site name: ORARNG CAMP RILEA
Classification: Small Quantity Generator

. Waste code: NA
. Waste name: NA

ORARNG CAMP RILEA (Continued) **1015757983**

Date form received by agency: 12/31/2012
Site name: ORARNG CAMP RILEA
Classification: Small Quantity Generator

. Waste code: NA
. Waste name: NA

Date form received by agency: 12/31/2011
Site name: ORARNG CAMP RILEA
Classification: Small Quantity Generator

. Waste code: NA
. Waste name: NA

Date form received by agency: 12/31/2010
Site name: ORARNG CAMP RILEA
Classification: Small Quantity Generator

. Waste code: NA
. Waste name: NA

Date form received by agency: 12/31/2009
Site name: ORARNG CAMP RILEA
Classification: Small Quantity Generator

Date form received by agency: 12/31/2008
Site name: ORARNG CAMP RILEA
Classification: Small Quantity Generator

Date form received by agency: 12/31/2007
Site name: ORARNG CAMP RILEA
Classification: Small Quantity Generator

Date form received by agency: 12/31/2006
Site name: ORARNG CAMP RILEA
Classification: Small Quantity Generator

Date form received by agency: 12/31/2005
Site name: ORARNG CAMP RILEA
Classification: Small Quantity Generator

Date form received by agency: 12/31/2004
Site name: ORARNG CAMP RILEA
Classification: Small Quantity Generator

Date form received by agency: 01/01/2004
Site name: ORARNG CAMP RILEA
Classification: Large Quantity Generator

Date form received by agency: 12/31/2003
Site name: ORARNG CAMP RILEA
Classification: Large Quantity Generator

Date form received by agency: 02/28/2003
Site name: ORARNG CAMP RILEA
Classification: Small Quantity Generator

ORARNG CAMP RILEA (Continued) **1015757983**

Date form received by agency: 02/19/2002
Site name: ORARNG CAMP RILEA
Classification: Small Quantity Generator

Date form received by agency: 04/03/2001
Site name: ORARNG CAMP RILEA
Classification: Small Quantity Generator

Date form received by agency: 03/09/2000
Site name: ORARNG CAMP RILEA
Classification: Small Quantity Generator

Date form received by agency: 03/01/1999
Site name: ORARNG CAMP RILEA
Classification: Small Quantity Generator

Date form received by agency: 01/23/1998
Site name: ORARNG CAMP RILEA
Classification: Small Quantity Generator

Date form received by agency: 02/28/1997
Site name: ORARNG CAMP RILEA
Classification: Small Quantity Generator

Date form received by agency: 01/26/1996
Site name: ORARNG CAMP RILEA
Classification: Small Quantity Generator

Date form received by agency: 02/23/1995
Site name: ORARNG CAMP RILEA
Classification: Small Quantity Generator

Date form received by agency: 02/24/1994
Site name: ORARNG CAMP RILEA
Classification: Small Quantity Generator

Date form received by agency: 04/16/1993
Site name: ORARNG CAMP RILEA
Classification: Small Quantity Generator

Biennial Reports:

Last Biennial Reporting Year: 2017

Annual Waste Handled:

Waste code: D001
Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.
Amount (Lbs): 942

Waste code: D003
Waste name: A MATERIAL IS CONSIDERED TO BE A REACTIVE HAZARDOUS WASTE IF IT IS NORMALLY UNSTABLE, REACTS VIOLENTLY WITH WATER, GENERATES TOXIC GASES

ORARNG CAMP RILEA (Continued) **1015757983**

WHEN EXPOSED TO WATER OR CORROSIVE MATERIALS, OR IF IT IS CAPABLE OF DETONATION OR EXPLOSION WHEN EXPOSED TO HEAT OR A FLAME. ONE EXAMPLE OF SUCH WASTE WOULD BY WASTE GUNPOWDER.

Amount (Lbs): 70

Waste code: D005
Waste name: BARIUM
Amount (Lbs): 5103

Waste code: D006
Waste name: CADMIUM
Amount (Lbs): 4620

Waste code: D007
Waste name: CHROMIUM
Amount (Lbs): 5663

Waste code: D008
Waste name: LEAD
Amount (Lbs): 5302

Waste code: D009
Waste name: MERCURY
Amount (Lbs): 560

Waste code: D010
Waste name: SELENIUM
Amount (Lbs): 560

Waste code: D018
Waste name: BENZENE
Amount (Lbs): 245

Waste code: D028
Waste name: 1,2-DICHLOROETHANE
Amount (Lbs): 483

Waste code: D029
Waste name: 1,1-DICHLOROETHYLENE
Amount (Lbs): 483

Waste code: D035
Waste name: METHYL ETHYL KETONE
Amount (Lbs): 622

Waste code: F003
Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NON-HALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS, AND, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
Amount (Lbs): 139

ORARNG CAMP RILEA (Continued) **1015757983**

Waste code: F005
Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
Amount (Lbs): 139

Waste code: U154
Waste name: METHANOL (I)
Amount (Lbs): 5

Facility Has Received Notices of Violations:
Regulation violated: Not reported
Area of violation: Generators - Pre-transport
Date violation determined: 04/27/2006
Date achieved compliance: 05/16/2006
Violation lead agency: State
Enforcement action: NOTICE OF NONCOMPLIANCE
Enforcement action date: 05/18/2006
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: Generators - Pre-transport
Date violation determined: 04/27/2006
Date achieved compliance: 05/03/2006
Violation lead agency: State
Enforcement action: NOTICE OF NONCOMPLIANCE
Enforcement action date: 05/18/2006
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: Generators - Records/Reporting
Date violation determined: 09/10/1997
Date achieved compliance: 10/28/1997
Violation lead agency: State
Enforcement action: NOTICE OF NONCOMPLIANCE
Enforcement action date: 09/22/1997
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

ORARNG CAMP RILEA (Continued) **1015757983**

Regulation violated: Not reported
Area of violation: Generators - General
Date violation determined: 09/10/1997
Date achieved compliance: 10/28/1997
Violation lead agency: State
Enforcement action: NOTICE OF NONCOMPLIANCE
Enforcement action date: 09/22/1997
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: TSD - Container Use and Management
Date violation determined: 09/10/1997
Date achieved compliance: 10/28/1997
Violation lead agency: State
Enforcement action: NOTICE OF NONCOMPLIANCE
Enforcement action date: 09/22/1997
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: Generators - Manifest
Date violation determined: 09/10/1997
Date achieved compliance: 10/28/1997
Violation lead agency: State
Enforcement action: NOTICE OF NONCOMPLIANCE
Enforcement action date: 09/22/1997
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Evaluation Action Summary:
Evaluation date: 11/24/2014
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 11/03/2009
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 04/27/2006
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE

ORARNG CAMP RILEA (Continued) **1015757983**

Area of violation: Generators - Pre-transport
Date achieved compliance: 05/16/2006
Evaluation lead agency: State

Evaluation date: 04/27/2006
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - Pre-transport
Date achieved compliance: 05/03/2006
Evaluation lead agency: State

Evaluation date: 09/10/1997
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - Records/Reporting
Date achieved compliance: 10/28/1997
Evaluation lead agency: State

Evaluation date: 09/10/1997
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - Manifest
Date achieved compliance: 10/28/1997
Evaluation lead agency: State

Evaluation date: 09/10/1997
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - Container Use and Management
Date achieved compliance: 10/28/1997
Evaluation lead agency: State

Evaluation date: 09/10/1997
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 10/28/1997
Evaluation lead agency: State

PADS:
EPAID: ORD980988414
Facility name: CAMP RILEA
Facility Address: 91426 RILEA MCCARTER RD
WARRENTON, OR 97146
Facility country: US
Generator: Yes
Storer: No
Transporter: No
Disposer: No
Research facility: No
Smelter: No
Facility owner name: OREGON MILITARY DEPARTMENT
Contact title: Not reported
Contact name: JENNIFER LOSSON
Contact tel: (503)584-3866
Contact extension: Not reported
Mailing address: 91426 RILEA MCCARTER RD
WARRENTON, OR 97146
Mailing country: US
Cert. title: Not reported
Cert. name: Not reported
Cert. date: 03/08/2006
Date received: 04/12/2006

A4 Target Property | **ARMY NATIONAL GUARD CAMP RILEA**
33168 PATRIOT WAY
WARRENTON, OR 97146

Site 4 of 4 in cluster A

Actual: 50 ft.

ECSI **1000344666**
AST **N/A**
FINDS
ECHO
HSIS
MANIFEST
UIC

ECSI:

State ID Number:	1524
Brown ID:	0
Study Area:	False
Region ID:	2
Legislatve ID:	832
Investigation:	No Further Action
FACA ID:	40191
Further Action:	0
Lat/Long (dms):	46 7 23.04 / -123 56 .06
County Code:	4.00
Score Value:	Not reported
Cerclis ID:	Not reported
Township Coord.:	7.00
Township Zone:	N
Range Coord:	10.00
Range Zone:	W
Section Coord:	4
Qtr Section:	Not reported
Tax Lots:	Not reported
Size:	1,850 acres
NPL:	False
Orphan:	False
Updated By:	RWILLIA
Update Date:	05/01/2014
Created Date:	03/24/1994
Decode For RegionID:	Northwest Region
Decode For BrownID:	Not reported
Decode For Furtheract:	Not reported
Decode For Investstat:	No Further Action
Decode For Legislative:	Owner, operator or other party under state or federal authority
Alias Name:	Oregon National Guard Training Facility

Hazardous Release:

Substance ID.:	121982
Haz Release ID:	384203
Qty Released:	unknown
Date Released:	1940 - 1980
Update Date:	02/02/1994
Update By:	Not reported
Substance Code:	ECD169
Substance Name:	DIESEL - FUEL OIL
Substance Abbrev.:	Not reported
Substance Category ID:	8529
Substance Category:	Petroleum Related Releases for OSPIRG Report
Category Level:	Not reported
Created By:	Not reported
Created Date:	12/17/2002
Substance Category ID:	8529
Substance Category:	Petroleum Related Releases for OSPIRG Report
Category Level:	Not reported
Created By:	Not reported

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Created Date: 12/17/2002
Sampling Result ID: 344549
Feature Id: Not reported
Hazard Release Id: 384203
Medium: 703
Substance Abbrev.: Not reported
Unit Code: Not reported
Observation: False
Owner Operator: False
Lab Data: True
Sample Depth: Not reported
Start Date: 08/13/1993
End Date: Not reported
Min Concentration: Not reported
Max Concentration: Not reported
Sample Comment: 13,850 ppm
Last Update By: CONV
Update Date: 09/13/1994
Decode for MediumID: Soil

Substance ID.: 121664
Haz Release ID: 386912
Qty Released: unknown
Date Released: unknown
Update Date: 10/05/2006
Update By: RWILLIA
Substance Code: 7440-38-2
Substance Name: ARSENIC
Substance Abbrev.: Not reported
Substance Category ID: 8439
Substance Category: Inorganics
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Substance Category ID: 8439
Substance Category: Inorganics
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Substance Alias ID: 319286
Sub Alias Name: AS
Sampling Result ID: 348937
Feature Id: 0
Hazard Release Id: 386912
Medium: 703
Substance Abbrev.: 0
Unit Code: Not reported
Observation: False
Owner Operator: False
Lab Data: True
Sample Depth: Not reported
Start Date: 09/20/2005
End Date: Not reported
Min Concentration: Not reported
Max Concentration: Not reported
Sample Comment: 1700 mg/kg
Last Update By: RWILLIA

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Update Date: 10/05/2006
Decode for MediumID: Soil
Sampling Result ID: 348940
Feature Id: 0
Hazard Release Id: 386912
Medium: 698
Substance Abbrev.: 0
Unit Code: Not reported
Observation: False
Owner Operator: False
Lab Data: True
Sample Depth: Not reported
Start Date: 09/20/2005
End Date: Not reported
Min Concentration: Not reported
Max Concentration: Not reported
Sample Comment: 24 ppb
Last Update By: RWILLIA
Update Date: 10/05/2006
Decode for MediumID: Groundwater

Substance ID.: 121639
Haz Release ID: 386913
Qty Released: unknown
Date Released: unknown
Update Date: 10/05/2006
Update By: RWILLIA
Substance Code: 7439-92-1
Substance Name: LEAD
Substance Abbrev.: Not reported
Substance Category ID: 8466
Substance Category: Inorganics
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Substance Category ID: 8466
Substance Category: Inorganics
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Substance Alias ID: 319256
Sub Alias Name: PB
Sampling Result ID: 348938
Feature Id: 0
Hazard Release Id: 386913
Medium: 703
Substance Abbrev.: 0
Unit Code: Not reported
Observation: False
Owner Operator: False
Lab Data: True
Sample Depth: Not reported
Start Date: 09/20/2005
End Date: Not reported
Min Concentration: Not reported
Max Concentration: Not reported
Sample Comment: 1180 mg/kg

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Last Update By: RWILLIA
Update Date: 10/05/2006
Decode for MediumID: Soil

Substance ID.: 121781
Haz Release ID: 386914
Qty Released: unknown
Date Released: unknown
Update Date: 10/05/2006
Update By: RWILLIA
Substance Code: 79-01-6
Substance Name: TRICHLOROETHYLENE
Substance Abbrev.: Not reported
Substance Category ID: 8523
Substance Category: Volatiles
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Substance Category ID: 8545
Substance Category: Solvents of interest to Milwaukie Area GW study
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Substance Category ID: 8523
Substance Category: Volatiles
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Substance Category ID: 8545
Substance Category: Solvents of interest to Milwaukie Area GW study
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Substance Alias ID: 317517
Sub Alias Name: ETHINYL TRICHLORIDE
Substance Alias ID: 317518
Sub Alias Name: ETHYLENE TRICHLORIDE
Substance Alias ID: 317519
Sub Alias Name: TCE
Substance Alias ID: 317520
Sub Alias Name: TRI-CLENE
Substance Alias ID: 317521
Sub Alias Name: TRICHLOROETHENE
Sampling Result ID: 348939
Feature Id: 0
Hazard Release Id: 386914
Medium: 698
Substance Abbrev.: 0
Unit Code: Not reported
Observation: False
Owner Operator: False
Lab Data: True
Sample Depth: Not reported
Start Date: 09/20/2005
End Date: Not reported
Min Concentration: Not reported
Max Concentration: Not reported

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Sample Comment: 7.48 ppb
Last Update By: RWILLIA
Update Date: 10/05/2006
Decode for MediumID: Groundwater
Sampling Result ID: 349439
Feature Id: 0
Hazard Release Id: 386914
Medium: 698
Substance Abbrev.: 0
Unit Code: Not reported
Observation: False
Owner Operator: False
Lab Data: True
Sample Depth: Not reported
Start Date: 08/24/2007
End Date: Not reported
Min Concentration: Not reported
Max Concentration: Not reported
Sample Comment: 6.84 ppb
Last Update By: RWILLIA
Update Date: 12/01/2008
Decode for MediumID: Groundwater

Substance ID.: 121011
Haz Release ID: 387216
Qty Released: unknown
Date Released: unknown
Update Date: 12/01/2008
Update By: RWILLIA
Substance Code: 127-18-4
Substance Name: TETRACHLOROETHYLENE
Substance Abbrev.: Not reported
Substance Category ID: 8519
Substance Category: Volatiles
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Substance Category ID: 8551
Substance Category: Solvents of interest to Milwaukie Area GW study
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Substance Category ID: 8519
Substance Category: Volatiles
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Substance Category ID: 8551
Substance Category: Solvents of interest to Milwaukie Area GW study
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Substance Alias ID: 316912
Sub Alias Name: ETHENE,TETRACHLORO-
Substance Alias ID: 316913
Sub Alias Name: ETHYLENE TETRACHLORIDE
Substance Alias ID: 316914

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Sub Alias Name: PERCHLOROETHYLENE
Substance Alias ID: 316915
Sub Alias Name: PERCLENE
Substance Alias ID: 316916
Sub Alias Name: TETRACHLOROETHENE
Substance Alias ID: 316917
Sub Alias Name: TETRACHLOROETHENE,1,1,2,2-
Substance Alias ID: 316918
Sub Alias Name: TETRACHLOROETHYLENE,1,1,2,2-
Sampling Result ID: 349441
Feature Id: 0
Hazard Release Id: 387216
Medium: 698
Substance Abbrev.: 0
Unit Code: Not reported
Observation: False
Owner Operator: False
Lab Data: True
Sample Depth: Not reported
Start Date: 06/18/2008
End Date: Not reported
Min Concentration: Not reported
Max Concentration: Not reported
Sample Comment: 0.87 ppb
Last Update By: RWILLIA
Update Date: 12/01/2008
Decode for MediumID: Groundwater

Substance ID.: 121790
Haz Release ID: 387217
Qty Released: unknown
Date Released: unknown
Update Date: 12/01/2008
Update By: RWILLIA
Substance Code: 79-34-5
Substance Name: TETRACHLOROETHANE,1,1,2,2-
Substance Abbrev.: Not reported
Substance Alias ID: 317538
Sub Alias Name: ACETYLENE TETRACHLORIDE
Substance Alias ID: 317539
Sub Alias Name: BONOFORM
Substance Alias ID: 317540
Sub Alias Name: CELLON
Substance Alias ID: 317541
Sub Alias Name: ETHANE,1,1,2,2-TETRACHLORO-
Substance Alias ID: 317542
Sub Alias Name: TETRACHLOROETHANE
Substance Alias ID: 317543
Sub Alias Name: TETRACHLOROETHANE,sym-
Sampling Result ID: 349440
Feature Id: 0
Hazard Release Id: 387217
Medium: 698
Substance Abbrev.: 0
Unit Code: Not reported
Observation: False
Owner Operator: False

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Lab Data: True
Sample Depth: Not reported
Start Date: 08/24/2007
End Date: Not reported
Min Concentration: Not reported
Max Concentration: Not reported
Sample Comment: 1.97 ppb
Last Update By: RWILLIA
Update Date: 12/01/2008
Decode for MediumID: Groundwater

Substance ID.: 121623
Haz Release ID: 387424
Qty Released: unknown
Date Released: unknown
Update Date: 12/15/2009
Update By: RWILLIA
Substance Code: 74-82-8
Substance Name: METHANE
Substance Abbrev.: Not reported
Sampling Result ID: 349782
Feature Id: 0
Hazard Release Id: 387424
Medium: 700
Substance Abbrev.: 0
Unit Code: Not reported
Observation: False
Owner Operator: False
Lab Data: True
Sample Depth: Not reported
Start Date: 07/31/2007
End Date: Not reported
Min Concentration: Not reported
Max Concentration: Not reported
Sample Comment: 1.4 ppmV (maximum in soil gas)
Last Update By: RWILLIA
Update Date: 12/15/2009
Decode for MediumID: Other

Narrative:
NARR ID: 5733966
NARR Code: Contamination
Created By: Not reported
Created Date: 12/17/2002
Updated By: RWILLIA
Updated Date: 01/26/2009
Decode for NarcdID: Contamination
NARR Comments: Barracks were heated with WW-II era diesel-burning stoves. Diesel leaked from inverted 5-gallon tanks hung outside each building over a 40-year period, up to the early 1980s. Soil around each barracks building was contaminated to a depth of 5 - 7 feet below ground surface. Data from 3 monitoring wells shows that groundwater has not been affected. The Military Department reported a diesel spill from an unknown source in April 1994, (spill # 94-129), which soaked into soils near the Neacoxie Slough.

NARR ID: 5733967
NARR Code: Data Sources

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Created By: Not reported
Created Date: 12/17/2002
Updated By: RWILLIA
Updated Date: 01/26/2009
Decode for NarcdID: Data Sources
NARR Comments: Site Cleanup Report, Camp Rilea, Warrenton, Oregon by Cascade Earth Sciences, Ltd., February 2, 1994. Phase 2 Environmental Baseline Study Sampling and Analysis Plan, Camp Rilea, AMEC Earth & Environmental, March 2005. Phase 2 Environmental Baseline Study, Camp Rilea, AMEC Earth & Environmental, March 2006. Burn Pit Soil Excavation and Disposal Work Plan, Camp Rilea, AMEC Earth & Environmental, January 2007. Landfill Capping and Groundwater Monitoring Work Plan, Camp Rilea, Amec Earth and Environmental, January 2007. Remedial Action and Groundwater Monitoring Report, Former Burn Pit and Landfill Areas, Camp Rilea, Oregon, AMEC Earth & Environmental, January 14, 2008.

NARR ID: 5751154
NARR Code: General Site Description
Created By: RWILLIA
Created Date: 01/26/2009
Updated By: RWILLIA
Updated Date: 01/26/2009
Decode for NarcdID: General Site Description
NARR Comments: Camp Rilea is located at 33168 Patriot Way in Warrenton and the entire property is 1,850 acres in size. The landscape at Camp Rilea consists of north-south trending sand dunes, interdunal plains, lakes, and streams. The camp is bordered by the Pacific Ocean to the west, U.S. Highway Route 101 to the east, agricultural land and a golf course to the south, and residential property to the north.

NARR ID: 5733968
NARR Code: Hazardous Substance/Waste Types
Created By: Not reported
Created Date: 12/17/2002
Updated By: RWILLIA
Updated Date: 01/26/2009
Decode for NarcdID: Hazardous Substance/Waste Types
NARR Comments: Diesel was spilled around the barracks area over many years. The metals arsenic and lead were the primary contaminants at the Burn Pit. At the former landfill area VOCs 1,1,2,2-tetrachloroethene, PCE, and TCE are found at low concentrations in groundwater.

NARR ID: 5733969
NARR Code: Manner of Release
Created By: Not reported
Created Date: 12/17/2002
Updated By: Not reported
Updated Date: 12/17/2002
Decode for NarcdID: Manner of Release
NARR Comments: Leakage of stove oil (diesel) into the ground out of primitive above-ground storage tanks on the outside of each barracks building. Also, in April 1994, a spill of diesel occurred on another portion of the site.

NARR ID: 5733970
NARR Code: Remedial Action

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Created By: Not reported
Created Date: 12/17/2002
Updated By: RWILLIA
Updated Date: 05/01/2014
Decode for NarcdID: Remedial Action
NARR Comments: Approximately 750 yards of soil have been excavated, and the Oregon Military Dept. plans removal of an additional 250 - 350 yards, along with treatment or removal of contaminated soil to complete cleanup, in 1994. Low priority for DEQ followup. (3/25/94 GMW/SAS) The Military Dept. excavated another 500 yards of soil in the spill area; confirmation samples indicated removal to 100 ppm was successful. Soil is to be treated on-site under permit. (6/6/2005 GEA/ICP) Site has entered the independent cleanup program. (8/11/2005 GEA) Additional groundwater investigation, including 6 temporary well points, is expected to occur in Sept 2005, at both the burn pit and former landfill areas. (10/5/06 RKW): Additional investigation of soil and groundwater was completed at the burn pit and landfill. Arsenic up 1700 mg/kg (hot spot) and lead (up to 1180 mg/kg) was found in soil at the burn pit. Arsenic, trichloroethene, and other solvents were found in groundwater at the landfill. Removal action is planned for the burn pit soil and addtional groundwater monitoring is planned for the landfill. Methane investigation was requested by DEQ at the landfill. In April 2007 deep groundwater sampling was performed at the former landfill site. A push probe boring was advanced in the vicinity of the greatest shallow groundwater VOC detection. Water samples were collected through a push probe sampling screen at 48, 73, and 84 feet below ground surface. No VOCs were detected. Five shallow groundwater monitoring wells were installed in the vicinity of the former landfill for long-term groundwater monitoring. Groundwater flow direction is easterly toward Neacoxie Creek. The source area well, the two down-gradient wells and one cross gradient well consistently have low concentration detections of PCE and TCE. (11/12/08 RKW): Excavation of 261 tons of Burn Pit soil and 342 tons of landfill debris from the former landfill was completed in August 2007. Final Burn Pit Area excavation was 60x35 feet and 8-9 feet deep. The Burn Pit material was trucked to Hillsboro Landfill and the landfill debris was trucked to the Warrenton Solid Waste Landfill. Confirmation sampling for lead and arsenic (COCs) indicated all Burn Pit material had been removed. A three-inch asphalt cap was installed on the former landfill. (12/1/08 RKW): Public comment for Burn Pit Area partial NFA to run from 12/1-12/30. No comments-PNFA for Burn Pit issued 1/27/09. (12/15/09 RKW): Final groundwater monitoring event at former landfill completed in June 09. After two years of monitoring 1,1,2,2-TCA and PCE were only detected sporadically. TCE was usually detected in all wells except MW-5 and low concentrations are generally steady or declining. Modeling was used to show that TCE would not reach Neacoxie Creek concentrations greater than 1 ppb or below AWQC. The former landfill was capped with asphalt in August 2007 after monitoring the landfill area for methane gas. Methane was detected at 1% of LEL but below DEQ action levels of 25% LEL. PNFA proposed for the landfill area; public comment period to run in January 2010. (5/5/10 RKW) NFA for the former landfill issued in May 2010. Documentation for the mid-90s final cleanup of the barracks area and the spill near Neacoxie Creek cannot be located so these issues remain open for now. Low priority. (1/22/13 RKW) Investigation of two oil/water separators and a truck fueling pad at the Air National Guard facility at Camp Rilea is in

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

the planning stages. The landfill project, completed in 2010, recieved a full NFA but another project at the camp came up in early 2013 so NFA status was changed to PNFA since more investigation work will be done at the site. (5/1/14 RKW) Further investigation of oil/water separators and fueling pad did not discover significant contamination. NFA issued in April 2014.

NARR ID: 5749531
NARR Code: Site History
Created By: RWILLIA
Created Date: 08/01/2007
Updated By: RWILLIA
Updated Date: 08/01/2007
Decode for NarcdID: Site History
NARR Comments: The large coastal facility was originally established as Camp Clatsop in 1927 and has been used a military training camp ever since.

Administrative Action:
Action ID: 9491
Region: Northwestern Region
Complete Date: 08/20/2007
Rank Value: Not reported
Cleanup Flag: True
Created Date: 12/01/2008
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Northwest Region
Category: Remedial Action
Action Code Flag: False
Action: REMOVAL
Further Action: 0
Comments: Not reported

Action ID: 9463
Region: Northwestern Region
Complete Date: 01/27/2009
Rank Value: Not reported
Cleanup Flag: True
Created Date: 01/27/2009
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Northwest Region
Category: Remedial Action
Action Code Flag: False
Action: Partial No Further Action
Further Action: 0
Comments: Not reported

Action ID: 9469
Region: Northwestern Region
Complete Date: 08/20/2007
Rank Value: Not reported
Cleanup Flag: False
Created Date: 01/14/2010
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Northwest Region
Category: Remedial Action
Action Code Flag: False
Action: REMEDIAL ACTION
Further Action: 0

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Comments: Not reported

Action ID: 9424
Region: Northwestern Region
Complete Date: Not reported
Rank Value: 0
Cleanup Flag: False
Created Date: 12/17/2002
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Northwest Region
Category: Administrative Action
Action Code Flag: False
Action: Site added to database
Further Action: Not reported
Comments: Not reported

Action ID: 9511
Region: Northwestern Region
Complete Date: 04/14/2014
Rank Value: Not reported
Cleanup Flag: False
Created Date: 01/22/2013
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Northwest Region
Category: Remedial Action
Action Code Flag: False
Action: SITE INVESTIGATION
Further Action: 0
Comments: Not reported

Action ID: 9463
Region: Northwestern Region
Complete Date: 05/05/2010
Rank Value: Not reported
Cleanup Flag: True
Created Date: 01/29/2013
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Northwest Region
Category: Remedial Action
Action Code Flag: False
Action: Partial No Further Action
Further Action: 0
Comments: Not reported

Action ID: 9443
Region: Northwestern Region
Complete Date: 04/14/2014
Rank Value: Not reported
Cleanup Flag: False
Created Date: 05/01/2014
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Northwest Region
Category: Remedial Action
Action Code Flag: False
Action: NO FURTHER STATE ACTION REQUIRED
Further Action: 0
Comments: Not reported

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Action ID: 9425
Region: Northwestern Region
Complete Date: 03/24/1994
Rank Value: 0
Cleanup Flag: False
Created Date: 12/17/2002
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Northwest Region
Category: Remedial Action
Action Code Flag: False
Action: SITE EVALUATION
Further Action: Not reported
Comments: Not reported

Action ID: 9501
Region: Not reported
Complete Date: 03/24/1994
Rank Value: 0
Cleanup Flag: False
Created Date: 12/17/2002
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Not reported
Category: Remedial Action
Action Code Flag: False
Action: Remedial Action recommended (RA)
Further Action: Low
Comments: Not reported

Action ID: 9431
Region: Not reported
Complete Date: Not reported
Rank Value: 0
Cleanup Flag: False
Created Date: 12/17/2002
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Not reported
Category: Listing Action
Action Code Flag: False
Action: Place on hold
Further Action: Not reported
Comments: Not reported

Action ID: 9437
Region: Not reported
Complete Date: 03/25/1994
Rank Value: 0
Cleanup Flag: False
Created Date: 12/17/2002
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Not reported
Category: Listing Action
Action Code Flag: False
Action: Listing Review completed
Further Action: Not reported
Comments: Not reported

Action ID: 9521

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Region: Northwestern Region
Complete Date: 03/25/1994
Rank Value: Not reported
Cleanup Flag: False
Created Date: 05/22/2003
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Northwest Region
Category: Remedial Action
Action Code Flag: False
Action: OPTN
Further Action: 0
Comments: Not reported

Action ID: 9519
Region: Northwestern Region
Complete Date: 06/06/2005
Rank Value: Not reported
Cleanup Flag: False
Created Date: 06/16/2005
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Northwest Region
Category: Remedial Action
Action Code Flag: False
Action: VCS Waiting List
Further Action: 0
Comments: Not reported

Action ID: 9435
Region: Northwestern Region
Complete Date: Not reported
Rank Value: Not reported
Cleanup Flag: False
Created Date: 06/16/2005
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Northwest Region
Category: Remedial Action
Action Code Flag: False
Action: Independent Cleanup Program
Further Action: 0
Comments: Not reported

Operations:
Operation Id: 132854
Operation Status: Active
Common Name: Camp Rilea
Yrs of Operation: 1940 -1993
Comments: 45 barracks buildings (demolished in 1993)
Updated Date: 09/13/1994
Updated By: CONV
Decode for OpstatID: Active
Operations SIC Id: 195772
SIC Code: 9711
Created By: Not reported
Created Date: 12/17/2002

AST:
Facility Id: 016410

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Hazardous Substance: GASOLINE
Reporting Quantities: 1,000-4,999
Quantity Units: GALLONS
Physical State: LIQUID
Storage 1: ABOVEGROUND TANK

Facility Id: 016410
Hazardous Substance: JET A FUEL
Reporting Quantities: 10,000-49,999
Quantity Units: GALLONS
Physical State: LIQUID
Storage 1: ABOVEGROUND TANK

Facility Id: 016410
Hazardous Substance: DIESEL FUEL
Reporting Quantities: 10,000-49,999
Quantity Units: GALLONS
Physical State: LIQUID
Storage 1: ABOVEGROUND TANK

FINDS:

Registry ID: 110014227265

Environmental Interest/Information System

OR-DEQ (Oregon - Department Of Environmental Quality) is a regulatory agency whose job is to protect the quality of Oregon's Environment. DEQ uses a combination of technical assistance, inspections and permitting to help public and private facilities and citizens understand and comply with state and federal environmental regulations.

US EPA TRIS (Toxics Release Inventory System) contains information from facilities on the amounts of over 300 listed toxic chemicals that these facilities release directly to air, water, land, or that are transported off-site.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

HAZARDOUS WASTE BIENNIAL REPORTER

AIR MINOR

NON-TRANSIENT NON-COMMUNITY WATER SYSTEM

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:
Envid: 1000344666

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Registry ID: 110014227265
DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110014227265

HSIS:

Facility ID:	016410
Department Or Division Of Company:	CAMP RILEA
Extremely Hazardous Substance:	N
Facility Has Written Emergency Plan:	Y
Contains 112R:	N
NAICS Code 1:	928110
NAICS Desc 1:	NATIONAL SECURITY
NAICS Code 2:	488119
NAICS Desc 2:	OTHER AIRPORT OPERATIONS
Manager Name:	TODD FARMER
Business Phone:	5038364000
Mailing Address:	PO BOX 14350
Mailing City:	SALEM
Mailing State:	OR
Mailing Zip:	973095047
No. of Employees:	100
Day Phone:	5038364007
Placard:	Y
Fire Dept Code:	0398
FD:	WARRENTON FIRE DEPT
Sprinkler System:	Y
Emergency Contact:	TODD FARMER
Emergency Procedure:	BLDG 7156, FRONT OFFICE
Business Type:	NATIONAL GUARD TRAINING SITE
Facility Type:	Not reported
Division/Department:	Not reported
Facility Status:	Not reported
Status TRI:	Not reported
Status RMP:	Not reported
Status PSM:	Not reported
Status CR2K:	Not reported
Status 302:	Not reported
Owner Name:	Not reported
Latest Report ID:	Not reported
Case Number:	Not reported
Chemical Name:	Not reported
EHS Name:	Not reported
Is Pure:	Not reported
Is Mix:	Not reported
Is EHS:	Not reported
Mixture Component:	Not reported
Maximum DailyAmount Code:	Not reported
Maximum DailyAmount Unit:	Not reported
Chemical Added Date:	Not reported
Is ChemPSM:	Not reported
Is Chem112r:	Not reported
Is Chem302:	Not reported
Is Pesticide:	Not reported
Is Fertilizer:	Not reported
Physical State:	Not reported
UNNA Number:	Not reported
NFPA Health:	Not reported
NFPA Flammability:	Not reported

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

NFPA Reactivity:	Not reported
NFPA Special Notice:	Not reported
Hazards:	Not reported
No# of Days Onsite:	Not reported
Latitude:	Not reported
Longitude:	Not reported

Facility:

Chemical Name:	GASOLINE
Physical Description:	LIQUID
Case Number:	8006619
Facility Id:	016410
Physical State Of The Substance:	2
Avag Amt Possessed During Year CD:	11
Max Amt Possessed During Year CD:	20
Applicable Unit Of Measure Code:	2
Description Of The Unit Of Measure:	GALLONS
Type Code:	A
Description:	ABOVEGROUND TANK
Type Code:	Not reported
Temperature Description:	Not reported
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Pressure of Code:	Not reported
Pressure Description:	Not reported
Temperature Description:	NORMAL TEMPERATURE
Temperature of The Hazardous Substance Code:	4
Temperature Description:	Not reported
Temperature of The Hazardous Substance Code:	Not reported
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	1,000-4,999
Description Of The Avg Qnty Code:	500-999
Most Hazardous Ingridient:	PETROLEUM DISTILLATES
United Nations/north America 4 Digit Class Number:	1203
Hazard Rank:	2
EHS Ingredient:	NONE LISTED ON MSDS
Substance Pure:	False
Substance Mix:	True
First Hazardous Class Code For Chemical:	Flammable and Combustible Liquid
Second Hazardous Class Code For Chemical:	Acute Health Hazard
Third Hazardous Class Code For Chemical:	Chronic Health Hazard
Hazard Class 1 Of The Chemical:	3.0
Hazard Class 2 Of The Chemical:	6.3
Hazard Class 3 Of The Chemical:	6.4

Chemical:

Chemical Name:	GASOLINE
United Nations/north America 4 Digit Class Number:	1203
Chemical Abstract Service Identifier Number:	8006619
Chemical Is Extremely Hazardous Substance (EHS):	N
First Hazardous Class Code For Chemical:	Flammable and Combustible Liquid
Second Hazardous Class Code For Chemical:	Acute Health Hazard
Third Hazardous Class Code For Chemical:	Chronic Health Hazard
Hazard Class 1 Of The Chemical:	3.0
Hazard Class 2 Of The Chemical:	6.3
Hazard Class 3 Of The Chemical:	6.4
Chemical Is A Toxic 313 Chemical:	N

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

EPA Pesticide Registration Number:	Not reported
Contains 112R:	Y
Contains EHS:	N
Fertilizer:	N
Pesticide:	N
Contains 313:	Y

Chemical Name:	JET A FUEL
Physical Description:	LIQUID
Case Number:	8008206
Facility Id:	016410
Physical State Of The Substance:	2
Avag Amt Possessed During Year CD:	30
Max Amt Possessed During Year CD:	30
Applicable Unit Of Measure Code:	2
Description Of The Unit Of Measure:	GALLONS
Type Code:	A
Description:	ABOVEGROUND TANK
Type Code:	Not reported
Temperature Description:	Not reported
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Pressure of Code:	Not reported
Pressure Description:	Not reported
Temperature Description:	NORMAL TEMPERATURE
Temperature of The Hazardous Substance Code:	4
Temperature Description:	Not reported
Temperature of The Hazardous Substance Code:	Not reported
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	10,000-49,999
Description Of The Avg Qnty Code:	10,000-49,999
Most Hazardous Ingridient:	KEROSENE
United Nations/north America 4 Digit Class Number:	1863
Hazard Rank:	2
EHS Ingredient:	Not reported
Substance Pure:	False
Substance Mix:	True
First Hazardous Class Code For Chemical:	Flammable and Combustible Liquid
Second Hazardous Class Code For Chemical:	Acute Health Hazard
Third Hazardous Class Code For Chemical:	Chronic Health Hazard
Hazard Class 1 Of The Chemical:	3.0
Hazard Class 2 Of The Chemical:	6.3
Hazard Class 3 Of The Chemical:	6.4

Chemical:

Chemical Name:	JET A FUEL
United Nations/north America 4 Digit Class Number:	1863
Chemical Abstract Service Identifier Number:	8008206
Chemical Is Extremely Hazardous Substance (EHS):	N
First Hazardous Class Code For Chemical:	Flammable and Combustible Liquid
Second Hazardous Class Code For Chemical:	Acute Health Hazard
Third Hazardous Class Code For Chemical:	Chronic Health Hazard
Hazard Class 1 Of The Chemical:	3.0
Hazard Class 2 Of The Chemical:	6.3
Hazard Class 3 Of The Chemical:	6.4
Chemical Is A Toxic 313 Chemical:	N

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

EPA Pesticide Registration Number:	Not reported
Contains 112R:	N
Contains EHS:	N
Fertilizer:	N
Pesticide:	N
Contains 313:	N

Chemical Name:	MOTOR OIL
Physical Description:	LIQUID
Case Number:	64742547
Facility Id:	016410
Physical State Of The Substance:	2
Avag Amt Possessed During Year CD:	10
Max Amt Possessed During Year CD:	11
Applicable Unit Of Measure Code:	2
Description Of The Unit Of Measure:	GALLONS
Type Code:	F
Description:	CAN
Type Code:	D
Temperature Description:	STEEL DRUM
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Temperature Description:	NORMAL TEMPERATURE
Temperature of The Hazardous Substance Code:	4
Temperature Description:	NORMAL TEMPERATURE
Temperature of The Hazardous Substance Code:	4
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	500-999
Description Of The Avg Qnty Code:	200-499
Most Hazardous Ingridient:	PETROLEUM HYDROCARBONS
United Nations/north America 4 Digit Class Number:	0000
Hazard Rank:	2
EHS Ingredient:	Not reported
Substance Pure:	False
Substance Mix:	True
First Hazardous Class Code For Chemical:	Combustible Material
Second Hazardous Class Code For Chemical:	Chronic Health Hazard
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	4.5
Hazard Class 2 Of The Chemical:	6.4
Hazard Class 3 Of The Chemical:	Not reported

Chemical:

Chemical Name:	MOTOR OIL
United Nations/north America 4 Digit Class Number:	0000
Chemical Abstract Service Identifier Number:	64742547
Chemical Is Extremely Hazardous Substance (EHS):	Not reported
First Hazardous Class Code For Chemical:	Combustible Material
Second Hazardous Class Code For Chemical:	Chronic Health Hazard
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	4.5
Hazard Class 2 Of The Chemical:	6.4
Hazard Class 3 Of The Chemical:	Not reported
Chemical Is A Toxic 313 Chemical:	Not reported

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

EPA Pesticide Registration Number:	Not reported
Contains 112R:	Not reported
Contains EHS:	Not reported
Fertilizer:	N
Pesticide:	N
Contains 313:	Not reported

Chemical Name:	OXYGEN
Physical Description:	GAS
Case Number:	7782447
Facility Id:	016410
Physical State Of The Substance:	3
Avag Amt Possessed During Year CD:	20
Max Amt Possessed During Year CD:	20
Applicable Unit Of Measure Code:	3
Description Of The Unit Of Measure:	CUBIC FEET
Type Code:	L
Description:	CYLINDER
Type Code:	Not reported
Temperature Description:	Not reported
Pressure of Code:	2
Pressure Description:	GREATER THAN NORMAL PRESSURE
Pressure of Code:	Not reported
Pressure Description:	Not reported
Temperature Description:	NORMAL TEMPERATURE
Temperature of The Hazardous Substance Code:	4
Temperature Description:	Not reported
Temperature of The Hazardous Substance Code:	Not reported
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	1,000-4,999
Description Of The Avg Qnty Code:	1,000-4,999
Most Hazardous Ingridient:	OXYGEN
United Nations/north America 4 Digit Class Number:	1072
Hazard Rank:	2
EHS Ingredient:	NONE LISTED ON SDS
Substance Pure:	True
Substance Mix:	False
First Hazardous Class Code For Chemical:	Oxidizers
Second Hazardous Class Code For Chemical:	Non-flammable Gas
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	5.1
Hazard Class 2 Of The Chemical:	2.2
Hazard Class 3 Of The Chemical:	Not reported

Chemical:

Chemical Name:	OXYGEN
United Nations/north America 4 Digit Class Number:	1072
Chemical Abstract Service Identifier Number:	7782447
Chemical Is Extremely Hazardous Substance (EHS):	N
First Hazardous Class Code For Chemical:	Oxidizers
Second Hazardous Class Code For Chemical:	Non-flammable Gas
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	5.1
Hazard Class 2 Of The Chemical:	2.2
Hazard Class 3 Of The Chemical:	Not reported
Chemical Is A Toxic 313 Chemical:	N

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

EPA Pesticide Registration Number:	Not reported
Contains 112R:	N
Contains EHS:	N
Fertilizer:	N
Pesticide:	N
Contains 313:	N

Chemical Name:	SALT
Physical Description:	SOLID
Case Number:	7647145
Facility Id:	016410
Physical State Of The Substance:	1
Avag Amt Possessed During Year CD:	20
Max Amt Possessed During Year CD:	21
Applicable Unit Of Measure Code:	1
Description Of The Unit Of Measure:	POUNDS
Type Code:	J
Description:	BAG
Type Code:	Not reported
Temperature Description:	Not reported
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Pressure of Code:	Not reported
Pressure Description:	Not reported
Temperature Description:	NORMAL TEMPERATURE
Temperature of The Hazardous Substance Code:	4
Temperature Description:	Not reported
Temperature of The Hazardous Substance Code:	Not reported
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	5,000-9,999
Description Of The Avg Qnty Code:	1,000-4,999
Most Hazardous Ingridient:	SODIUM CHLORIDE
United Nations/north America 4 Digit Class Number:	Not reported
Hazard Rank:	2
EHS Ingredient:	Not reported
Substance Pure:	False
Substance Mix:	True
First Hazardous Class Code For Chemical:	Acute Health Hazard
Second Hazardous Class Code For Chemical:	Not reported
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	6.3
Hazard Class 2 Of The Chemical:	Not reported
Hazard Class 3 Of The Chemical:	Not reported

Chemical:

Chemical Name:	SALT
United Nations/north America 4 Digit Class Number:	Not reported
Chemical Abstract Service Identifier Number:	7647145
Chemical Is Extremely Hazardous Substance (EHS):	N
First Hazardous Class Code For Chemical:	Acute Health Hazard
Second Hazardous Class Code For Chemical:	Not reported
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	6.3
Hazard Class 2 Of The Chemical:	Not reported
Hazard Class 3 Of The Chemical:	Not reported
Chemical Is A Toxic 313 Chemical:	N

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

EPA Pesticide Registration Number:	Not reported
Contains 112R:	N
Contains EHS:	N
Fertilizer:	N
Pesticide:	N
Contains 313:	N

Chemical Name:	WASTE LEAD ACID BATTERIES
Physical Description:	SOLID
Case Number:	7664939
Facility Id:	016410
Physical State Of The Substance:	1
Avag Amt Possessed During Year CD:	11
Max Amt Possessed During Year CD:	11
Applicable Unit Of Measure Code:	1
Description Of The Unit Of Measure:	POUNDS
Type Code:	R
Description:	OTHER
Type Code:	Not reported
Temperature Description:	Not reported
Pressure of Code:	2
Pressure Description:	GREATER THAN NORMAL PRESSURE
Pressure of Code:	Not reported
Pressure Description:	Not reported
Temperature Description:	NORMAL TEMPERATURE
Temperature of The Hazardous Substance Code:	4
Temperature Description:	Not reported
Temperature of The Hazardous Substance Code:	Not reported
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	500-999
Description Of The Avg Qnty Code:	500-999
Most Hazardous Ingridient:	SULFURIC ACID
United Nations/north America 4 Digit Class Number:	2794
Hazard Rank:	4
EHS Ingredient:	SULFURIC ACID
Substance Pure:	False
Substance Mix:	True
First Hazardous Class Code For Chemical:	Corrosive Material
Second Hazardous Class Code For Chemical:	Acute Health Hazard
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	8.0
Hazard Class 2 Of The Chemical:	6.3
Hazard Class 3 Of The Chemical:	Not reported

Chemical:

Chemical Name:	WASTE LEAD ACID BATTERIES
United Nations/north America 4 Digit Class Number:	2794
Chemical Abstract Service Identifier Number:	7664939
Chemical Is Extremely Hazardous Substance (EHS):	N
First Hazardous Class Code For Chemical:	Corrosive Material
Second Hazardous Class Code For Chemical:	Acute Health Hazard
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	8.0
Hazard Class 2 Of The Chemical:	6.3
Hazard Class 3 Of The Chemical:	Not reported
Chemical Is A Toxic 313 Chemical:	N

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

EPA Pesticide Registration Number:	Not reported
Contains 112R:	Not reported
Contains EHS:	Y
Fertilizer:	Not reported
Pesticide:	Not reported
Contains 313:	Y

Chemical Name:	SODIUM HYPOCHLORITE SOLN LESS THAN 1%
Physical Description:	LIQUID
Case Number:	7681529
Facility Id:	016410
Physical State Of The Substance:	2
Avag Amt Possessed During Year CD:	10
Max Amt Possessed During Year CD:	20
Applicable Unit Of Measure Code:	2
Description Of The Unit Of Measure:	GALLONS
Type Code:	C
Description:	TANK INSIDE BUILDING
Type Code:	Not reported
Temperature Description:	Not reported
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Pressure of Code:	Not reported
Pressure Description:	Not reported
Temperature Description:	NORMAL TEMPERATURE
Temperature of The Hazardous Substance Code:	4
Temperature Description:	Not reported
Temperature of The Hazardous Substance Code:	Not reported
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	1,000-4,999
Description Of The Avg Qnty Code:	200-499
Most Hazardous Ingridient:	SODIUM HYPOCHLORITE
United Nations/north America 4 Digit Class Number:	0000
Hazard Rank:	2
EHS Ingredient:	NONE LISTED ON MSDS
Substance Pure:	False
Substance Mix:	True
First Hazardous Class Code For Chemical:	Acute Health Hazard
Second Hazardous Class Code For Chemical:	Reactive Material
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	6.3
Hazard Class 2 Of The Chemical:	4.4
Hazard Class 3 Of The Chemical:	Not reported

Chemical:

Chemical Name:	SODIUM HYPOCHLORITE SOLN LESS THAN 1%
United Nations/north America 4 Digit Class Number:	0000
Chemical Abstract Service Identifier Number:	7681529
Chemical Is Extremely Hazardous Substance (EHS):	N
First Hazardous Class Code For Chemical:	Acute Health Hazard
Second Hazardous Class Code For Chemical:	Reactive Material
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	6.3
Hazard Class 2 Of The Chemical:	4.4
Hazard Class 3 Of The Chemical:	Not reported
Chemical Is A Toxic 313 Chemical:	N

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

EPA Pesticide Registration Number:	Not reported
Contains 112R:	N
Contains EHS:	N
Fertilizer:	N
Pesticide:	N
Contains 313:	N

Chemical Name:	LEAD ACID BATTERIES
Physical Description:	SOLID
Case Number:	Not reported
Facility Id:	016410
Physical State Of The Substance:	1
Avag Amt Possessed During Year CD:	20
Max Amt Possessed During Year CD:	20
Applicable Unit Of Measure Code:	1
Description Of The Unit Of Measure:	POUNDS
Type Code:	R
Description:	OTHER
Type Code:	Not reported
Temperature Description:	Not reported
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Pressure of Code:	Not reported
Pressure Description:	Not reported
Temperature Description:	NORMAL TEMPERATURE
Temperature of The Hazardous Substance Code:	4
Temperature Description:	Not reported
Temperature of The Hazardous Substance Code:	Not reported
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	1,000-4,999
Description Of The Avg Qnty Code:	1,000-4,999
Most Hazardous Ingridient:	SULFURIC ACID
United Nations/north America 4 Digit Class Number:	2794
Hazard Rank:	4
EHS Ingredient:	SULFURIC ACID
Substance Pure:	False
Substance Mix:	True
First Hazardous Class Code For Chemical:	Acute Health Hazard
Second Hazardous Class Code For Chemical:	Corrosive Material
Third Hazardous Class Code For Chemical:	Chronic Health Hazard
Hazard Class 1 Of The Chemical:	6.3
Hazard Class 2 Of The Chemical:	8.0
Hazard Class 3 Of The Chemical:	6.4

Chemical:

Chemical Name:	LEAD ACID BATTERIES
United Nations/north America 4 Digit Class Number:	2794
Chemical Abstract Service Identifier Number:	Not reported
Chemical Is Extremely Hazardous Substance (EHS):	N
First Hazardous Class Code For Chemical:	Acute Health Hazard
Second Hazardous Class Code For Chemical:	Corrosive Material
Third Hazardous Class Code For Chemical:	Chronic Health Hazard
Hazard Class 1 Of The Chemical:	6.3
Hazard Class 2 Of The Chemical:	8.0
Hazard Class 3 Of The Chemical:	6.4
Chemical Is A Toxic 313 Chemical:	N

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

EPA Pesticide Registration Number:	Not reported
Contains 112R:	N
Contains EHS:	Y
Fertilizer:	N
Pesticide:	N
Contains 313:	Y

Chemical Name:	TALC/BABY POWDER
Physical Description:	SOLID
Case Number:	Not reported
Facility Id:	016410
Physical State Of The Substance:	1
Avag Amt Possessed During Year CD:	20
Max Amt Possessed During Year CD:	20
Applicable Unit Of Measure Code:	1
Description Of The Unit Of Measure:	POUNDS
Type Code:	N
Description:	PLASTIC BOTTLE, JUG, BUCKET
Type Code:	Not reported
Temperature Description:	Not reported
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Pressure of Code:	Not reported
Pressure Description:	Not reported
Temperature Description:	NORMAL TEMPERATURE
Temperature of The Hazardous Substance Code:	4
Temperature Description:	Not reported
Temperature of The Hazardous Substance Code:	Not reported
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	1,000-4,999
Description Of The Avg Qnty Code:	1,000-4,999
Most Hazardous Ingridient:	PROPRIETARY MIXTURE
United Nations/north America 4 Digit Class Number:	0000
Hazard Rank:	2
EHS Ingredient:	Not reported
Substance Pure:	False
Substance Mix:	True
First Hazardous Class Code For Chemical:	Acute Health Hazard
Second Hazardous Class Code For Chemical:	Not reported
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	6.3
Hazard Class 2 Of The Chemical:	Not reported
Hazard Class 3 Of The Chemical:	Not reported

Chemical:

Chemical Name:	TALC/BABY POWDER
United Nations/north America 4 Digit Class Number:	0000
Chemical Abstract Service Identifier Number:	Not reported
Chemical Is Extremely Hazardous Substance (EHS):	N
First Hazardous Class Code For Chemical:	Acute Health Hazard
Second Hazardous Class Code For Chemical:	Not reported
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	6.3
Hazard Class 2 Of The Chemical:	Not reported
Hazard Class 3 Of The Chemical:	Not reported
Chemical Is A Toxic 313 Chemical:	N

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

EPA Pesticide Registration Number:	Not reported
Contains 112R:	N
Contains EHS:	N
Fertilizer:	N
Pesticide:	N
Contains 313:	N

Chemical Name:	DIESEL FUEL
Physical Description:	LIQUID
Case Number:	0068334305
Facility Id:	016410
Physical State Of The Substance:	2
Avag Amt Possessed During Year CD:	30
Max Amt Possessed During Year CD:	30
Applicable Unit Of Measure Code:	2
Description Of The Unit Of Measure:	GALLONS
Type Code:	A
Description:	ABOVEGROUND TANK
Type Code:	Not reported
Temperature Description:	Not reported
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Pressure of Code:	Not reported
Pressure Description:	Not reported
Temperature Description:	NORMAL TEMPERATURE
Temperature of The Hazardous Substance Code:	4
Temperature Description:	Not reported
Temperature of The Hazardous Substance Code:	Not reported
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	10,000-49,999
Description Of The Avg Qnty Code:	10,000-49,999
Most Hazardous Ingridient:	petroleum products, diesel oil
United Nations/north America 4 Digit Class Number:	1993
Hazard Rank:	2
EHS Ingredient:	Not reported
Substance Pure:	False
Substance Mix:	True
First Hazardous Class Code For Chemical:	Flammable and Combustible Liquid
Second Hazardous Class Code For Chemical:	Acute Health Hazard
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	3.0
Hazard Class 2 Of The Chemical:	6.3
Hazard Class 3 Of The Chemical:	Not reported

Chemical:

Chemical Name:	DIESEL FUEL
United Nations/north America 4 Digit Class Number:	1993
Chemical Abstract Service Identifier Number:	0068334305
Chemical Is Extremely Hazardous Substance (EHS):	N
First Hazardous Class Code For Chemical:	Flammable and Combustible Liquid
Second Hazardous Class Code For Chemical:	Acute Health Hazard
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	3.0
Hazard Class 2 Of The Chemical:	6.3
Hazard Class 3 Of The Chemical:	Not reported
Chemical Is A Toxic 313 Chemical:	N

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

EPA Pesticide Registration Number:	Not reported
Contains 112R:	N
Contains EHS:	N
Fertilizer:	N
Pesticide:	N
Contains 313:	N

Chemical Name:	ACETYLENE
Physical Description:	GAS
Case Number:	74862
Facility Id:	016410
Physical State Of The Substance:	3
Avag Amt Possessed During Year CD:	20
Max Amt Possessed During Year CD:	20
Applicable Unit Of Measure Code:	3
Description Of The Unit Of Measure:	CUBIC FEET
Type Code:	L
Description:	CYLINDER
Type Code:	Not reported
Temperature Description:	Not reported
Pressure of Code:	2
Pressure Description:	GREATER THAN NORMAL PRESSURE
Pressure of Code:	Not reported
Pressure Description:	Not reported
Temperature Description:	NORMAL TEMPERATURE
Temperature of The Hazardous Substance Code:	4
Temperature Description:	Not reported
Temperature of The Hazardous Substance Code:	Not reported
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	1,000-4,999
Description Of The Avg Qnty Code:	1,000-4,999
Most Hazardous Ingridient:	ACETYLENE
United Nations/north America 4 Digit Class Number:	1001
Hazard Rank:	2
EHS Ingredient:	NONE LISTED ON MSDS
Substance Pure:	True
Substance Mix:	False
First Hazardous Class Code For Chemical:	Flammable Gas
Second Hazardous Class Code For Chemical:	Chronic Health Hazard
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	2.1
Hazard Class 2 Of The Chemical:	6.4
Hazard Class 3 Of The Chemical:	Not reported

Chemical:

Chemical Name:	ACETYLENE
United Nations/north America 4 Digit Class Number:	1001
Chemical Abstract Service Identifier Number:	74862
Chemical Is Extremely Hazardous Substance (EHS):	N
First Hazardous Class Code For Chemical:	Flammable Gas
Second Hazardous Class Code For Chemical:	Chronic Health Hazard
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	2.1
Hazard Class 2 Of The Chemical:	6.4
Hazard Class 3 Of The Chemical:	Not reported
Chemical Is A Toxic 313 Chemical:	N

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

EPA Pesticide Registration Number:	Not reported
Contains 112R:	N
Contains EHS:	N
Fertilizer:	N
Pesticide:	N
Contains 313:	N

OR MANIFEST:

Manifest Year:	Manifest Year - 2017
EPA Id:	ORD980988414
Inactive Status:	Not reported
Organization Name:	Not reported
Contact Name:	Todd Farmer Facility Manager
Contact Telephone Number:	Not reported
Mailing Address:	33168 Patriot Way
Mailing City/State/Zip:	Warrenton, OR 97146-9711

Manifest:

Year :	2017
RCRA Id :	ORD980988414
Inactive :	Not reported
Status:	Large quantity generator
Manifest :	009932829FLE
Ship Date :	02/17/2017
TSD :	UTD991301748
WS Num:	1
Transporter:	Not reported
Ship Qty :	Not reported
Rpt Unit :	Not reported
Off Mng :	H040
EPA Waste Codes:	D008
Waste Description:	Weapons Cleaning Debris/Targets D008
Total Amt Of Waste Stream Generated in Reporting Yr 1:	1663.8915
Total Amt Of Waste Stream Generated in Reporting Yr 2:	551.456

Year :	2017
RCRA Id :	ORD980988414
Inactive :	Not reported
Status:	Large quantity generator
Manifest :	010489244FLE
Ship Date :	04/14/2017
TSD :	UTD981552177
WS Num:	1
Transporter:	Not reported
Ship Qty :	Not reported
Rpt Unit :	Not reported
Off Mng :	H040
EPA Waste Codes:	D008
Waste Description:	Weapons Cleaning Debris/Targets D008
Total Amt Of Waste Stream Generated in Reporting Yr 1:	1663.8915
Total Amt Of Waste Stream Generated in Reporting Yr 2:	34.9195

Year :	2017
RCRA Id :	ORD980988414

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Inactive : Not reported
Status: Large quantity generator
Manifest : 010489246FLE
Ship Date : 04/14/2017
TSD : UTD991301748
WS Num: 1
Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D008
Waste Description: Weapons Cleaning Debris/Targets D008
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1663.8915
Total Amt Of Waste Stream Generated in Reporting Yr 2: 173.6905

Year : 2017
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 010613055FLE
Ship Date : 07/10/2017
TSD : UTD991301748
WS Num: 1
Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D008
Waste Description: Weapons Cleaning Debris/Targets D008
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1663.8915
Total Amt Of Waste Stream Generated in Reporting Yr 2: 257.588

Year : 2017
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 011095838FLE
Ship Date : 09/27/2017
TSD : UTD991301748
WS Num: 1
Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D008
Waste Description: Weapons Cleaning Debris/Targets D008
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1663.8915
Total Amt Of Waste Stream Generated in Reporting Yr 2: 342.3925

Year : 2017
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 011152232FLE
Ship Date : 10/20/2017
TSD : UTD991301748
WS Num: 1

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D008
Waste Description: Weapons Cleaning Debris/Targets D008
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1663.8915
Total Amt Of Waste Stream Generated in Reporting Yr 2: 575.945

Year : 2017
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 010489224FLE
Ship Date : 04/14/2017
TSD : WAD981769110
WS Num: 2
Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D001
Waste Description: Fuel Filters/Absorbents D001 D018
Total Amt Of Waste Stream Generated in Reporting Yr 1: 243.983
Total Amt Of Waste Stream Generated in Reporting Yr 2: 52.1525

Year : 2017
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 010613053FLE
Ship Date : 07/10/2017
TSD : WAD981769110
WS Num: 2
Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D001
Waste Description: Fuel Filters/Absorbents D001 D018
Total Amt Of Waste Stream Generated in Reporting Yr 1: 243.983
Total Amt Of Waste Stream Generated in Reporting Yr 2: 79.816

Year : 2017
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 010613054FLE
Ship Date : 07/10/2017
TSD : UTD981552177
WS Num: 2
Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D001
Waste Description: Fuel Filters/Absorbents D001 D018

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Total Amt Of Waste Stream Generated in Reporting Yr 1: 243.983
Total Amt Of Waste Stream Generated in Reporting Yr 2: 61.2225

Year : 2017
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 011152229FLE
Ship Date : 10/20/2017
TSD : WAD981769110
WS Num: 2
Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D001
Waste Description: Fuel Filters/Absorbents D001 D018
Total Amt Of Waste Stream Generated in Reporting Yr 1: 243.983
Total Amt Of Waste Stream Generated in Reporting Yr 2: 50.792

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729 additional OR_MANIFEST: record(s) in the EDR Site Report.

Year : 2017
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 010489224FLE
Ship Date : 04/14/2017
TSD : WAD981769110
WS Num: 2
Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D018
Waste Description: Fuel Filters/Absorbents D001 D018
Total Amt Of Waste Stream Generated in Reporting Yr 1: 243.983
Total Amt Of Waste Stream Generated in Reporting Yr 2: 52.1525

Year : 2017
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 010613053FLE
Ship Date : 07/10/2017
TSD : WAD981769110
WS Num: 2
Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D018
Waste Description: Fuel Filters/Absorbents D001 D018
Total Amt Of Waste Stream Generated in Reporting Yr 1: 243.983
Total Amt Of Waste Stream Generated in Reporting Yr 2: 79.816

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Year : 2017
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 010613054FLE
Ship Date : 07/10/2017
TSD : UTD981552177
WS Num: 2
Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D018
Waste Description: Fuel Filters/Absorbents D001 D018
Total Amt Of Waste Stream Generated in Reporting Yr 1: 243.983
Total Amt Of Waste Stream Generated in Reporting Yr 2: 61.2225

Year : 2017
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 011152229FLE
Ship Date : 10/20/2017
TSD : WAD981769110
WS Num: 2
Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D018
Waste Description: Fuel Filters/Absorbents D001 D018
Total Amt Of Waste Stream Generated in Reporting Yr 1: 243.983
Total Amt Of Waste Stream Generated in Reporting Yr 2: 50.792

Year : 2017
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 010613056fle
Ship Date : 07/10/2017
TSD : ORD089452353
WS Num: 3
Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D006
Waste Description: Washrack Sludge D6
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1723.3
Total Amt Of Waste Stream Generated in Reporting Yr 2: 1723.3

Year : 2017
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 011095838FLE
Ship Date : 09/27/2017

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

TSD : UTD991301748
WS Num: 4
Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D005
Waste Description: ASP Debris D008 D005
Total Amt Of Waste Stream Generated in Reporting Yr 1: 17.6865
Total Amt Of Waste Stream Generated in Reporting Yr 2: 17.6865

Year : 2017
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 011095838FLE
Ship Date : 09/27/2017
TSD : UTD991301748
WS Num: 4
Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D008
Waste Description: ASP Debris D008 D005
Total Amt Of Waste Stream Generated in Reporting Yr 1: 17.6865
Total Amt Of Waste Stream Generated in Reporting Yr 2: 17.6865

Year : 2017
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 010489244FLE
Ship Date : 04/14/2017
TSD : UTD981552177
WS Num: 5
Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D001
Waste Description: Aerosol Cans/Cylinders D001 D003
Total Amt Of Waste Stream Generated in Reporting Yr 1: 2.2675
Total Amt Of Waste Stream Generated in Reporting Yr 2: 2.2675

Year : 2017
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 010489244FLE
Ship Date : 04/14/2017
TSD : UTD981552177
WS Num: 5
Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

EPA Waste Codes: D003
Waste Description: Aerosol Cans/Cylinders D001 D003
Total Amt Of Waste Stream Generated in Reporting Yr 1: 2.2675
Total Amt Of Waste Stream Generated in Reporting Yr 2: 2.2675

Year : 2017
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 010489224FLE
Ship Date : 04/14/2017
TSD : WAD981769110
WS Num: 6
Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D005
Waste Description: Waste Paint/Parts Washer D5, D8, D28, D29, D35
Total Amt Of Waste Stream Generated in Reporting Yr 1: 65.7575
Total Amt Of Waste Stream Generated in Reporting Yr 2: 4.0815

Manifest:
Year : 2016
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 008281589FLE
Ship Date : 03/09/2016
TSD : WAD981769110
WS Num: 1
Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D001
Waste Description: JP8 Fuel Filters D001 D018
Total Amt Of Waste Stream Generated in Reporting Yr 1: 193.191
Total Amt Of Waste Stream Generated in Reporting Yr 2: 116.5495

Year : 2016
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 008281805FLE
Ship Date : 05/04/2016
TSD : WAD981769110
WS Num: 1
Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D001
Waste Description: JP8 Fuel Filters D001 D018
Total Amt Of Waste Stream Generated in Reporting Yr 1: 193.191

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Total Amt Of Waste Stream Generated in Reporting Yr 2: 43.0825

Year : 2016
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 008283294FLE
Ship Date : 01/06/2016
TSD : WAD981769110
WS Num: 1
Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D001
Waste Description: JP8 Fuel Filters D001 D018
Total Amt Of Waste Stream Generated in Reporting Yr 1: 193.191
Total Amt Of Waste Stream Generated in Reporting Yr 2: 56.6875

Year : 2016
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 009107504FLE
Ship Date : 12/26/2016
TSD : WAD981769110
WS Num: 1
Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D001
Waste Description: JP8 Fuel Filters D001 D018
Total Amt Of Waste Stream Generated in Reporting Yr 1: 193.191
Total Amt Of Waste Stream Generated in Reporting Yr 2: 33.559

Year : 2016
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 008281589FLE
Ship Date : 03/09/2016
TSD : WAD981769110
WS Num: 1
Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D018
Waste Description: JP8 Fuel Filters D001 D018
Total Amt Of Waste Stream Generated in Reporting Yr 1: 193.191
Total Amt Of Waste Stream Generated in Reporting Yr 2: 116.5495

Year : 2016
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Manifest : 008281805FLE
Ship Date : 05/04/2016
TSD : WAD981769110
WS Num: 1
Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D018
Waste Description: JP8 Fuel Filters D001 D018
Total Amt Of Waste Stream Generated in Reporting Yr 1: 193.191
Total Amt Of Waste Stream Generated in Reporting Yr 2: 43.0825

Year : 2016
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 008283294FLE
Ship Date : 01/06/2016
TSD : WAD981769110
WS Num: 1
Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D018
Waste Description: JP8 Fuel Filters D001 D018
Total Amt Of Waste Stream Generated in Reporting Yr 1: 193.191
Total Amt Of Waste Stream Generated in Reporting Yr 2: 56.6875

Year : 2016
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 009107504FLE
Ship Date : 12/26/2016
TSD : WAD981769110
WS Num: 1
Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D018
Waste Description: JP8 Fuel Filters D001 D018
Total Amt Of Waste Stream Generated in Reporting Yr 1: 193.191
Total Amt Of Waste Stream Generated in Reporting Yr 2: 33.559

Year : 2016
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 008281590FLE
Ship Date : 03/09/2016
TSD : WAD991281767
WS Num: 2
Transporter: Not reported
Ship Qty : Not reported

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D008
Waste Description: Weapons Cleaning Rags, Patches, Wood Residue D008
Total Amt Of Waste Stream Generated in Reporting Yr 1: 702.018
Total Amt Of Waste Stream Generated in Reporting Yr 2: 93.421

Year : 2016
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 008283312FLE
Ship Date : 01/06/2016
TSD : WAD991281767
WS Num: 2
Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D008
Waste Description: Weapons Cleaning Rags, Patches, Wood Residue D008
Total Amt Of Waste Stream Generated in Reporting Yr 1: 702.018
Total Amt Of Waste Stream Generated in Reporting Yr 2: 151.0155

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Year : 2016
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 009107513FLE
Ship Date : 10/26/2016
TSD : UTD991301748
WS Num: 2
Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D008
Waste Description: Weapons Cleaning Rags, Patches, Wood Residue D008
Total Amt Of Waste Stream Generated in Reporting Yr 1: 702.018
Total Amt Of Waste Stream Generated in Reporting Yr 2: 185.4815

Year : 2016
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 009107513FLE
Ship Date : 10/26/2016
TSD : UTD991301748
WS Num: 3
Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D005

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Waste Description: Smoke Grenade D008 D005
Total Amt Of Waste Stream Generated in Reporting Yr 1: 96.5955
Total Amt Of Waste Stream Generated in Reporting Yr 2: 96.5955

Year : 2016
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 009107513FLE
Ship Date : 10/26/2016
TSD : UTD991301748
WS Num: 3
Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D008
Waste Description: Smoke Grenade D008 D005
Total Amt Of Waste Stream Generated in Reporting Yr 1: 96.5955
Total Amt Of Waste Stream Generated in Reporting Yr 2: 96.5955

Year : 2016
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 008281806FLE
Ship Date : 05/04/2016
TSD : WAD020257945
WS Num: 4
Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D006
Waste Description: Washrack Sludge D6
Total Amt Of Waste Stream Generated in Reporting Yr 1: 4671.05
Total Amt Of Waste Stream Generated in Reporting Yr 2: 1859.35

Year : 2016
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 008283296FLE
Ship Date : 01/06/2016
TSD : WAD020257945
WS Num: 4
Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D006
Waste Description: Washrack Sludge D6
Total Amt Of Waste Stream Generated in Reporting Yr 1: 4671.05
Total Amt Of Waste Stream Generated in Reporting Yr 2: 2811.7

Year : 2016
RCRA Id : ORD980988414

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Inactive : Not reported
Status: Large quantity generator
Manifest : 009107510FLE
Ship Date : 10/26/2016
TSD : UTD981552177
WS Num: 5
Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D001
Waste Description: Waste Paint Thinner D1 D35 F3 F5
Total Amt Of Waste Stream Generated in Reporting Yr 1: 32.1985
Total Amt Of Waste Stream Generated in Reporting Yr 2: 32.1985

Year : 2016
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 009107510FLE
Ship Date : 10/26/2016
TSD : UTD981552177
WS Num: 5
Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D035
Waste Description: Waste Paint Thinner D1 D35 F3 F5
Total Amt Of Waste Stream Generated in Reporting Yr 1: 32.1985
Total Amt Of Waste Stream Generated in Reporting Yr 2: 32.1985

Year : 2016
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 009107510FLE
Ship Date : 10/26/2016
TSD : UTD981552177
WS Num: 5
Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: F003
Waste Description: Waste Paint Thinner D1 D35 F3 F5
Total Amt Of Waste Stream Generated in Reporting Yr 1: 32.1985
Total Amt Of Waste Stream Generated in Reporting Yr 2: 32.1985

Year : 2016
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 009107510FLE
Ship Date : 10/26/2016
TSD : UTD981552177
WS Num: 5

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: F005
Waste Description: Waste Paint Thinner D1 D35 F3 F5
Total Amt Of Waste Stream Generated in Reporting Yr 1: 32.1985
Total Amt Of Waste Stream Generated in Reporting Yr 2: 32.1985

Year : 2016
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 009107502FLE
Ship Date : 10/26/2016
TSD : ARD069748192
WS Num: 6
Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D001
Waste Description: Misc Lab Residue D1,D2,D4,D8,D11,U196
Total Amt Of Waste Stream Generated in Reporting Yr 1: 6.8025
Total Amt Of Waste Stream Generated in Reporting Yr 2: 1.3605

Manifest:
Year : 2015
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 006762372FLE
Ship Date : 04/09/2015
TSD : WAD981769110
WS Num: 1
Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D001
Waste Description: WASTE PAINT RELATED MATERIAL D1 D5 D7 D28 D29 D35 D39 D40
Total Amt Of Waste Stream Generated in Reporting Yr 1: 219.0405
Total Amt Of Waste Stream Generated in Reporting Yr 2: 201.354

Year : 2015
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 006762373FLE
Ship Date : 04/09/2015
TSD : WAD991281767
WS Num: 1
Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Off Mng : H050
EPA Waste Codes: D001
Waste Description: WASTE PAINT RELATED MATERIAL D1 D5 D7 D28 D29 D35 D39 D40
Total Amt Of Waste Stream Generated in Reporting Yr 1: 219.0405
Total Amt Of Waste Stream Generated in Reporting Yr 2: 2.2675

Year : 2015
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 006762554FLE
Ship Date : 05/20/2015
TSD : WAD981769110
WS Num: 1
Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D001
Waste Description: WASTE PAINT RELATED MATERIAL D1 D5 D7 D28 D29 D35 D39 D40
Total Amt Of Waste Stream Generated in Reporting Yr 1: 219.0405
Total Amt Of Waste Stream Generated in Reporting Yr 2: 34.9195

Year : 2015
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 006765595FLE
Ship Date : 01/29/2015
TSD : WAD981769110
WS Num: 1
Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D001
Waste Description: WASTE PAINT RELATED MATERIAL D1 D5 D7 D28 D29 D35 D39 D40
Total Amt Of Waste Stream Generated in Reporting Yr 1: 219.0405
Total Amt Of Waste Stream Generated in Reporting Yr 2: 10.4305

Year : 2015
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 007597240FLE
Ship Date : 06/30/2015
TSD : WAD981769110
WS Num: 1
Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D001
Waste Description: WASTE PAINT RELATED MATERIAL D1 D5 D7 D28 D29 D35 D39 D40
Total Amt Of Waste Stream Generated in Reporting Yr 1: 219.0405
Total Amt Of Waste Stream Generated in Reporting Yr 2: 1.814

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Year : 2015
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 006762372FLE
Ship Date : 04/09/2015
TSD : WAD981769110
WS Num: 1
Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D005
Waste Description: WASTE PAINT RELATED MATERIAL D1 D5 D7 D28 D29 D35 D39 D40
Total Amt Of Waste Stream Generated in Reporting Yr 1: 219.0405
Total Amt Of Waste Stream Generated in Reporting Yr 2: 201.354

Year : 2015
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 006762373FLE
Ship Date : 04/09/2015
TSD : WAD991281767
WS Num: 1
Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D005
Waste Description: WASTE PAINT RELATED MATERIAL D1 D5 D7 D28 D29 D35 D39 D40
Total Amt Of Waste Stream Generated in Reporting Yr 1: 219.0405
Total Amt Of Waste Stream Generated in Reporting Yr 2: 2.2675

Year : 2015
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 006762554FLE
Ship Date : 05/20/2015
TSD : WAD981769110
WS Num: 1
Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D005
Waste Description: WASTE PAINT RELATED MATERIAL D1 D5 D7 D28 D29 D35 D39 D40
Total Amt Of Waste Stream Generated in Reporting Yr 1: 219.0405
Total Amt Of Waste Stream Generated in Reporting Yr 2: 34.9195

Year : 2015
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 006765595FLE
Ship Date : 01/29/2015

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

TSD : WAD981769110
WS Num: 1
Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D005
Waste Description: WASTE PAINT RELATED MATERIAL D1 D5 D7 D28 D29 D35 D39 D40
Total Amt Of Waste Stream Generated in Reporting Yr 1: 219.0405
Total Amt Of Waste Stream Generated in Reporting Yr 2: 10.4305

Year : 2015
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 007597240FLE
Ship Date : 06/30/2015
TSD : WAD981769110
WS Num: 1
Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D005
Waste Description: WASTE PAINT RELATED MATERIAL D1 D5 D7 D28 D29 D35 D39 D40
Total Amt Of Waste Stream Generated in Reporting Yr 1: 219.0405
Total Amt Of Waste Stream Generated in Reporting Yr 2: 1.814

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729 additional OR_MANIFEST: record(s) in the EDR Site Report.

Year : 2015
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 006762372FLE
Ship Date : 04/09/2015
TSD : WAD981769110
WS Num: 1
Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D007
Waste Description: WASTE PAINT RELATED MATERIAL D1 D5 D7 D28 D29 D35 D39 D40
Total Amt Of Waste Stream Generated in Reporting Yr 1: 219.0405
Total Amt Of Waste Stream Generated in Reporting Yr 2: 201.354

Year : 2015
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 006762373FLE
Ship Date : 04/09/2015
TSD : WAD991281767
WS Num: 1
Transporter: Not reported

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D007
Waste Description: WASTE PAINT RELATED MATERIAL D1 D5 D7 D28 D29 D35 D39 D40
Total Amt Of Waste Stream Generated in Reporting Yr 1: 219.0405
Total Amt Of Waste Stream Generated in Reporting Yr 2: 2.2675

Year : 2015
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 006762554FLE
Ship Date : 05/20/2015
TSD : WAD981769110
WS Num: 1
Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D007
Waste Description: WASTE PAINT RELATED MATERIAL D1 D5 D7 D28 D29 D35 D39 D40
Total Amt Of Waste Stream Generated in Reporting Yr 1: 219.0405
Total Amt Of Waste Stream Generated in Reporting Yr 2: 34.9195

Year : 2015
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 006765595FLE
Ship Date : 01/29/2015
TSD : WAD981769110
WS Num: 1
Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D007
Waste Description: WASTE PAINT RELATED MATERIAL D1 D5 D7 D28 D29 D35 D39 D40
Total Amt Of Waste Stream Generated in Reporting Yr 1: 219.0405
Total Amt Of Waste Stream Generated in Reporting Yr 2: 10.4305

Year : 2015
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 007597240FLE
Ship Date : 06/30/2015
TSD : WAD981769110
WS Num: 1
Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D007
Waste Description: WASTE PAINT RELATED MATERIAL D1 D5 D7 D28 D29 D35 D39 D40
Total Amt Of Waste Stream Generated in Reporting Yr 1: 219.0405

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Total Amt Of Waste Stream Generated in Reporting Yr 2: 1.814

Year : 2015
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 006762372FLE
Ship Date : 04/09/2015
TSD : WAD981769110
WS Num: 1
Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D028
Waste Description: WASTE PAINT RELATED MATERIAL D1 D5 D7 D28 D29 D35 D39 D40
Total Amt Of Waste Stream Generated in Reporting Yr 1: 219.0405
Total Amt Of Waste Stream Generated in Reporting Yr 2: 201.354

Year : 2015
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 006762373FLE
Ship Date : 04/09/2015
TSD : WAD991281767
WS Num: 1
Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D028
Waste Description: WASTE PAINT RELATED MATERIAL D1 D5 D7 D28 D29 D35 D39 D40
Total Amt Of Waste Stream Generated in Reporting Yr 1: 219.0405
Total Amt Of Waste Stream Generated in Reporting Yr 2: 2.2675

Year : 2015
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 006762554FLE
Ship Date : 05/20/2015
TSD : WAD981769110
WS Num: 1
Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D028
Waste Description: WASTE PAINT RELATED MATERIAL D1 D5 D7 D28 D29 D35 D39 D40
Total Amt Of Waste Stream Generated in Reporting Yr 1: 219.0405
Total Amt Of Waste Stream Generated in Reporting Yr 2: 34.9195

Year : 2015
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Manifest : 006765595FLE
Ship Date : 01/29/2015
TSD : WAD981769110
WS Num: 1
Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D028
Waste Description: WASTE PAINT RELATED MATERIAL D1 D5 D7 D28 D29 D35 D39 D40
Total Amt Of Waste Stream Generated in Reporting Yr 1: 219.0405
Total Amt Of Waste Stream Generated in Reporting Yr 2: 10.4305

Year : 2015
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 007597240FLE
Ship Date : 06/30/2015
TSD : WAD981769110
WS Num: 1
Transporter: Not reported
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D028
Waste Description: WASTE PAINT RELATED MATERIAL D1 D5 D7 D28 D29 D35 D39 D40
Total Amt Of Waste Stream Generated in Reporting Yr 1: 219.0405
Total Amt Of Waste Stream Generated in Reporting Yr 2: 1.814

Manifest:
Year : 2014
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 007595732FLE
Ship Date : 05/14/2014
TSD : WAD991281767
WS Num: 5
Transporter: WAD058364647
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D005 D006 D007 D008
Waste Description: SLUDGE(UTES) PARTS WASHER, PAINT FILTER, WASHRACK SLUDGE D006
Total Amt Of Waste Stream Generated in Reporting Yr 1: 2752.2914999999998
Total Amt Of Waste Stream Generated in Reporting Yr 2: 1063.4575

Year : 2014
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 005223640FLE
Ship Date : 05/23/2014
TSD : WAD991281767

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

WS Num: 5
Transporter: WAD058364647
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D005 D006 D007 D008
Waste Description: SLUDGE(UTES) PARTS WASHER, PAINT FILTER, WASHRACK SLUDGE D006
Total Amt Of Waste Stream Generated in Reporting Yr 1: 2752.2914999999998
Total Amt Of Waste Stream Generated in Reporting Yr 2: 1.8140000000000001

Year : 2014
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 007596020FLE
Ship Date : 06/25/2014
TSD : WAD020257945
WS Num: 5
Transporter: WAD058364647
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D005 D006 D007 D008
Waste Description: SLUDGE(UTES) PARTS WASHER, PAINT FILTER, WASHRACK SLUDGE D006
Total Amt Of Waste Stream Generated in Reporting Yr 1: 2752.2914999999998
Total Amt Of Waste Stream Generated in Reporting Yr 2: 807.23000000000002

Year : 2014
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 006764825FLE
Ship Date : 08/28/2014
TSD : WAD020257945
WS Num: 5
Transporter: WAD058364647
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D005 D006 D007 D008
Waste Description: SLUDGE(UTES) PARTS WASHER, PAINT FILTER, WASHRACK SLUDGE D006
Total Amt Of Waste Stream Generated in Reporting Yr 1: 2752.2914999999998
Total Amt Of Waste Stream Generated in Reporting Yr 2: 662.11000000000001

Year : 2014
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 007595728FLE
Ship Date : 05/14/2014
TSD : WAD981769110
WS Num: 4
Transporter: WAD058364647
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D001 D005 D007 D035 D039 D040

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Waste Description: WASTE PAINT RELATED MATERIAL
Total Amt Of Waste Stream Generated in Reporting Yr 1: 149.655
Total Amt Of Waste Stream Generated in Reporting Yr 2: 100.67700000000001

Year : 2014
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 006764871FLE
Ship Date : 08/28/2014
TSD : WAD981769110
WS Num: 4
Transporter: WAD058364647
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D001 D005 D007 D035 D039 D040
Waste Description: WASTE PAINT RELATED MATERIAL
Total Amt Of Waste Stream Generated in Reporting Yr 1: 149.655
Total Amt Of Waste Stream Generated in Reporting Yr 2: 4.5350000000000001

Year : 2014
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 007595732FLE
Ship Date : 05/14/2014
TSD : WAD991281767
WS Num: 6
Transporter: WAD058364647
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D008
Waste Description: WEAPONS CLEANING RAGS, PATCHES, WOOD RESIDUE D008
Total Amt Of Waste Stream Generated in Reporting Yr 1: 4986.6859999999997
Total Amt Of Waste Stream Generated in Reporting Yr 2: 132.422

Year : 2014
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 006764872FLE
Ship Date : 08/28/2014
TSD : WAD991281767
WS Num: 6
Transporter: WAD058364647
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D008
Waste Description: WEAPONS CLEANING RAGS, PATCHES, WOOD RESIDUE D008
Total Amt Of Waste Stream Generated in Reporting Yr 1: 4986.6859999999997
Total Amt Of Waste Stream Generated in Reporting Yr 2: 138.77099999999999

Year : 2014
RCRA Id : ORD980988414

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Inactive : Not reported
Status: Large quantity generator
Manifest : 006767523FLE
Ship Date : 11/18/2014
TSD : ORD089452353
WS Num: 6
Transporter: WAD058364647
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D008
Waste Description: WEAPONS CLEANING RAGS, PATCHES, WOOD RESIDUE D008
Total Amt Of Waste Stream Generated in Reporting Yr 1: 4986.6859999999997
Total Amt Of Waste Stream Generated in Reporting Yr 2: 4716.3999999999996

Year : 2014
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 007595728FLE
Ship Date : 05/14/2014
TSD : WAD981769110
WS Num: 2
Transporter: WAD058364647
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D001 D018
Waste Description: JP8 FUEL FILTERS
Total Amt Of Waste Stream Generated in Reporting Yr 1: 415.40600000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 87.978999999999999

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729 additional OR_MANIFEST: record(s) in the EDR Site Report.

Year : 2014
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 006764871FLE
Ship Date : 08/28/2014
TSD : WAD981769110
WS Num: 2
Transporter: WAD058364647
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D001 D018
Waste Description: JP8 FUEL FILTERS
Total Amt Of Waste Stream Generated in Reporting Yr 1: 415.40600000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 193.64449999999999

Year : 2014
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 007595732FLE

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Ship Date : 05/14/2014
TSD : WAD991281767
WS Num: 3
Transporter: WAD058364647
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D001 D003
Waste Description: AEROSOL CANS
Total Amt Of Waste Stream Generated in Reporting Yr 1: 6.8025000000000002
Total Amt Of Waste Stream Generated in Reporting Yr 2: 0.45350000000000001

Year : 2014
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 007595732FLE
Ship Date : 05/14/2014
TSD : WAD991281767
WS Num: 1
Transporter: WAD058364647
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D001 D002 D003 D004 D009 D011
Waste Description: MISC LAB RESIDUE
Total Amt Of Waste Stream Generated in Reporting Yr 1: 28.117000000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 12.698

Year : 2014
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 005223636FLE
Ship Date : 05/22/2014
TSD : WAD991281767
WS Num: 1
Transporter: WAD058364647
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D001 D002 D003 D004 D009 D011
Waste Description: MISC LAB RESIDUE
Total Amt Of Waste Stream Generated in Reporting Yr 1: 28.117000000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 13.1515

Year : 2014
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 007595732FLE
Ship Date : 05/14/2014
TSD : WAD991281767
WS Num: 8
Transporter: WAD058364647
Ship Qty : Not reported
Rpt Unit : Not reported

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Off Mng : H132
EPA Waste Codes: D007 D008 D009 D010
Waste Description: SMOKE GRENADES
Total Amt Of Waste Stream Generated in Reporting Yr 1: 191.8305
Total Amt Of Waste Stream Generated in Reporting Yr 2: 191.8305

Year : 2014
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 007595728FLE
Ship Date : 05/14/2014
TSD : WAD981769110
WS Num: 9
Transporter: WAD058364647
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 U002
Waste Description: WASTE ACETONE
Total Amt Of Waste Stream Generated in Reporting Yr 1: 0.45350000000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 0.45350000000000001

Year : 2014
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 005223640FLE
Ship Date : 05/23/2014
TSD : WAD991281767
WS Num: 1
Transporter: WAD058364647
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D001 D002 D003 D004 D009 D011
Waste Description: MISC LAB RESIDUE
Total Amt Of Waste Stream Generated in Reporting Yr 1: 28.117000000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 2.2675000000000001

Year : 2014
RCRA Id : ORD980988414
Inactive : Not reported
Status: Large quantity generator
Manifest : 007595728FLE
Ship Date : 05/14/2014
TSD : WAD981769110
WS Num: 7
Transporter: WAD058364647
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D001 D035 F003 F005
Waste Description: WASTE PAINT THINNER D001 D035 F003 F005
Total Amt Of Waste Stream Generated in Reporting Yr 1: 120.17749999999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 63.490000000000002

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Manifest:

Year :	2013
RCRA Id :	ORD980988414
Inactive :	Not reported
Status:	Small quantity generator
Manifest :	005220447FLE
Ship Date :	05/30/2013
TSD :	WAD020257945
WS Num:	1
Transporter:	WAD058364647
Ship Qty :	Not reported
Rpt Unit :	Not reported
Off Mng :	H132
EPA Waste Codes:	D006
Waste Description:	SLUDGE(UTES) PARTS WASHER, PAINT FILTER, WASHRACK SLUDGE D006

Total Amt Of Waste Stream Generated in Reporting Yr 1: 1692.0084999999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 952.35000000000002

Year :	2013
RCRA Id :	ORD980988414
Inactive :	Not reported
Status:	Small quantity generator
Manifest :	005225787FLE
Ship Date :	05/09/2013
TSD :	WAD991281767
WS Num:	1
Transporter:	WAD058364647
Ship Qty :	Not reported
Rpt Unit :	Not reported
Off Mng :	H132
EPA Waste Codes:	D006
Waste Description:	SLUDGE(UTES) PARTS WASHER, PAINT FILTER, WASHRACK SLUDGE D006

Total Amt Of Waste Stream Generated in Reporting Yr 1: 1692.0084999999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 32.198500000000003

Year :	2013
RCRA Id :	ORD980988414
Inactive :	Not reported
Status:	Small quantity generator
Manifest :	005224315FLE
Ship Date :	02/01/2013
TSD :	WAD981769110
WS Num:	1
Transporter:	WAD058364647
Ship Qty :	Not reported
Rpt Unit :	Not reported
Off Mng :	H132
EPA Waste Codes:	D006
Waste Description:	SLUDGE(UTES) PARTS WASHER, PAINT FILTER, WASHRACK SLUDGE D006

Total Amt Of Waste Stream Generated in Reporting Yr 1: 1692.0084999999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 4.5350000000000001

Year :	2013
RCRA Id :	ORD980988414
Inactive :	Not reported
Status:	Small quantity generator
Manifest :	005220793FLE

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Ship Date : 07/18/2013
TSD : WAD020257945
WS Num: 1
Transporter: WAD058364647
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D006
Waste Description: SLUDGE(UTES) PARTS WASHER, PAINT FILTER, WASHRACK SLUDGE D006
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1692.0084999999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 707.46000000000004

Year : 2013
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 005224171FLE
Ship Date : 02/01/2013
TSD : WAD991281767
WS Num: 1
Transporter: WAD058364647
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D006
Waste Description: SLUDGE(UTES) PARTS WASHER, PAINT FILTER, WASHRACK SLUDGE D006
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1692.0084999999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 22.221499999999999

Year : 2013
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 005226799FLE
Ship Date : 12/12/2013
TSD : WAD991281767
WS Num: 2
Transporter: WAD058364647
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: U080
Waste Description: PAINT RELATED MATERIAL U080
Total Amt Of Waste Stream Generated in Reporting Yr 1: 17.233000000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 17.233000000000001

Year : 2013
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 005224171FLE
Ship Date : 02/01/2013
TSD : WAD991281767
WS Num: 3
Transporter: WAD058364647
Ship Qty : Not reported
Rpt Unit : Not reported

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Off Mng : H132
EPA Waste Codes: D001 D003 D039
Waste Description: AEROSOL CANS
Total Amt Of Waste Stream Generated in Reporting Yr 1: 16.779499999999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 6.8025000000000002

Year : 2013
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 005225787FLE
Ship Date : 05/09/2013
TSD : WAD991281767
WS Num: 3
Transporter: WAD058364647
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D001 D003 D039
Waste Description: AEROSOL CANS
Total Amt Of Waste Stream Generated in Reporting Yr 1: 16.779499999999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 5.4420000000000002

Year : 2013
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 005226799FLE
Ship Date : 12/12/2013
TSD : WAD991281767
WS Num: 3
Transporter: WAD058364647
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D001 D003 D039
Waste Description: AEROSOL CANS
Total Amt Of Waste Stream Generated in Reporting Yr 1: 16.779499999999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 11.3375

Year : 2013
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 005224315FLE
Ship Date : 02/01/2013
TSD : WAD981769110
WS Num: 4
Transporter: WAD058364647
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D001 D007 D035
Waste Description: WASTE PAINT RELATED MATERIAL
Total Amt Of Waste Stream Generated in Reporting Yr 1: 104.7585
Total Amt Of Waste Stream Generated in Reporting Yr 2: 33.558999999999997

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

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Year : 2013
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 005225716FLE
Ship Date : 05/09/2013
TSD : WAD981769110
WS Num: 4
Transporter: WAD058364647
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D001 D007 D035
Waste Description: WASTE PAINT RELATED MATERIAL
Total Amt Of Waste Stream Generated in Reporting Yr 1: 104.7585
Total Amt Of Waste Stream Generated in Reporting Yr 2: 72.106499999999997

Year : 2013
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 005226798FLE
Ship Date : 12/12/2013
TSD : WAD981769110
WS Num: 4
Transporter: WAD058364647
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D001 D007 D035
Waste Description: WASTE PAINT RELATED MATERIAL
Total Amt Of Waste Stream Generated in Reporting Yr 1: 104.7585
Total Amt Of Waste Stream Generated in Reporting Yr 2: 32.652000000000001

Year : 2013
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 005226799FLE
Ship Date : 12/12/2013
TSD : WAD991281767
WS Num: 5
Transporter: WAD058364647
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D002
Waste Description: MISC CORROSIVE D002
Total Amt Of Waste Stream Generated in Reporting Yr 1: 3.6280000000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 3.6280000000000001

Year : 2013
RCRA Id : ORD980988414
Inactive : Not reported

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Status: Small quantity generator
Manifest : 005224315FLE
Ship Date : 02/01/2013
TSD : WAD981769110
WS Num: 6
Transporter: WAD058364647
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D001 D018
Waste Description: JP8 FUEL FILTERS D018
Total Amt Of Waste Stream Generated in Reporting Yr 1: 255.32050000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 175.05099999999999

Year : 2013
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 005225786FLE
Ship Date : 05/09/2013
TSD : WAD981769110
WS Num: 6
Transporter: WAD058364647
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D001 D018
Waste Description: JP8 FUEL FILTERS D018
Total Amt Of Waste Stream Generated in Reporting Yr 1: 255.32050000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 130.608

Year : 2013
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 005226798FLE
Ship Date : 12/12/2013
TSD : WAD981769110
WS Num: 6
Transporter: WAD058364647
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D001 D018
Waste Description: JP8 FUEL FILTERS D018
Total Amt Of Waste Stream Generated in Reporting Yr 1: 255.32050000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 110.654

Year : 2013
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 005226799
Ship Date : 12/12/2013
TSD : WAD991281767
WS Num: 7
Transporter: WAD058364647

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D008
Waste Description: WEAPONS CLEANING RAGS, PATCHES, WOOD RESIDUE D008
Total Amt Of Waste Stream Generated in Reporting Yr 1: 180.49299999999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 24.035499999999999

Year : 2013
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 005225787FLE
Ship Date : 05/09/2013
TSD : WAD991281767
WS Num: 7
Transporter: WAD058364647
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D008
Waste Description: WEAPONS CLEANING RAGS, PATCHES, WOOD RESIDUE D008
Total Amt Of Waste Stream Generated in Reporting Yr 1: 180.49299999999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 21.314499999999999

Year : 2013
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 005224390
Ship Date : 12/12/2013
TSD : WAD991281767
WS Num: 7
Transporter: WAD058364647
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D008
Waste Description: WEAPONS CLEANING RAGS, PATCHES, WOOD RESIDUE D008
Total Amt Of Waste Stream Generated in Reporting Yr 1: 180.49299999999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 90.700000000000003

Year : 2013
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 005224171FLE
Ship Date : 02/01/2013
TSD : WAD991281767
WS Num: 7
Transporter: WAD058364647
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D008
Waste Description: WEAPONS CLEANING RAGS, PATCHES, WOOD RESIDUE D008
Total Amt Of Waste Stream Generated in Reporting Yr 1: 180.49299999999999

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Total Amt Of Waste Stream Generated in Reporting Yr 2: 44.442999999999998

Manifest:

Year :	2012
RCRA Id :	ORD980988414
Inactive :	Not reported
Status:	Small quantity generator
Manifest :	000044898DAT
Ship Date :	03/26/2012
TSD :	WAD020257945
WS Num:	1
Transporter:	WAR000001743
Ship Qty :	Not reported
Rpt Unit :	Not reported
Off Mng :	H132
EPA Waste Codes:	D006
Waste Description:	SLUDGE(UTES) PARTS WASHER, PAINT FILTER, WASHRACK SLUDGE D006

Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year :	2012
RCRA Id :	ORD980988414
Inactive :	Not reported
Status:	Small quantity generator
Manifest :	000045858DAT
Ship Date :	03/13/2012
TSD :	WAD991281767
WS Num:	1
Transporter:	WAR000001743
Ship Qty :	Not reported
Rpt Unit :	Not reported
Off Mng :	H132
EPA Waste Codes:	D006
Waste Description:	SLUDGE(UTES) PARTS WASHER, PAINT FILTER, WASHRACK SLUDGE D006

Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year :	2012
RCRA Id :	ORD980988414
Inactive :	Not reported
Status:	Small quantity generator
Manifest :	005222660FLE
Ship Date :	09/06/2012
TSD :	WAD991281767
WS Num:	1
Transporter:	WAR000001743
Ship Qty :	Not reported
Rpt Unit :	Not reported
Off Mng :	H132
EPA Waste Codes:	D006
Waste Description:	SLUDGE(UTES) PARTS WASHER, PAINT FILTER, WASHRACK SLUDGE D006

Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2012

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 000045836DAT
Ship Date : 03/06/2012
TSD : WAD991281767
WS Num: 2
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D006 D008
Waste Description: H2O PARTS WASHER D006, D008
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2012
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 005222669FLE
Ship Date : 09/06/2012
TSD : WAD981769110
WS Num: 2
Transporter: WAD058364647
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D006 D008
Waste Description: H2O PARTS WASHER D006, D008
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2012
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 000045858DAT
Ship Date : 03/13/2012
TSD : WAD991281767
WS Num: 3
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D001 D003
Waste Description: AEROSOL CANS
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2012
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 000045836DAT
Ship Date : 03/06/2012
TSD : WAD991281767

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

WS Num: 4
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D001 D008 D028 D035 D039 D040
Waste Description: WASTE PAINT RELATED MATERIAL
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2012
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 000045858DAT
Ship Date : 03/13/2012
TSD : WAD991281767
WS Num: 4
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D001 D008 D028 D035 D039 D040
Waste Description: WASTE PAINT RELATED MATERIAL
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2012
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 005222669FLE
Ship Date : 09/06/2012
TSD : WAD981769110
WS Num: 4
Transporter: WAD058364647
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D001 D008 D028 D035 D039 D040
Waste Description: WASTE PAINT RELATED MATERIAL
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2012
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 000045858DAT
Ship Date : 03/13/2012
TSD : WAD991281767
WS Num: 5
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D002

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Waste Description: MISC CORROSIVE D002
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

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Year : 2012
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 005222660FLE
Ship Date : 09/06/2012
TSD : WAD991281767
WS Num: 5
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D002
Waste Description: MISC CORROSIVE D002
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2012
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 000045858DAT
Ship Date : 03/13/2012
TSD : WAD991281767
WS Num: 6
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D018
Waste Description: JP8 FUEL FILTERS D018
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2012
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 005222669FLE
Ship Date : 09/06/2012
TSD : WAD981769110
WS Num: 6
Transporter: WAD058364647
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D018
Waste Description: JP8 FUEL FILTERS D018
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Year : 2012
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 005222660FLE
Ship Date : 09/06/2012
TSD : WAD991281767
WS Num: 7
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D008
Waste Description: WEAPONS CLEANING RAGS, PATCHES, WOOD RESIDUE D008
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2012
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 000045858DAT
Ship Date : 03/13/2012
TSD : WAD991281767
WS Num: 7
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D008
Waste Description: WEAPONS CLEANING RAGS, PATCHES, WOOD RESIDUE D008
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2012
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 005222669FLE
Ship Date : 09/06/2012
TSD : WAD981769110
WS Num: 8
Transporter: WAD058364647
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D001 F003 F005
Waste Description: WASTE PAINT THINNER D001 F003 F005
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2012
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 005222660FLE
Ship Date : 09/06/2012

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

TSD : WAD991281767
WS Num: 9
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D007 D008 D009 D010
Waste Description: SMOKE GRENADES
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Manifest:
Year : 2011
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 000005638DAT
Ship Date : 07/07/2011
TSD : WAD991281767
WS Num: 2
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D011
Waste Description: SILVER NITRATE
Total Amt Of Waste Stream Generated in Reporting Yr 1: 12.2445
Total Amt Of Waste Stream Generated in Reporting Yr 2: 12.2445

Year : 2011
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 000005638DAT
Ship Date : 07/07/2011
TSD : WAD991281767
WS Num: 5
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D008
Waste Description: WEAPONS CLEANING RAGS, PATCHES, WOOD, RESIDUE
Total Amt Of Waste Stream Generated in Reporting Yr 1: 118.3635
Total Amt Of Waste Stream Generated in Reporting Yr 2: 33.105499999999999

Year : 2011
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 000009940DAT
Ship Date : 03/14/2011
TSD : WAD991281767
WS Num: 5
Transporter: WAR000001743

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D008
Waste Description: WEAPONS CLEANING RAGS, PATCHES, WOOD, RESIDUE
Total Amt Of Waste Stream Generated in Reporting Yr 1: 118.3635
Total Amt Of Waste Stream Generated in Reporting Yr 2: 54.420000000000002

Year : 2011
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 000005638DAT
Ship Date : 07/07/2011
TSD : WAD991281767
WS Num: 6
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D018
Waste Description: JP8 FUEL FILTERS
Total Amt Of Waste Stream Generated in Reporting Yr 1: 291.60050000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 134.68950000000001

Year : 2011
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 000005638DAT
Ship Date : 07/07/2011
TSD : WAD991281767
WS Num: 7
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D006
Waste Description: OILY SKIMMER SLUDGE(UTES)/PARTS WASHER/ PAINT FILTER
Total Amt Of Waste Stream Generated in Reporting Yr 1: 24.489000000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 19.047000000000001

Year : 2011
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 000005638DAT
Ship Date : 07/07/2011
TSD : WAD991281767
WS Num: 8
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H111
EPA Waste Codes: D005
Waste Description: CLP
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1.8140000000000001

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Total Amt Of Waste Stream Generated in Reporting Yr 2: 1.8140000000000001

Year : 2011
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 000009940DAT
Ship Date : 03/14/2011
TSD : WAD991281767
WS Num: 9
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H111
EPA Waste Codes: D002 D003
Waste Description: DR890 ZINC
Total Amt Of Waste Stream Generated in Reporting Yr 1: 2.7210000000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 2.7210000000000001

Year : 2011
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 000005638DAT
Ship Date : 07/07/2011
TSD : WAD991281767
WS Num: 11
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D001 D005 D007 D008 D035
Waste Description: WASTE PAINT RELATES MATERIAL
Total Amt Of Waste Stream Generated in Reporting Yr 1: 598.62
Total Amt Of Waste Stream Generated in Reporting Yr 2: 12.698

Year : 2011
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 000009940DAT
Ship Date : 03/14/2011
TSD : WAD991281767
WS Num: 11
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D001 D005 D007 D008 D035
Waste Description: WASTE PAINT RELATES MATERIAL
Total Amt Of Waste Stream Generated in Reporting Yr 1: 598.62
Total Amt Of Waste Stream Generated in Reporting Yr 2: 218.1335

Year : 2011
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Manifest : 000009940DAT
Ship Date : 03/14/2011
TSD : WAD991281767
WS Num: 12
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D001 D035 F003 F005
Waste Description: WASTE PAINT THINNER
Total Amt Of Waste Stream Generated in Reporting Yr 1: 151.92250000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 151.92250000000001

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Year : 2011
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 000005638DAT
Ship Date : 07/07/2011
TSD : WAD991281767
WS Num: 13
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D001 D003
Waste Description: AEROSOL CANS
Total Amt Of Waste Stream Generated in Reporting Yr 1: 11.791
Total Amt Of Waste Stream Generated in Reporting Yr 2: 1.8140000000000001

Year : 2011
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 000009940DAT
Ship Date : 03/14/2011
TSD : WAD991281767
WS Num: 13
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D001 D003
Waste Description: AEROSOL CANS
Total Amt Of Waste Stream Generated in Reporting Yr 1: 11.791
Total Amt Of Waste Stream Generated in Reporting Yr 2: 7.2560000000000002

Manifest:
Year : 2010
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Manifest : 005734614JJK
Ship Date : 06/22/2010
TSD : WAD991281767
WS Num: 1
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H077
EPA Waste Codes: D006
Waste Description: WASH RACK SLUDGE /D006
Total Amt Of Waste Stream Generated in Reporting Yr 1: 848.04499999999996
Total Amt Of Waste Stream Generated in Reporting Yr 2: 848.04499999999996

Year : 2010
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 006578938JJK
Ship Date : 02/10/2010
TSD : WAD991281767
WS Num: 2
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D011
Waste Description: SILVER NITRATE D011
Total Amt Of Waste Stream Generated in Reporting Yr 1: 0
Total Amt Of Waste Stream Generated in Reporting Yr 2: 10.4305

Year : 2010
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 000005377DAT
Ship Date : 11/18/2010
TSD : WAD991281767
WS Num: 3
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D006 D008
Waste Description: H2O PARTS WASHER D006
Total Amt Of Waste Stream Generated in Reporting Yr 1: 51.698999999999998
Total Amt Of Waste Stream Generated in Reporting Yr 2: 51.698999999999998

Year : 2010
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 000005377DAT
Ship Date : 11/18/2010
TSD : WAD991281767
WS Num: 4
Transporter: WAR000001743
Ship Qty : Not reported

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D008
Waste Description: Weapons Cleaning Rags, Patches, Residue/ D008
Total Amt Of Waste Stream Generated in Reporting Yr 1: 85.711500000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 30.838000000000001

Year : 2010
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 005734540JJK
Ship Date : 06/14/2010
TSD : WAD991281767
WS Num: 4
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D008
Waste Description: Weapons Cleaning Rags, Patches, Residue/ D008
Total Amt Of Waste Stream Generated in Reporting Yr 1: 85.711500000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 35.372999999999998

Year : 2010
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 006578938JJK
Ship Date : 02/10/2010
TSD : WAD991281767
WS Num: 4
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D008
Waste Description: Weapons Cleaning Rags, Patches, Residue/ D008
Total Amt Of Waste Stream Generated in Reporting Yr 1: 85.711500000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 50.792000000000002

Year : 2010
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 005734540JJK
Ship Date : 06/14/2010
TSD : WAD991281767
WS Num: 5
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D018
Waste Description: JP8 FUEL FILTERS/D001,D018
Total Amt Of Waste Stream Generated in Reporting Yr 1: 356.90449999999998
Total Amt Of Waste Stream Generated in Reporting Yr 2: 117.91

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Year : 2010
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 006578938JJK
Ship Date : 02/10/2010
TSD : WAD991281767
WS Num: 5
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D018
Waste Description: JP8 FUEL FILTERS/D001,D018
Total Amt Of Waste Stream Generated in Reporting Yr 1: 356.90449999999998
Total Amt Of Waste Stream Generated in Reporting Yr 2: 34.012500000000003

Year : 2010
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 000005377DAT
Ship Date : 11/18/2010
TSD : WAD991281767
WS Num: 5
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D018
Waste Description: JP8 FUEL FILTERS/D001,D018
Total Amt Of Waste Stream Generated in Reporting Yr 1: 356.90449999999998
Total Amt Of Waste Stream Generated in Reporting Yr 2: 214.959

Year : 2010
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 000005377DAT
Ship Date : 11/18/2010
TSD : WAD991281767
WS Num: 6
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D006
Waste Description: OILY SKIMMER SLUDGE (UTES) D006
Total Amt Of Waste Stream Generated in Reporting Yr 1: 24.942499999999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 9.0700000000000003

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Year : 2010
RCRA Id : ORD980988414
Inactive : Not reported

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Status: Small quantity generator
Manifest : 005734540JJK
Ship Date : 06/14/2010
TSD : WAD991281767
WS Num: 6
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D006
Waste Description: OILY SKIMMER SLUDGE (UTES) D006
Total Amt Of Waste Stream Generated in Reporting Yr 1: 24.942499999999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 15.8725

Year : 2010
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 005734540JJK
Ship Date : 06/14/2010
TSD : WAD991281767
WS Num: 7
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D001 D002
Waste Description: EPOXY W/RESIN D001
Total Amt Of Waste Stream Generated in Reporting Yr 1: 0.45350000000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 0.45350000000000001

Year : 2010
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 000005377DAT
Ship Date : 11/18/2010
TSD : WAD991281767
WS Num: 8
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D001 D035 F003 F005
Waste Description: WASTE PAINT THINNER D001,D035,F003, F005
Total Amt Of Waste Stream Generated in Reporting Yr 1: 399.98700000000002
Total Amt Of Waste Stream Generated in Reporting Yr 2: 160.53899999999999

Year : 2010
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 005734540JJK
Ship Date : 06/14/2010
TSD : WAD991281767
WS Num: 8
Transporter: WAR000001743

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D001 D035 F003 F005
Waste Description: WASTE PAINT THINNER D001,D035,F003, F005
Total Amt Of Waste Stream Generated in Reporting Yr 1: 399.98700000000002
Total Amt Of Waste Stream Generated in Reporting Yr 2: 122.44499999999999

Year : 2010
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 006578938JJK
Ship Date : 02/10/2010
TSD : WAD991281767
WS Num: 8
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D001 D035 F003 F005
Waste Description: WASTE PAINT THINNER D001,D035,F003, F005
Total Amt Of Waste Stream Generated in Reporting Yr 1: 399.98700000000002
Total Amt Of Waste Stream Generated in Reporting Yr 2: 119.2705

Year : 2010
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 005734540JJK
Ship Date : 06/14/2010
TSD : WAD991281767
WS Num: 9
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D001 D003
Waste Description: AEROSOL CANS D001,D003
Total Amt Of Waste Stream Generated in Reporting Yr 1: 4.0815000000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 1.3605

Year : 2010
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 006578938JJK
Ship Date : 02/10/2010
TSD : WAD991281767
WS Num: 9
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D001 D003
Waste Description: AEROSOL CANS D001,D003
Total Amt Of Waste Stream Generated in Reporting Yr 1: 4.0815000000000001

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Total Amt Of Waste Stream Generated in Reporting Yr 2: 2.7210000000000001

Year : 2010
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 000005377DAT
Ship Date : 11/18/2010
TSD : WAD991281767
WS Num: 10
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D001 D005 D006 D007 D008 D018
Waste Description: WASTE PAINTRELATED MATERIAL D001, D018, D005, D006, D007, D008, D035
Total Amt Of Waste Stream Generated in Reporting Yr 1: 103.8515
Total Amt Of Waste Stream Generated in Reporting Yr 2: 33.558999999999997

Year : 2010
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 005734540JJK
Ship Date : 06/14/2010
TSD : WAD991281767
WS Num: 10
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D001 D005 D006 D007 D008 D018
Waste Description: WASTE PAINTRELATED MATERIAL D001, D018, D005, D006, D007, D008, D035
Total Amt Of Waste Stream Generated in Reporting Yr 1: 103.8515
Total Amt Of Waste Stream Generated in Reporting Yr 2: 9.0700000000000003

Year : 2010
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 006578938JJK
Ship Date : 02/10/2010
TSD : WAD991281767
WS Num: 10
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D001 D005 D006 D007 D008 D018
Waste Description: WASTE PAINTRELATED MATERIAL D001, D018, D005, D006, D007, D008, D035
Total Amt Of Waste Stream Generated in Reporting Yr 1: 103.8515
Total Amt Of Waste Stream Generated in Reporting Yr 2: 61.222499999999997

Manifest:
Year : 2009

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 004811440JJK
Ship Date : 06/04/2009
TSD : WAD991281767
WS Num: 1
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D008
Waste Description: Weapons Cleaning Rags, Patches, Residue/ D008
Total Amt Of Waste Stream Generated in Reporting Yr 1: 127.4335
Total Amt Of Waste Stream Generated in Reporting Yr 2: 63.9435

Year : 2009
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 004803855JJK
Ship Date : 02/09/2009
TSD : WAD991281767
WS Num: 1
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D008
Waste Description: Weapons Cleaning Rags, Patches, Residue/ D008
Total Amt Of Waste Stream Generated in Reporting Yr 1: 127.4335
Total Amt Of Waste Stream Generated in Reporting Yr 2: 41.722000000000001

Year : 2009
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 004814299JJK
Ship Date : 09/03/2009
TSD : WAD991281767
WS Num: 2
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D006 D007 D010
Waste Description: BRAKE WASSH CART SLUDGE/D006,D007,D008
Total Amt Of Waste Stream Generated in Reporting Yr 1: 16.326000000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 16.326000000000001

Year : 2009
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 004813856JJK
Ship Date : 02/12/2009
TSD : WAD991281767

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

WS Num: 8
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H077
EPA Waste Codes: D006
Waste Description: WASH RACK SLUDGE /D006
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1647.5654999999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 831.26549999999997

Year : 2009
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 004814299JJK
Ship Date : 09/03/2009
TSD : WAD991281767
WS Num: 10
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D001 D035
Waste Description: PVC CEMENT D001, D035
Total Amt Of Waste Stream Generated in Reporting Yr 1: 2.2675000000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 2.2675000000000001

Year : 2009
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 004813855JJK
Ship Date : 02/09/2009
TSD : WAD991281767
WS Num: 5
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D006
Waste Description: OILY SKIMMER SLUDGE (UTES) D006
Total Amt Of Waste Stream Generated in Reporting Yr 1: 4.5350000000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 6.8025000000000002

Year : 2009
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 004814299JJK
Ship Date : 09/03/2009
TSD : WAD991281767
WS Num: 6
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D001 F003 F005

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Waste Description: WASTE PAINT THINNER D001,F003 F005
Total Amt Of Waste Stream Generated in Reporting Yr 1: 24.035499999999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 5.8955000000000002

Year : 2009
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 004814299JJK
Ship Date : 09/03/2009
TSD : WAD991281767
WS Num: 5
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D006
Waste Description: OILY SKIMMER SLUDGE (UTES) D006
Total Amt Of Waste Stream Generated in Reporting Yr 1: 4.5350000000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 4.5350000000000001

Year : 2009
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 004811440JJK
Ship Date : 06/04/2009
TSD : WAD991281767
WS Num: 7
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D001 D018 F003 F005
Waste Description: WASTE PAINTRELATED MATERIAL D001, D018, F003, F005
Total Amt Of Waste Stream Generated in Reporting Yr 1: 6.8025000000000002
Total Amt Of Waste Stream Generated in Reporting Yr 2: 6.8025000000000002

Year : 2009
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 004811440JJK
Ship Date : 06/04/2009
TSD : WAD991281767
WS Num: 9
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D001
Waste Description: WASTE PAINT RELATED MATERIAL/ D001
Total Amt Of Waste Stream Generated in Reporting Yr 1: 61.676000000000002
Total Amt Of Waste Stream Generated in Reporting Yr 2: 12.698

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

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Year : 2009
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 004814299JJK
Ship Date : 09/03/2009
TSD : WAD991281767
WS Num: 1
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D008
Waste Description: Weapons Cleaning Rags, Patches, Residue/ D008
Total Amt Of Waste Stream Generated in Reporting Yr 1: 127.4335
Total Amt Of Waste Stream Generated in Reporting Yr 2: 32.198500000000003

Year : 2009
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 004813855JJK
Ship Date : 02/09/2009
TSD : WAD991281767
WS Num: 4
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D001 D002 D003
Waste Description: OVEN CLEANER D001,D002,D003
Total Amt Of Waste Stream Generated in Reporting Yr 1: 2.2675000000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 2.2675000000000001

Year : 2009
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 004813855JJK
Ship Date : 02/09/2009
TSD : WAD991281767
WS Num: 9
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D001
Waste Description: WASTE PAINT RELATED MATERIAL/ D001
Total Amt Of Waste Stream Generated in Reporting Yr 1: 61.676000000000002
Total Amt Of Waste Stream Generated in Reporting Yr 2: 4.5350000000000001

Year : 2009
RCRA Id : ORD980988414
Inactive : Not reported

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Status: Small quantity generator
Manifest : 004814299JJK
Ship Date : 09/03/2009
TSD : WAD991281767
WS Num: 9
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D001
Waste Description: WASTE PAINT RELATED MATERIAL/ D001
Total Amt Of Waste Stream Generated in Reporting Yr 1: 61.676000000000002
Total Amt Of Waste Stream Generated in Reporting Yr 2: 44.442999999999998

Year : 2009
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 004814300JJK
Ship Date : 09/03/2009
TSD : WAD991281767
WS Num: 8
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H077
EPA Waste Codes: D006
Waste Description: WASH RACK SLUDGE /D006
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1647.5654999999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 816.29999999999995

Year : 2009
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 004814299JJK
Ship Date : 09/03/2009
TSD : WAD991281767
WS Num: 12
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D006
Waste Description: SOLIVENT PARTS WASHER D006
Total Amt Of Waste Stream Generated in Reporting Yr 1: 16.779499999999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 16.779499999999999

Year : 2009
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 004814299JJK
Ship Date : 02/19/2009
TSD : WAD991281767
WS Num: 2
Transporter: WAR000001743

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D006 D007 D010
Waste Description: BRAKE WASSH CART SLUDGE/D006,D007,D008
Total Amt Of Waste Stream Generated in Reporting Yr 1: 16.326000000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 18.593499999999999

Year : 2009
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 004814299JJK
Ship Date : 09/03/2009
TSD : WAD991281767
WS Num: 3
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D018
Waste Description: JP8 FUEL FILTERS/D001,D018
Total Amt Of Waste Stream Generated in Reporting Yr 1: 117.45650000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 40.814999999999998

Year : 2009
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 004811440JJK
Ship Date : 06/04/2009
TSD : WAD991281767
WS Num: 6
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D001 F003 F005
Waste Description: WASTE PAINT THINNER D001,F003 F005
Total Amt Of Waste Stream Generated in Reporting Yr 1: 24.035499999999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 15.8725

Year : 2009
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 004813855JJK
Ship Date : 02/09/2009
TSD : WAD991281767
WS Num: 6
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D001 F003 F005
Waste Description: WASTE PAINT THINNER D001,F003 F005
Total Amt Of Waste Stream Generated in Reporting Yr 1: 24.035499999999999

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Total Amt Of Waste Stream Generated in Reporting Yr 2: 9.9770000000000003

Manifest:

Year :	2008
RCRA Id :	ORD980988414
Inactive :	Not reported
Status:	Small quantity generator
Manifest :	004303920JJK
Ship Date :	08/21/2008
TSD :	WAD991281767
WS Num:	4
Transporter:	WAR000001743
Ship Qty :	Not reported
Rpt Unit :	Not reported
Off Mng :	H111
EPA Waste Codes:	D006
Waste Description:	Oily Sludge Skimmer (UTES) / D006

Total Amt Of Waste Stream Generated in Reporting Yr 1: 60.3155
Total Amt Of Waste Stream Generated in Reporting Yr 2: 45.350000000000001

Year :	2008
RCRA Id :	ORD980988414
Inactive :	Not reported
Status:	Small quantity generator
Manifest :	001858050JJK
Ship Date :	02/08/2008
TSD :	WAD991281767
WS Num:	6
Transporter:	WAR000001743
Ship Qty :	Not reported
Rpt Unit :	Not reported
Off Mng :	H050
EPA Waste Codes:	D001 F003 F005
Waste Description:	Waste Paint Thinner (SS) / D001, F003, F005

Total Amt Of Waste Stream Generated in Reporting Yr 1: 45.8035
Total Amt Of Waste Stream Generated in Reporting Yr 2: 124.71250000000001

Year :	2008
RCRA Id :	ORD980988414
Inactive :	Not reported
Status:	Small quantity generator
Manifest :	004303920JJK
Ship Date :	08/21/2008
TSD :	WAD991281767
WS Num:	2
Transporter:	WAR000001743
Ship Qty :	Not reported
Rpt Unit :	Not reported
Off Mng :	H061
EPA Waste Codes:	D001
Waste Description:	Waste Paint Related Material/D001

Total Amt Of Waste Stream Generated in Reporting Yr 1: 8.1630000000000003
Total Amt Of Waste Stream Generated in Reporting Yr 2: 4.5350000000000001

Year : 2008

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 004304936JJK
Ship Date : 10/27/2008
TSD : WAD991281767
WS Num: 10
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D009
Waste Description: Mercury Equipment/Manometer/D009
Total Amt Of Waste Stream Generated in Reporting Yr 1: 16.326000000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 16.326000000000001

Year : 2008
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 004304936JJK
Ship Date : 10/27/2008
TSD : WAD991281767
WS Num: 6
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D001 F003 F005
Waste Description: Waste Paint Thinner (SS) / D001, F003, F005
Total Amt Of Waste Stream Generated in Reporting Yr 1: 45.8035
Total Amt Of Waste Stream Generated in Reporting Yr 2: 16.326000000000001

Year : 2008
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 004304936JJK
Ship Date : 10/27/2008
TSD : WAD991281767
WS Num: 1
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D006 D007 D008
Waste Description: Brake Wash Cart Sludge / D006, D007, D008
Total Amt Of Waste Stream Generated in Reporting Yr 1: 41.268500000000003
Total Amt Of Waste Stream Generated in Reporting Yr 2: 22.675000000000001

Year : 2008
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 001858050JJK
Ship Date : 02/08/2008
TSD : WAD991281767

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

WS Num: 7
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D008
Waste Description: Weapons Cleaning Rags, Patches, Residue / D008
Total Amt Of Waste Stream Generated in Reporting Yr 1: 131.0615
Total Amt Of Waste Stream Generated in Reporting Yr 2: 58.954999999999998

Year : 2008
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 004303920JJK
Ship Date : 10/27/2008
TSD : WAD991281767
WS Num: 2
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001
Waste Description: Waste Paint Related Material/D001
Total Amt Of Waste Stream Generated in Reporting Yr 1: 8.1630000000000003
Total Amt Of Waste Stream Generated in Reporting Yr 2: 4.5350000000000001

Year : 2008
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 001858050JJK
Ship Date : 02/08/2008
TSD : WAD991281767
WS Num: 9
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D018
Waste Description: JP8 FUEL FILTERS / D001, D0018
Total Amt Of Waste Stream Generated in Reporting Yr 1: 200.90049999999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 373.23050000000001

Year : 2008
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 001858050JJK
Ship Date : 02/08/2008
TSD : WAD991281767
WS Num: 8
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H111
EPA Waste Codes: D006 D008

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Waste Description: Oily Skimmer Sludge (AG) / D006, D008
Total Amt Of Waste Stream Generated in Reporting Yr 1: 6.8025000000000002
Total Amt Of Waste Stream Generated in Reporting Yr 2: 13.605

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729 additional OR_MANIFEST: record(s) in the EDR Site Report.

Year : 2008
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 001858010JJK
Ship Date : 02/08/2008
TSD : WAD991281767
WS Num: 3
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H111
EPA Waste Codes: D006
Waste Description: Wash Rack Sludge / D006
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1478.4100000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 580.48000000000002

Year : 2008
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 004303920JJK
Ship Date : 08/21/2008
TSD : WAD991281767
WS Num: 5
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D005 D006 D007 D008 D035
Waste Description: Waste Paint Related Material / D001, D008, D005, D006, D007, D035
Total Amt Of Waste Stream Generated in Reporting Yr 1: 117.45650000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 117.45650000000001

Year : 2008
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 004304936JJK
Ship Date : 10/27/2008
TSD : WAD991281767
WS Num: 7
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H111
EPA Waste Codes: D008
Waste Description: Weapons Cleaning Rags, Patches, Residue / D008
Total Amt Of Waste Stream Generated in Reporting Yr 1: 131.0615
Total Amt Of Waste Stream Generated in Reporting Yr 2: 20.407499999999999

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Year : 2008
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 004304936JJK
Ship Date : 10/27/2008
TSD : WAD991281767
WS Num: 9
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D018
Waste Description: JP8 FUEL FILTERS / D001, D0018
Total Amt Of Waste Stream Generated in Reporting Yr 1: 200.90049999999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 40.814999999999998

Year : 2008
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 004303920JJK
Ship Date : 08/21/2008
TSD : WAD991281767
WS Num: 7
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H111
EPA Waste Codes: D008
Waste Description: Weapons Cleaning Rags, Patches, Residue / D008
Total Amt Of Waste Stream Generated in Reporting Yr 1: 131.0615
Total Amt Of Waste Stream Generated in Reporting Yr 2: 68.932000000000002

Year : 2008
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 004303920JJK
Ship Date : 08/21/2008
TSD : WAD991281767
WS Num: 9
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D018
Waste Description: JP8 FUEL FILTERS / D001, D0018
Total Amt Of Waste Stream Generated in Reporting Yr 1: 200.90049999999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 117.003

Year : 2008
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 004304936JJK
Ship Date : 10/27/2008

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

TSD : WAD991281767
WS Num: 4
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H111
EPA Waste Codes: D006
Waste Description: Oily Sludge Skimmer (UTES) / D006
Total Amt Of Waste Stream Generated in Reporting Yr 1: 60.3155
Total Amt Of Waste Stream Generated in Reporting Yr 2: 8.1630000000000003

Year : 2008
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 004304936JJK
Ship Date : 10/27/2008
TSD : WAD991281767
WS Num: 8
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H111
EPA Waste Codes: D006 D008
Waste Description: Oily Skimmer Sludge (AG) / D006, D008
Total Amt Of Waste Stream Generated in Reporting Yr 1: 6.8025000000000002
Total Amt Of Waste Stream Generated in Reporting Yr 2: 6.8025000000000002

Year : 2008
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 004303921JJK
Ship Date : 08/21/2008
TSD : WAD991281767
WS Num: 3
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H111
EPA Waste Codes: D006
Waste Description: Wash Rack Sludge / D006
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1478.4100000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 897.92999999999995

Year : 2008
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 004303920JJK
Ship Date : 08/21/2008
TSD : WAD991281767
WS Num: 6
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

EPA Waste Codes: D001 F003 F005
Waste Description: Waste Paint Thinner (SS) / D001, F003, F005
Total Amt Of Waste Stream Generated in Reporting Yr 1: 45.8035
Total Amt Of Waste Stream Generated in Reporting Yr 2: 19.500499999999999

Manifest:
Year : 2007
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 002958865JJK
Ship Date : 07/10/2007
TSD : WAD991281767
WS Num: 1
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D001
Waste Description: Waste Paint Related Material/ D001
Total Amt Of Waste Stream Generated in Reporting Yr 1: 56.689999999999998
Total Amt Of Waste Stream Generated in Reporting Yr 2: 56.689999999999998

Year : 2007
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 002961237JJK
Ship Date : 10/02/2007
TSD : WAD991281767
WS Num: 10
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D018
Waste Description: JP8 FUEL FILTERS/ D001,D018
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1082.96
Total Amt Of Waste Stream Generated in Reporting Yr 2: 68.030000000000001

Year : 2007
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 002958865jjk
Ship Date : 07/10/2007
TSD : WAD991281767
WS Num: 4
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H077
EPA Waste Codes: D006
Waste Description: Wash Rack Sludge / D006
Total Amt Of Waste Stream Generated in Reporting Yr 1: 838.98000000000002

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Total Amt Of Waste Stream Generated in Reporting Yr 2: 838.98000000000002

Year : 2007
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 001866121JJK
Ship Date : 03/26/2007
TSD : WAD991281767
WS Num: 10
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D018
Waste Description: JP8 FUEL FILTERS/ D001,D018
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1082.96
Total Amt Of Waste Stream Generated in Reporting Yr 2: 74.829999999999998

Year : 2007
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 002961237JJK
Ship Date : 10/02/2007
TSD : WAD991281767
WS Num: 12
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H111
EPA Waste Codes: D001 D003
Waste Description: UNPUNCTURED AEROSOL CANS / D001, D003
Total Amt Of Waste Stream Generated in Reporting Yr 1: 4.54
Total Amt Of Waste Stream Generated in Reporting Yr 2: 4.54

Year : 2007
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 002961237jjk
Ship Date : 10/02/2007
TSD : WAD991281767
WS Num: 5
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D001 D018 D035
Waste Description: Waste Paint Related Material/ D001,D18,D35
Total Amt Of Waste Stream Generated in Reporting Yr 1: 4.54
Total Amt Of Waste Stream Generated in Reporting Yr 2: 4.54

Year : 2007
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Manifest : 002958865jjk
Ship Date : 07/10/2007
TSD : WAD991281767
WS Num: 3
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D006
Waste Description: Oily Skimmer Sludge (UTES) / D006
Total Amt Of Waste Stream Generated in Reporting Yr 1: 31.75
Total Amt Of Waste Stream Generated in Reporting Yr 2: 18.140000000000001

Year : 2007
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 001866121jjk
Ship Date : 03/26/2007
TSD : WAD991281767
WS Num: 3
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D006
Waste Description: Oily Skimmer Sludge (UTES) / D006
Total Amt Of Waste Stream Generated in Reporting Yr 1: 31.75
Total Amt Of Waste Stream Generated in Reporting Yr 2: 13.609999999999999

Year : 2007
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 002958865JJK
Ship Date : 07/10/2007
TSD : WAD991281767
WS Num: 9
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D018
Waste Description: Waste Gasoline/ D001,D018
Total Amt Of Waste Stream Generated in Reporting Yr 1: 2.27
Total Amt Of Waste Stream Generated in Reporting Yr 2: 2.27

Year : 2007
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 002961237JJK
Ship Date : 10/02/2007
TSD : WAD991281767
WS Num: 7
Transporter: WAR000001743
Ship Qty : Not reported

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D008
Waste Description: Weapons Cleaning Rags, Patches, Residue/ D008
Total Amt Of Waste Stream Generated in Reporting Yr 1: 244.88999999999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 4.54

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Year : 2007
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 002958865JJK
Ship Date : 07/10/2007
TSD : WAD991281767
WS Num: 7
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D008
Waste Description: Weapons Cleaning Rags, Patches, Residue/ D008
Total Amt Of Waste Stream Generated in Reporting Yr 1: 244.88999999999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 181.40000000000001

Year : 2007
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 002961237jjk
Ship Date : 10/02/2007
TSD : WAD991281767
WS Num: 6
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D001 F003 F005
Waste Description: Waste Paint Thinner (SS) / D001,F003,F005
Total Amt Of Waste Stream Generated in Reporting Yr 1: 138.31999999999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 13.609999999999999

Year : 2007
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 002958865JJK
Ship Date : 07/10/2007
TSD : WAD991281767
WS Num: 11
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H077
EPA Waste Codes: D007

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Waste Description: MASK FILTERS / D007
Total Amt Of Waste Stream Generated in Reporting Yr 1: 11.34
Total Amt Of Waste Stream Generated in Reporting Yr 2: 11.34

Year : 2007
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 001866121jjk
Ship Date : 03/26/2007
TSD : WAD991281767
WS Num: 2
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D006 D007 D008
Waste Description: Brake Wash Cart Sludge/D006, D007, D008
Total Amt Of Waste Stream Generated in Reporting Yr 1: 0
Total Amt Of Waste Stream Generated in Reporting Yr 2: 31.75

Year : 2007
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 001866121jjk
Ship Date : 03/26/2007
TSD : WAD991281767
WS Num: 5
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D001 D018 D035
Waste Description: Waste Paint Related Material/ D001,D18,D35
Total Amt Of Waste Stream Generated in Reporting Yr 1: 4.54
Total Amt Of Waste Stream Generated in Reporting Yr 2: 3.1699999999999999

Year : 2007
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 002958865JJK
Ship Date : 07/10/2007
TSD : WAD991281767
WS Num: 10
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D018
Waste Description: JP8 FUEL FILTERS/ D001,D018
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1082.96
Total Amt Of Waste Stream Generated in Reporting Yr 2: 566.88

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Manifest:

Year :	2006
RCRA Id :	ORD980988414
Inactive :	Not reported
Status:	Small quantity generator
Manifest :	000227669JJK
Ship Date :	10/24/2006
TSD :	WAD991281767
WS Num:	Not reported
Transporter:	WAR000001743
Ship Qty :	45
Rpt Unit :	LB
Off Mng :	H132
EPA Waste Codes:	D006
Waste Description:	Hot Wash Residue/ D006

Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year :	2006
RCRA Id :	ORD980988414
Inactive :	Not reported
Status:	Small quantity generator
Manifest :	000227669JJK
Ship Date :	10/24/2006
TSD :	WAD991281767
WS Num:	Not reported
Transporter:	WAR000001743
Ship Qty :	10
Rpt Unit :	LB
Off Mng :	H050
EPA Waste Codes:	D001 D018 D035
Waste Description:	Waste Paint Related Material/ D001,18,35

Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year :	2006
RCRA Id :	ORD980988414
Inactive :	Not reported
Status:	Small quantity generator
Manifest :	6207F
Ship Date :	07/26/2006
TSD :	WAD991281767
WS Num:	Not reported
Transporter:	WAR000001743
Ship Qty :	70
Rpt Unit :	LB
Off Mng :	H132
EPA Waste Codes:	D006 D007 D008
Waste Description:	Brake Wash Cart Sludge

Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year :	2006
RCRA Id :	ORD980988414
Inactive :	Not reported
Status:	Small quantity generator
Manifest :	6207F

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Ship Date : 07/26/2006
TSD : WAD991281767
WS Num: Not reported
Transporter: WAR000001743
Ship Qty : 200
Rpt Unit : LB
Off Mng : H040
EPA Waste Codes: D001 D018
Waste Description: JP 8 Waste/ D001,D018
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2006
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 6110A
Ship Date : 04/20/2006
TSD : WAD991281767
WS Num: Not reported
Transporter: WAR000001743
Ship Qty : 8
Rpt Unit : LB
Off Mng : H132
EPA Waste Codes: D001 D003
Waste Description: Calcium Hypochlorite (HYDRATED)/ D001,D003
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2006
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 6207F
Ship Date : 07/26/2006
TSD : WAD991281767
WS Num: Not reported
Transporter: WAR000001743
Ship Qty : 12
Rpt Unit : LB
Off Mng : H050
EPA Waste Codes: D001 D005 D007 D008 D035
Waste Description: Waste Paint Related Material/ D001,5,7,8,35
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2006
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 6207F
Ship Date : 07/26/2006
TSD : WAD991281767
WS Num: Not reported
Transporter: WAR000001743
Ship Qty : 70
Rpt Unit : LB

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Off Mng : H061
EPA Waste Codes: D001 D018
Waste Description: Waste Gasoline/ D001,D018
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2006
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 6207F
Ship Date : 07/26/2006
TSD : WAD991281767
WS Num: Not reported
Transporter: WAR000001743
Ship Qty : 8
Rpt Unit : LB
Off Mng : H050
EPA Waste Codes: D001 D018 D035
Waste Description: Waste Paint Related Material/ D001,18,35
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2006
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 6207F
Ship Date : 07/26/2006
TSD : WAD991281767
WS Num: Not reported
Transporter: WAR000001743
Ship Qty : 8
Rpt Unit : LB
Off Mng : H061
EPA Waste Codes: D001 D003
Waste Description: Aerosol Undercoat/ D001,D003
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2006
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 6087P
Ship Date : 03/22/2006
TSD : WAD991281767
WS Num: Not reported
Transporter: WAR000001743
Ship Qty : 560
Rpt Unit : LB
Off Mng : H077
EPA Waste Codes: D006
Waste Description: Wash Rack Sludge
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

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Year : 2006
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 6110A
Ship Date : 04/20/2006
TSD : WAD991281767
WS Num: Not reported
Transporter: WAR000001743
Ship Qty : 60
Rpt Unit : LB
Off Mng : H132
EPA Waste Codes: D006 D007 D008
Waste Description: Brake Wash Cart Sludge
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2006
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 000227669JJK
Ship Date : 10/24/2006
TSD : WAD991281767
WS Num: Not reported
Transporter: WAR000001743
Ship Qty : 100
Rpt Unit : LB
Off Mng : H132
EPA Waste Codes: D008
Waste Description: Weapons Cleaning Rags, Patches, Residue/ D008
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2006
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 6110A
Ship Date : 04/20/2006
TSD : WAD991281767
WS Num: Not reported
Transporter: WAR000001743
Ship Qty : 8
Rpt Unit : LB
Off Mng : H050
EPA Waste Codes: D001 D018 D035
Waste Description: Waste Paint Related Material/ D001,18,35
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2006
RCRA Id : ORD980988414
Inactive : Not reported

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Status: Small quantity generator
Manifest : 000227669JJF
Ship Date : 10/24/2006
TSD : WAD991281767
WS Num: Not reported
Transporter: WAR000001743
Ship Qty : 8
Rpt Unit : LB
Off Mng : H061
EPA Waste Codes: D001 D003
Waste Description: Aerosol Undercoat/ D001,D003
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2006
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 000227669JJK
Ship Date : 10/24/2006
TSD : WAD991281767
WS Num: Not reported
Transporter: WAR000001743
Ship Qty : 60
Rpt Unit : LB
Off Mng : H132
EPA Waste Codes: D006
Waste Description: Waste Solvent Parts Washer/ D006
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2006
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 6110A
Ship Date : 04/20/2006
TSD : WAD991281767
WS Num: Not reported
Transporter: WAR000001743
Ship Qty : 220
Rpt Unit : LB
Off Mng : H050
EPA Waste Codes: D001 F003 F005
Waste Description: Waste Paint Related Material/ D001,F003,F005
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2006
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 6110A
Ship Date : 04/20/2006
TSD : WAD991281767
WS Num: Not reported
Transporter: WAR000001743

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Ship Qty : 50
Rpt Unit : LB
Off Mng : H132
EPA Waste Codes: D006
Waste Description: Hot Wash Residue/ D006
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2006
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 6207F
Ship Date : 07/26/2006
TSD : WAD991281767
WS Num: Not reported
Transporter: WAR000001743
Ship Qty : 12
Rpt Unit : LB
Off Mng : H040
EPA Waste Codes: D001 F005
Waste Description: Rags,Thinner Soaked/ D001,F005
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2006
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 6207I
Ship Date : 07/26/2006
TSD : WAD991281767
WS Num: Not reported
Transporter: WAR000001743
Ship Qty : 300
Rpt Unit : LB
Off Mng : H077
EPA Waste Codes: D006
Waste Description: Wash Rack Sludge
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2006
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 6207F
Ship Date : 07/26/2006
TSD : WAD991281767
WS Num: Not reported
Transporter: WAR000001743
Ship Qty : 140
Rpt Unit : LB
Off Mng : H132
EPA Waste Codes: D008
Waste Description: Weapons Cleaning Rags, Patches, Residue/ D008
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Manifest:

Year :	2004
RCRA Id :	ORD980988414
Inactive :	Not reported
Status:	Small quantity generator
Manifest :	4117A
Ship Date :	04/26/2004
TSD :	WAD991281767
WS Num:	Not reported
Transporter:	WAR000001743
Ship Qty :	1355
Rpt Unit :	LB
Off Mng :	H077
EPA Waste Codes:	D006
Waste Description:	Not reported

Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year :	2004
RCRA Id :	ORD980988414
Inactive :	Not reported
Status:	Small quantity generator
Manifest :	4274A
Ship Date :	09/30/2004
TSD :	WAD991281767
WS Num:	Not reported
Transporter:	WAR000001743
Ship Qty :	140
Rpt Unit :	LB
Off Mng :	H040
EPA Waste Codes:	D001
Waste Description:	Not reported

Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year :	2004
RCRA Id :	ORD980988414
Inactive :	Not reported
Status:	Small quantity generator
Manifest :	4148A
Ship Date :	05/27/2004
TSD :	WAD991281767
WS Num:	Not reported
Transporter:	WAR000001743
Ship Qty :	20
Rpt Unit :	LB
Off Mng :	H050
EPA Waste Codes:	D001 D005 D007 D008 D035
Waste Description:	Not reported

Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2004

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 4274A
Ship Date : 09/30/2004
TSD : WAD991281767
WS Num: Not reported
Transporter: WAR000001743
Ship Qty : 35
Rpt Unit : LB
Off Mng : H040
EPA Waste Codes: D001 D008
Waste Description: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2004
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 4148A
Ship Date : 05/27/2004
TSD : WAD991281767
WS Num: Not reported
Transporter: WAR000001743
Ship Qty : 200
Rpt Unit : LB
Off Mng : H040
EPA Waste Codes: D001 D018
Waste Description: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2004
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 4274A
Ship Date : 09/30/2004
TSD : WAD991281767
WS Num: Not reported
Transporter: WAR000001743
Ship Qty : 50
Rpt Unit : LB
Off Mng : H050
EPA Waste Codes: D001 U154
Waste Description: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2004
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 4274A
Ship Date : 09/30/2004
TSD : WAD991281767

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

WS Num: Not reported
Transporter: WAR000001743
Ship Qty : 250
Rpt Unit : LB
Off Mng : H050
EPA Waste Codes: D001 D005 D007 D008 D035
Waste Description: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2004
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 4148A
Ship Date : 05/27/2004
TSD : WAD991281767
WS Num: Not reported
Transporter: WAR000001743
Ship Qty : 35
Rpt Unit : LB
Off Mng : H132
EPA Waste Codes: D005 D006
Waste Description: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2004
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 4009C
Ship Date : 01/14/2004
TSD : WAD991281767
WS Num: Not reported
Transporter: WAR000001743
Ship Qty : 100
Rpt Unit : LB
Off Mng : H040
EPA Waste Codes: D018
Waste Description: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2004
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 4148A
Ship Date : 05/27/2004
TSD : WAD991281767
WS Num: Not reported
Transporter: WAR000001743
Ship Qty : 125
Rpt Unit : LB
Off Mng : H040
EPA Waste Codes: D001

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Waste Description: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Click this hyperlink while viewing on your computer to access
729 additional OR_MANIFEST: record(s) in the EDR Site Report.

Year : 2004
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 4148A
Ship Date : 05/27/2004
TSD : WAD991281767
WS Num: Not reported
Transporter: WAR000001743
Ship Qty : 120
Rpt Unit : LB
Off Mng : H132
EPA Waste Codes: D006 D007 D008
Waste Description: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2004
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 4009C
Ship Date : 01/14/2004
TSD : WAD991281767
WS Num: Not reported
Transporter: WAR000001743
Ship Qty : 200
Rpt Unit : LB
Off Mng : H040
EPA Waste Codes: D001 D018
Waste Description: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2004
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 4148a
Ship Date : 05/27/2004
TSD : WAD991281767
WS Num: Not reported
Transporter: WAR000001743
Ship Qty : 390
Rpt Unit : LB
Off Mng : H050
EPA Waste Codes: D001 D035 F005
Waste Description: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Year : 2004
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 4009C
Ship Date : 01/14/2004
TSD : WAD991281767
WS Num: Not reported
Transporter: WAR000001743
Ship Qty : 20
Rpt Unit : LB
Off Mng : H121
EPA Waste Codes: D002
Waste Description: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2004
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 4009C
Ship Date : 01/14/2004
TSD : WAD991281767
WS Num: Not reported
Transporter: WAR000001743
Ship Qty : 95
Rpt Unit : LB
Off Mng : H050
EPA Waste Codes: D001
Waste Description: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2004
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 4274A
Ship Date : 09/30/2004
TSD : WAD991281767
WS Num: Not reported
Transporter: WAR000001743
Ship Qty : 10
Rpt Unit : LB
Off Mng : H050
EPA Waste Codes: D001 U002
Waste Description: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2004
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 4274A
Ship Date : 09/30/2004

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

TSD : WAD991281767
WS Num: Not reported
Transporter: WAR000001743
Ship Qty : 162
Rpt Unit : LB
Off Mng : H132
EPA Waste Codes: D008
Waste Description: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2004
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 4274A
Ship Date : 09/30/2004
TSD : WAD991281767
WS Num: Not reported
Transporter: WAR000001743
Ship Qty : 60
Rpt Unit : LB
Off Mng : H040
EPA Waste Codes: D001
Waste Description: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2004
RCRA Id : ORD980988414
Inactive : Not reported
Status: Small quantity generator
Manifest : 4009C
Ship Date : 01/14/2004
TSD : WAD991281767
WS Num: Not reported
Transporter: WAR000001743
Ship Qty : 500
Rpt Unit : LB
Off Mng : H050
EPA Waste Codes: D001 D005 D007 D008 D035
Waste Description: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

OR UIC:
UIC Well #: 1
Type: 5D2
Type Description: Storm Water Drainage
Status: Formal Closure
UIC Number: 10607
Facility Status: Formal Closure
Lat/Long: 46.123600 / -123.9323

UIC Well #: 2
Type: 5D2

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

Type Description: Storm Water Drainage
Status: Formal Closure
UIC Number: 10607
Facility Status: Formal Closure
Lat/Long: 46.123600 / -123.9323

UIC Well #: 3
Type: 5D2
Type Description: Storm Water Drainage
Status: Formal Closure
UIC Number: 10607
Facility Status: Formal Closure
Lat/Long: 46.123600 / -123.9323

UIC Well #: 4
Type: 5D2
Type Description: Storm Water Drainage
Status: Formal Closure
UIC Number: 10607
Facility Status: Formal Closure
Lat/Long: 46.123600 / -123.9323

UIC Well #: 5
Type: 5D2
Type Description: Storm Water Drainage
Status: Formal Closure
UIC Number: 10607
Facility Status: Formal Closure
Lat/Long: 46.123600 / -123.9323

UIC Well #: 6
Type: 5D2
Type Description: Storm Water Drainage
Status: Formal Closure
UIC Number: 10607
Facility Status: Formal Closure
Lat/Long: 46.123600 / -123.9323

UIC Well #: 7
Type: 5D2
Type Description: Storm Water Drainage
Status: Formal Closure
UIC Number: 10607
Facility Status: Formal Closure
Lat/Long: 46.123600 / -123.9323

UIC Well #: 8
Type: 5D2
Type Description: Storm Water Drainage
Status: Formal Closure
UIC Number: 10607
Facility Status: Formal Closure
Lat/Long: 46.123600 / -123.9323

DOD Region | **CAMP RILEY MILITARY RESERVATION** | **DOD** | **CUSA102703**
N/A

CAMP RILEY MILITARY RESER (County), OR

< 1/8
1 ft.

DOD:

Feature 1:	Army DOD
Feature 2:	Not reported
Feature 3:	Not reported
URL:	Not reported
Name 1:	Camp Riley Military Reservation
Name 2:	Not reported
Name 3:	Not reported
State:	OR
DOD Site:	Yes
Tile name:	ORCLATSOP

---

5 | **MTA CAMP RILEA READINESS CENTER** | **ECSI** | **S121802083**
333168 PATRIOT WAY | **VCP** | **N/A**

< 1/8 | **WARRENTON, OR 97146**
1 ft.

ECSI:

Relative:
Lower

Actual:
46 ft.

State ID Number:	6245
Brown ID:	0
Study Area:	False
Region ID:	2
Legislatve ID:	0
Investigation:	Suspect
FACA ID:	149109
Further Action:	0
Lat/Long (dms):	46 7 22.40 / -123 56 2.80
County Code:	4.00
Score Value:	Not reported
Cerclis ID:	Not reported
Township Coord.:	7.00
Township Zone:	N
Range Coord:	10.00
Range Zone:	W
Section Coord:	4
Qtr Section:	Not reported
Tax Lots:	2700
Size:	583.00
NPL:	False
Orphan:	False
Updated By:	CRICHAR
Update Date:	01/30/2018
Created Date:	01/30/2018
Decode For RegionID:	Northwest Region
Decode For BrownID:	Not reported
Decode For Furtheract:	Not reported
Decode For Investstat:	Suspect
Decode For Legislative:	Not reported
Alias Name:	Oregon Military Department

Narrative:

NARR ID:	5757029
NARR Code:	Contamination
Created By:	CRICHAR

MTA CAMP RILEA READINESS CENTER (Continued) **S121802083**

Created Date: 01/30/2018
Updated By: CRICHAR
Updated Date: 01/30/2018
Decode for NarcdID: Contamination
NARR Comments: Potential lead contamination to soils surrounding building from indoor firing range.[CAR 1/18]

NARR ID: 5757030
NARR Code: 1922
Created By: CRICHAR
Created Date: 01/30/2018
Updated By: CRICHAR
Updated Date: 01/30/2018
Decode for NarcdID: Current Site Summary Statement
NARR Comments: DEQ is working with the Oregon Military Department to review reports for several sites around the state. An initial site investigation report for this site has been recieved and will be reviewed in the coming months. [CAR 1/18]

Administrative Action:
Action ID: 9424
Region: Not reported
Complete Date: 01/30/2018
Rank Value: Not reported
Cleanup Flag: False
Created Date: 01/30/2018
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Not reported
Category: Administrative Action
Action Code Flag: False
Action: Site added to database
Further Action: Not reported
Comments: Not reported

Action ID: 9511
Region: Northwestern Region
Complete Date: Not reported
Rank Value: Not reported
Cleanup Flag: False
Created Date: 01/30/2018
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Northwest Region
Category: Remedial Action
Action Code Flag: False
Action: SITE INVESTIGATION
Further Action: 0
Comments: Not reported

VCS:
ECS Site ID: 6245
Facility Size: 583.00
Action: SITE INVESTIGATION
Start Date: 01/30/2018
End Date: Not reported
Facility Status: Active
Program: VCP
Latitude: 46.1229

MTA CAMP RILEA READINESS CENTER (Continued) **S121802083**

Longitude: -123.9341

6
ESE
1/8-1/4
0.140 mi.
737 ft.

WILLIAMS, LINDA
33325 PATRIOT WAY
WARRENTON, OR 97146

LUST **1006866556**
FINDS **N/A**

Relative:
Lower

Actual:
29 ft.

LUST:

Region:	North Western Region
Facility ID:	04-02-5196
Cleanup Received Date:	02/04/2002
Cleanup Start Date:	02/04/2002
Cleanup Complete Date:	**03/18/2002**
Decode for Region:	**North West Region**

FINDS:

Registry ID: 110014294753

Environmental Interest/Information System
OR-DEQ (Oregon - Department Of Environmental Quality) is a regulatory agency whose job is to protect the quality of Oregon's Environment. DEQ uses a combination of technical assistance, inspections and permitting to help public and private facilities and citizens understand and comply with state and federal environmental regulations.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

7
SE
1/2-1
0.552 mi.
2915 ft.

TAGG PIONEER FARM
91146 PIONEER FARM RD.
WARRENTON, OR 97146

ECSI **S106497272**
VCP **N/A**

Relative:
Lower

Actual:
29 ft.

ECSI:

State ID Number:	4186
Brown ID:	0
Study Area:	False
Region ID:	2
Legislatve ID:	831
Investigation:	No Further Action
FACA ID:	80621
Further Action:	0
Lat/Long (dms):	46 6 55.80 / -123 55 23.50
County Code:	4.00
Score Value:	Not reported
Cerclis ID:	Not reported
Township Coord.:	7.00
Township Zone:	N
Range Coord:	10.00
Range Zone:	W
Section Coord:	4

TAGG PIONEER FARM (Continued) **S106497272**

Qtr Section: Not reported
Tax Lots: Not reported
Size: 365 acres
NPL: False
Orphan: False
Updated By: GWISTAR
Update Date: 02/26/2009
Created Date: 07/27/2004
Decode For RegionID: Northwest Region
Decode For BrownID: Not reported
Decode For Furtheract: Not reported
Decode For Investstat: No Further Action
Decode For Legislative: Owner, operator or other party under agreement, order or consent decree under ORS 465.200 or 465.420

Narrative:

NARR ID: 5746000
NARR Code: Contamination
Created By: DCROUSE
Created Date: 12/03/2004
Updated By: JWAGGY
Updated Date: 04/29/2005
Decode for NarcdID: Contamination
NARR Comments: (7/30/04 BPM/ER ICP) Review of Independent Cleanup of a heating oi/heavy oil release.

NARR ID: 5746570
NARR Code: Data Sources
Created By: JWAGGY
Created Date: 04/29/2005
Updated By: JWAGGY
Updated Date: 04/29/2005
Decode for NarcdID: Data Sources
NARR Comments: Heating Oil and Heavy Oil Contaminated Soil Risk-based Cleanup Report, Tagg Pioneer Farm, 3 Kings Environmental, Inc., March 16, 2005.

NARR ID: 5746781
NARR Code: Site Location
Created By: GWISTAR
Created Date: 06/29/2005
Updated By: GWISTAR
Updated Date: 06/29/2005
Decode for NarcdID: Site Location
NARR Comments: Tagg Pioneer Farm is on the east side of Highway 101 in Warrenton.

NARR ID: 5746002
NARR Code: Remedial Action
Created By: DCROUSE
Created Date: 12/03/2004
Updated By: BSCHWAR
Updated Date: 07/26/2005
Decode for NarcdID: Remedial Action
NARR Comments: (6/1/05 RPS/ER ICP) DEQ received a report documenting investigation and cleanup of petroleum contamination at two locations on the property. One is an aboveground heating oil tank on the north side of a vacant farmhouse and the other is a former shed about 90 feet northeast of the house. A heating oil aboveground storage tank was

TAGG PIONEER FARM (Continued) **S106497272**

decommissioned by removal and testing between December 1, 2003 and March 8, 2004. The tank was pumped out and removed. Contaminated soil was excavated to a depth of about 8 feet, and 16.6 tons of this soil were taken to Hillsboro Landfill. Residual diesel in soil was found at concentrations up to 15,700 mg/kg. No further excavation was done, because the tank was immediately adjacent to the house. Although excavation did not extend below a depth of 8 feet, soil samples were also collected at a depth of 10.5 feet, at the soil-groundwater interface. Neither diesel nor heavy oil was detected at this depth (reporting limits of 25 and 100 mg/kg respectively). A water sample was collected and analyzed for petroleum by NWTPH-Dx, and for BTEX and PAHs. Contamination in soil does not extend more than 10 feet north, west, or east of the tank. The southern extent of contamination could not be determined because samples were not collected beneath the house. Only one groundwater sample was collected, so extent of groundwater contamination was not determined. However, both soil and groundwater contaminant concentrations at the tank location are below relevant risk-based concentrations. A small shed on the property was used to store several 55-gallon drums of heavy oil, waste motor oil, motor oil and lubricating oil and grease. Although the drums appeared to be in good condition, the wood and soil floor of the shed were stained with oil. About 455 gallons of the various types of petroleum were pumped out and taken to Oil Re-refining in Portland. Wood flooring soaked with oil was taken to Hillsboro Landfill. The owner tore down the rest of the building and burned the wood on site. Over the course of the investigation, a total of about 8 tons of contaminated soil was excavated and disposed of at Hillsboro Landfill. The excavation covers an area of roughly 15 by 15 feet. Contamination extended to a depth of about 1.5 feet over most of this area, and to a depth of about 2.5 feet on the east side. Confirmation sampling following excavation indicated the residual contamination is below levels of concern. (July 26, 2005, Bob Schwarz) DEQ issued a No Further Action determination on July 19, 2005.

NARR ID:	5746569
NARR Code:	Residual Risk Assessment
Created By:	JWAGGY
Created Date:	04/29/2005
Updated By:	JWAGGY
Updated Date:	04/29/2005
Decode for NarcdID:	Residual Risk Assessment

NARR Comments: Human health risk assessment: Following excavation and disposal, residual concentrations of contaminants of interest are below screening levels (primarily RBCs in DEQ s RBDM guidance). In accordance with section 2.3.2 of DEQ s Guidance for Conduct of Deterministic Human Health Risk Assessments (December 1998), it was therefore concluded that no further evaluation of risk to human health is necessary. Ecological risk assessment: Most contamination has been removed from the site, and those contaminants remaining have been covered with several feet of clean fill, thereby preventing exposure to ecological receptors. In light of this, and the fact that the contaminated areas are very small, ecological risk was not evaluated. Locality of the facility determination: Locality of the facility is defined in the Cleanup Rules as any point where a human or an ecological receptor contacts, or is reasonably likely to come into contact with, facility-related hazardous substances (OAR

TAGG PIONEER FARM (Continued) **S106497272**

340-122-115). An assessment of risk must consider all receptors within the locality of the facility. Soil contamination is restricted to two very small areas, as described above. The extent of groundwater contamination has not been delineated. However, contaminant levels at the source are below human health risk screening levels.

Administrative Action:

Action ID: 9443
Region: Northwestern Region
Complete Date: 07/19/2005
Rank Value: Not reported
Cleanup Flag: False
Created Date: 08/01/2005
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Northwest Region
Category: Remedial Action
Action Code Flag: False
Action: NO FURTHER STATE ACTION REQUIRED
Further Action: 0
Comments: Not reported

Action ID: 9424
Region: Not reported
Complete Date: 07/27/2004
Rank Value: Not reported
Cleanup Flag: False
Created Date: 07/27/2004
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Not reported
Category: Administrative Action
Action Code Flag: False
Action: Site added to database
Further Action: Not reported
Comments: Not reported

Action ID: 9442
Region: Eastern Region
Complete Date: 03/30/2005
Rank Value: Not reported
Cleanup Flag: False
Created Date: 07/27/2004
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Eastern Region
Category: Remedial Action
Action Code Flag: False
Action: NEGOTIATIONS
Further Action: 0
Comments: Not reported

Action ID: 9433
Region: Eastern Region
Complete Date: 07/19/2005
Rank Value: Not reported
Cleanup Flag: False
Created Date: 12/03/2004
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Eastern Region

TAGG PIONEER FARM (Continued) **S106497272**

Category: Remedial Action
Action Code Flag: False
Action: INDEPENDENT CLEANUP
Further Action: 0
Comments: Not reported

Action ID: 9486
Region: Eastern Region
Complete Date: 03/30/2005
Rank Value: Not reported
Cleanup Flag: False
Created Date: 04/29/2005
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Eastern Region
Category: Remedial Action
Action Code Flag: False
Action: RISK ASSESSMENT
Further Action: 0
Comments: Not reported

Action ID: 9423
Region: Eastern Region
Complete Date: 03/30/2005
Rank Value: Not reported
Cleanup Flag: False
Created Date: 04/29/2005
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Eastern Region
Category: Remedial Action
Action Code Flag: False
Action: Ecological Risk Assessment
Further Action: 0
Comments: Not reported

VCS:
ECS Site ID: 4186
Facility Size: 365 acres
Action: NO FURTHER STATE ACTION REQUIRED
Start Date: 07/19/2005
End Date: 07/19/2005
Facility Status: Completed
Program: ICP
Latitude: 46.1155
Longitude: -123.9232

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8 **COLUMBIA BEACH MILITARY RESERVATION** **ECSI** **S107692389**
ESE **HIGHWAY 101** **N/A**
1/2-1 **WARRENTON, OR 97146**
0.822 mi.
4341 ft.

Relative:
Higher

Actual:
178 ft.

ECSI:
State ID Number: 3968
Brown ID: 0
Study Area: False
Region ID: 2
Legislatve ID: 0

COLUMBIA BEACH MILITARY RESERVATION (Continued) **S107692389**

Investigation:	Suspect
FACA ID:	78695
Further Action:	260
Lat/Long (dms):	46 7 16.30 / -123 54 51.50
County Code:	4.00
Score Value:	Not reported
Cerclis ID:	Not reported
Township Coord.:	7.00
Township Zone:	N
Range Coord:	10.00
Range Zone:	W
Section Coord:	3
Qtr Section:	Not reported
Tax Lots:	Not reported
Size:	Not reported
NPL:	False
Orphan:	False
Updated By:	GWISTAR
Update Date:	03/08/2006
Created Date:	09/15/2003
Decode For RegionID:	Northwest Region
Decode For BrownID:	Not reported
Decode For Furtheract:	Low
Decode For Investstat:	Suspect
Decode For Legislative:	Not reported
Alias Name:	FUDS #F10OR0540

Narrative:

NARR ID:	5747918
NARR Code:	General Site Description
Created By:	GWISTAR
Created Date:	03/08/2006
Updated By:	GWISTAR
Updated Date:	03/08/2006
Decode for NarcdID:	General Site Description

NARR Comments: An approximately 40-acre property that the U.S. Army used for a fire-control station from about 1920 to 1947. According to the Army Corps of Engineers, the only site improvements consisted of a concrete generator building, a potable water pumping plant, and a wood and concrete lookout tower, limited to a 1-acre portion of the site.

NARR ID:	5747917
NARR Code:	Site Location
Created By:	GWISTAR
Created Date:	03/08/2006
Updated By:	GWISTAR
Updated Date:	03/08/2006
Decode for NarcdID:	Site Location

NARR Comments: Located east of Warrenton, about 0.5 mile east of Hwy. 101.

NARR ID:	5747919
NARR Code:	Remedial Action
Created By:	GWISTAR
Created Date:	03/08/2006
Updated By:	GWISTAR
Updated Date:	03/08/2006
Decode for NarcdID:	Remedial Action

COLUMBIA BEACH MILITARY RESERVATION (Continued) **S107692389**

NARR Comments: (3/8/06 GMW/SAS) The Corps has requested a no-further-action determination from DEQ, after conducting a site visit in 1992 and discovering <quot>a wood and concrete tower that is a climbing and falling debris hazard and piles of wooden debris which are a tripping hazard.<quot> The site visit report did not address the former generator building or water pumping plant. DEQ needs additional information before considering an NFA; however, the priority is low.

Administrative Action:

Action ID: 9424
Region: Not reported
Complete Date: 09/15/2003
Rank Value: Not reported
Cleanup Flag: False
Created Date: 09/15/2003
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Not reported
Category: Administrative Action
Action Code Flag: False
Action: Site added to database
Further Action: Not reported
Comments: Not reported

Action ID: 9508
Region: Northwestern Region
Complete Date: 03/08/2006
Rank Value: Not reported
Cleanup Flag: False
Created Date: 09/15/2003
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Northwest Region
Category: Remedial Action
Action Code Flag: False
Action: Site Screening recommended (EV)
Further Action: Low
Comments: Not reported

Count: 2 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
WARRENTON	S115332058	CAMP RILEA	MCCARTER BLVD & CLATSOP AVE		RGA HWS
WARRENTON	U000432036	WARRENTON HIGH SCHOOL	OLD HIGHWAY 101	97146	LUST, UST

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 07/17/2018
Date Data Arrived at EDR: 08/09/2018
Date Made Active in Reports: 09/07/2018
Number of Days to Update: 29

Source: EPA
Telephone: N/A
Last EDR Contact: 08/09/2018
Next Scheduled EDR Contact: 10/15/2018
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 07/17/2018
Date Data Arrived at EDR: 08/09/2018
Date Made Active in Reports: 09/07/2018
Number of Days to Update: 29

Source: EPA
Telephone: N/A
Last EDR Contact: 08/09/2018
Next Scheduled EDR Contact: 10/15/2018
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 07/17/2018
Date Data Arrived at EDR: 08/09/2018
Date Made Active in Reports: 09/07/2018
Number of Days to Update: 29

Source: EPA
Telephone: N/A
Last EDR Contact: 08/09/2018
Next Scheduled EDR Contact: 10/15/2018
Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 11/07/2016
Date Data Arrived at EDR: 01/05/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 92

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 07/06/2018
Next Scheduled EDR Contact: 10/15/2018
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 07/17/2018
Date Data Arrived at EDR: 08/09/2018
Date Made Active in Reports: 09/07/2018
Number of Days to Update: 29

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 08/09/2018
Next Scheduled EDR Contact: 10/29/2018
Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 07/17/2018
Date Data Arrived at EDR: 08/09/2018
Date Made Active in Reports: 09/07/2018
Number of Days to Update: 29

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 08/09/2018
Next Scheduled EDR Contact: 10/29/2018
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 03/01/2018
Date Data Arrived at EDR: 03/28/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 86

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 09/19/2018
Next Scheduled EDR Contact: 01/07/2019
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 03/01/2018
Date Data Arrived at EDR: 03/28/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: (206) 553-1200
Last EDR Contact: 09/19/2018
Next Scheduled EDR Contact: 01/07/2019
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/01/2018
Date Data Arrived at EDR: 03/28/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: (206) 553-1200
Last EDR Contact: 09/19/2018
Next Scheduled EDR Contact: 01/07/2019
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 03/01/2018
Date Data Arrived at EDR: 03/28/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: (206) 553-1200
Last EDR Contact: 09/19/2018
Next Scheduled EDR Contact: 01/07/2019
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/01/2018
Date Data Arrived at EDR: 03/28/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: (206) 553-1200
Last EDR Contact: 09/19/2018
Next Scheduled EDR Contact: 01/07/2019
Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 05/14/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 07/16/2018
Next Scheduled EDR Contact: 11/26/2018
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 07/31/2018
Date Data Arrived at EDR: 08/28/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 17

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 08/28/2018
Next Scheduled EDR Contact: 12/10/2018
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 07/31/2018
Date Data Arrived at EDR: 08/28/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 17

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 08/28/2018
Next Scheduled EDR Contact: 12/10/2018
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System
Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 06/18/2018
Date Data Arrived at EDR: 06/27/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 79

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 09/25/2018
Next Scheduled EDR Contact: 01/07/2019
Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

ECSI: Environmental Cleanup Site Information System
Sites that are or may be contaminated and may require cleanup.

Date of Government Version: 07/01/2018
Date Data Arrived at EDR: 07/05/2018
Date Made Active in Reports: 07/23/2018
Number of Days to Update: 18

Source: Department of Environmental Quality
Telephone: 503-229-6629
Last EDR Contact: 07/05/2018
Next Scheduled EDR Contact: 10/15/2018
Data Release Frequency: Quarterly

CRL: Confirmed Release List and Inventory
All facilities with a confirmed release.

Date of Government Version: 08/01/2018
Date Data Arrived at EDR: 08/10/2018
Date Made Active in Reports: 09/24/2018
Number of Days to Update: 45

Source: Department of Environmental Quality
Telephone: 503-229-6170
Last EDR Contact: 08/10/2018
Next Scheduled EDR Contact: 11/26/2018
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF: Solid Waste Facilities List
Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 07/16/2018
Date Data Arrived at EDR: 07/20/2018
Date Made Active in Reports: 08/20/2018
Number of Days to Update: 31

Source: Department of Environmental Quality
Telephone: 503-229-6299
Last EDR Contact: 07/12/2018
Next Scheduled EDR Contact: 10/29/2018
Data Release Frequency: Semi-Annually

State and tribal leaking storage tank lists

LUST: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 07/02/2018
Date Data Arrived at EDR: 08/10/2018
Date Made Active in Reports: 09/24/2018
Number of Days to Update: 45

Source: Department of Environmental Quality
Telephone: 503-229-5790
Last EDR Contact: 08/10/2018
Next Scheduled EDR Contact: 11/26/2018
Data Release Frequency: Quarterly

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 04/12/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 07/27/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 04/12/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 07/27/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 05/08/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 07/27/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 04/10/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 07/27/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 04/25/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 07/27/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 04/24/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 07/27/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 04/01/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 07/27/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/13/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 07/27/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Varies

State and tribal registered storage tank lists

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 05/15/2017
Date Data Arrived at EDR: 05/30/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 136

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 07/11/2018
Next Scheduled EDR Contact: 10/22/2018
Data Release Frequency: Varies

UST: Underground Storage Tank Database
Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 07/02/2018
Date Data Arrived at EDR: 08/10/2018
Date Made Active in Reports: 09/24/2018
Number of Days to Update: 45

Source: Department of Environmental Quality
Telephone: 503-229-5815
Last EDR Contact: 08/10/2018
Next Scheduled EDR Contact: 11/26/2018
Data Release Frequency: Quarterly

AST: Aboveground Storage Tanks
Aboveground storage tank locations reported to the Office of State Fire Marshal.

Date of Government Version: 09/05/2017
Date Data Arrived at EDR: 11/16/2017
Date Made Active in Reports: 01/09/2018
Number of Days to Update: 54

Source: Office of State Fire Marshal
Telephone: 503-378-3473
Last EDR Contact: 08/01/2018
Next Scheduled EDR Contact: 11/12/2018
Data Release Frequency: Semi-Annually

INDIAN UST R1: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 04/13/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 07/27/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 04/01/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 07/27/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 04/24/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 07/27/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 05/08/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 07/27/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 04/12/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 07/27/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 04/12/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 07/27/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 04/10/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 07/27/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 04/25/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 07/27/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Varies

State and tribal institutional control / engineering control registries

ENG CONTROLS: Engineering Controls Recorded at ESCI Sites
Engineering controls are physical measures selected or approved by the Director for the purpose of preventing or minimizing exposure to hazardous substances. Engineering controls may include, but are not limited to, fencing, capping, horizontal or vertical barriers, hydraulic controls, and alternative water supplies.

Date of Government Version: 07/01/2018
Date Data Arrived at EDR: 07/05/2018
Date Made Active in Reports: 07/23/2018
Number of Days to Update: 18

Source: Department of Environmental Quality
Telephone: 503-229-5193
Last EDR Contact: 07/05/2018
Next Scheduled EDR Contact: 10/15/2018
Data Release Frequency: Quarterly

INST CONTROL: Institutional Controls Recorded at ESCI Sites
An institutional control is a legal or administrative tool or action taken to reduce the potential for exposure to hazardous substances. Institutional controls may include, but are not limited to, use restrictions, environmental monitoring requirements, and site access and security measures.

Date of Government Version: 07/01/2018
Date Data Arrived at EDR: 07/05/2018
Date Made Active in Reports: 07/23/2018
Number of Days to Update: 18

Source: Department of Environmental Quality
Telephone: 503-229-5193
Last EDR Contact: 07/05/2018
Next Scheduled EDR Contact: 10/15/2018
Data Release Frequency: Quarterly

State and tribal voluntary cleanup sites

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 09/24/2018
Next Scheduled EDR Contact: 01/07/2019
Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

VCS: Voluntary Cleanup Program Sites
Responsible parties have entered into an agreement with DEQ to voluntarily address contamination associated with their property.

Date of Government Version: 06/29/2018
Date Data Arrived at EDR: 07/03/2018
Date Made Active in Reports: 07/23/2018
Number of Days to Update: 20

Source: DEQ
Telephone: 503-229-5256
Last EDR Contact: 06/28/2018
Next Scheduled EDR Contact: 10/15/2018
Data Release Frequency: Quarterly

State and tribal Brownfields sites

BROWNFIELDS: Brownfields Projects
Brownfields investigations and/or cleanups that have been conducted in Oregon.

Date of Government Version: 08/01/2018
Date Data Arrived at EDR: 08/10/2018
Date Made Active in Reports: 09/24/2018
Number of Days to Update: 45

Source: Department of Environmental Quality
Telephone: 503-229-6801
Last EDR Contact: 08/10/2018
Next Scheduled EDR Contact: 11/26/2018
Data Release Frequency: Annually

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 06/18/2018
Date Data Arrived at EDR: 06/20/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 09/18/2018
Next Scheduled EDR Contact: 12/31/2018
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

SWRCY: Recycling Facility Location Listing
A listing of recycling facility locations.

Date of Government Version: 08/28/2018
Date Data Arrived at EDR: 08/29/2018
Date Made Active in Reports: 09/24/2018
Number of Days to Update: 26

Source: Department of Environmental Quality
Telephone: 503-229-5353
Last EDR Contact: 08/29/2018
Next Scheduled EDR Contact: 12/10/2018
Data Release Frequency: Quarterly

HIST LF: Old Closed SW Disposal Sites
A list of solid waste disposal sites that have been closed for a long while.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 07/08/2003
Date Made Active in Reports: 07/18/2003
Number of Days to Update: 10

Source: Department of Environmental Quality
Telephone: 503-229-5409
Last EDR Contact: 07/08/2003
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 07/30/2018
Next Scheduled EDR Contact: 11/12/2018
Data Release Frequency: Varies

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 07/17/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: No Update Planned

ODI: Open Dump Inventory
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land
A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176

Source: Department of Health & Human Serivces, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 08/03/2018
Next Scheduled EDR Contact: 11/12/2018
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register
A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 05/18/2018
Date Data Arrived at EDR: 06/20/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 86

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 08/28/2018
Next Scheduled EDR Contact: 12/10/2018
Data Release Frequency: No Update Planned

AOC MU: East Multnomah County Area
Approximate extent of TSA VOC plume February , 2002

Date of Government Version: N/A
Date Data Arrived at EDR: 10/07/2002
Date Made Active in Reports: 10/22/2002
Number of Days to Update: 15

Source: City of Portland Environmental Services
Telephone: 503-823-5310
Last EDR Contact: 03/13/2007
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

AOC COL: Columbia Slough
Columbia Slough waterway boundaries.

Date of Government Version: 08/10/2005
Date Data Arrived at EDR: 05/17/2006
Date Made Active in Reports: 06/16/2006
Number of Days to Update: 30

Source: City of Portland Environmental Services
Telephone: 503-823-5310
Last EDR Contact: 03/13/2007
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CDL: Uninhabitable Drug Lab Properties
The properties listed on these county pages have been declared by a law enforcement agency to be unfit for use due to meth lab and/or storage activities. The properties are considered uninhabitable until cleaned up by a state certified decontamination contractor and a certificate of fitness is issued by the Oregon Health Division.

Date of Government Version: 05/03/2018
Date Data Arrived at EDR: 05/03/2018
Date Made Active in Reports: 05/09/2018
Number of Days to Update: 6

Source: Department of Consumer & Business Services
Telephone: 503-378-4133
Last EDR Contact: 08/01/2018
Next Scheduled EDR Contact: 11/19/2018
Data Release Frequency: Quarterly

CDL 2: Clandestine Drug Lab Site Listing
A listing of clandestine drug lab site locations included in the Incident database.

Date of Government Version: 07/01/2018
Date Data Arrived at EDR: 08/01/2018
Date Made Active in Reports: 08/15/2018
Number of Days to Update: 14

Source: Oregon State Police
Telephone: 503-373-1540
Last EDR Contact: 08/01/2018
Next Scheduled EDR Contact: 11/12/2018
Data Release Frequency: Varies

US CDL: Clandestine Drug Labs
A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 05/18/2018
Date Data Arrived at EDR: 06/20/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 86

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 08/28/2018
Next Scheduled EDR Contact: 12/10/2018
Data Release Frequency: Quarterly

Local Land Records

LIENS 2: CERCLA Lien Information
A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 05/13/2018
Date Data Arrived at EDR: 05/30/2018
Date Made Active in Reports: 06/29/2018
Number of Days to Update: 30

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 08/09/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System
Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 03/26/2018
Date Data Arrived at EDR: 03/27/2018
Date Made Active in Reports: 06/08/2018
Number of Days to Update: 73

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 09/25/2018
Next Scheduled EDR Contact: 01/07/2019
Data Release Frequency: Quarterly

SPILLS: Spill Data
Oil and hazardous material spills reported to the Environmental Response Program.

Date of Government Version: 07/01/2018
Date Data Arrived at EDR: 07/13/2018
Date Made Active in Reports: 08/15/2018
Number of Days to Update: 33

Source: Department of Environmental Quality
Telephone: 503-229-5815
Last EDR Contact: 06/28/2018
Next Scheduled EDR Contact: 10/15/2018
Data Release Frequency: Semi-Annually

HAZMAT: Hazmat/Incidents
Hazardous material incidents reported to the State Fire Marshal by emergency responders. The hazardous material may or may not have been released.

Date of Government Version: 07/01/2018
Date Data Arrived at EDR: 08/01/2018
Date Made Active in Reports: 08/15/2018
Number of Days to Update: 14

Source: State Fire Marshal's Office
Telephone: 503-373-1540
Last EDR Contact: 08/01/2018
Next Scheduled EDR Contact: 11/12/2018
Data Release Frequency: Semi-Annually

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 05/01/2006
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 03/01/2018
Date Data Arrived at EDR: 03/28/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: (206) 553-1200
Last EDR Contact: 09/19/2018
Next Scheduled EDR Contact: 01/07/2019
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 01/31/2015
Date Data Arrived at EDR: 07/08/2015
Date Made Active in Reports: 10/13/2015
Number of Days to Update: 97

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 08/24/2018
Next Scheduled EDR Contact: 12/03/2018
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 07/11/2018
Next Scheduled EDR Contact: 10/22/2018
Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 07/13/2018
Next Scheduled EDR Contact: 10/22/2018
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 01/01/2017
Date Data Arrived at EDR: 02/03/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 63

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 08/17/2018
Next Scheduled EDR Contact: 11/26/2018
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 03/01/2018
Date Data Arrived at EDR: 03/27/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 87

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 09/25/2018
Next Scheduled EDR Contact: 01/07/2019
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 08/03/2018
Next Scheduled EDR Contact: 11/19/2018
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 05/08/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 73

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 08/10/2018
Next Scheduled EDR Contact: 11/19/2018
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 06/21/2017
Date Made Active in Reports: 01/05/2018
Number of Days to Update: 198

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 09/21/2018
Next Scheduled EDR Contact: 12/31/2018
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 01/10/2018
Date Made Active in Reports: 01/12/2018
Number of Days to Update: 2

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 08/24/2018
Next Scheduled EDR Contact: 12/03/2018
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 07/27/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 05/13/2018
Date Data Arrived at EDR: 05/30/2018
Date Made Active in Reports: 06/29/2018
Number of Days to Update: 30

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 09/07/2018
Next Scheduled EDR Contact: 12/17/2018
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 05/01/2018
Date Data Arrived at EDR: 05/17/2018
Date Made Active in Reports: 09/07/2018
Number of Days to Update: 113

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 07/20/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties
A listing of verified Potentially Responsible Parties

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 10/17/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 3

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 08/09/2018
Next Scheduled EDR Contact: 11/19/2018
Data Release Frequency: Quarterly

PADS: PCB Activity Database System
PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 06/01/2017
Date Data Arrived at EDR: 06/09/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 126

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 07/13/2018
Next Scheduled EDR Contact: 10/22/2018
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System
The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 07/09/2018
Next Scheduled EDR Contact: 10/22/2018
Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Quarterly

MLTS: Material Licensing Tracking System
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 08/30/2016
Date Data Arrived at EDR: 09/08/2016
Date Made Active in Reports: 10/21/2016
Number of Days to Update: 43

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 07/23/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 09/07/2018
Next Scheduled EDR Contact: 12/17/2018
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 07/01/2014
Date Data Arrived at EDR: 09/10/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 09/04/2018
Next Scheduled EDR Contact: 12/17/2018
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 05/24/2017
Date Data Arrived at EDR: 11/30/2017
Date Made Active in Reports: 12/15/2017
Number of Days to Update: 15

Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 07/27/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 04/03/2018
Date Data Arrived at EDR: 04/05/2018
Date Made Active in Reports: 06/29/2018
Number of Days to Update: 85

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 07/05/2018
Next Scheduled EDR Contact: 10/15/2018
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012
Date Data Arrived at EDR: 08/07/2012
Date Made Active in Reports: 09/18/2012
Number of Days to Update: 42

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 08/09/2018
Next Scheduled EDR Contact: 11/12/2018
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 03/31/2018
Date Data Arrived at EDR: 04/16/2018
Date Made Active in Reports: 06/29/2018
Number of Days to Update: 74

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 09/17/2018
Next Scheduled EDR Contact: 12/31/2018
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 09/28/2017
Number of Days to Update: 218

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 08/24/2018
Next Scheduled EDR Contact: 12/03/2018
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 07/11/2018
Next Scheduled EDR Contact: 10/22/2018
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 08/08/2017
Date Data Arrived at EDR: 09/11/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 3

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 09/11/2018
Next Scheduled EDR Contact: 11/19/2018
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 06/23/2017
Date Data Arrived at EDR: 10/11/2017
Date Made Active in Reports: 11/03/2017
Number of Days to Update: 23

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 08/20/2018
Next Scheduled EDR Contact: 12/03/2018
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 05/13/2018
Date Data Arrived at EDR: 05/30/2018
Date Made Active in Reports: 06/29/2018
Number of Days to Update: 30

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 08/09/2018
Next Scheduled EDR Contact: 10/15/2018
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 05/03/2018
Date Data Arrived at EDR: 05/31/2018
Date Made Active in Reports: 06/29/2018
Number of Days to Update: 29

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 08/29/2018
Next Scheduled EDR Contact: 12/10/2018
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 12/05/2005
Date Data Arrived at EDR: 02/29/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 49

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 08/31/2018
Next Scheduled EDR Contact: 12/10/2018
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 08/31/2018
Next Scheduled EDR Contact: 12/10/2018
Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 09/10/2018
Date Data Arrived at EDR: 09/11/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 3

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 09/10/2018
Next Scheduled EDR Contact: 12/24/2018
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 02/21/2018
Date Data Arrived at EDR: 02/23/2018
Date Made Active in Reports: 03/23/2018
Number of Days to Update: 28

Source: EPA
Telephone: (206) 553-1200
Last EDR Contact: 09/18/2018
Next Scheduled EDR Contact: 12/17/2018
Data Release Frequency: Quarterly

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 01/04/2018
Date Data Arrived at EDR: 01/19/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 84

Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 08/31/2018
Next Scheduled EDR Contact: 12/10/2018
Data Release Frequency: Varies

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 06/19/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 87

Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 07/13/2018
Next Scheduled EDR Contact: 10/29/2018
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

ECHO: Enforcement & Compliance History Information
ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 09/02/2018
Date Data Arrived at EDR: 09/05/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 9

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 09/05/2018
Next Scheduled EDR Contact: 12/17/2018
Data Release Frequency: Quarterly

FUELS PROGRAM: EPA Fuels Program Registered Listing
This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 05/21/2018
Date Data Arrived at EDR: 05/23/2018
Date Made Active in Reports: 09/07/2018
Number of Days to Update: 107

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 08/22/2018
Next Scheduled EDR Contact: 12/03/2018
Data Release Frequency: Quarterly

AIRS: Oregon Title V Facility Listing
A listing of Title V facility source and emissions information.

Date of Government Version: 07/03/2018
Date Data Arrived at EDR: 07/10/2018
Date Made Active in Reports: 08/17/2018
Number of Days to Update: 38

Source: Department of Environmental Quality
Telephone: 503-229-6459
Last EDR Contact: 06/28/2018
Next Scheduled EDR Contact: 04/17/2047
Data Release Frequency: Annually

COAL ASH: Coal Ash Disposal Sites Listing
A listing of coal ash disposal sites.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 03/16/2018
Date Made Active in Reports: 05/15/2018
Number of Days to Update: 60

Source: Department of Environmental Quality
Telephone: 541-298-7255
Last EDR Contact: 08/30/2018
Next Scheduled EDR Contact: 12/17/2018
Data Release Frequency: Varies

DRYCLEANERS: Drycleaning Facilities
A listing of registered drycleaning facilities in Oregon.

Date of Government Version: 07/27/2018
Date Data Arrived at EDR: 07/31/2018
Date Made Active in Reports: 08/15/2018
Number of Days to Update: 15

Source: Department of Environmental Quality
Telephone: 503-229-6783
Last EDR Contact: 07/25/2018
Next Scheduled EDR Contact: 11/12/2018
Data Release Frequency: Annually

ENF: Enforcement Action Listing
Enforcement actions

Date of Government Version: 06/19/2018
Date Data Arrived at EDR: 06/21/2018
Date Made Active in Reports: 07/23/2018
Number of Days to Update: 32

Source: Department of Environmental Quality
Telephone: 503-229-5696
Last EDR Contact: 09/19/2018
Next Scheduled EDR Contact: 12/31/2018
Data Release Frequency: Quarterly

Financial Assurance 1: Financial Assurance Information Listing
Financial assurance information for hazardous waste facilities.

Date of Government Version: 05/21/2018
Date Data Arrived at EDR: 06/21/2018
Date Made Active in Reports: 07/23/2018
Number of Days to Update: 32

Source: Department of Environmental Quality
Telephone: 541-633-2011
Last EDR Contact: 08/30/2018
Next Scheduled EDR Contact: 12/17/2018
Data Release Frequency: Semi-Annually

Financial Assurance 2: Financial Assurance Information Listing

Financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 08/20/2018
Date Data Arrived at EDR: 08/21/2018
Date Made Active in Reports: 09/24/2018
Number of Days to Update: 34

Source: Department of Environmental Quality
Telephone: 503-229-5521
Last EDR Contact: 08/20/2018
Next Scheduled EDR Contact: 12/03/2018
Data Release Frequency: Semi-Annually

HSIS: Hazardous Substance Information Survey

Companies in Oregon submitting the Hazardous Substance Information Survey and either reporting or not reporting hazardous substances.

Date of Government Version: 05/03/2018
Date Data Arrived at EDR: 05/03/2018
Date Made Active in Reports: 06/07/2018
Number of Days to Update: 35

Source: State Fire Marshal's Office
Telephone: 503-373-1540
Last EDR Contact: 08/01/2018
Next Scheduled EDR Contact: 11/12/2018
Data Release Frequency: Semi-Annually

OR MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 08/06/2018
Date Made Active in Reports: 08/15/2018
Number of Days to Update: 9

Source: Department of Environmental Quality
Telephone: N/A
Last EDR Contact: 08/01/2018
Next Scheduled EDR Contact: 11/19/2018
Data Release Frequency: Annually

NPDES: Wastewater Permits Database

A listing of permitted wastewater facilities.

Date of Government Version: 06/12/2018
Date Data Arrived at EDR: 06/15/2018
Date Made Active in Reports: 07/23/2018
Number of Days to Update: 38

Source: Department of Environmental Quality
Telephone: 503-229-5657
Last EDR Contact: 08/01/2018
Next Scheduled EDR Contact: 11/19/2018
Data Release Frequency: Varies

UIC: Underground Injection Control Program Database

DEQ's Underground Injection Control Program is authorized by the Environmental Protection Agency (EPA) to regulate all underground injection in Oregon to protect groundwater resources.

Date of Government Version: 06/21/2018
Date Data Arrived at EDR: 06/26/2018
Date Made Active in Reports: 07/23/2018
Number of Days to Update: 27

Source: Department of Environmental Quality
Telephone: 503-229-5945
Last EDR Contact: 09/25/2018
Next Scheduled EDR Contact: 01/07/2019
Data Release Frequency: Quarterly

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA HWS: Recovered Government Archive State Hazardous Waste Facilities List

The EDR Recovered Government Archive State Hazardous Waste database provides a list of SHWS incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Quality in Oregon.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/03/2014
Number of Days to Update: 186

Source: Department of Environmental Quality
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Quality in Oregon.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Environmental Quality
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank
The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Quality in Oregon.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/27/2013
Number of Days to Update: 179

Source: Department of Environmental Quality
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 07/01/2018
Date Data Arrived at EDR: 08/01/2018
Date Made Active in Reports: 08/31/2018
Number of Days to Update: 30

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 08/01/2018
Next Scheduled EDR Contact: 11/12/2018
Data Release Frequency: Quarterly

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 06/15/2018
Date Made Active in Reports: 07/09/2018
Number of Days to Update: 24

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 09/06/2018
Next Scheduled EDR Contact: 12/24/2018
Data Release Frequency: Annually

Oil/Gas Pipelines
Source: PennWell Corporation
Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Electric Power Transmission Line Data
Source: PennWell Corporation
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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Child Care Listings
Source: Employment Department
Telephone: 503-947-1420

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetlands Inventory Data
Source: Oregon Geospatial Enterprise Office
Telephone: 503-378-2166

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

CAMP RILEA
33168 PATRIOT WAY
WARRENTON, OR 97146

TARGET PROPERTY COORDINATES

Latitude (North):	46.124876 - 46˚ 7' 29.55''
Longitude (West):	123.934437 - 123˚ 56' 3.97''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	427805.2
UTM Y (Meters):	5108128.5
Elevation:	50 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	6066050 GEARHART, OR
Version Date:	2014
North Map:	6066062 WARRENTON, OR
Version Date:	2014

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

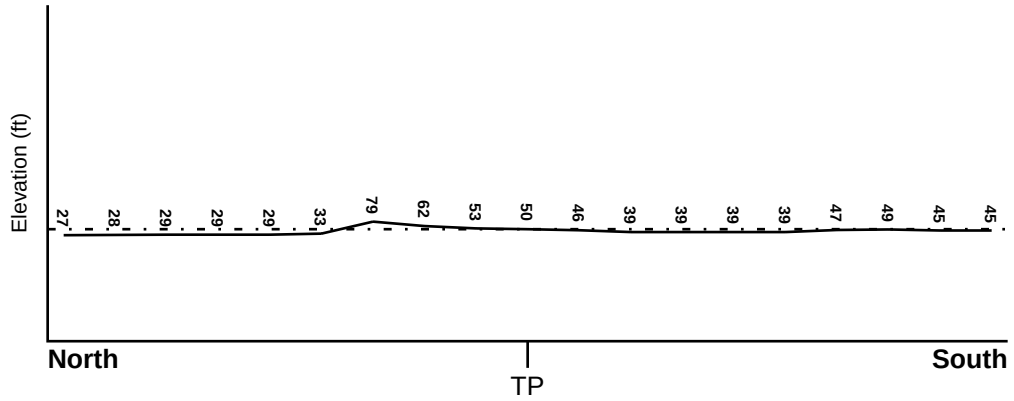
TOPOGRAPHIC INFORMATION

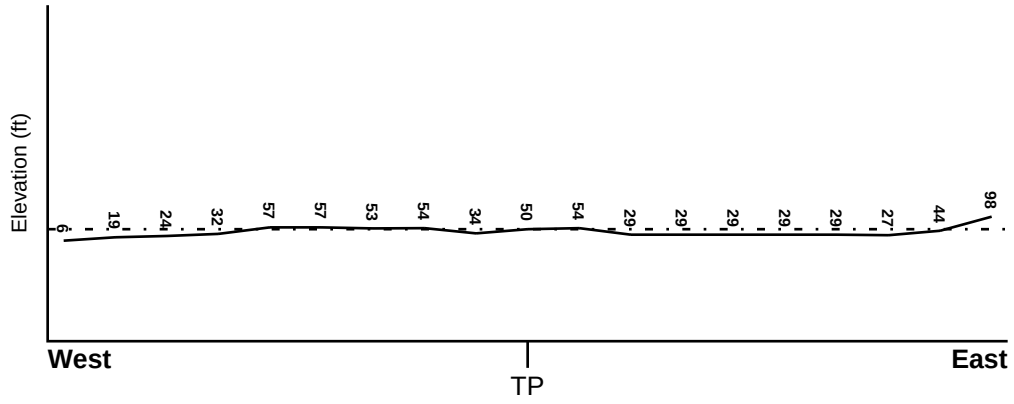
Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General SE

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES





Target Property Elevation: 50 ft.

0 1/2 1 Miles

Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property	FEMA Source Type
41007C0356E	FEMA FIRM Flood data

Additional Panels in search area:	FEMA Source Type
53049C0850D	FEMA FIRM Flood data
41007C0352E	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
WARRENTON	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

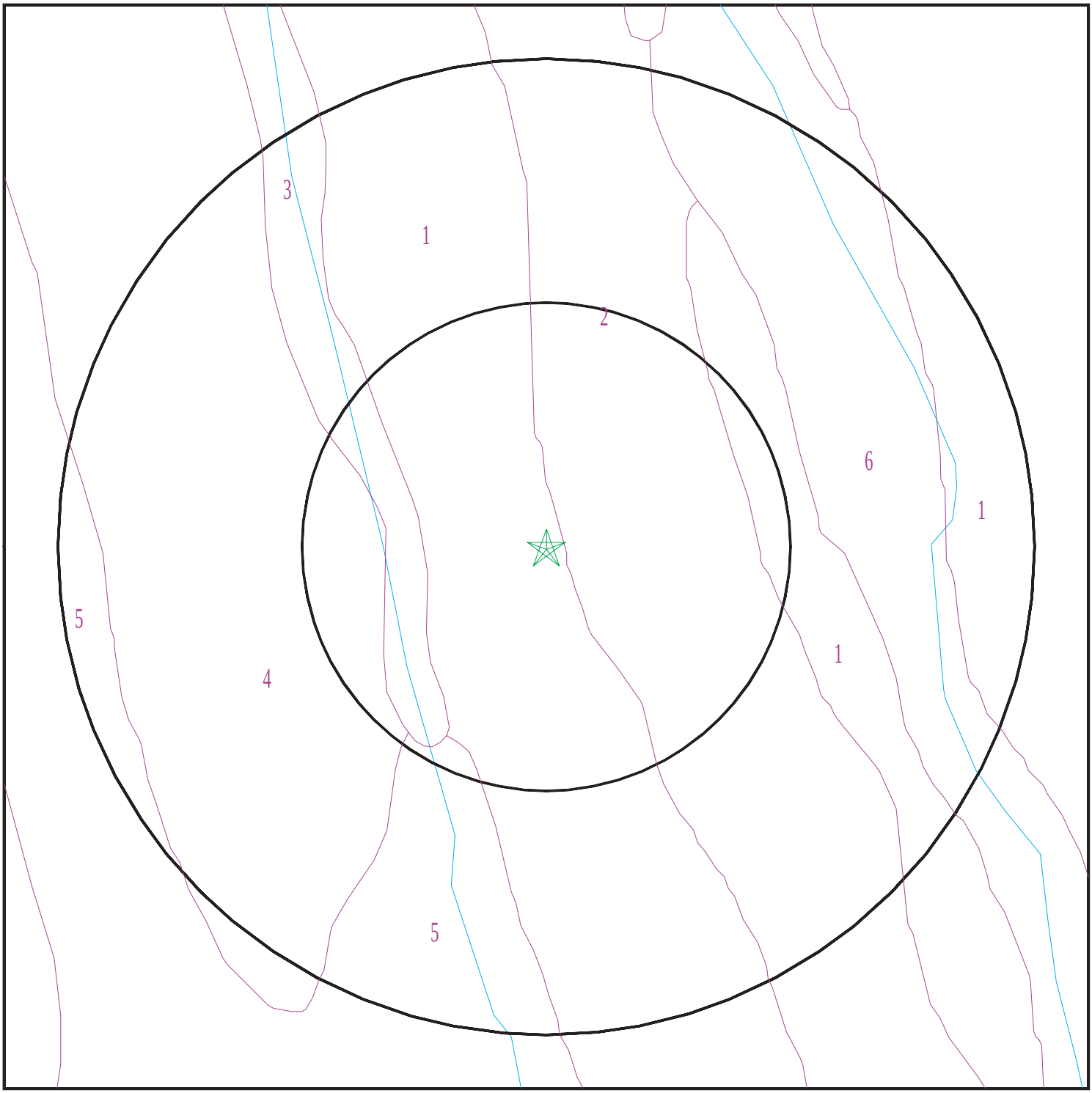
Era:	Cenozoic
System:	Tertiary
Series:	Oligocene
Code:	To *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratified Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 5436294.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME: Camp Rilea ADDRESS: 33168 Patriot Way Warrenton OR 97146 LAT/LONG: 46.124876 / 123.934437	CLIENT: AECOM CONTACT: Brittany Kirchmann INQUIRY #: 5436294.2s DATE: September 26, 2018 6:09 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Gearhart

Soil Surface Texture: fine sandy loam

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class: Somewhat excessively drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information

	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	
Layer	**Upper**	**Lower**	**Soil Texture Class**	**AASHTO Group**	**Unified Soil**		**Soil Reaction (pH)**
1	0 inches	11 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 705 Min: 141	Max: 5.5 Min: 4.5
2	11 inches	16 inches	loamy fine sand	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 705 Min: 141	Max: 5.5 Min: 4.5
3	16 inches	59 inches	fine sand	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 705 Min: 141	Max: 5.5 Min: 4.5

Soil Map ID: 2

Soil Component Name: Gearhart

Soil Surface Texture: fine sandy loam

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class: Somewhat excessively drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information

	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	**Upper**	**Lower**	**Soil Texture Class**	**AASHTO Group**	**Unified Soil**		
1	0 inches	11 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 705 Min: 141	Max: 5.5 Min: 4.5
2	11 inches	16 inches	loamy fine sand	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 705 Min: 141	Max: 5.5 Min: 4.5
3	16 inches	59 inches	fine sand	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 705 Min: 141	Max: 5.5 Min: 4.5

Soil Map ID: 3

Soil Component Name: Water

Soil Surface Texture: fine sandy loam

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class:
Hydric Status: Unknown

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

Soil Map ID: 4

Soil Component Name: Waldport

Soil Surface Texture: fine sand

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class: Excessively drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	3 inches	fine sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 705 Min: 141	Max: 6.5 Min: 5.1

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
2	3 inches	59 inches	fine sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 705 Min: 141	Max: 6.5 Min: 5.1

Soil Map ID: 5

Soil Component Name: Waldport

Soil Surface Texture: fine sand

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class: Excessively drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	3 inches	fine sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 705 Min: 141	Max: 6.5 Min: 5.1
2	3 inches	59 inches	fine sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 705 Min: 141	Max: 6.5 Min: 5.1

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Map ID: 6

Soil Component Name: Warrenton

Soil Surface Texture: loamy fine sand

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Very poorly drained

Hydric Status: All hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 30 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	11 inches	loamy fine sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 5 Min: 3.6
2	11 inches	59 inches	fine sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 5 Min: 3.6

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A2	USGS40000995522	1/4 - 1/2 Mile NW
3	USGS40000995521	1/4 - 1/2 Mile WSW
7	USGS40000995520	1/2 - 1 Mile WSW
8	USGS40000995519	1/2 - 1 Mile SSW

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

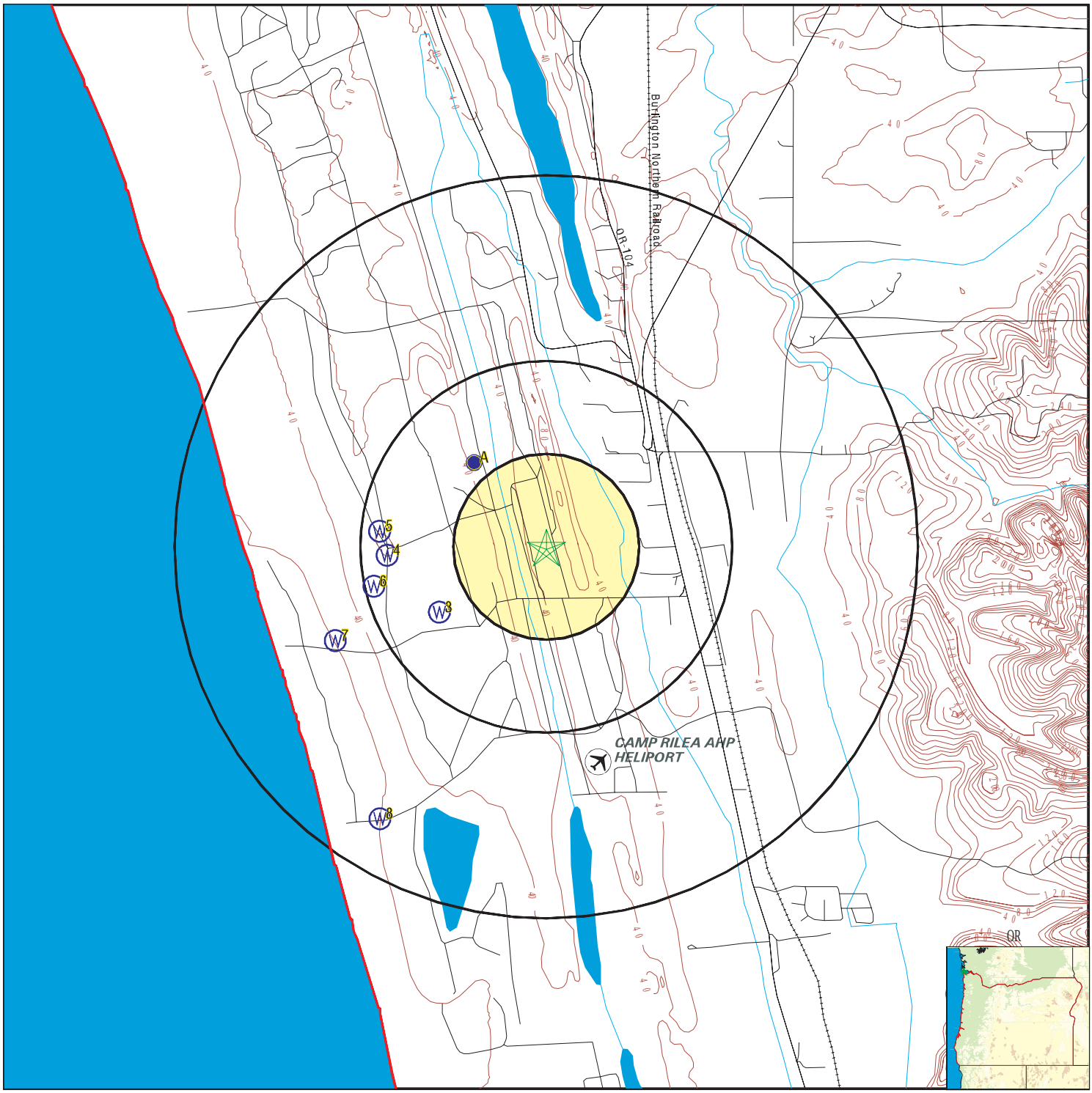
MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A1	ORW600000014810	1/4 - 1/2 Mile NW
4	ORW600000014614	1/4 - 1/2 Mile West
5	ORW600000014615	1/4 - 1/2 Mile West
6	ORW600000013410	1/4 - 1/2 Mile WSW

PHYSICAL SETTING SOURCE MAP - 5436294.2s



0 1/4 1/2 1 Miles

- County Boundary
- Major Roads
- Contour Lines
- Airports
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- Oil, gas or related wells

SITE NAME: Camp Rilea	CLIENT: AECOM
ADDRESS: 33168 Patriot Way Warrenton OR 97146	CONTACT: Brittany Kirchmann
LAT/LONG: 46.124876 / 123.934437	INQUIRY #: 5436294.2s
	DATE: September 26, 2018 6:09 pm

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Map ID Direction Distance Elevation	Database	EDR ID Number
A1 **NW** **1/4 - 1/2 Mile** **Lower**	**OR WELLS**	**ORW600000014810**

Well Log ID:	CLAT 50230	Last Update:	05/22/2012
Well Tag:	0	State Obs Well #:	71
Observation Well:	Current	Recorder Well:	Noncurrent
Obs Well Flag:	State Obs Well, Current	Surface Elevation:	34.1300010681152

A2 **NW** **1/4 - 1/2 Mile** **Lower**	**FED USGS**	**USGS40000995522**

Organization ID:	USGS-OR	Organization Name:	USGS Oregon Water Science Center
Monitor Location:	08N/10W-33CCC1	Type:	Well
Description:	Not Reported	HUC:	17080006
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Other aquifers	Formation Type:	Pleistocene Series
Aquifer Type:	Not Reported	Construction Date:	19670228
Well Depth:	88	Well Depth Units:	ft
Well Hole Depth:	135	Well Hole Depth Units:	ft

Ground water levels,Number of Measurements:	577	Level reading date:	2002-10-03
Feet below surface:	14.7	Feet to sea level:	Not Reported
Note:	Not Reported		
Level reading date:	2002-08-01	Feet below surface:	14.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2002-05-09	Feet below surface:	12.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2002-01-16	Feet below surface:	14.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2001-10-04	Feet below surface:	14.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2001-06-20	Feet below surface:	13.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2001-04-24	Feet below surface:	14.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-12-21	Feet below surface:	14.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-10-19	Feet below surface:	15.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-07-26	Feet below surface:	14.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-04-01	Feet below surface:	12.1

Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-12-07	Feet below surface:	13.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-09-24	Feet below surface:	14.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-06-09	Feet below surface:	13.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-04-05	Feet below surface:	11.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-01-05	Feet below surface:	15.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-12-09	Feet below surface:	14.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-09-15	Feet below surface:	14.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-08-14	Feet below surface:	13.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-05-08	Feet below surface:	14.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-01-21	Feet below surface:	14.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1997-10-14	Feet below surface:	14.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1997-08-06	Feet below surface:	14.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1997-06-05	Feet below surface:	12.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1997-01-09	Feet below surface:	11.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-10-16	Feet below surface:	15.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-08-13	Feet below surface:	14.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-04-17	Feet below surface:	13.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-03-11	Feet below surface:	11.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1995-10-02	Feet below surface:	17.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1995-07-12	Feet below surface:	14.2
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1995-06-02	Feet below surface:	14.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1995-03-02	Feet below surface:	13.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1994-09-30	Feet below surface:	14.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1994-08-17	Feet below surface:	14.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1994-05-19	Feet below surface:	13.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1994-01-21	Feet below surface:	15.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1993-11-08	Feet below surface:	15.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1993-06-28	Feet below surface:	14.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1993-06-01	Feet below surface:	14.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1993-01-28	Feet below surface:	15.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1992-10-16	Feet below surface:	14.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1992-08-13	Feet below surface:	15.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1991-04-24	Feet below surface:	13.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1991-03-26	Feet below surface:	13.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1991-02-26	Feet below surface:	13.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1991-01-24	Feet below surface:	13.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1990-12-18	Feet below surface:	13.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1990-11-27	Feet below surface:	14.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1990-10-26	Feet below surface:	15.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1990-09-25	Feet below surface:	15.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1990-08-28	Feet below surface:	14.8
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1990-07-25	Feet below surface:	14.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1990-06-26	Feet below surface:	14.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1990-05-29	Feet below surface:	14.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1990-04-25	Feet below surface:	13.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1990-03-27	Feet below surface:	13.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1990-02-28	Feet below surface:	12.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1990-01-30	Feet below surface:	13.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1990-01-03	Feet below surface:	14.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1989-11-27	Feet below surface:	15.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1989-10-25	Feet below surface:	15.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1989-05-23	Feet below surface:	14.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1989-04-25	Feet below surface:	13.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1989-03-22	Feet below surface:	14.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1989-02-22	Feet below surface:	14.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1989-01-30	Feet below surface:	14.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1988-11-29	Feet below surface:	15.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1988-10-24	Feet below surface:	15.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1988-10-10	Feet below surface:	15.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1988-08-30	Feet below surface:	15.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1988-07-27	Feet below surface:	15.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1988-06-21	Feet below surface:	15.0
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1988-05-25	Feet below surface:	14.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1988-05-03	Feet below surface:	14.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1988-02-24	Feet below surface:	15.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1988-02-01	Feet below surface:	15.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1987-12-30	Feet below surface:	15.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1987-11-30	Feet below surface:	15.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1987-10-27	Feet below surface:	15.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1987-09-23	Feet below surface:	15.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1987-08-25	Feet below surface:	15.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1987-07-21	Feet below surface:	14.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1987-06-29	Feet below surface:	14.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1987-06-02	Feet below surface:	14.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1987-04-28	Feet below surface:	13.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1987-03-31	Feet below surface:	13.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1987-03-02	Feet below surface:	13.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1987-01-27	Feet below surface:	14.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1986-12-16	Feet below surface:	14.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1986-11-25	Feet below surface:	14.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1986-09-25	Feet below surface:	15.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1986-08-25	Feet below surface:	15.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1986-07-24	Feet below surface:	14.7
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1986-06-17	Feet below surface:	14.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1986-05-16	Feet below surface:	14.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1986-04-14	Feet below surface:	13.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1986-03-14	Feet below surface:	13.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1986-01-27	Feet below surface:	14.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1986-01-17	Feet below surface:	14.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-12-16	Feet below surface:	14.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-10-23	Feet below surface:	15.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-09-30	Feet below surface:	15.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-09-25	Feet below surface:	15.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-09-23	Feet below surface:	15.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-09-20	Feet below surface:	15.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-09-15	Feet below surface:	15.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-09-10	Feet below surface:	15.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-09-05	Feet below surface:	15.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-08-31	Feet below surface:	15.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-08-25	Feet below surface:	15.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-08-20	Feet below surface:	15.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-08-19	Feet below surface:	15.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-08-15	Feet below surface:	15.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-08-10	Feet below surface:	15.0
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1985-08-05	Feet below surface:	15.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-07-31	Feet below surface:	15.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-07-25	Feet below surface:	14.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-07-22	Feet below surface:	14.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-07-20	Feet below surface:	14.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-07-15	Feet below surface:	14.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-07-10	Feet below surface:	14.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-07-05	Feet below surface:	14.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-06-30	Feet below surface:	14.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-06-26	Feet below surface:	14.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-06-25	Feet below surface:	14.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-06-20	Feet below surface:	14.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-06-15	Feet below surface:	14.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-06-13	Feet below surface:	14.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-06-10	Feet below surface:	14.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-06-05	Feet below surface:	14.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-05-31	Feet below surface:	12.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-05-25	Feet below surface:	14.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-05-20	Feet below surface:	14.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-05-15	Feet below surface:	14.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-05-10	Feet below surface:	14.5
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1985-05-05	Feet below surface:	14.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-04-30	Feet below surface:	14.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-04-25	Feet below surface:	14.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-04-22	Feet below surface:	14.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-04-20	Feet below surface:	14.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-04-15	Feet below surface:	14.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-04-10	Feet below surface:	14.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-04-05	Feet below surface:	14.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-03-31	Feet below surface:	14.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-03-25	Feet below surface:	14.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-03-20	Feet below surface:	14.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-03-15	Feet below surface:	14.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-03-10	Feet below surface:	14.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-03-05	Feet below surface:	14.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-02-28	Feet below surface:	14.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-02-25	Feet below surface:	14.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-02-22	Feet below surface:	14.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-02-20	Feet below surface:	14.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-02-15	Feet below surface:	14.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-02-10	Feet below surface:	14.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-02-05	Feet below surface:	14.4
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1985-01-31	Feet below surface:	14.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-01-25	Feet below surface:	14.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-01-22	Feet below surface:	14.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-01-20	Feet below surface:	14.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-01-15	Feet below surface:	14.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-01-10	Feet below surface:	14.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-01-05	Feet below surface:	13.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-01-03	Feet below surface:	13.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-12-28	Feet below surface:	14.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-10-25	Feet below surface:	15.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-10-20	Feet below surface:	15.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-10-15	Feet below surface:	14.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-10-10	Feet below surface:	14.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-10-05	Feet below surface:	14.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-09-24	Feet below surface:	14.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-09-20	Feet below surface:	13.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-09-10	Feet below surface:	13.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-09-05	Feet below surface:	13.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-08-31	Feet below surface:	13.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-08-25	Feet below surface:	12.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-08-23	Feet below surface:	12.9
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1984-08-20	Feet below surface:	12.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-08-15	Feet below surface:	12.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-08-10	Feet below surface:	12.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-08-05	Feet below surface:	12.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-07-31	Feet below surface:	12.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-07-26	Feet below surface:	12.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-06-28	Feet below surface:	12.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-06-20	Feet below surface:	12.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-06-15	Feet below surface:	12.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-06-05	Feet below surface:	12.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-05-31	Feet below surface:	12.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-05-25	Feet below surface:	12.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-05-21	Feet below surface:	12.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-05-05	Feet below surface:	12.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-04-30	Feet below surface:	12.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-04-25	Feet below surface:	13.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-04-23	Feet below surface:	13.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-04-20	Feet below surface:	13.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-04-15	Feet below surface:	13.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-04-10	Feet below surface:	13.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-04-05	Feet below surface:	13.2
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1984-03-31	Feet below surface:	13.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-03-26	Feet below surface:	13.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-03-15	Feet below surface:	13.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-03-10	Feet below surface:	13.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-03-05	Feet below surface:	13.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-02-29	Feet below surface:	13.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-02-25	Feet below surface:	13.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-02-23	Feet below surface:	13.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-02-20	Feet below surface:	13.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-02-15	Feet below surface:	13.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-02-10	Feet below surface:	13.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-02-05	Feet below surface:	13.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-01-31	Feet below surface:	13.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-01-25	Feet below surface:	13.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-01-24	Feet below surface:	13.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-01-20	Feet below surface:	13.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-01-15	Feet below surface:	13.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-01-10	Feet below surface:	13.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-01-05	Feet below surface:	13.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-12-31	Feet below surface:	13.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-12-25	Feet below surface:	13.7
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1983-12-20	Feet below surface:	13.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-12-15	Feet below surface:	13.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-12-10	Feet below surface:	13.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-12-05	Feet below surface:	13.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-11-30	Feet below surface:	13.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-11-25	Feet below surface:	13.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-11-22	Feet below surface:	13.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-11-20	Feet below surface:	13.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-11-15	Feet below surface:	13.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-11-10	Feet below surface:	14.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-11-05	Feet below surface:	14.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-10-31	Feet below surface:	14.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-10-26	Feet below surface:	14.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-10-25	Feet below surface:	14.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-10-20	Feet below surface:	14.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-10-15	Feet below surface:	14.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-10-10	Feet below surface:	14.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-10-05	Feet below surface:	14.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-09-28	Feet below surface:	14.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-09-15	Feet below surface:	13.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-08-24	Feet below surface:	13.8
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1983-08-15	Feet below surface:	13.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-07-25	Feet below surface:	13.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-07-15	Feet below surface:	13.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-06-27	Feet below surface:	13.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-06-15	Feet below surface:	13.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-05-23	Feet below surface:	13.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-05-15	Feet below surface:	13.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-04-25	Feet below surface:	12.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-04-15	Feet below surface:	12.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-03-28	Feet below surface:	12.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-03-15	Feet below surface:	12.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-02-24	Feet below surface:	11.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-02-15	Feet below surface:	11.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-01-27	Feet below surface:	11.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-01-15	Feet below surface:	11.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-01-05	Feet below surface:	13.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-12-30	Feet below surface:	12.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-12-15	Feet below surface:	12.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-11-24	Feet below surface:	13.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-11-15	Feet below surface:	13.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-10-27	Feet below surface:	13.9
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1982-10-15	Feet below surface:	13.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-09-28	Feet below surface:	13.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-09-15	Feet below surface:	13.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-08-27	Feet below surface:	13.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-08-15	Feet below surface:	13.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-07-26	Feet below surface:	13.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-07-15	Feet below surface:	13.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-06-23	Feet below surface:	13.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-06-15	Feet below surface:	13.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-05-20	Feet below surface:	12.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-05-16	Feet below surface:	12.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-04-22	Feet below surface:	11.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-04-15	Feet below surface:	11.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-03-24	Feet below surface:	11.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-03-15	Feet below surface:	10.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-02-24	Feet below surface:	10.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-01-27	Feet below surface:	11.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-01-15	Feet below surface:	13.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-12-21	Feet below surface:	12.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-12-15	Feet below surface:	12.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-11-24	Feet below surface:	14.3
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1981-11-15	Feet below surface:	14.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-10-26	Feet below surface:	14.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-10-15	Feet below surface:	14.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-09-30	Feet below surface:	14.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-09-25	Feet below surface:	14.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-09-22	Feet below surface:	14.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-09-20	Feet below surface:	14.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-09-15	Feet below surface:	14.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-09-10	Feet below surface:	14.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-09-05	Feet below surface:	14.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-08-31	Feet below surface:	14.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-08-25	Feet below surface:	14.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-08-20	Feet below surface:	14.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-08-15	Feet below surface:	14.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-08-10	Feet below surface:	14.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-08-05	Feet below surface:	14.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-07-31	Feet below surface:	14.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-07-29	Feet below surface:	14.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-07-25	Feet below surface:	14.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-07-20	Feet below surface:	14.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-07-15	Feet below surface:	14.1
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1981-07-10	Feet below surface:	14.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-07-05	Feet below surface:	14.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-06-30	Feet below surface:	14.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-06-26	Feet below surface:	14.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-06-25	Feet below surface:	14.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-06-20	Feet below surface:	14.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-06-15	Feet below surface:	14.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-06-10	Feet below surface:	14.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-06-05	Feet below surface:	14.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-05-31	Feet below surface:	14.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-05-26	Feet below surface:	14.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-05-25	Feet below surface:	14.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-05-20	Feet below surface:	14.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-05-15	Feet below surface:	14.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-05-10	Feet below surface:	14.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-05-05	Feet below surface:	14.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-04-30	Feet below surface:	14.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-04-27	Feet below surface:	14.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-04-25	Feet below surface:	14.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-04-20	Feet below surface:	14.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-04-15	Feet below surface:	14.3
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1981-04-10	Feet below surface:	14.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-04-05	Feet below surface:	14.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-03-31	Feet below surface:	14.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-03-27	Feet below surface:	14.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-03-25	Feet below surface:	14.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-03-20	Feet below surface:	14.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-03-15	Feet below surface:	14.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-03-10	Feet below surface:	14.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-03-05	Feet below surface:	14.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-03-03	Feet below surface:	14.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-02-28	Feet below surface:	14.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-02-25	Feet below surface:	14.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-02-20	Feet below surface:	14.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-02-15	Feet below surface:	14.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-02-10	Feet below surface:	14.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-02-05	Feet below surface:	14.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-01-31	Feet below surface:	14.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-01-28	Feet below surface:	14.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-01-25	Feet below surface:	14.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-01-20	Feet below surface:	14.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-01-15	Feet below surface:	14.5
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1981-01-10	Feet below surface:	14.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-01-05	Feet below surface:	14.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-12-31	Feet below surface:	14.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-12-25	Feet below surface:	15.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-12-20	Feet below surface:	15.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-12-15	Feet below surface:	15.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-12-10	Feet below surface:	15.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-12-05	Feet below surface:	15.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-11-30	Feet below surface:	15.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-11-25	Feet below surface:	15.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-11-20	Feet below surface:	15.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-11-15	Feet below surface:	15.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-11-10	Feet below surface:	15.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-11-05	Feet below surface:	15.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-10-31	Feet below surface:	15.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-10-27	Feet below surface:	15.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-10-25	Feet below surface:	15.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-10-20	Feet below surface:	15.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-10-15	Feet below surface:	15.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-10-10	Feet below surface:	15.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-10-05	Feet below surface:	15.3
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1980-09-30	Feet below surface:	15.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-09-25	Feet below surface:	15.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-09-20	Feet below surface:	15.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-09-15	Feet below surface:	15.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-09-10	Feet below surface:	15.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-09-05	Feet below surface:	15.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-08-31	Feet below surface:	14.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-08-26	Feet below surface:	14.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-08-25	Feet below surface:	14.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-08-20	Feet below surface:	14.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-08-15	Feet below surface:	14.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-08-13	Feet below surface:	14.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-08-10	Feet below surface:	14.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-08-05	Feet below surface:	14.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-07-31	Feet below surface:	14.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-07-25	Feet below surface:	14.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-07-20	Feet below surface:	14.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-07-15	Feet below surface:	14.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-07-10	Feet below surface:	14.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-07-05	Feet below surface:	14.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-06-30	Feet below surface:	14.5
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1980-06-25	Feet below surface:	14.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-06-24	Feet below surface:	14.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-06-20	Feet below surface:	14.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-06-15	Feet below surface:	14.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-06-10	Feet below surface:	14.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-06-05	Feet below surface:	14.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-05-31	Feet below surface:	14.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-05-25	Feet below surface:	14.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-05-22	Feet below surface:	14.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-05-20	Feet below surface:	14.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-05-15	Feet below surface:	14.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-05-10	Feet below surface:	14.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-05-05	Feet below surface:	14.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-04-30	Feet below surface:	13.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-04-29	Feet below surface:	13.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-04-25	Feet below surface:	13.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-04-20	Feet below surface:	13.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-04-15	Feet below surface:	13.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-04-10	Feet below surface:	13.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-04-05	Feet below surface:	13.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-03-31	Feet below surface:	13.8
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1980-03-25	Feet below surface:	13.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-03-20	Feet below surface:	13.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-03-15	Feet below surface:	13.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-03-10	Feet below surface:	13.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-03-05	Feet below surface:	13.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-02-29	Feet below surface:	13.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-02-27	Feet below surface:	13.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-02-25	Feet below surface:	13.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-02-20	Feet below surface:	13.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-02-15	Feet below surface:	13.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-02-10	Feet below surface:	13.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-02-05	Feet below surface:	13.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-01-31	Feet below surface:	13.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-01-28	Feet below surface:	13.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-01-25	Feet below surface:	13.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-01-20	Feet below surface:	13.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-01-15	Feet below surface:	14.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-01-10	Feet below surface:	14.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-01-05	Feet below surface:	14.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-12-31	Feet below surface:	14.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-12-25	Feet below surface:	14.3
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1979-12-20	Feet below surface:	14.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-12-15	Feet below surface:	14.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-12-10	Feet below surface:	15.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-12-05	Feet below surface:	15.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-12-03	Feet below surface:	15.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-11-30	Feet below surface:	15.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-11-25	Feet below surface:	15.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-11-20	Feet below surface:	15.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-11-15	Feet below surface:	15.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-11-10	Feet below surface:	15.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-11-05	Feet below surface:	15.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-10-31	Feet below surface:	15.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-10-20	Feet below surface:	15.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-10-15	Feet below surface:	15.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-10-10	Feet below surface:	15.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-10-05	Feet below surface:	15.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-09-30	Feet below surface:	15.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-09-25	Feet below surface:	15.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-09-20	Feet below surface:	15.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-09-15	Feet below surface:	15.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-09-10	Feet below surface:	15.3
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1979-09-05	Feet below surface:	15.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-08-31	Feet below surface:	15.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-08-15	Feet below surface:	14.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-08-10	Feet below surface:	14.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-08-05	Feet below surface:	14.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-07-30	Feet below surface:	14.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-07-25	Feet below surface:	14.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-07-20	Feet below surface:	14.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-07-15	Feet below surface:	14.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-07-10	Feet below surface:	14.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-07-05	Feet below surface:	14.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-06-30	Feet below surface:	14.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-06-25	Feet below surface:	14.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-06-20	Feet below surface:	14.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-06-15	Feet below surface:	14.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-06-10	Feet below surface:	14.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-06-05	Feet below surface:	14.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-05-31	Feet below surface:	14.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-05-25	Feet below surface:	14.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-05-20	Feet below surface:	14.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-05-15	Feet below surface:	14.0
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1979-05-10	Feet below surface:	13.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-05-05	Feet below surface:	13.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-04-30	Feet below surface:	13.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-04-25	Feet below surface:	13.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-04-20	Feet below surface:	13.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-04-15	Feet below surface:	13.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-04-10	Feet below surface:	13.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-04-05	Feet below surface:	13.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-03-31	Feet below surface:	13.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-03-25	Feet below surface:	13.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-03-20	Feet below surface:	13.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-03-15	Feet below surface:	13.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-03-10	Feet below surface:	13.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-03-05	Feet below surface:	13.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-02-28	Feet below surface:	14.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-02-25	Feet below surface:	14.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-02-20	Feet below surface:	14.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-02-15	Feet below surface:	14.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-02-10	Feet below surface:	14.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-02-05	Feet below surface:	15.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-01-31	Feet below surface:	15.2
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1979-01-25	Feet below surface:	15.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1978-09-05	Feet below surface:	14.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1978-08-31	Feet below surface:	14.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1978-08-25	Feet below surface:	14.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1978-08-20	Feet below surface:	14.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1978-08-15	Feet below surface:	14.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1978-08-10	Feet below surface:	14.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1978-06-05	Feet below surface:	14.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1978-05-30	Feet below surface:	14.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1978-05-25	Feet below surface:	14.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1978-05-20	Feet below surface:	14.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1978-05-15	Feet below surface:	14.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1978-05-10	Feet below surface:	14.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1978-04-30	Feet below surface:	14.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1978-04-25	Feet below surface:	14.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1978-04-20	Feet below surface:	14.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1978-04-15	Feet below surface:	14.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1978-04-10	Feet below surface:	14.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1978-04-05	Feet below surface:	14.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1978-02-28	Feet below surface:	13.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1978-02-25	Feet below surface:	13.9
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1978-02-20	Feet below surface:	13.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1978-02-15	Feet below surface:	13.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1978-02-10	Feet below surface:	13.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1978-02-05	Feet below surface:	13.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1978-01-31	Feet below surface:	13.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1978-01-25	Feet below surface:	13.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1978-01-20	Feet below surface:	13.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1978-01-15	Feet below surface:	13.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1977-12-31	Feet below surface:	13.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1977-12-25	Feet below surface:	13.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1977-12-20	Feet below surface:	14.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1977-12-15	Feet below surface:	14.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1977-12-10	Feet below surface:	14.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1977-12-05	Feet below surface:	14.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1977-11-30	Feet below surface:	15.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1977-11-25	Feet below surface:	15.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1977-11-20	Feet below surface:	15.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1977-11-15	Feet below surface:	15.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1977-11-10	Feet below surface:	15.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1977-10-31	Feet below surface:	16.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1977-09-30	Feet below surface:	16.0
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1977-09-25	Feet below surface:	16.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1977-09-20	Feet below surface:	16.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1977-08-31	Feet below surface:	16.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1977-08-25	Feet below surface:	16.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1977-08-20	Feet below surface:	16.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1977-08-15	Feet below surface:	16.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1977-08-10	Feet below surface:	16.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1977-08-05	Feet below surface:	16.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1977-04-22	Feet below surface:	15.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1977-01-21	Feet below surface:	15.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1976-10-15	Feet below surface:	15.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1976-07-30	Feet below surface:	14.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-12-05	Feet below surface:	15.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-11-30	Feet below surface:	16.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-11-25	Feet below surface:	16.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-11-20	Feet below surface:	16.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-11-15	Feet below surface:	16.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-11-10	Feet below surface:	16.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-11-05	Feet below surface:	16.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-10-31	Feet below surface:	16.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-10-25	Feet below surface:	16.3
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1967-10-20	Feet below surface:	16.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-10-15	Feet below surface:	16.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-10-10	Feet below surface:	16.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-09-15	Feet below surface:	16.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-09-10	Feet below surface:	16.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-09-05	Feet below surface:	16.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-08-30	Feet below surface:	15.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-08-25	Feet below surface:	15.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-08-20	Feet below surface:	15.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-08-15	Feet below surface:	15.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-08-10	Feet below surface:	15.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-08-05	Feet below surface:	15.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-07-31	Feet below surface:	15.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-07-25	Feet below surface:	15.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-07-20	Feet below surface:	15.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-07-15	Feet below surface:	15.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-07-10	Feet below surface:	14.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-07-05	Feet below surface:	14.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-06-30	Feet below surface:	14.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-05-26	Feet below surface:	14.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-03-21	Feet below surface:	13
Feet to sea level:	Not Reported	Note:	Not Reported

Map ID Direction Distance Elevation	Database	EDR ID Number
3 **WSW** **1/4 - 1/2 Mile** **Higher**	**FED USGS**	**USGS40000995521**

Organization ID:	USGS-OR	Organization Name:	USGS Oregon Water Science Center
Monitor Location:	07N/10W-04BCB		
Type:	Well: Test hole not completed as a well		
Description:	Not Reported	HUC:	17080006
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Other aquifers	Formation Type:	Quaternary Alluvium
Aquifer Type:	Not Reported	Construction Date:	19660101
Well Depth:	21	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

Ground water levels,Number of Measurements:	1	Level reading date:	1966-08-01
Feet below surface:	16.00	Feet to sea level:	Not Reported
Note:	Not Reported		

---

4 **West** **1/4 - 1/2 Mile** **Higher**	**OR WELLS**	**ORW600000014614**

Well Log ID:	CLAT 53838	Last Update:	12/05/2011
Well Tag:	100764	State Obs Well #:	0
Observation Well:	Current	Recorder Well:	Not Reported
Obs Well Flag:	Other Obs Well, Current	Surface Elevation:	55

---

5 **West** **1/4 - 1/2 Mile** **Higher**	**OR WELLS**	**ORW600000014615**

Well Log ID:	CLAT 53837	Last Update:	12/05/2011
Well Tag:	100765	State Obs Well #:	0
Observation Well:	Current	Recorder Well:	Not Reported
Obs Well Flag:	Other Obs Well, Current	Surface Elevation:	55

---

6 **WSW** **1/4 - 1/2 Mile** **Higher**	**OR WELLS**	**ORW600000013410**

Well Log ID:	CLAT 52187	Last Update:	04/01/2011
Well Tag:	74170	State Obs Well #:	0
Observation Well:	Current	Recorder Well:	Not Reported
Obs Well Flag:	Other Obs Well, Current	Surface Elevation:	55

Map ID Direction Distance Elevation	Database	EDR ID Number
7 **WSW** **1/2 - 1 Mile** **Lower**	**FED USGS**	**USGS40000995520**

Organization ID:	USGS-OR	Organization Name:	USGS Oregon Water Science Center
Monitor Location:	07N/10W-05ADC		
Type:	Well: Test hole not completed as a well		
Description:	Not Reported	HUC:	17100201
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Other aquifers	Formation Type:	Quaternary Alluvium
Aquifer Type:	Not Reported	Construction Date:	19660101
Well Depth:	9	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

Ground water levels,Number of Measurements:	1	Level reading date:	1966-09-01
Feet below surface:	4.00	Feet to sea level:	Not Reported
Note:	Not Reported		

---

8 **SSW** **1/2 - 1 Mile** **Lower**	**FED USGS**	**USGS40000995519**

Organization ID:	USGS-OR	Organization Name:	USGS Oregon Water Science Center
Monitor Location:	07N/10W-05DDD		
Type:	Well: Test hole not completed as a well		
Description:	Not Reported	HUC:	17100201
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Other aquifers	Formation Type:	Quaternary Alluvium
Aquifer Type:	Not Reported	Construction Date:	19660101
Well Depth:	9	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

Ground water levels,Number of Measurements:	1	Level reading date:	1966-08-01
Feet below surface:	3.00	Feet to sea level:	Not Reported
Note:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: OR Radon

Radon Test Results

Zipcode	Num Tests	Maximum	Minimum	Average	# > 4 pCi/L
97146	5	1	0.1	0.4	0

Federal EPA Radon Zone for CLATSOP County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for CLATSOP COUNTY, OR

Number of sites tested: 17

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area	1.200 pCi/L	94%	6%	0%
Basement	3.350 pCi/L	50%	50%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetlands Inventory Data
Source: Oregon Geospatial Enterprise Office
Telephone: 503-378-2166

HYDROGEOLOGIC INFORMATION

AQUIFLOW[R] Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Well Data
Source: Department of Water Resources
Telephone: 503-986-0843

OTHER STATE DATABASE INFORMATION

Oil and Gas Well Locations
Source: Department of Geology and Mineral Industries
Telephone: 971-673-1540
A listing of oil and gas well locations in the state.

RADON

State Database: OR Radon
Source: Oregon Health Services
Telephone: 503-731-4272
Radon Levels in Orgeon

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary faultlines, prepared in 1975 by the United State Geological Survey

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STREET AND ADDRESS INFORMATION

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Camp Rilea
33168 Patriot Way
Warrenton, OR 97146

Inquiry Number: 5436294.2s
September 26, 2018

EDR Summary Radius Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

33168 PATRIOT WAY
WARRENTON, OR 97146

COORDINATES

Latitude (North):	46.1248760 - 46˚ 7' 29.55''
Longitude (West):	123.9344370 - 123˚ 56' 3.97''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	427805.2
UTM Y (Meters):	5108128.5
Elevation:	50 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property:	TP
Source:	U.S. Geological Survey

Target Property:	N
Source:	U.S. Geological Survey

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20140622
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
33168 PATRIOT WAY
WARRENTON, OR 97146

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
A1	CAMP RILEA	33168 PATRIOT WAY	RGA HWS		TP
A2	US ARMY NATIONAL GUA	33168 PATRIOT WAY	TRIS		TP
A3	ORARNG CAMP RILEA	33168 PATRIOT WAY	RCRA-LQG, PADS		TP
A4	ARMY NATIONAL GUARD	33168 PATRIOT WAY	ECSI, AST, FINDS, ECHO, HSIS, MANIFEST, UIC		TP
Reg	CAMP RILEY MILITARY		DOD	Same	1 ft.
5	MTA CAMP RILEA READI	333168 PATRIOT WAY	ECSI, VCP	Lower	1 ft.
6	WILLIAMS, LINDA	33325 PATRIOT WAY	LUST, FINDS	Lower	737, 0.140, ESE
7	TAGG PIONEER FARM	91146 PIONEER FARM R	ECSI, VCP	Lower	2915, 0.552, SE
8	COLUMBIA BEACH MILIT	HIGHWAY 101	ECSI	Higher	4341, 0.822, ESE

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was identified in the following records. For more information on this property see page 8 of the attached EDR Radius Map report:

Site	Database(s)	EPA ID
CAMP RILEA 33168 PATRIOT WAY WARRENTON, OR	RGA HWS	N/A
US ARMY NATIONAL GUA 33168 PATRIOT WAY WARRENTON, OR 97146	TRIS TRIS ID: 9714WCMPRL9124R	9714WCMPRL9124R
ORARNG CAMP RILEA 33168 PATRIOT WAY WARRENTON, OR 97146	RCRA-LQG EPA ID:: ORD980988414 PADS EPAID:: ORD980988414	ORD980988414
ARMY NATIONAL GUARD 33168 PATRIOT WAY WARRENTON, OR 97146	ECSI Investigation: No Further Action State ID Number: 1524 AST Facility Id: 016410 FINDS Registry ID:: 110014227265 ECHO Registry ID: 110014227265 HSIS Facility Id: 016410 MANIFEST Status: LQG Status: SQG Status: Small quantity generator Status: Large quantity generator EPA Id: ORD980988414 UIC Facility Status: Formal Closure UIC Number: 10607	N/A

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

EXECUTIVE SUMMARY

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

State- and tribal - equivalent CERCLIS

ECSI: A review of the ECSI list, as provided by EDR, and dated 07/01/2018 has revealed that there are 3 ECSI sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
COLUMBIA BEACH MILIT Investigation: Suspect State ID Number: 3968	HIGHWAY 101	ESE 1/2 - 1 (0.822 mi.)	8	10

Lower Elevation	Address	Direction / Distance	Map ID	Page
MTA CAMP RILEA READI Investigation: Suspect State ID Number: 6245	***333168 PATRIOT WAY***	***0 - 1/8 (0.000 mi.)***	***5***	***9***
TAGG PIONEER FARM Investigation: No Further Action State ID Number: 4186	***91146 PIONEER FARM R***	***SE 1/2 - 1 (0.552 mi.)***	***7***	***10***

State and tribal leaking storage tank lists

LUST: A review of the LUST list, as provided by EDR, and dated 07/02/2018 has revealed that there is 1 LUST site within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
WILLIAMS, LINDA Facility ID: 04-02-5196 Cleanup Complete: 03/18/2002	***33325 PATRIOT WAY***	***ESE 1/8 - 1/4 (0.140 mi.)***	***6***	***9***

EXECUTIVE SUMMARY

State and tribal voluntary cleanup sites

VCP: A review of the VCP list, as provided by EDR, and dated 06/29/2018 has revealed that there is 1 VCP site within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
MTA CAMP RILEA READI ECS Site ID: 6245	***333168 PATRIOT WAY***	***0 - 1/8 (0.000 mi.)***	***5***	***9***

ADDITIONAL ENVIRONMENTAL RECORDS

Other Ascertainable Records

DOD: A review of the DOD list, as provided by EDR, and dated 12/31/2005 has revealed that there is 1 DOD site within approximately 1 mile of the target property.

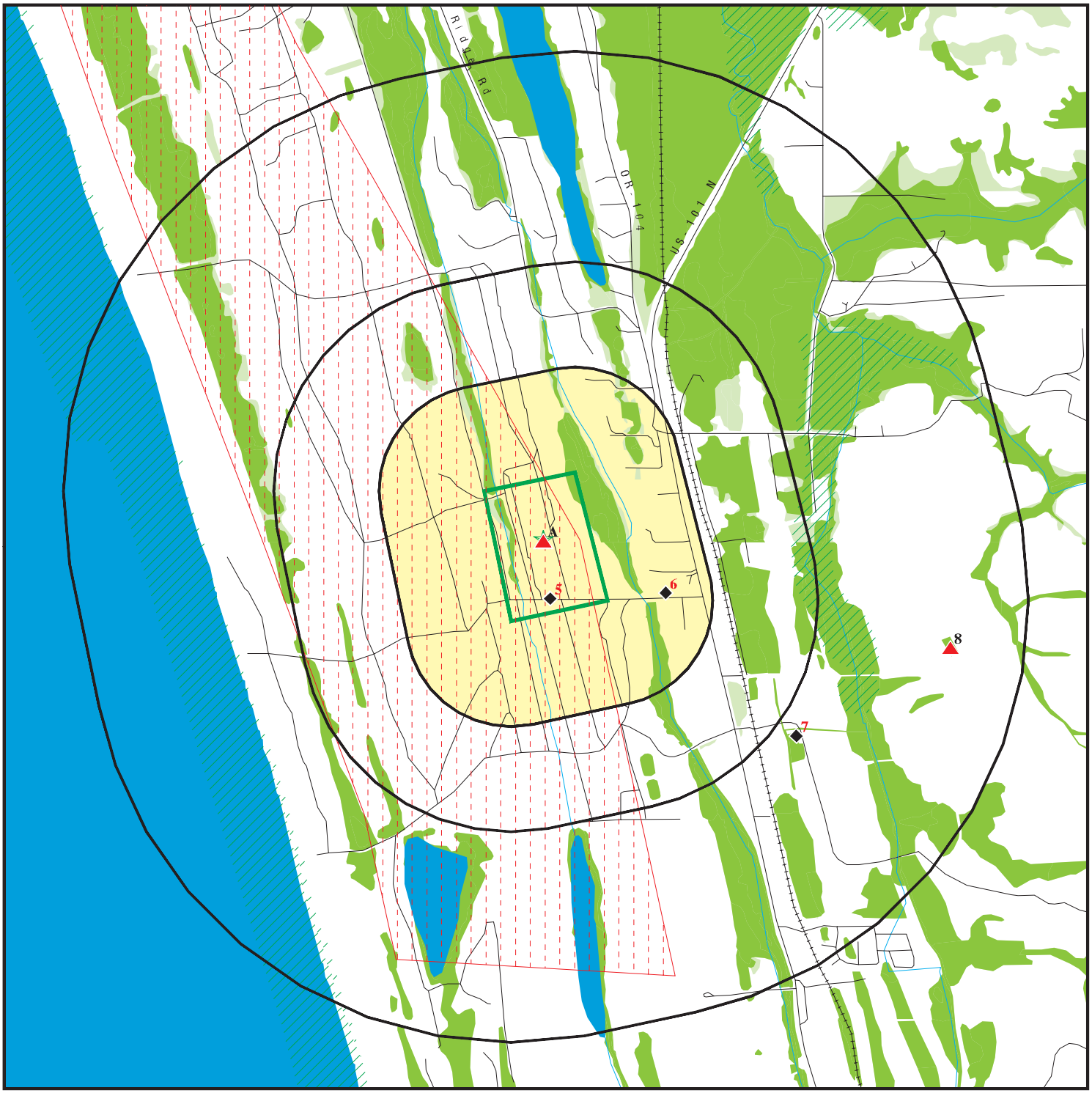
Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
CAMP RILEY MILITARY		0 - 1/8 (0.000 mi.)	0	9

Count: 2 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
WARRENTON	S115332058	CAMP RILEA	MCCARTER BLVD & CLATSOP AVE		RGA HWS
WARRENTON	U000432036	WARRENTON HIGH SCHOOL	OLD HIGHWAY 101	97146	LUST, UST

OVERVIEW MAP - 5436294.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

0 1/4 1/2 1 Miles

Indian Reservations BIA

100-year flood zone

500-year flood zone

National Wetland Inventory

State Wetlands

Upgradient Area

Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Camp Rilea	CLIENT: AECOM
ADDRESS: 33168 Patriot Way Warrenton OR 97146	CONTACT: Brittany Kirchmann
LAT/LONG: 46.124876 / 123.934437	INQUIRY #: 5436294.2s
	DATE: September 26, 2018 6:08 pm

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DETAIL MAP - 5436294.2S

0 1/16 1/8 1/4 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Camp Rilea	CLIENT: AECOM
ADDRESS: 33168 Patriot Way Warrenton OR 97146	CONTACT: Brittany Kirchmann
LAT/LONG: 46.124876 / 123.934437	INQUIRY #: 5436294.2s
	DATE: September 26, 2018 6:09 pm

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	TP		NR	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site list								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250	1	0	0	NR	NR	NR	1
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	TP		NR	NR	NR	NR	NR	0
State- and tribal - equivalent CERCLIS								
ECSI	1.000	1	1	0	0	2	NR	4
CRL	1.000		0	0	0	0	NR	0
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST	0.500		0	1	0	NR	NR	1
INDIAN LUST	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
UST	0.250		0	0	NR	NR	NR	0
AST	0.250	1	0	0	NR	NR	NR	1
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal institutional control / engineering control registries								
ENG CONTROLS	0.500		0	0	0	NR	NR	0
INST CONTROL	0.500		0	0	0	NR	NR	0
State and tribal voluntary cleanup sites								
VCP	0.500		1	0	0	NR	NR	1
INDIAN VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
HIST LF	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
AOCONCERN	1.000		0	0	0	0	NR	0
US HIST CDL	TP		NR	NR	NR	NR	NR	0
CDL	TP		NR	NR	NR	NR	NR	0
US CDL	TP		NR	NR	NR	NR	NR	0
Local Land Records								
LIENS 2	TP		NR	NR	NR	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
SPILLS	TP		NR	NR	NR	NR	NR	0
OR HAZMAT	TP		NR	NR	NR	NR	NR	0
SPILLS 90	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		1	0	0	0	NR	1

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
TRIS	TP	1	NR	NR	NR	NR	NR	1
SSTS	TP		NR	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
PADS	TP	1	NR	NR	NR	NR	NR	1
ICIS	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	TP	1	NR	NR	NR	NR	NR	1
DOCKET HWC	TP		NR	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
ECHO	TP	1	NR	NR	NR	NR	NR	1
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
AIRS	TP		NR	NR	NR	NR	NR	0
COAL ASH	0.500		0	0	0	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
Enforcement	TP		NR	NR	NR	NR	NR	0
Financial Assurance	TP		NR	NR	NR	NR	NR	0
HSIS	TP	1	NR	NR	NR	NR	NR	1
MANIFEST	0.250	1	0	0	NR	NR	NR	1
NPDES	TP		NR	NR	NR	NR	NR	0
UIC	TP	1	NR	NR	NR	NR	NR	1

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA HWS	TP	1	NR	NR	NR	NR	NR	1
RGA LF	TP		NR	NR	NR	NR	NR	0
RGA LUST	TP		NR	NR	NR	NR	NR	0
- Totals --		11	3	1	0	2	0	17

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number
A1 **Target** **Property** **Actual:** **50 ft.**	**CAMP RILEA** **33168 PATRIOT WAY** **WARRENTON, OR** **Click here for full text details**	**RGA HWS**	**S115332057** **N/A**
A2 **Target** **Property** **Actual:** **50 ft.**	**US ARMY NATIONAL GUARD CAMP RILEA RANGES** **33168 PATRIOT WAY** **WARRENTON, OR 97146** **Click here for full text details** **TRIS** TRIS ID: 9714WCMPRL9124R	**TRIS**	**1012208967** **9714WCMPRL9124R**
A3 **Target** **Property** **Actual:** **50 ft.**	**ORARNG CAMP RILEA** **33168 PATRIOT WAY** **WARRENTON, OR 97146** **Click here for full text details** **RCRA-LQG** EPA Id: ORD980988414 **PADS** EPAID:: ORD980988414	**RCRA-LQG** **PADS**	**1015757983** **ORD980988414**
A4 **Target** **Property** **Actual:** **50 ft.**	**ARMY NATIONAL GUARD CAMP RILEA** **33168 PATRIOT WAY** **WARRENTON, OR 97146** **Click here for full text details** **ECSI** State ID Number: 1524 Investigation: No Further Action **AST** Facility Id: 016410 **FINDS** Registry ID:: 110014227265 **ECHO** Registry ID: 110014227265	**ECSI** **AST** **FINDS** **ECHO** **HSIS** **MANIFEST** **UIC**	**1000344666** **N/A**

ARMY NATIONAL GUARD CAMP RILEA (Continued) **1000344666**

HSIS
Facility Id: 016410

MANIFEST
Status: Small quantity generator
Status: Large quantity generator
EPA Id: ORD980988414
Status: LQG
Status: SQG

UIC
UIC Number: 10607
Facility Status: Formal Closure

DOD Region | **CAMP RILEY MILITARY RESERVATION** | **DOD** | **CUSA102703**
N/A

CAMP RILEY MILITARY RESER (County), OR

< 1/8
1 ft.

Click here for full text details

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5 | **MTA CAMP RILEA READINESS CENTER** | **ECSI** | **S121802083**
333168 PATRIOT WAY | **VCP** | **N/A**
< 1/8 | **WARRENTON, OR 97146**
1 ft.

Click here for full text details

Relative: Lower

ECSI
State ID Number: 6245
Investigation: Suspect

VCP
ECS Site ID: 6245

---

6 | **WILLIAMS, LINDA** | **LUST** | **1006866556**
ESE | **33325 PATRIOT WAY** | **FINDS** | **N/A**
1/8-1/4 | **WARRENTON, OR 97146**
0.140 mi.
737 ft.

Click here for full text details

Relative: Lower

LUST
Facility ID: 04-02-5196
Cleanup Complete: 03/18/2002

FINDS
Registry ID:: 110014294753

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number
7 SE 1/2-1 0.552 mi. 2915 ft. Relative: Lower	**TAGG PIONEER FARM 91146 PIONEER FARM RD. WARRENTON, OR 97146** **Click here for full text details** **ECSI** State ID Number: 4186 Investigation: No Further Action **VCP** ECS Site ID: 4186	**ECSI VCP**	**S106497272 N/A**
8 ESE 1/2-1 0.822 mi. 4341 ft. Relative: Higher	**COLUMBIA BEACH MILITARY RESERVATION HIGHWAY 101 WARRENTON, OR 97146** **Click here for full text details** **ECSI** State ID Number: 3968 Investigation: Suspect	**ECSI**	**S107692389 N/A**

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
OR	AIRS	Oregon Title V Facility Listing	Department of Environmental Quality	07/03/2018	07/10/2018	08/17/2018
OR	AOC COL	Columbia Slough	City of Portland Environmental Services	08/10/2005	05/17/2006	06/16/2006
OR	AOC MU	East Multnomah County Area	City of Portland Environmental Services		10/07/2002	10/22/2002
OR	AST	Aboveground Storage Tanks	Office of State Fire Marshal	09/05/2017	11/16/2017	01/09/2018
OR	BROWNFIELDS	Brownfields Projects	Department of Environmental Quality	08/01/2018	08/10/2018	09/24/2018
OR	CDL	Uninhabitable Drug Lab Properties	Department of Consumer & Business Services	05/03/2018	05/03/2018	05/09/2018
OR	CDL 2	Clandestine Drug Lab Site Listing	Oregon State Police	07/01/2018	08/01/2018	08/15/2018
OR	COAL ASH	Coal Ash Disposal Sites Listing	Department of Environmental Quality	12/31/2017	03/16/2018	05/15/2018
OR	CRL	Confirmed Release List and Inventory	Department of Environmental Quality	08/01/2018	08/10/2018	09/24/2018
OR	DRYCLEANERS	Drycleaning Facilities	Department of Environmental Quality	07/27/2018	07/31/2018	08/15/2018
OR	ECSI	Environmental Cleanup Site Information System	Department of Environmental Quality	07/01/2018	07/05/2018	07/23/2018
OR	ENF	Enforcement Action Listing	Department of Environmental Quality	06/19/2018	06/21/2018	07/23/2018
OR	ENG CONTROLS	Engineering Controls Recorded at ESCI Sites	Department of Environmental Quality	07/01/2018	07/05/2018	07/23/2018
OR	Financial Assurance 1	Financial Assurance Information Listing	Department of Environmental Quality	05/21/2018	06/21/2018	07/23/2018
OR	Financial Assurance 2	Financial Assurance Information Listing	Department of Environmental Quality	08/20/2018	08/21/2018	09/24/2018
OR	HAZMAT	Hazmat/Incidents	State Fire Marshal's Office	07/01/2018	08/01/2018	08/15/2018
OR	HIST LF	Old Closed SW Disposal Sites	Department of Environmental Quality	04/01/2000	07/08/2003	07/18/2003
OR	HSIS	Hazardous Substance Information Survey	State Fire Marshal's Office	05/03/2018	05/03/2018	06/07/2018
OR	INST CONTROL	Institutional Controls Recorded at ESCI Sites	Department of Environmental Quality	07/01/2018	07/05/2018	07/23/2018
OR	LUST	Leaking Underground Storage Tank Database	Department of Environmental Quality	07/02/2018	08/10/2018	09/24/2018
OR	NPDES	Wastewater Permits Database	Department of Environmental Quality	06/12/2018	06/15/2018	07/23/2018
OR	OR MANIFEST	Manifest Information	Department of Environmental Quality	12/31/2017	08/06/2018	08/15/2018
OR	RGA HWS	Recovered Government Archive State Hazardous Waste Facilitie	Department of Environmental Quality		07/01/2013	01/03/2014
OR	RGA LF	Recovered Government Archive Solid Waste Facilities List	Department of Environmental Quality		07/01/2013	01/13/2014
OR	RGA LUST	Recovered Government Archive Leaking Underground Storage Tan	Department of Environmental Quality		07/01/2013	12/27/2013
OR	SPILLS	Spill Data	Department of Environmental Quality	07/01/2018	07/13/2018	08/15/2018
OR	SPILLS 90	SPILLS90 data from FirstSearch	FirstSearch	05/01/2006	01/03/2013	02/22/2013
OR	SWF/LF	Solid Waste Facilities List	Department of Environmental Quality	07/16/2018	07/20/2018	08/20/2018
OR	SWRCY	Recycling Facility Location Listing	Department of Environmental Quality	08/28/2018	08/29/2018	09/24/2018
OR	UIC	Underground Injection Control Program Database	Department of Environmental Quality	06/21/2018	06/26/2018	07/23/2018
OR	UST	Underground Storage Tank Database	Department of Environmental Quality	07/02/2018	08/10/2018	09/24/2018
OR	VCS	Voluntary Cleanup Program Sites	DEQ	06/29/2018	07/03/2018	07/23/2018
US	2020 COR ACTION	2020 Corrective Action Program List	Environmental Protection Agency	09/30/2017	05/08/2018	07/20/2018
US	ABANDONED MINES	Abandoned Mines	Department of Interior	09/10/2018	09/11/2018	09/14/2018
US	BRS	Biennial Reporting System	EPA/NTIS	12/31/2015	02/22/2017	09/28/2017
US	COAL ASH DOE	Steam-Electric Plant Operation Data	Department of Energy	12/31/2005	08/07/2009	10/22/2009
US	COAL ASH EPA	Coal Combustion Residues Surface Impoundments List	Environmental Protection Agency	07/01/2014	09/10/2014	10/20/2014
US	CONSENT	Superfund (CERCLA) Consent Decrees	Department of Justice, Consent Decree Library	03/31/2018	04/16/2018	06/29/2018
US	CORRACTS	Corrective Action Report	EPA	03/01/2018	03/28/2018	06/22/2018
US	DEBRIS REGION 9	Torres Martinez Reservation Illegal Dump Site Locations	EPA, Region 9	01/12/2009	05/07/2009	09/21/2009
US	DOCKET HWC	Hazardous Waste Compliance Docket Listing	Environmental Protection Agency	01/04/2018	01/19/2018	04/13/2018
US	DOD	Department of Defense Sites	USGS	12/31/2005	11/10/2006	01/11/2007
US	DOT OPS	Incident and Accident Data	Department of Transporation, Office of Pipeli	07/31/2012	08/07/2012	09/18/2012
US	Delisted NPL	National Priority List Deletions	EPA	07/17/2018	08/09/2018	09/07/2018
US	ECHO	Enforcement & Compliance History Information	Environmental Protection Agency	09/02/2018	09/05/2018	09/14/2018
US	EDR Hist Auto	EDR Exclusive Historical Auto Stations	EDR, Inc.			
US	EDR Hist Cleaner	EDR Exclusive Historical Cleaners	EDR, Inc.			

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
US	EDR MGP	EDR Proprietary Manufactured Gas Plants	EDR, Inc.			
US	EPA WATCH LIST	EPA WATCH LIST	Environmental Protection Agency	08/30/2013	03/21/2014	06/17/2014
US	ERNS	Emergency Response Notification System	National Response Center, United States Coast	06/18/2018	06/27/2018	09/14/2018
US	FEDERAL FACILITY	Federal Facility Site Information listing	Environmental Protection Agency	11/07/2016	01/05/2017	04/07/2017
US	FEDLAND	Federal and Indian Lands	U.S. Geological Survey	12/31/2005	02/06/2006	01/11/2007
US	FEMA UST	Underground Storage Tank Listing	FEMA	05/15/2017	05/30/2017	10/13/2017
US	FINDS	Facility Index System/Facility Registry System	EPA	02/21/2018	02/23/2018	03/23/2018
US	FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fu	EPA/Office of Prevention, Pesticides and Toxi	04/09/2009	04/16/2009	05/11/2009
US	FTTS INSP	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fu	EPA	04/09/2009	04/16/2009	05/11/2009
US	FUDS	Formerly Used Defense Sites	U.S. Army Corps of Engineers	01/31/2015	07/08/2015	10/13/2015
US	FUELS PROGRAM	EPA Fuels Program Registered Listing	EPA	05/21/2018	05/23/2018	09/07/2018
US	FUSRAP	Formerly Utilized Sites Remedial Action Program	Department of Energy	08/08/2017	09/11/2018	09/14/2018
US	HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing	Environmental Protection Agency	10/19/2006	03/01/2007	04/10/2007
US	HIST FTTS INSP	FIFRA/TSCA Tracking System Inspection & Enforcement Case Lis	Environmental Protection Agency	10/19/2006	03/01/2007	04/10/2007
US	HMIRS	Hazardous Materials Information Reporting System	U.S. Department of Transportation	03/26/2018	03/27/2018	06/08/2018
US	ICIS	Integrated Compliance Information System	Environmental Protection Agency	11/18/2016	11/23/2016	02/10/2017
US	IHS OPEN DUMPS	Open Dumps on Indian Land	Department of Health & Human Serivces, Indian	04/01/2014	08/06/2014	01/29/2015
US	INDIAN LUST R1	Leaking Underground Storage Tanks on Indian Land	EPA Region 1	04/13/2018	05/18/2018	07/20/2018
US	INDIAN LUST R10	Leaking Underground Storage Tanks on Indian Land	EPA Region 10	04/12/2018	05/18/2018	07/20/2018
US	INDIAN LUST R4	Leaking Underground Storage Tanks on Indian Land	EPA Region 4	05/08/2018	05/18/2018	07/20/2018
US	INDIAN LUST R5	Leaking Underground Storage Tanks on Indian Land	EPA, Region 5	04/12/2018	05/18/2018	07/20/2018
US	INDIAN LUST R6	Leaking Underground Storage Tanks on Indian Land	EPA Region 6	04/01/2018	05/18/2018	07/20/2018
US	INDIAN LUST R7	Leaking Underground Storage Tanks on Indian Land	EPA Region 7	04/24/2018	05/18/2018	07/20/2018
US	INDIAN LUST R8	Leaking Underground Storage Tanks on Indian Land	EPA Region 8	04/25/2018	05/18/2018	07/20/2018
US	INDIAN LUST R9	Leaking Underground Storage Tanks on Indian Land	Environmental Protection Agency	04/10/2018	05/18/2018	07/20/2018
US	INDIAN ODI	Report on the Status of Open Dumps on Indian Lands	Environmental Protection Agency	12/31/1998	12/03/2007	01/24/2008
US	INDIAN RESERV	Indian Reservations	USGS	12/31/2014	07/14/2015	01/10/2017
US	INDIAN UST R1	Underground Storage Tanks on Indian Land	EPA, Region 1	04/13/2018	05/18/2018	07/20/2018
US	INDIAN UST R10	Underground Storage Tanks on Indian Land	EPA Region 10	04/12/2018	05/18/2018	07/20/2018
US	INDIAN UST R4	Underground Storage Tanks on Indian Land	EPA Region 4	05/08/2018	05/18/2018	07/20/2018
US	INDIAN UST R5	Underground Storage Tanks on Indian Land	EPA Region 5	04/12/2018	05/18/2018	07/20/2018
US	INDIAN UST R6	Underground Storage Tanks on Indian Land	EPA Region 6	04/01/2018	05/18/2018	07/20/2018
US	INDIAN UST R7	Underground Storage Tanks on Indian Land	EPA Region 7	04/24/2018	05/18/2018	07/20/2018
US	INDIAN UST R8	Underground Storage Tanks on Indian Land	EPA Region 8	04/25/2018	05/18/2018	07/20/2018
US	INDIAN UST R9	Underground Storage Tanks on Indian Land	EPA Region 9	04/10/2018	05/18/2018	07/20/2018
US	INDIAN VCP R1	Voluntary Cleanup Priority Listing	EPA, Region 1	07/27/2015	09/29/2015	02/18/2016
US	INDIAN VCP R7	Voluntary Cleanup Priority Lisitng	EPA, Region 7	03/20/2008	04/22/2008	05/19/2008
US	LEAD SMELTER 1	Lead Smelter Sites	Environmental Protection Agency	05/13/2018	05/30/2018	06/29/2018
US	LEAD SMELTER 2	Lead Smelter Sites	American Journal of Public Health	04/05/2001	10/27/2010	12/02/2010
US	LIENS 2	CERCLA Lien Information	Environmental Protection Agency	05/13/2018	05/30/2018	06/29/2018
US	LUCIS	Land Use Control Information System	Department of the Navy	05/14/2018	05/18/2018	07/20/2018
US	MLTS	Material Licensing Tracking System	Nuclear Regulatory Commission	08/30/2016	09/08/2016	10/21/2016
US	NPL	National Priority List	EPA	07/17/2018	08/09/2018	09/07/2018
US	NPL LIENS	Federal Superfund Liens	EPA	10/15/1991	02/02/1994	03/30/1994
US	ODI	Open Dump Inventory	Environmental Protection Agency	06/30/1985	08/09/2004	09/17/2004
US	PADS	PCB Activity Database System	EPA	06/01/2017	06/09/2017	10/13/2017
US	PCB TRANSFORMER	PCB Transformer Registration Database	Environmental Protection Agency	05/24/2017	11/30/2017	12/15/2017

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
US	PRP	Potentially Responsible Parties	EPA	10/25/2013	10/17/2014	10/20/2014
US	Proposed NPL	Proposed National Priority List Sites	EPA	07/17/2018	08/09/2018	09/07/2018
US	RAATS	RCRA Administrative Action Tracking System	EPA	04/17/1995	07/03/1995	08/07/1995
US	RADINFO	Radiation Information Database	Environmental Protection Agency	04/03/2018	04/05/2018	06/29/2018
US	RCRA NonGen / NLR	RCRA - Non Generators / No Longer Regulated	Environmental Protection Agency	03/01/2018	03/28/2018	06/22/2018
US	RCRA-CESQG	RCRA - Conditionally Exempt Small Quantity Generators	Environmental Protection Agency	03/01/2018	03/28/2018	06/22/2018
US	RCRA-LQG	RCRA - Large Quantity Generators	Environmental Protection Agency	03/01/2018	03/28/2018	06/22/2018
US	RCRA-SQG	RCRA - Small Quantity Generators	Environmental Protection Agency	03/01/2018	03/28/2018	06/22/2018
US	RCRA-TSDF	RCRA - Treatment, Storage and Disposal	Environmental Protection Agency	03/01/2018	03/28/2018	06/22/2018
US	RMP	Risk Management Plans	Environmental Protection Agency	05/01/2018	05/17/2018	09/07/2018
US	ROD	Records Of Decision	EPA	05/13/2018	05/30/2018	06/29/2018
US	SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing	Environmental Protection Agency	01/01/2017	02/03/2017	04/07/2017
US	SEMS	Superfund Enterprise Management System	EPA	07/17/2018	08/09/2018	09/07/2018
US	SEMS-ARCHIVE	Superfund Enterprise Management System Archive	EPA	07/17/2018	08/09/2018	09/07/2018
US	SSTS	Section 7 Tracking Systems	EPA	12/31/2009	12/10/2010	02/25/2011
US	TRIS	Toxic Chemical Release Inventory System	EPA	12/31/2016	01/10/2018	01/12/2018
US	TSCA	Toxic Substances Control Act	EPA	12/31/2016	06/21/2017	01/05/2018
US	UMTRA	Uranium Mill Tailings Sites	Department of Energy	06/23/2017	10/11/2017	11/03/2017
US	US AIRS (AFS)	Aerometric Information Retrieval System Facility Subsystem (	EPA	10/12/2016	10/26/2016	02/03/2017
US	US AIRS MINOR	Air Facility System Data	EPA	10/12/2016	10/26/2016	02/03/2017
US	US BROWNFIELDS	A Listing of Brownfields Sites	Environmental Protection Agency	06/18/2018	06/20/2018	09/14/2018
US	US CDL	Clandestine Drug Labs	Drug Enforcement Administration	05/18/2018	06/20/2018	09/14/2018
US	US ENG CONTROLS	Engineering Controls Sites List	Environmental Protection Agency	07/31/2018	08/28/2018	09/14/2018
US	US FIN ASSUR	Financial Assurance Information	Environmental Protection Agency	03/01/2018	03/27/2018	06/22/2018
US	US HIST CDL	National Clandestine Laboratory Register	Drug Enforcement Administration	05/18/2018	06/20/2018	09/14/2018
US	US INST CONTROL	Sites with Institutional Controls	Environmental Protection Agency	07/31/2018	08/28/2018	09/14/2018
US	US MINES	Mines Master Index File	Department of Labor, Mine Safety and Health A	05/03/2018	05/31/2018	06/29/2018
US	US MINES 2	Ferrous and Nonferrous Metal Mines Database Listing	USGS	12/05/2005	02/29/2008	04/18/2008
US	US MINES 3	Active Mines & Mineral Plants Database Listing	USGS	04/14/2011	06/08/2011	09/13/2011
US	UXO	Unexploded Ordnance Sites	Department of Defense	09/30/2017	06/19/2018	09/14/2018
NY	NY MANIFEST	Facility and Manifest Data	Department of Environmental Conservation	07/01/2018	08/01/2018	08/31/2018
WI	WI MANIFEST	Manifest Information	Department of Natural Resources	12/31/2017	06/15/2018	07/09/2018
US	AHA Hospitals	Sensitive Receptor: AHA Hospitals	American Hospital Association, Inc.			
US	Medical Centers	Sensitive Receptor: Medical Centers	Centers for Medicare & Medicaid Services			
US	Nursing Homes	Sensitive Receptor: Nursing Homes	National Institutes of Health			
US	Public Schools	Sensitive Receptor: Public Schools	National Center for Education Statistics			
US	Private Schools	Sensitive Receptor: Private Schools	National Center for Education Statistics			
OR	Daycare Centers	Sensitive Receptor: Child Care Listings	Employment Department			

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
US	Flood Zones	100-year and 500-year flood zones	Emergency Management Agency (FEMA)			
US	NWI	National Wetlands Inventory	U.S. Fish and Wildlife Service			
OR	State Wetlands	Wetlands Inventory Data	Oregon Geospatial Enterprise Office			
US	Topographic Map		U.S. Geological Survey			
US	Oil/Gas Pipelines		PennWell Corporation			
US	Electric Power Transmission Line Data		PennWell Corporation			

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

CAMP RILEA
33168 PATRIOT WAY
WARRENTON, OR 97146

TARGET PROPERTY COORDINATES

Latitude (North):	46.124876 - 46˚ 7' 29.55''
Longitude (West):	123.934437 - 123˚ 56' 3.97''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	427805.2
UTM Y (Meters):	5108128.5
Elevation:	50 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	6066050 GEARHART, OR
Version Date:	2014
North Map:	6066062 WARRENTON, OR
Version Date:	2014

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

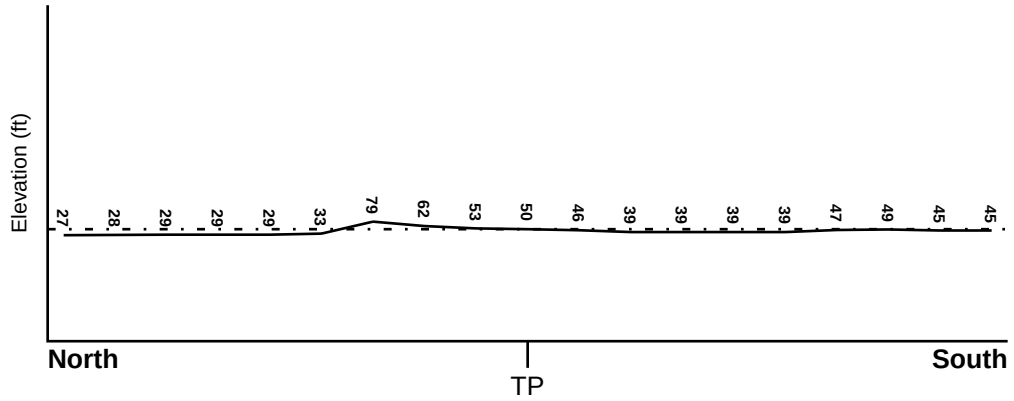
TOPOGRAPHIC INFORMATION

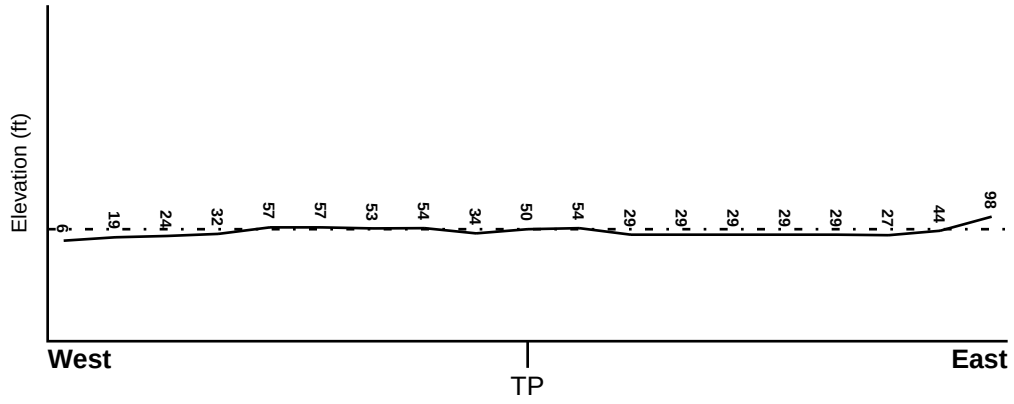
Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General SE

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES





Target Property Elevation: 50 ft.

0 1/2 1 Miles

Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property	FEMA Source Type
41007C0356E	FEMA FIRM Flood data

Additional Panels in search area:	FEMA Source Type
53049C0850D	FEMA FIRM Flood data
41007C0352E	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
WARRENTON	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

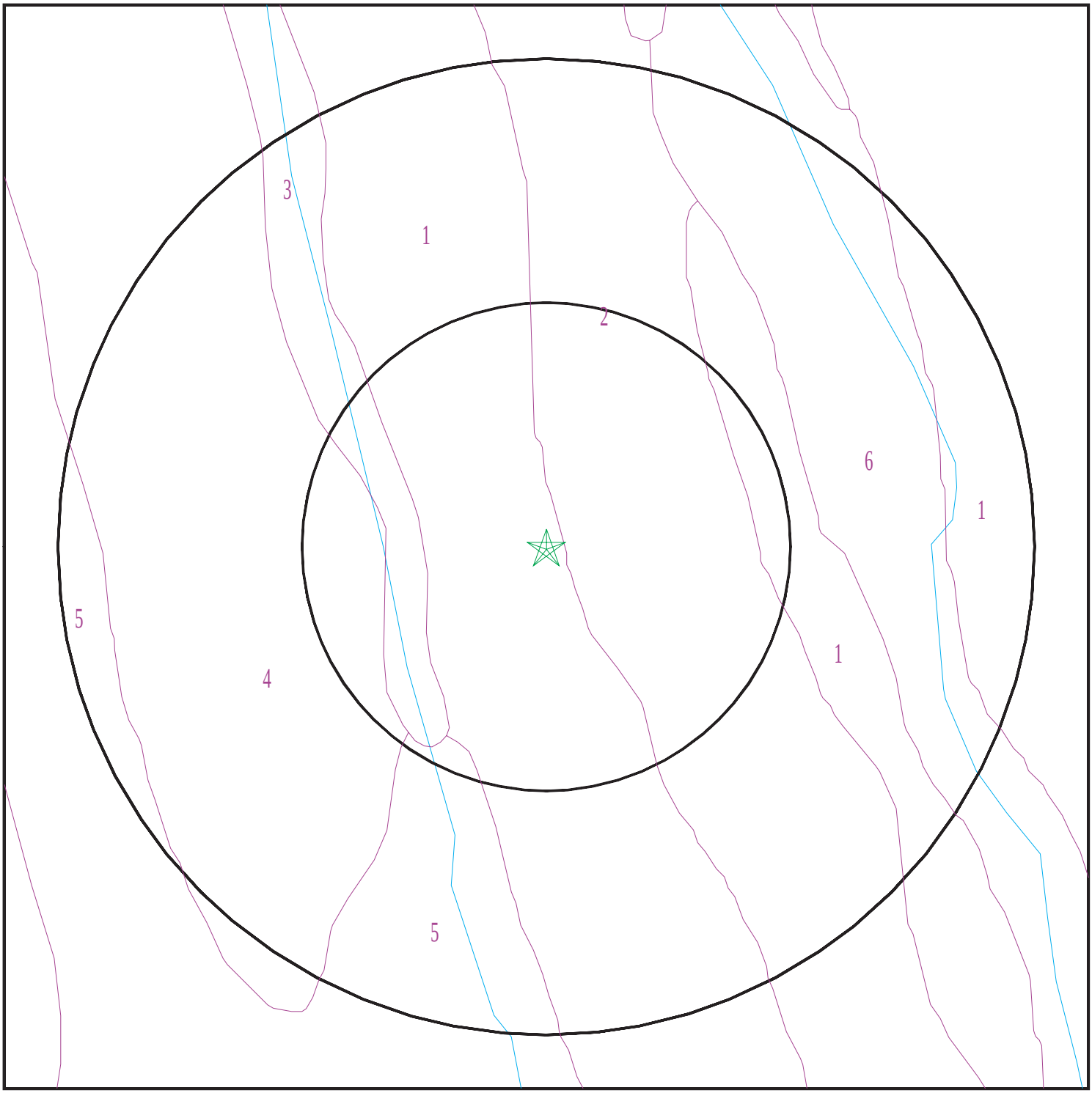
Era:	Cenozoic
System:	Tertiary
Series:	Oligocene
Code:	To *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratified Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 5436294.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME: Camp Rilea ADDRESS: 33168 Patriot Way Warrenton OR 97146 LAT/LONG: 46.124876 / 123.934437	CLIENT: AECOM CONTACT: Brittany Kirchmann INQUIRY #: 5436294.2s DATE: September 26, 2018 6:09 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Gearhart

Soil Surface Texture: fine sandy loam

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class: Somewhat excessively drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information

	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	
Layer	**Upper**	**Lower**	**Soil Texture Class**	**AASHTO Group**	**Unified Soil**		**Soil Reaction (pH)**
1	0 inches	11 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 705 Min: 141	Max: 5.5 Min: 4.5
2	11 inches	16 inches	loamy fine sand	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 705 Min: 141	Max: 5.5 Min: 4.5
3	16 inches	59 inches	fine sand	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 705 Min: 141	Max: 5.5 Min: 4.5

Soil Map ID: 2

Soil Component Name: Gearhart

Soil Surface Texture: fine sandy loam

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class: Somewhat excessively drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information

	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	**Upper**	**Lower**	**Soil Texture Class**	**AASHTO Group**	**Unified Soil**		
1	0 inches	11 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 705 Min: 141	Max: 5.5 Min: 4.5
2	11 inches	16 inches	loamy fine sand	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 705 Min: 141	Max: 5.5 Min: 4.5
3	16 inches	59 inches	fine sand	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 705 Min: 141	Max: 5.5 Min: 4.5

Soil Map ID: 3

Soil Component Name: Water

Soil Surface Texture: fine sandy loam

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class:
Hydric Status: Unknown

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

Soil Map ID: 4

Soil Component Name: Waldport

Soil Surface Texture: fine sand

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class: Excessively drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	3 inches	fine sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 705 Min: 141	Max: 6.5 Min: 5.1

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
2	3 inches	59 inches	fine sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 705 Min: 141	Max: 6.5 Min: 5.1

Soil Map ID: 5

Soil Component Name: Waldport

Soil Surface Texture: fine sand

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class: Excessively drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	3 inches	fine sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 705 Min: 141	Max: 6.5 Min: 5.1
2	3 inches	59 inches	fine sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 705 Min: 141	Max: 6.5 Min: 5.1

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Map ID: 6

Soil Component Name: Warrenton

Soil Surface Texture: loamy fine sand

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Very poorly drained

Hydric Status: All hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 30 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	11 inches	loamy fine sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 5 Min: 3.6
2	11 inches	59 inches	fine sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 5 Min: 3.6

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A2	USGS40000995522	1/4 - 1/2 Mile NW
3	USGS40000995521	1/4 - 1/2 Mile WSW
7	USGS40000995520	1/2 - 1 Mile WSW
8	USGS40000995519	1/2 - 1 Mile SSW

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

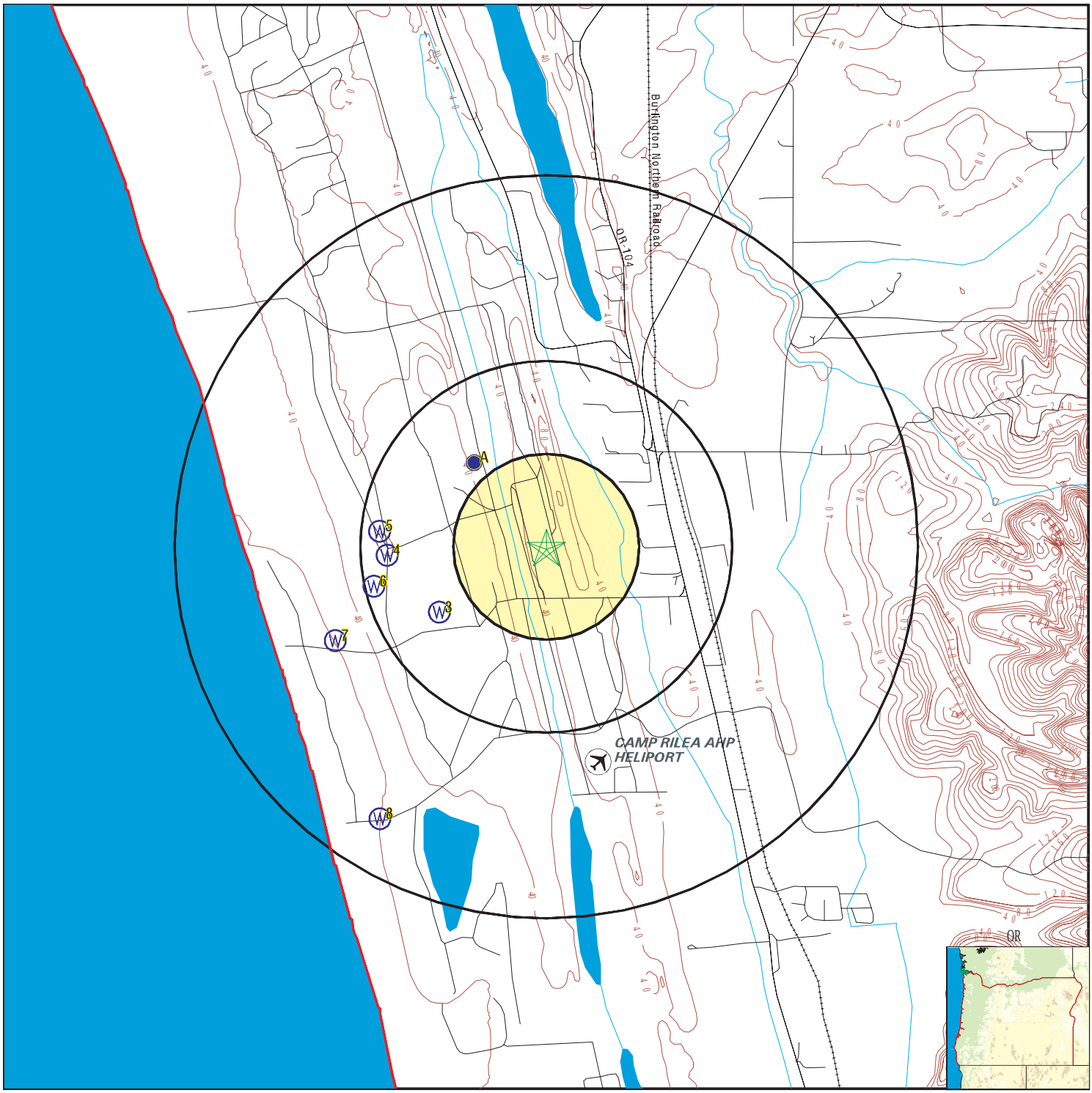
MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A1	ORW600000014810	1/4 - 1/2 Mile NW
4	ORW600000014614	1/4 - 1/2 Mile West
5	ORW600000014615	1/4 - 1/2 Mile West
6	ORW600000013410	1/4 - 1/2 Mile WSW

PHYSICAL SETTING SOURCE MAP - 5436294.2s



0 1/4 1/2 1 Miles

- County Boundary
- Major Roads
- Contour Lines
- Airports
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- Oil, gas or related wells

SITE NAME: Camp Rilea	CLIENT: AECOM
ADDRESS: 33168 Patriot Way Warrenton OR 97146	CONTACT: Brittany Kirchmann
LAT/LONG: 46.124876 / 123.934437	INQUIRY #: 5436294.2s
	DATE: September 26, 2018 6:09 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation		Database	EDR ID Number
A1 **NW** **1/4 - 1/2 Mile** **Lower**	Click here for full text details	**OR WELLS**	**ORW600000014810**
A2 **NW** **1/4 - 1/2 Mile** **Lower**	Click here for full text details	**FED USGS**	**USGS40000995522**
3 **WSW** **1/4 - 1/2 Mile** **Higher**	Click here for full text details	**FED USGS**	**USGS40000995521**
4 **West** **1/4 - 1/2 Mile** **Higher**	Click here for full text details	**OR WELLS**	**ORW600000014614**
5 **West** **1/4 - 1/2 Mile** **Higher**	Click here for full text details	**OR WELLS**	**ORW600000014615**
6 **WSW** **1/4 - 1/2 Mile** **Higher**	Click here for full text details	**OR WELLS**	**ORW600000013410**
7 **WSW** **1/2 - 1 Mile** **Lower**	Click here for full text details	**FED USGS**	**USGS40000995520**
8 **SSW** **1/2 - 1 Mile** **Lower**	Click here for full text details	**FED USGS**	**USGS40000995519**

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: OR Radon

Radon Test Results

Zipcode	Num Tests	Maximum	Minimum	Average	# > 4 pCi/L
97146	5	1	0.1	0.4	0

Federal EPA Radon Zone for CLATSOP County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for CLATSOP COUNTY, OR

Number of sites tested: 17

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area	1.200 pCi/L	94%	6%	0%
Basement	3.350 pCi/L	50%	50%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetlands Inventory Data
Source: Oregon Geospatial Enterprise Office
Telephone: 503-378-2166

HYDROGEOLOGIC INFORMATION

AQUIFLOW[R] Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Well Data
Source: Department of Water Resources
Telephone: 503-986-0843

OTHER STATE DATABASE INFORMATION

Oil and Gas Well Locations
Source: Department of Geology and Mineral Industries
Telephone: 971-673-1540
A listing of oil and gas well locations in the state.

RADON

State Database: OR Radon
Source: Oregon Health Services
Telephone: 503-731-4272
Radon Levels in Orgeon

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary faultlines, prepared in 1975 by the United State Geological Survey

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STREET AND ADDRESS INFORMATION

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Appendix B

Preliminary Assessment Documentation

Appendix B.1

Interview Records

PA Interview Questionnaire - Environmental Manager

Facility: Camp Rilea
Interviewer: [redacted]
Date/Time: 9-11-18

Interviewee: [redacted] **Title:** Env. Manager **Phone Number:** **Email:**	Can your name/role be used in the PA Report? Y or N Can you recommend anyone we can interview? (Y) or N multiple - listed throughout questionnaires

1. Roles or activities with the Facility/years working at the Facility.

   oversees all environmental management of OMD facilities, since 2003.

2. Where can I find previous facility ownership information?

   Historical reports provided by OMD.

3. What can you tell us about the history of PFAS including aqueous film forming foam (AFFF) at the Facility? Was it used for any of the following activities, circle all that apply and indicate years of active use, if known? Identify these locations on a facility map.

   Maintenance
   (Fire Training Areas)
   (Firefighting (Active Fire))
   Crash
   Fire Suppression Systems (Hangers/Dining Facilities)
   Fire Protection at Fueling Stations
   Non-Technical/Recreational/ Pest Management
   Metals Plating Facility – Klerson
   Waterproofing Uniforms (Laundry Facilities)
   Other

4. Fill out CSM Information worksheet with the Environmental Manager. ✓

5. Are any current buildings constructed with AFFF dispensing systems or fire suppression systems? What are the AFFF/suppression system test requirements? What is the frequency of testing the AFFF/suppression system? Do you have "As Built" drawings for the buildings?

   none of the facilities constructed with AFFF/suppression systems

PA Interview Questionnaire - Environmental Manager

Facility: Camp Ripley
Interviewer: [redacted]
Date/Time: 9-11-18

6. Are fire suppression systems currently charged with AFFF or have they been retrofitted for use of high expansion foam? If retrofitted, when was that done?

None

7. How is AFFF procured? Do you have an inventory/procurement system that tracks use?

Purchased from manufacturer
Invoices potentially available
([redacted] to provide if available)

8. What type of AFFF has been/is being used (3%, 6%, Mil Spec Mil-F-24385, High Expansion)? Manufacturer (3M, Dupont, Ansul, National Foam, Angus, Chemguard, Buckeye, Fire Service Plus)?

unknown

9. Where is the AFFF stored? How is it stored (tanks, 55-gallon drums, 5-gallon buckets)? What size are the storage tanks? Is the AFFF stored as a mixed solution (3% or 6%) or concentrated material?

Historically, 5gal cans stored at the UTES (unit training equipment site) at the west of the maintenance shop. Concentrated solution.

10. How many FTAs are/were on this facility and where are they? Locate on a map. How many FTAs are active and inactive? For inactive FTAs, when was the last time that fire training using AFFF was conducted at them?

No designated fire training areas ansite. Prescribed burn conducted throughout western portion of site by fire rangers. All fires exhausted with water / Class A foam.

PA Interview Questionnaire - Environmental Manager

Facility: Camp Pitta
Interviewer: [redacted]
Date/Time: 9-11-18

11. When a release of AFFF occurs during a fire training exercise, now and in the past, how is the AFFF cleaned and disposed of? Were retention ponds built to store discharged AFFF? Was the AFFF trickled to the sanitary sewer or left in the pond to infiltrate?

No AFFF onsite used and no fire training exercises conducted, other than prescribed burns.

12. Can you recall specific times when city, county, and/or state personnel came on-post for training? If so, please state which state/county agency or military entity? Do you have any records, including photographs to share with us?

Annual fire training school conducted with Chats op Fire and other agencies.

All water, no AFFF

13. Did military routinely or occasionally fire train off-post? List the units that you can recall used/trained at various areas.

None aware of

14. Did individual units come with their own safety personnel, did they also bring their own AFFF? Was training with AFFF part of these exercises? How were emergencies handled under these circumstances?

N/A

15. Are there specific emergency response incident reports (i.e., aircraft or vehicle crash sites and fires)? If so, may we please copy these reports? Who (entity) was the responder?

No crash sites recorded onsite.

PA Interview Questionnaire - Environmental Manager

Facility: Camp Rilea
Interviewer: [redacted]
Date/Time: 9-11-18

16. Do you have records of fuel spill logs? Was it common practice to wash away fuel spills with AFFF? Is/was AFFF used as a precaution in response to fuel releases or emergency runway landings to prevent fires?

No spills known.
No logs recorded (to his knowledge)
No aircraft runways ausite.

17. Was AFFF used for forest fires or fire management on-post/off-post? If so, please describe what happened and who was involved?

No, never used ausite (but available on fire trucks if needed)

18. Are there mutual aid/use agreements between county, city, and local fire department? Please list, even if informal. If formalized, may we have a copy of the agreement?

verbal agreement with City of Warrenton to respond to structural fires ausite

19. Can you provide any other locations where AFFF has been stored, released, or used (i.e. hangars, buildings, fire stations, firefighting equipment testing and maintenance areas, emergency response sites, storm water/surface water, waste treatment plants, and AFFF ponds)?

No hangars ausite
AFFF never used ausite, however stored ausite in cans/fire trucks.

20. Are you aware of any other creative uses of AFFF? If so, how was AFFF used? What entities were involved?

None aware of

PA Interview Questionnaire - Environmental Manager

Facility: Camp Pilta
Interviewer: [redacted]
Date/Time: 9/1/18

21. Are there past studies you are aware of with environmental information on plants/animals/ groundwater/soil types, etc., such as Integrated Cultural Resources Management Plans or Integrated Natural Resources Management Plans?

available for site and provided by ANG

22. What other records might be helpful to us (environmental compliance, investigation records, admin record) and where can we find them?

Potential invoices / work orders for purchasing AFFF ([redacted] to provide if available)

23. Do you have or did you have a chrome plating shop on base? What were/are the years of operation of that chrome plating shop?

No, never

24. Do you know whether the shop has/had a foam blanket mist suppression system or used a fume hood for emissions control? If foam blanket mist suppression was used, where was the foam stored, mixed, applied, etc.?

N/A

25. How is off-spec AFFF disposed (used for training, turned in, or given to a local Fire Station)? If applicable, do you know the name of the vendor that removes off-spec AFFF? Do you have copies of the manifest or B/L?

AFFF in fire trucks likely taken to Salem AASF #1 (McNary Field)

PA Interview Questionnaire - Environmental Manager

Facility: Camp Ritea
Interviewer: [redacted]
Date/Time: 9/1/18

26. Do you recommend anyone else we can interview? If so, do you have contact information for them?

[redacted] - OMD Natural Resources Manager

[redacted] - OMD historical knowledge

[redacted] - OMD Camp Ritea Public Works Facilities Manager

PA Interview Questionnaire – Fire Station

Facility: Camp Rilea
Interviewer: [redacted]
Date/Time: 9/1/18

[redacted]

Interviewee [redacted] **Title:** Fire Rangers **Phone Number:** **Email:**	Can your name/role be used in the PA Report? Y or N Can you recommend anyone we can interview? Y or N

1. Roles or activities with the Facility/years working at the Facility.

[redacted] - Fire Ranger (Wildland) OMD, 5 years

[redacted] - Fire Ranger (Wildlands) OMD, 2 years

2. What can you tell us about the history of AFFF at the Facility? Was it used for any of the following activities, circle all that apply and indicate years of active use, if known? Identify these locations on a facility map.

Maintenance (e.g., ramp washing)
Fire Training Areas
Firefighting (Active Fire) — only if absolutely necessary BUT never used onsite
Crash
Fire Suppression Systems (Hangers/Dining Facilities)
Fire Protection at Fueling Stations
Non-Technical/Recreational/ Pest Management

3. Are any current buildings constructed with AFFF dispensing systems or fire suppression systems? What are the AFFF/suppression system test requirements? What is the frequency of testing at the AFFF/suppression systems?

None aware of

4. Are fire suppression systems currently charged with AFFF or have they been retrofitted for use of high expansion foam?

None aware of

5. How is AFFF procured? Do you have an inventory/procurement system that tracks use?

Purchased from manufacturer through OMD (work order)

PA Interview Questionnaire – Fire Station

Facility: Camp Ritea
Interviewer [redacted]
Date/Time: 9-11-18

6. What type of AFFF has been/is being used (3%, 6%, Mil Spec Mil-F-24385, High Expansion)? Manufacturer (3M, Dupont, Ansul, National Foam, Angus, Chemguard, Buckeye, Fire Service Plus)?

unknown

7. Is AFFF formulated on base? If so, where is the solution mixed, contained, transferred, etc.?

unknown, in fire truck already

8. Where is the AFFF stored? How is it stored (tanks, 55-gallon drums, 5-gallon buckets)? What size are the storage tanks? Is the AFFF stored as a mixed solution (3% or 6%) or concentrated material?

in fire truck already
(class A foam stored in 5 gal buckets inside fire station – non PFAS foam)

9. How is the AFFF transferred to emergency response vehicles, suppression systems, flightline extinguishers? Is/was there a specified area on the facility where vehicles are filled with AFFF and does this area have secondary containment in case of spills? How and where are vehicles storing AFFF cleaned/decontaminated?

in fire truck already – stored on gravel at fire station. Truck washed at potable water hose area ~~[illegible]~~ northeast of fire station (wash rack)

10. Provide a list of vehicles that carried AFFF, now and in the past, and where are/were they located?

only in fire truck – stored various locations but mostly at fire station

11. Any vehicles have a history of leaking AFFF? Do you/did you test the vehicles spray patterns to make sure equipment is working properly? How often are/were these spray tests performed and can you provide the locations of these tests, now and in the past?

None aware of
Testing likely at Salem ARSF#1
McNary Field – not onsite at Ritea

PA Interview Questionnaire – Fire Station

Facility: Camp Pitea
Interviewer: [redacted]
Date/Time: 9-11-18

12. How many FTAs are/were on this facility and where are they? Locate on a map. How many FTAs are active and inactive? For inactive FTAs, when was the last time that fire training using AFFF was conducted at them?

No fire training areas, just prescribed burns in western portion of site.
No AFFF used.

13. What types of fuels/flammables were used at the FTAs?

unknown

14. What was the frequency of AFFF use at each location? When a release of AFFF occurs during a fire training exercise, now and in the past, how is/was the AFFF cleaned and disposed of? Were retention ponds built to store discharged AFFF? Was the AFFF trickled to the sanitary sewer or left in the pond to infiltrate?

None

15. Are there mutual aid/use agreements between county, city, local fire department? Please list, even if informal. If formalized, may we have a copy of the agreement? Can you recall specific times when city, county, state personnel came on-post for training? If so, please state which state/county agency, military entity? Do you have any records, including photographs to share with us?

City of Warrenton responds to structural fires.

16. Did individual units come on-post with their own safety personnel, did they also bring their own AFFF? Was training with AFFF part of these exercises? How were emergencies handled under these circumstances?

Not aware of
No AFFF used on site

PA Interview Questionnaire – Fire Station

Facility: Camp Bilea
Interviewer: [redacted]
Date/Time: 9-11-18

17. Did military routinely or occasionally fire train off-post? List units that you can recall used/trained at various areas.

Not aware of

18. Are there specific emergency response incident reports (i.e., aircraft or vehicle crash sites and fires)? If so, may we please copy these reports? Who (entity) was the responder?

No crash sites, none aware of

19. Do you have records of fuel spill logs? Was it common practice to wash away fuel spills with AFFF? Is/was AFFF used as a precaution in response to fuel releases or emergency runway landings to prevent fires?

None aware of

20. Was AFFF used for forest fires or fire management on-post/off-post? If so, please describe what happened and who was involved?

Never – ally to use AFFF when necessary – but never used

21. Can you provide any other locations where AFFF has been stored, released, or used (i.e. hangars, buildings, fire stations, firefighting equipment testing and maintenance areas, emergency response sites, storm water/surface water, waste water treatment plants, and AFFF ponds)?

No other locations.

PA Interview Questionnaire – Fire Station

Facility: Camp Rilea
Interviewer: [redacted]
Date/Time: 9-11-18

22. Are you aware of any other creative uses of AFFF? If so, how was AFFF used? What entities were involved? None aware of
23. How is off-spec AFFF disposed (used for training, turned in, or given to a local Fire Station)? If applicable, do you know the name of the vendor that removes off-spec AFFF? Do you have copies of the manifest or B/L? Trucks taken to AASF #1 Salem (McNary Field) or BIAK to flush contents and replace with new foam.
24. Do you recommend anyone else we can interview? If so, do you have contact information for them? None aware of

Fire truck currently = 50 gal foam contents

[redacted] - worked at Salem AASF #1
Adair (Corvallis)
BIAK (Bend)

PA Interview Questionnaire - Other

Facility: Camp Rilea
Interviewer: [redacted]
Date/Time: 9-11-18

Interviewee: [redacted] Title: DTC Range Operations Phone Number: Email:	Can your name/role be used in the PA Report? Y or N Can you recommend anyone we can interview? (Y) or N [redacted] (UTES Maintenance) [redacted] (Public Works)

Roles or activities with the Facility/Years working at the Facility:

Facilities / Range operations since 1989
used AFFF in the Navy

PFAS Use: Identify accidental/intentional release locations, time frame of release, frequency of releases, storage container size (maintenance, fire training, firefighting, buildings with suppression systems (as builts), fueling stations, crash sites, pest management, recreational, dining facilities, metals plating, or waterproofing). How are materials ordered/purchased/disposed/shared with others?

- AFFF on two different fire trucks historically 1.) 530 G model (1989-1992) 2) 2500 L model (1992- ?) both with 50 gal storage capacity
- AFFF never used onsite unless necessary due to high costs - never used.
- Trucks stored at the UTES area (unit training equipment sites)

- 5 gal blue cans stored at UTES, west of maintenance shop @ petroleum oil lubricants (POL) area
- AFFF in fire trucks cycled out at UTES to replace with new. Old given to USCG at Astoria Airport

- 530 G truck from Salem AASF #1
- 2500 L truck new from Camp Withycombe

No reported leaks from trucks

Known Uses	
Use	(if needed)
Procurement	
Disposition	
Storage (Mixed)	(on trucks)
Storage (Solution)	
Inventory, Off-Spec	X
Containment	X
SOP on Filling	X
Leaking Vehicles	X
Nozzle and Suppression System Testing	X
Dining Facilities	X
Vehicle Washing	X
Ramp Washing	X
Fuel Spill Washing and Fueling Stations	X
Chrome Plating or Waterproofing	X

→

PA Interview Questionnaire - Other

Facility: Camp Rilea
Interviewer: [redacted]
Date/Time: 9-11-18

- [redacted] – UTES Maintenance

- Since Feb 1996
- automotive brakes/exhaust repairs on fire trucks fixed @ Rilea, all other repairs @ Camp Withycombe

[redacted] Trained annually at McNary Field (Salem AASF #1) with fire trucks (1989–1991) adjacent to helicopters

[redacted] only standard fire extinguishers inside UTES Maintenance building – OSHA facilitated
No reported leaks from trucks

- [redacted] – Public Works Facilities Manager

- Since 2011 (but 12 years onsite)
- no fire fighting onsite
- fire suppression system in the main kitchen mess hall and possibly in the VA Medical Center and in log building conference center (No AFFF)

- 3 ONS onsite, discharge to onsite swales/slough/vaults and cleaned every 3 years
- 1 ONS in northern portion by UTES discharges to city sewer (as of 2017, one year ago)
- NPDES permit issued in 1998
- several wells onsite (many capped/decommissioned)
- one USGS well sampled annually by USGS for historical water trends
- 6 wells in western portion maintained for OR. Water Resources Department

Fire suppression in kitchen – ANSUL RS102 (mid 1980s)

- former fire station building at present day Public Works office building (early 1970s–1980). Unaware if fire truck present.

PA Interview Questionnaire - Other

Facility: Camp Atterbury
Interviewer: [redacted]
Date/Time: 9-11-18

- [redacted] - ONG Natural Resources Manager

- since 15 years
- researches/reports cultural resources and habitat studies/protection onsite
- no fire training onsite, except annual fire schools
- no AFFF onsite (water based fire trucks)
- prescribed fires throughout site
- city of Warrenton ~~departments~~ called for structural fires

- Staff Sergeant [redacted]

- since 2012
- not aware of any AFFF onsite
- no fire suppression systems onsite

[redacted] - wildland fire manager

- military used PFAS after 1969. ONG first purchased fire trucks with AFFF but no longer has them (with AFFF)
- prescribed fires annually, up to 5x/year
- annual fire training onsite with outside agencies
- city of Warrenton called for structural fires
- no AFFF currently onsite

[redacted] - Site Training Manager

- familiar with facility since 1984
- formerly aviation site manager and flew helicopters around the state

→

PA Interview Questionnaire - Other

Facility: Camp Rilea
Interviewer: [redacted]
Date/Time: 9-11-18

- annual helicopter operations training in June for 3 weeks (3-6 total helicopters) parking in helipad area (south of starships and west of all facility buildings). Training to practice troops jumping from helicopters. Other training to practice water dropping from helicopters in western area of facility. Occurred 1998-2014. No foam used.
- Public Works Building potentially a fire station prior to use of admin/office (1980s-now).
- Minor repairs of vehicles conducted at UTES. Major repairs of vehicles conducted at Camp Withycombe (Clackamas)
- Helicopter (Firehawk) for training based in Salem ARSF #1 and only foam used in Salem fire training.

Appendix B.2

Visual Site Inspection Checklists

Visual Survey Inspection Log

Recorded by [redacted]
ARNG Contact [redacted]
Date: 9.11-18

Source/Release Information

Site Name / Area Name / Unique ID: Camp Rilea
Site / Area Acreage: 1,850 acres
Historic Site Use (Brief Description): Military training camp, shooting range

Current Site Use (Brief Description):

1. Was AFFF used (or spilled) at the site/area? Y / N
   1a. If yes, document how AFFF was used and usage time (e.g., fire fighting training 2001 to 2014):
2. Has usage been documented? Y / N
   2a. If yes, keep a record (place electronic files on a disk):
3. What types of businesses are located near the site? Industrial / Commercial / Plating / Waterproofing / Residential
   3a. Indicate what businesses are located near the site
   Astoria Golf + Country Club (South), residences (n/e/s)
4. Is this site located at an airport/flightline? Y / N
   4a. If yes, provide a description of the airport/flightline tenants

Other Significant Site Features:

1. Does the facility have a fire suppression system? Y / N
   1a. If yes, indicate which type of AFFF has been used:
   water only, Class K, potassium nitrate/carbonate
   1b. If yes, describe maintenance schedule/leaks:
   no leaks reported, no maintenance schedule documente
   1c. If yes, how often is the AFFF replaced:
   N/a
   1d. If yes, does the facility have floor drains and where do they lead? Can we obtain an as built drawing?
   N/a

Transport / Pathway Information

Migration Potential:

1. Does site/area drainage flow off installation? Y / N
   1a. If so, note observation and location:
   Mostly infiltrated or flow to storm drains
2. Is there channelized flow within the site/area? Y / N
   2a. If so, please note observation and location:
   Neacoxie Creek / Slough
3. Are monitoring or drinking water wells located near the site? Y / N
   3a. If so, please note the location:
   Maintaining wells unknown
4. Are surface water intakes located near the site? Y / N
   4a. If so, please note the location:
   Sunset Lake, Neacoxie Creek, Pacific Ocean

Significant Topographical Features:

1. Has the infrastructure changed at the site/area? Y / N
   1a. If so, please describe change (ex. Structures no longer exist):
   Generally stayed the same, some building changes
2. Is the site/area vegetated? Y / N
   2a. If not vegetated, briefly describe the site/area composition:
   pavement in eastern area around buildings
3. Does the site or area exhibit evidence of erosion? Y / N
   3a. If yes, describe the location and extent of the erosion:
4. Does the site/area exhibit any areas of ponding or standing water? Y / N
   4a. If yes, describe the location and extent of the ponding:
   Neacoxie slough / wetland areas

Visual Survey Inspection Log

Receptor Information

1. Is access to the site restricted? (Y) / N

   1a. If so, please note to what extent:
   only military personnel and guests

2. Who can access the site? **Site Workers / Construction Workers / Trespassers / Residential / Recreational Users / Ecological**

   2a. Circle all that apply, note any not covered above:

3. Are residential areas located near the site? (Y) / N

   3a. If so, please note the location/distance:
   immediately adjacent (n/e/s)

4. Are any schools/day care centers located near the site? Y / (N)

   4a. If so, please note the location/distance/type:
   Warrenton HS (1/2 mile east), Warrenton Grade School (1 mile ne) Head Start and Soar with us (1 mile N)

5. Are any wetlands located near the site? (Y) / N

   5a. If so, please note the location/distance/type:
   surrounding site (n/e/s) - see National Wetlands map

Additional Notes

Wastewater treatment plant with two lagoons in south east corner of property to treat drinking water and sewage.

Photographic Log

Photo ID/Name	Date & Location	Photograph Description
AO1001	1/1/2018	Building 500, on flightline, looking south, NE Corner Fire Suppression System

Appendix B.3

Conceptual Site Model Information

Preliminary Assessment – Conceptual Site Model Information

Site Name: Camp Rilea

Why has this location been identified as a site?

Potential use of AFFF in fire fighting and training

Are there any other activities nearby that could also impact this location?

None aware of / reported

Training Events

Have any training events with AFFF occurred at this site? none

If so, how often? N/a

How much material was used? Is it documented? N/a

All water based training

Identify Potential Pathways: Do we have enough information to fully understand over land surface water flow, groundwater flow, and geological formations on and around the facility? Any direct pathways to larger water bodies?

Surface Water:

Surface water flow direction? varies

Average rainfall? 7inches / month – NOAA climate Data (Astoria airport)

Any flooding during rainy season? potentially

Direct or indirect pathway to ditches? both

Direct or indirect pathway to larger bodies of water? both

Does surface water pond any place on site? at Slough wetlands

Any impoundment areas or retention ponds? natural slough / lake and man made wastewater ponds

Any NPDES location points near the site? pond (wastewater)

How does surface water drain on and around the flight line? N/a

Preliminary Assessment – Conceptual Site Model Information

Groundwater:

Groundwater flow direction? West

Depth to groundwater? <100ft (USGS well @ 135ft bgs)

Uses (agricultural, drinking water, irrigation)?

Any groundwater treatment systems? NO

Any groundwater monitoring well locations near the site? yes

Is groundwater used for drinking water? yes

Are there drinking water supply wells on installation? yes – two

Do they serve off-post populations? no

Are there off-post drinking water wells downgradient yes

Waste Water Treatment Plant:

Has the installation ever had a WWTP, past or present? yes

If so, do we understand the process and which water is/was treated at the plant? yes

Do we understand the fate of sludge waste? yes, offsite disposal

Is surface water from potential contaminated sites treated? no

Equipment Rinse Water

1. Is firefighting equipment washed? Where does the rinse water go?

Not all washing occurs @ wash rack – other gnd. sites may wash equipment

2. Are nozzles tested? How often are nozzles tested? Where are nozzles tested? Are nozzles cleaned after use? Where does the rinse water flow after cleaning nozzles?

NO – testing at Salem ANGF #1

3. Other?

Identify Potential Receptors: NO AFFF PFAS – no receptors

Site Worker

Construction Worker

Recreational User

Residential

Child

Preliminary Assessment – Conceptual Site Model Information

Ecological

Note what is located near by the site (e.g. daycare, schools, hospitals, churches, agricultural, livestock)?

schools located 1/2 mile to 1 mile northeast
day cares located 1 mile north
(both upgradient/cross gradient)

Documentation

Ask for Engineering drawings (if applicable).

Has there been a reconstruction or changes to the drainage system? When did that occur?

Drainage near UTES discharges to OWS since 2017

Appendix C
Photographic Log

APPENDIX C – Photographic Log

Army National Guard, Preliminary Assessment for PFAS	Camp Rilea	Warrenton, Oregon

Photograph No. 1

Description:

View looking east at the Fueling Point (Building 7157) in the central/eastern area of the facility, south of the Unit Training Equipment Site (UTES).

Photograph No. 2

Description:

View looking northwest at the UTES in the central/eastern area of the facility. This area has been identified as Area of Interest (AOI) 2.

APPENDIX C – Photographic Log

Army National Guard, Preliminary Assessment for PFAS	Camp Rilea	Warrenton, Oregon

Photograph No. 3

Description:

View of the non-PFAS containing fire suppression system on the eastern interior wall of the kitchen in the mess hall building located in the central/south portion of the facility (east of the VA Medical Center building).

Photograph No. 4

Description:

View of the non-PFAS containing fire suppression system extinguisher on the southern interior wall of the kitchen in the mess hall building located in the central/south portion of the facility (east of the VA Medical Center building).

APPENDIX C – Photographic Log

Army National Guard, Preliminary Assessment for PFAS	Camp Rilea	Warrenton, Oregon

Photograph No. 5

Description:

View looking south at the Public Works Administration Building (7241) in the southeastern portion of the facility. This area has been identified as AOI 1.

Photograph No. 6

Description:

View looking northeast of the single firefighting truck storing non-PFAS-containing AFFF.

APPENDIX C – Photographic Log

Army National Guard, Preliminary Assessment for PFAS	Camp Rilea	Warrenton, Oregon

Photograph No. 7

Description:

View of four 5-gallon plastic containers of Thermo-Foam 100 F (non-PFAS-containing) concentrate stored along the northern interior wall of the Fire Station Building. The building is located in the central/south portion of the facility.