CLIENT/FIELD IDENTIFICATION: Quality Control Sample

LABORATORY IDENTIFICATION NO.: Batch Matrix Spike

Analysis	Units	Concentration	Book/Page	Date	Analyst
Benzene	% Recovery	96	173/91250	112591	RS
Toluene	% Recovery	108	173/91250	112591	RS
Ethylbenzene	% Recovery	100	173/91250	112591	RS
Xylenes (Dimethylbenzene)	% Recovery	103	173/91250	112591	RS

End of Quality Control Sample.

Analysis	Detection Limit	Test Method	Description
Benzene	2.0 ug/L	EPA 602	Purge and Trap/ G.C.-F.I.D. or P.I.D.
Toluene	2.0 ug/L	EPA 602	
Ethylbenzene	2.0 ug/L	EPA 602	
Xylenes (Dimethylbenzene)	2.0 ug/L	EPA 602	
1,2 Dichlorobenzene	2.0 ug/L	EPA 602	
1,3-Dichlorobenzene	2.0 ug/L	EPA 602	
1,4-Dichlorobenzene	2.0 ug/L	EPA 602	
Total Recoverable Petroleum Hydrocarbons	0.5 mg/L	EPA 418.1	Infrared

End of Report No. 91C20.

Samples analyzed as received in accordance with "Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater", EPA 600/4-82-057 and "Methods for Chemical Analysis of Water and Wastes," EPA 600/4-79-20.

ND ( ), where denoted, indicates none detected with the detection limit in parentheses.

By Paul Magnon
Supervisor, Analytical Services Division

OPERTECH

HWS Technologies Inc.

LINCOLN OFFICE
825 J St., Box 80358
Lincoln, NE 68501
402/479-2200

HAZARDOUS WASTE ANALYSIS REQUEST AND CHAIN OF CUSTODY SHEET

PROJECT MANAGER: John Morris
PROJECT NO.:
PROJECT NAME/COMPANY: Lincoln Air National Guard Base
SAMPLER (Signature): JM & SW
DATE/TIME: 23-Nov-91

TESTS REQUESTED: BTEX, TRPH, Chlorobenzene

LAB NO.	DATE	TIME	COMP.	GRAB	SAMPLE IDENTIFICATION	NUM. OF CONTAINERS	BTEX	TRPH	Chlorobenzene								REMARKS
37522	23 Nov	10:00			LANGB-MW7-W		X	X	X								Rush
37523	23 Nov	12:15		✓	-MW8-W		X	X	X								"
37524	23 Nov				-Trip		X	X	X								"
37525	23 Nov	0915			-Rinsate		X	X	X								"

A-185

COLLABORATIVE LAB (IF REQUIRED)

COLL. LAB ID. NO.	LAB NO. FROM ABOVE	TO LAB NAME, LOCATION	DATE SHIPPED

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	23 Nov	16:05	Robert [signature]	11/23	16:05						

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

Preserved: Yes ✓ No

Remarks:

HWS Technologies Inc.
LINCOLN OFFICE
825 J St., Box 80358
Lincoln, NE 68501
402/479-2200

HAZARDOUS WASTE ANALYSIS REQUEST AND CHAIN OF CUSTODY SHEET

PROJECT MANAGER: Jon Mount
PROJECT NO.:
PROJECT NAME/COMPANY: Lincoln Air National Guard Base
SAMPLER (Signature): JM & SW
DATE/TIME: 23-Nov-91

TESTS REQUESTED: BTEX, TRPH, Chlorobenzenes

LAB NO.	DATE	TIME	COMP.	GRAB	SAMPLE IDENTIFICATION	NUM. OF CON-TAINERS	BTEX	TRPH	Chlorobenzenes								REMARKS
37516	23-Nov	10:40			LANGB-MW1-W		X	X	X								Rush
37517	23-Nov	10:50			-MW2-W		X	X	X								"
37518	23-Nov	11:20			-MW3-W		X	X	X								"
37519	23-Nov	11:05			-MW4-W		X	X	X								"
37520	23 Nov	11:40			-MW5-W		X	X	X								"
37521	23 Nov	4:30			-MW6-W		X	X	X								"

COLLABORATIVE LAB (IF REQUIRED)

COLL. LAB I.D. NO.	LAB NO. FROM ABOVE	TO LAB NAME, LOCATION	DATE SHIPPED

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	23 Nov	16:45	Robert Seckman	11/23	16:45						

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

Preserved: Yes ✓ No

Remarks:

HWS TECHNOLOGIES INC.

825 J Street P.O. Box 80358 Lincoln, Nebraska 68501 Telephone (402) 479-2200

ANALYTICAL LABORATORY REPORT

CLIENT: Operational Technologies Inc.
ATTN: Mr. John Morris
4100 NW Loop 410
Suite 230
San Antonio, TX 78279

DATE COLLECTED: 11-15-91
DATE REPORTED: 11-22-91
DATE RECEIVED: 11-15-91
PURCHASE AUTHORIZATION:
JOB NO.: 72-81-8306.00
REPORT NO.: 91B92

CLIENT/FIELD IDENTIFICATION: SP-1

LABORATORY IDENTIFICATION NO.: 37445

Analysis	Units	Concentration	Book/Page	Date	Analyst
Benzene	mg/Kg	.33	173/91246	112091	RS
Toluene	mg/Kg	ND (0.25)	173/91246	112091	RS
Ethylbenzene	mg/Kg	ND (0.25)	173/91246	112091	RS
Xylenes (Dimetyhlbenzene)	mg/Kg	0.87	173/91246	112091	RS
1,2-Dichlorobenzene	mg/Kg	ND (0.25)	173/91246	112091	RS
1,3-Dichlorobenzene	mg/Kg	0.41	173/91246	112091	RS
1,4-Dichlorobenzene	mg/Kg	0.99	173/91246	112091	RS
Total Recoverable Petroleum Hydrocarbons in Soil	mg/Kg	ND (25)	363/91109	112291	PH

End of Sample No. 37445.

CLIENT/FIELD IDENTIFICATION: SP-2

LABORATORY IDENTIFICATION NO.: 37446

Analysis	Units	Concentration	Book/Page	Date	Analyst
Benzene	mg/Kg	0.30	173/91246	112091	RS
Toluene	mg/Kg	ND (0.25)	173/91246	112091	RS
Ethylbenzene	mg/Kg	ND (0.25)	173/91246	112091	RS
Xylenes (Dimetyhlbenzene)	mg/Kg	ND (0.25)	173/91246	112091	RS
1,2-Dichlorobenzene	mg/Kg	ND (0.25)	173/91246	112091	RS
1,3-Dichlorobenzene	mg/Kg	ND (0.25)	173/91246	112091	RS
1,4-Dichlorobenzene	mg/Kg	ND (0.25)	173/91246	112091	RS
Total Recoverable Petroleum Hydrocarbons in Soil	mg/Kg	ND (25)	363/91109	112291	PH

End of Sample No. 37446. Report No. 91B92 Continued on Next Page.

CLIENT/FIELD IDENTIFICATION: SP-3

LABORATORY IDENTIFICATION NO.: 37447

Analysis	Units	Concentration	Book/Page	Date	Analyst
Benzene	mg/Kg	0.34	173/91246	112091	RS
Toluene	mg/Kg	ND (0.25)	173/91246	112091	RS
Ethylbenzene	mg/Kg	ND (0.25)	173/91246	112091	RS
Xylenes (Dimetyhlbenzene)	mg/Kg	ND (0.25)	173/91246	112091	RS
1,2-Dichlorobenzene	mg/Kg	ND (0.25)	173/91246	112091	RS
1,3-Dichlorobenzene	mg/Kg	ND (0.25)	173/91246	112091	RS
1,4-Dichlorobenzene	mg/Kg	ND (0.25)	173/91246	112091	RS
Total Recoverable Petroleum Hydrocarbons in Soil	mg/Kg	ND (25)	363/91109	112291	PH

End of Sample No. 37447.

CLIENT/FIELD IDENTIFICATION: SP-4

LABORATORY IDENTIFICATION NO.: 37448

Analysis	Units	Concentration	Book/Page	Date	Analyst
Benzene	mg/Kg	0.28	173/91246	111891	RS
Toluene	mg/Kg	ND (0.25)	173/91246	111891	RS
Ethylbenzene	mg/Kg	ND (0.25)	173/91246	111891	RS
Xylenes (Dimetyhlbenzene)	mg/Kg	0.85	173/91246	111891	RS
1,2-Dichlorobenzene	mg/Kg	ND (0.25)	173/91246	111891	RS
1,3-Dichlorobenzene	mg/Kg	ND (0.25)	173/91246	111891	RS
1,4-Dichlorobenzene	mg/Kg	0.78	173/91246	111891	RS
Total Recoverable Petroleum Hydrocarbons in Soil	mg/Kg	ND (25)	363/91109	112291	PH

End of Sample No. 37448.

CLIENT/FIELD IDENTIFICATION: SP-5

LABORATORY IDENTIFICATION NO.: 37449

Analysis	Units	Concentration	Book/Page	Date	Analyst
Benzene	mg/Kg	ND (0.25)	173/91246	111891	RS
Toluene	mg/Kg	ND (0.25)	173/91246	111891	RS
Ethylbenzene	mg/Kg	ND (0.25)	173/91246	111891	RS
Xylenes (Dimetyhlbenzene)	mg/Kg	ND (0.25)	173/91246	111891	RS
1,2-Dichlorobenzene	mg/Kg	ND (0.25)	173/91246	111891	RS
1,3-Dichlorobenzene	mg/Kg	ND (0.25)	173/91246	111891	RS
1,4-Dichlorobenzene	mg/Kg	ND (0.25)	173/91246	111891	RS
Total Recoverable Petroleum Hydrocarbons in Soil	mg/Kg	ND (25)	363/91109	112291	PH

End of Sample No. 37449. Report No. 91B92 Continued on Next Page.

CLIENT/FIELD IDENTIFICATION: Quality Control Sample

LABORATORY IDENTIFICATION NO.: Inhouse (6.7 mg/Kg)

Analysis	Units	Concentration	Book/Page	Date	Analyst
Total Recoverable Petroleum Hydrocarbons	% Recovery	98	363/91109	112291	PH

End of Quality Contol Sample.

CLIENT/FIELD IDENTIFICATION: Quality Control Sample

LABORATORY IDENTIFICATION NO.: 37447 Matrix Spike (40 ug/L)

Analysis	Units	Concentration	Book/Page	Date	Analyst
1,2 Dichlorobenzene	% Recovery	102	173/91246	112091	RS
1,3 Dichlorobenzene	% Recovery	102	173/91246	112091	RS
1,4 Dichlorobenzene	% Recovery	101	173/91246	112091	RS

End of Quality Contol Sample.

CLIENT/FIELD IDENTIFICATION: Quality Control Sample

LABORATORY IDENTIFICATION NO.: Batch Spike (40 ug/L)

Analysis	Units	Concentration	Book/Page	Date	Analyst
Benzene	% Recovery	95	173/91246	112091	RS
Toluene	% Recovery	97	173/91246	112091	RS
Ethylbenzene	% Recovery	98	173/91246	112091	RS
Xylenes (Dimethylbenzene)	% Recovery	99	173/91246	112091	RS

End of Quality Contol Sample.

Analysis	Detection Limit	Test Method	Description
Benzene	0.25 mg/Kg	EPA 602/8020	Purge and Trap/ G.C.-F.I.D. or P.I.D.
Toluene	0.25 mg/Kg	EPA 602/8020	
Ethylbenzene	0.25 mg/Kg	EPA 602/8020	
Xylenes (Dimethylbenzene)	0.25 mg/Kg	EPA 602/8020	
1,2 Dichlorobenzene	0.25 mg/Kg	EPA 602/8020	
1,3-Dichlorobenzene	0.25 mg/Kg	EPA 602/8020	
1,4-Dichlorobenzene	0.25 mg/Kg	EPA 602/8020	
Total Recoverable Petroleum Hydrocarbons	25 mg/Kg	EPA 418.1	Infrared

End of Report No. 91B92.

Samples analyzed as received in accordance with "Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater", EPA 600/4-82-057, "Test Methods for Evaluating Solid Waste," EPA SW-846, and "Methods for Chemical Analysis of Water and Wastes," EPA 600/4-79-20.

ND ( ), where denoted, indicates none detected with the detection limit in parentheses.

By R. [signature]
Supervisor, Analytical Services Division

OPERTECH

HWS Technologies Inc.

LINCOLN OFFICE
825 J St., Box 80358
Lincoln, NE 68501
402/479-2200

HAZARDOUS WASTE ANALYSIS REQUEST AND CHAIN OF CUSTODY SHEET

PROJECT MANAGER: John Morris

PROJECT NO.:

PROJECT NAME/COMPANY: Lincoln Air National Guard Base

SAMPLER (Signature): [signature]

DATE/TIME: 15-11-91

TESTS REQUESTED: BTEX, TRPH, Chlorobenzenes

LAB NO.	DATE	TIME	COMP.	GRAB	SAMPLE IDENTIFICATION	NUM. OF CON-TAINERS	BTEX	TRPH	Chlorobenzenes								REMARKS
SP-1	15-11	08:30	✓		LANGB-SP1 37445	3	X	X	X								Standard Turn Around
SP-2	15-11	09:00	✓		LANGB-SP2 37446	3	X	X	X								"
SP-3	15-11	09:30	✓		LANGB-SP3 37447	3	X	X	X								"
SP-4	15-11	14:30	✓		LANGB-SP4 37448	3	X	X	X								"
SP-5	15-11	09:35	✓		LANGB-SP5 37449	3	X	X	X								"
191	~~15-11~~	~~0940~~															

COLLABORATIVE LAB (IF REQUIRED)

COLL. LAB ID. NO.	LAB NO. FROM ABOVE	TO LAB NAME, LOCATION	DATE SHIPPED

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	15-11	5:30	Nancy Brown	11-15-91	17:25						
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Tank 608-1

FACILITY ID# 11410

DATE OF CLOSURE 10-25-95

NEBRASKA STATE FIRE MARSHAL

FLAMMABLE LIQUID STORAGE DIVISION

CLOSURE ASSESSMENT REPORT

RECEIVED

FEB 05 1996

DEPARTMENT OF ENVIRONMENTAL QUALITY

CERTIFICATION OF COMPLIANCE

I CERTIFY THAT THIS CLOSURE WAS CONDUCTED IN ACCORDANCE WITH TITLE 159, RULES AND REGULATIONS FOR UNDERGROUND STORAGE TANKS, REGARDING PERMANENT CLOSURE AND CHANGE-IN-SERVICE AND THAT ALL THE INFORMATION PRESENTED HEREIN IS CORRECT AND ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

X CARL R. WILLERT, LTC, NEANG
BASE CIVIL ENGINEER

OWNER/OPERATOR

DATE: 26 Ja 96

X Deborah Myers

CERTIFIED CLOSURE INDIVIDUAL

DATE: 12-8-95

A-192

Ø409 96-(911)-Ø939

(REV 3/93)

TANK CLOSURE CHECKLIST

FACILITY ID#: 11410
FACILITY NAME: Lincoln Air Guard Base
ADDRESS: Bldg. 603
CITY: Lincoln, NE

OWNER NAME: Nebraska Air National Guard
ADDRESS: 2420 W. Butler Ave.
CITY/STATE: Lincoln, NE
PHONE #: (402) 458-1513

INSPECTOR: D. Myers
DATE: 10-25-95
CONTRACTOR LICENSE #: CL 89074
DATE TANK(S) LAST USED: 10-24-95

PRODUCT STORED: TANK ID# (1) Waste Oil ( ) ______ ( ) ______ ( ) ______ ( ) ______
TANK DIMENSIONS: TANK ID# (1) 3'D x 5'L ( ) ______ ( ) ______ ( ) ______ ( ) ______

TYPE OF CLOSURE - (TANK) REMOVAL - IN PLACE
(PIPING) REMOVAL - IN PLACE (CIRCLE ONE)

MATERIAL USED TO FILL TANK IN PLACE: ______

		YES	NO	NW	NA
1.	PERMIT TO CLOSE ON SITE?				X
2.	CERTIFIED CLOSER ON SITE?	X			
3.	AREA SECURED FROM PUBLIC AND NO SMOKING SIGNS POSTED?	X			
4.	TANK INERTED / PURGED (CIRCLE ONE).	X			
5.	TANK ATMOSPHERE MONITORED BEFORE AND DURING CLOSURE?	X			
	a. Instrument(s) used: MSA Oxygen Meter				
6.	IS TANK ATMOSPHERE SAFE FOR CLOSURE?	X			
	a. Instrument(s) readings <8.0%				
7.	ANY PRODUCT SPILLED DURING EXCAVATION OF TANK / PIPING?		X		
	a. Approximate amount ______				
8.	ANY CORROSION HOLES PRESENT BEFORE OR AFTER SCRAPING?	X			
	a. Tank ID#'s 1				
	b. Piping ID#'s ______				
9.	GROUND WATER PRESENT IN EXCAVATION?		X		
	a. Approximate depth to groundwater ______				
10.	ANY DISCOLORED SOILS (GREEN-GRAY/BLACK) ENCOUNTERED?	X			
	a. Tank excavation (tank ID#) 1				
	b. Piping excavation (tank ID#) ______				
11.	ANY SIGNS OF CONTAMINATION?	X			
	a. Visible (Tank ID#'s) 1				
	b. Odor (Tank ID#'s) 1				
12.	WAS A SITE ASSESSMENT PERFORMED?	X			
	LABORATORY ANALYSIS OR FIELD ASSESSMENT? (CIRCLE TYPE DONE)				
	IF FIELD ANALYSIS, INSTRUMENT USED Photovac HL2000 Microtip PID				
13.	PHOTOS TAKEN?	X			
14.	WAS OVEREXCAVATION PERFORMED?		X		

15. DESCRIBE HOW AND WHERE THE CONTAMINATED SOIL WAS DISPOSED OF:
See additional closure comments.

FACILITY ID # 11410

CONTRACTOR # CL89074

SAMPLING RESULTS

TANK: COLLECT AND ANALYZE TWO SAMPLES PER TANK. INDICATE THE LOCATIONS WHERE THE SAMPLES WERE COLLECTED AND THEIR RESPECTIVE IDENTIFICATION NUMBERS ON THE SITE PLAN. IN THE TABLE BELOW PLACE THE RESULTS OF SAMPLING IN THE TANK NUMBER COLUMNS. INDICATE THE DEPTH AT WHICH EACH SAMPLE WAS TAKEN IN THE DEPTH COLUMN.

Results are in parts per million (ppm)

TANK #	1		2		3		4		5		6		7		8	
SAMPLE	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH
1T HS-1	8.5	3'														
2T HS-2	34.7	4'														
3T HS-3	997	6.5'														
4T HS-4	>2500	7.5'														
HS-5	>2500	7.5'														
HS-6	>2500	7.5'														
7T HS-7	>2500	7.5'														
8T																
9T																
10T																

____ *CHECK HERE IF DISPENSER IS DIRECTLY ABOVE TANK - NO ADDITIONAL SAMPLING IS REQUIRED FOR PRODUCT LINES*

LINES: INDICATE WHERE EACH SAMPLE WAS TAKEN AND THEIR RESPECTIVE IDENTIFICATION NUMBER ON THE SITE PLAN.

Results are in parts per million (ppm)

LINE #	1		2		3		4		5		6		7		8	
SAMPLE	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH
HS-8	11	2'														
2L HS-9	2.7	2'														
3L																
4L																
5L																
6L																
7L																
8L																

DISPENSER ISLANDS: INDICATE WHERE EACH SAMPLE WAS TAKEN AND THEIR RESPECTIVE IDENTIFICATION NUMBER ON THE SITE PLAN.

DISPENSER	1		2		3		4		5		6		7		8	
SAMPLE	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH
1D																
2D																
3D																
4D																

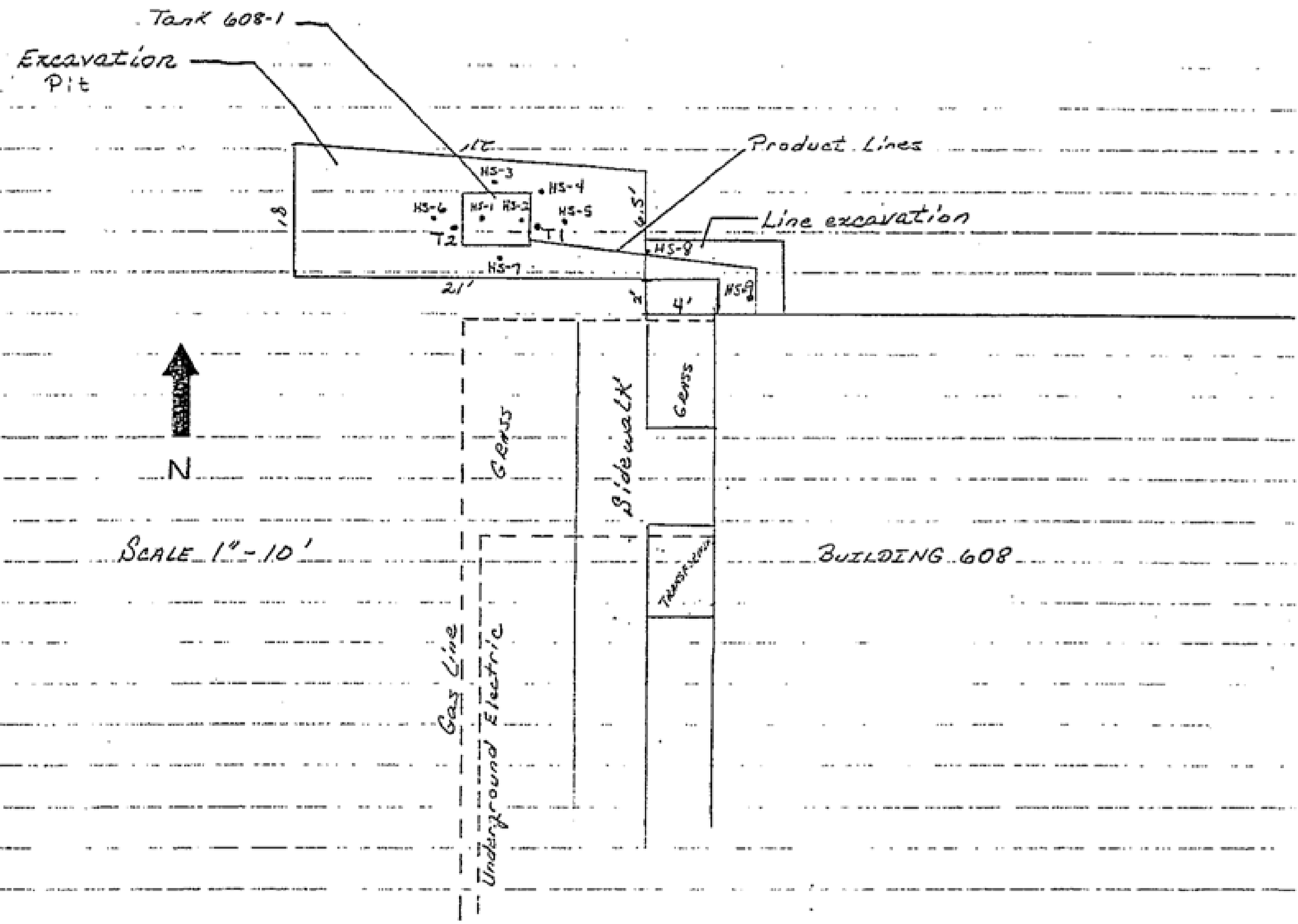
SITE PLAN

FACILITY ID# 11410 DATE OF CLOSURE: 10-25-95

CONTRACTOR # CL89074

LAYOUT OF THE TANK SYSTEM (TANK AND PRODUCT LINES) AND PLACEMENT OF EXCAVATION AND DISPENSER(S) LOCATION. THE SITE PLAN MUST BE APPROXIMATELY TO SCALE, INCLUDING DISTANCES AND THE NORTH ARROW. ALSO SHOW THE TANKS RELATIONSHIP TO PERMANENT OBJECTS.

INDICATE NORTH WITH AN ARROW



ADDITIONAL CLOSURE COMMENTS

FACILITY ID# 11410

DATE OF CLOSURE: 10-25-95

CONTRACTOR # CL89074

Tank 608-1 was part of an oil/water separator system. It was of single wall steel construction and had contained waste oil. The capacity of the tank was approximately 265 gallons. Prior to excavation approximately 260-270 gallons of pumpable liquids were removed from the tank. The liquids were drummed, labele and placed in a designated storage area on base.

Excavation of the tank took place on October 25, 1995. The line was removed October 26th. Soil in the tank excavation appeared to contaminated. Discoloration of the soil and a strong petroleum odor were observed during excavation activities. Impacted soil was stockpiled near the excavation. A berm was constructed and lined with polyethylene sheeting. The impacted soil was than placed in the berm and covered with additional polyethylene sheeting. Tony's Cement Works, Inc. is awaiting direction from the owner regarding disposal of the contaminated soil. A decision has not been reached concerning the final disposition of the soil.

The tank was in poor condition upon excavation. It was heavily corroded and numerous holes were observed. The holes ranged fron pinhole size to 1/4" in diameter. Piping to the tank was in gooc condition. No visible signs of leakage were observed in the piping excavation.

Soil samples collected beneath the ends of the tank were analyzed for TRPH. Sample T1 contained a concentration of 48 p The sample collected beneath the west end of the tank (T2) had a concentration of 740 ppm. Analytical reports are attached.

Groundwater was not encountered. The excavation was backfill by order of the Nebraska Air National Guard.

Evergreen Analytical Sample Log Sheet

Project # 95-3608

Date(s) Sampled: 10/24,25/95 COC

Date Due: 10/31/95

Date Received: 10/26/95 1000

Holding Time(s): 11/07/95-BTEX

Client Project I.D. 2302164

Rush STANDARD UST

Client: Geotechnical Services, Inc.

Address: 4817 N. 56th Street, Ste. A1

Lincoln, NE 68504

Contact: Jerrett Domling

Client P.O. 0201575

Phone #402-466-8154 Fax #402-466-8195

Shipping Charges N/A

E.A. Cooler # N/A

Airbill # FEDEX-7230703981

Custody Seal Intact? Y
Cooler X Bottles ___
COC Present Y
Sample Tags Present? Y
Sample Tags Listed? Y
Sample(s) Sealed? Y

Special Invoicing/Billing

Special Instructions

Lab ID #	Client ID#	Analysis	Mtx	Btl	Loc
X14850A	S-1-605-1	TRPH	S	4WM	C4
X14851A	S-2-605-1	TRPH	S	4WM	C4
.4852A	S-1-608-1 (T1)	TRPH	S	4WM	C4
X14853A	S-2-608-1 (T2)	TRPH	S	4WM	C4
X14850B	S-1-605-1	BTEX 8020	S	4WM	2
X14851B	S-2-605-1	BTEX 8020	S	4WM	2

R=Sample to be returned

Route To GC/MS ___ GC X Metals ___ Wet Chem X SxPrep ___ Acctg 1

SxRec C QA/QC C Sales C File Orig

Custodian/Date: SMB 10/27

Page 1 of 1 Page(s)

ndhM

CHAIN OF CUSTODY RECORD / ANALYTICAL SERVICES REQUEST

Page 1 of 1

Evergreen Analytical Inc.
4036 Youngfield St.
Wheat Ridge, Colorado 80033
(303) 425-6021
FAX (303) 425-6854
(800) 845-7400

MPANY Geotechnical Services Inc
DRESS 4817 N 56th
Y Lincoln STATE NE ZIP 68504
ONE# 402-466-8154 FAX # 402-466-8195 FAX RESULTS Y / N

CLIENT CONTACT (print) Jerrett Dowling
PROJECT I.D. 2302164
EAL QUOTE # P.O.# 0201575
TURNAROUND REQUIRED* std UST
*expedited turnaround subject to additional fee

mpler Name:
gnature) [signature]
int) Jerrett Dowling
ergreen Analytical Cooler No. #27F
oler Received

Please **PRINT** all information:

A-198

CLIENT SAMPLE IDENTIFICATION	DATE SAMPLED	TIME	No. of Containers	MATRIX: Water-Drinking/Discharge/Ground (circle)	MATRIX: Soil /	MATRIX: Oil / Sludge	TCLP VOA/BNA/Pest/Herb/Metals (circle)	VOA 8260/624/524.2 (circle)	BNA 8270/625 (circle)	Pesticides 8080/608 (circle)	Pest/PCBs 8080/608/508 (circle)	Herbicides 8150/515 (circle)	PCB Screen	BTEX 8020/602 (circle)/MTBE (circle)	TRPH 418.1/Oil & Grease 413.1 (circle)	TVPH 8015mod. (Gasoline)	TEPH 8015mod. (Diesel)	Total Metals-DW / NPDES / SW846 (circle & list metals below)	Dissolved Metals - DW / SW846 (circle & list metals below)	EAL use only Do not write in shaded area EAL Project # Custodian EAL Sample No.
5-1-605-1	10-24	10:45	2		X									X	X					
5-2-605-1	10-24	10:45	2		X									X	X					
5-1-608-1	10-25	10:30	1		X										X					
-2-603-1	10-25	10:30	1		X										X					
HT:																				Location
DD:																				Container Size

Instructions: Please return cooler.
thanks Jerrett

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time

Evergree Analytical Sample Receipt Check-in Record

Date & Time Rec'd: 10/26/95 Shipped Via: FED. Exp. 723070399

(Airbill # if applicable)

Client : GeoTechnical Services

Client Project ID(s): 2302164

EAL Project #(s): 95- 3608 EAL Cooler(s): Y N

Cooler#	Clients				
Ice packs	Y N	Y N	Y N	Y N	Y N
Temperature °C	14°C				

	Y	N	N/A
1. Custody seal(s) present:	X		
Seals on cooler intact	X		
Seals on bottle intact			X
2. Chain of Custody present:	X		
3. Samples Radioactive: (Comment on COC if > 0.5mr/h)		X	
4. Containers broken or leaking: (Comment on COC if Y)		X	
5. Containers labeled:	X		
6. COC agrees w/ bottles received: (Comment on COC if N)	X		
7. COC agrees w/ labels: (Comment on COC if N)	X		
8. Headspace in vials-waters only: (Comment on COC if Y)			X
9. VOA samples preserved:			X
10. pH measured on metals, cyanide or phenolics*:			X

List discrepancies

*Non-EAL provided containers only, water samples only.

	Y	N
11. Metal samples present:		X
Total ____ , Dissolved ____ , TCLP ____		
D or PD to be filtered:		
T,TR,D,PD to be Preserved:		
12. Short holding times:		X
Specify parameters		
13. Multi-phase sample(s) present:		X
14. COC signed w/ date/time:	X	

Comments:

(Additional comments on back)

Custodian Signature/Date: C. Carlson 10/26/95 1150

EVERGREEN ANALYTICAL, INC.
4036 Youngfield St. Wheat Ridge, CO 80033
(303) 425-6021

TOTAL RECOVERABLE PETROLEUM HYDROCARBONS

Date Sampled : 10/24,25/95
Date Received : 10/26/95
Date Prepared : 10/27/95
Date Analyzed : 10/27/95

Client Project ID: 2302164
Lab Project No. : 95-3608
Method : EPA 418.1

Evergreen Sample No.	Client Sample ID	Matrix	TRPH* (mg/Kg)
X14850	S-1-605-1	Soil	<3.3
X14851	S-2-605-1	Soil	<3.3
X14852	S-1-608-1 (T1)	Soil	48
X14853	S-2-608-1 (T2)	Soil	740

* Detection limit 3.33 mg/Kg for soils, 0.10 mg/L for waters. Blank value subtracted.

Analyst

Approved

3608mkp.2

EVERGREEN ANALYTICAL, INC.
4036 Youngfield St. Wheat Ridge, CO 80033
(303) 425-6021

TOTAL RECOVERABLE PETROLEUM HYDROCARBONS
BY EPA METHOD 418.1

DATE	TIME
95/10/27	15:56

Project #
95-3608

Sample #
14852.000

Client sample #
S-1-608-1

Matrix : soil

Weight of soil (Kg) extracted
0.020

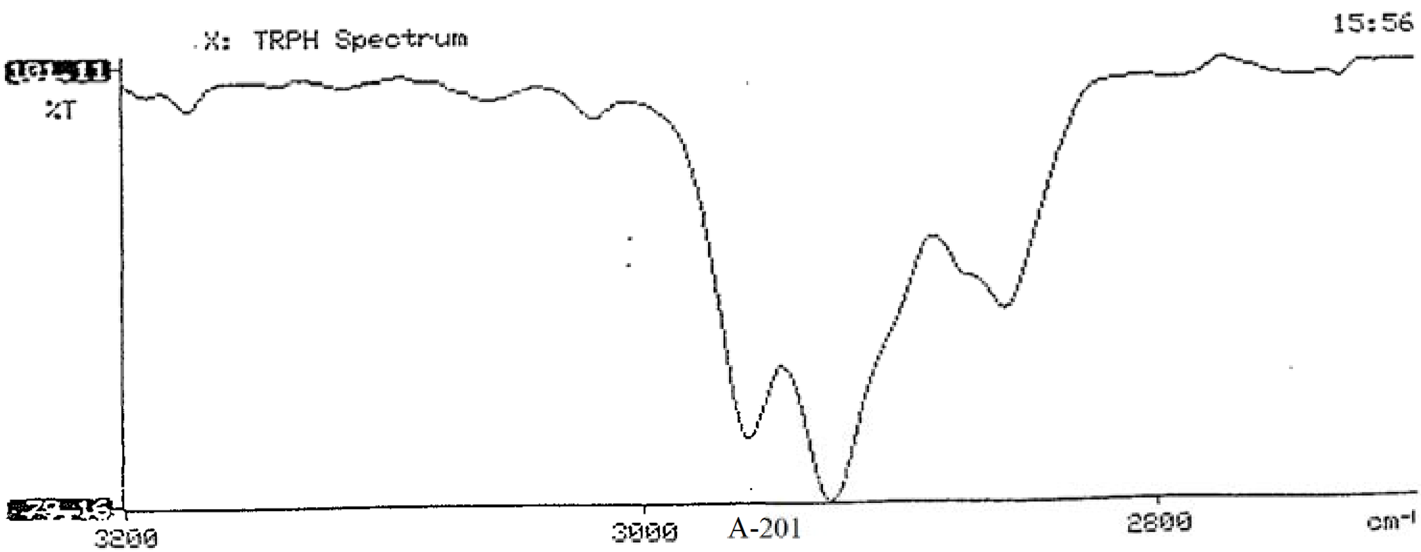
Detection limit in mg/Kg
5.000

Reagent blank
1.094

Dilution factor
1.000

TRPH mg/Kg

47.845



A-201

EVERGREEN ANALYTICAL, INC.
4036 Youngfield St. Wheat Ridge, CO 80033
(303) 425-6021

TOTAL RECOVERABLE PETROLEUM HYDROCARBONS
BY EPA METHOD 418.1

DATE 95/10/27 TIME 16:03

Project #
95-3608

Sample #
14853.000

Client sample #
5-2-608-1

Matrix : soil

Weight of soil (Kg) extracted
0.020

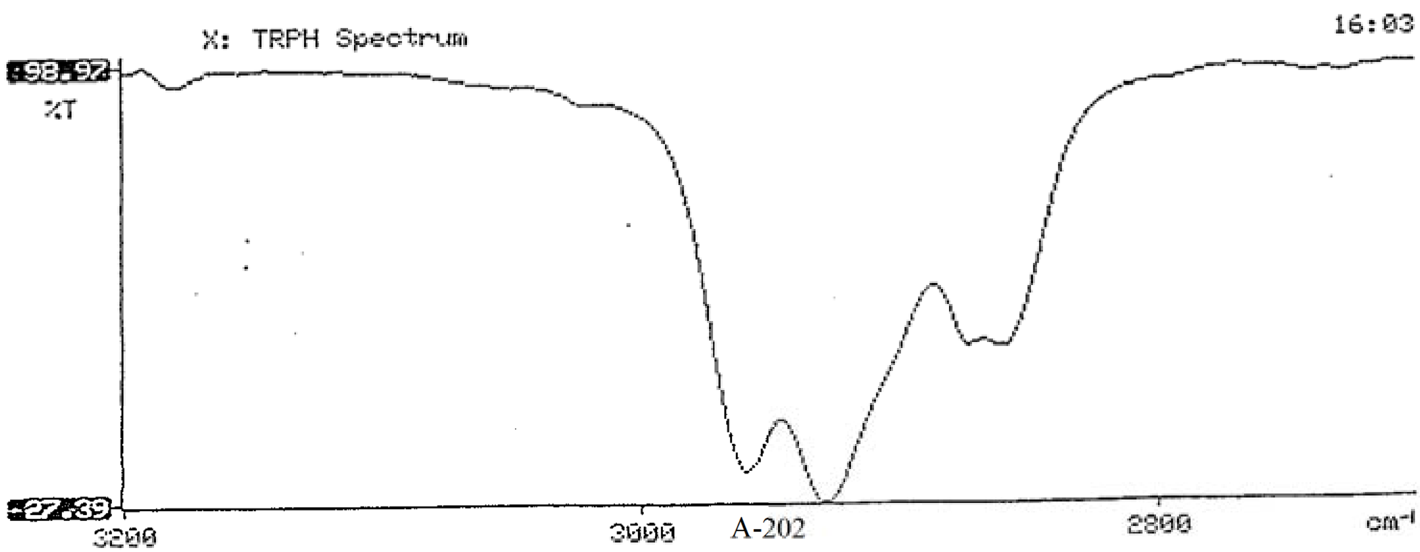
Detection limit in mg/Kg
5.000

Reagent blank
1.094

Dilution factor
2.500

TRPH mg/Kg

740.981



A-202

Tank 608-4
Oil/Water Separator

FACILITY ID# 11410

DATE OF CLOSURE 10-30-95 thru 11-2-95

NEBRASKA STATE FIRE MARSHAL

FLAMMABLE LIQUID STORAGE DIVISION

CLOSURE ASSESSMENT REPORT

RECEIVED
FEB 05 1996
DEPARTMENT OF
ENVIRONMENTAL QUALITY

CERTIFICATION OF COMPLIANCE

I CERTIFY THAT THIS CLOSURE WAS CONDUCTED IN ACCORDANCE WITH TITLE 159, RULES AND REGULATIONS FOR UNDERGROUND STORAGE TANKS, REGARDING PERMANENT CLOSURE AND CHANGE-IN-SERVICE AND THAT ALL THE INFORMATION PRESENTED HEREIN IS CORRECT AND ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

CARL R. WILLERT, LTC, NEANG
BASE CIVIL [illegible]

X______________________________ DATE: 26 Jan 96

OWNER/OPERATOR

X Deborah Myers DATE: 12-13-95

CERTIFIED CLOSURE INDIVIDUAL

A-203

TANK CLOSURE CHECKLIST

FACILITY ID#: 11410
FACILITY NAME: Lincoln Air Guard Base
ADDRESS: Building 608
CITY: Lincoln, NE

OWNER NAME: Nebraska Air National Guard
ADDRESS: 2420 W. Butler Ave.
CITY/STATE: Lincoln, NE
PHONE #: (402)458-1513

INSPECTOR:
DATE:
CONTRACTOR LICENSE #: CL89074
DATE TANK(S) LAST USED: 10-95

PRODUCT STORED: TANK ID# (1) Waste OIL ( ) ( ) ( ) ( )
TANK DIMENSIONS: TANK ID# (1) 4'L x 2'W x 4'D ( ) ( ) ( ) ( )

TYPE OF CLOSURE - (TANK) REMOVAL - IN PLACE
(PIPING) REMOVAL - IN PLACE (CIRCLE ONE)

MATERIAL USED TO FILL TANK IN PLACE:

		YES	NO	NW	NA
1.	PERMIT TO CLOSE ON SITE?				X
2.	CERTIFIED CLOSER ON SITE?		X		
3.	AREA SECURED FROM PUBLIC AND NO SMOKING SIGNS POSTED?	X			
4.	TANK INERTED / PURGED (CIRCLE ONE).				X
5.	TANK ATMOSPHERE MONITORED BEFORE AND DURING CLOSURE?				X
	a. Instrument(s) used:				
6.	IS TANK ATMOSPHERE SAFE FOR CLOSURE?				X
	a. Instrument(s) readings				
7.	ANY PRODUCT SPILLED DURING EXCAVATION OF TANK / PIPING?		X		
	a. Approximate amount				
8.	ANY CORROSION HOLES PRESENT BEFORE OR AFTER SCRAPING?		X		
	a. Tank ID#'s b. Piping ID#'s				
9.	GROUND WATER PRESENT IN EXCAVATION?	X			
	a. Approximate depth to groundwater 8'				
10.	ANY DISCOLORED SOILS (GREEN-GRAY/BLACK) ENCOUNTERED?				X
	a. Tank excavation (tank ID#) b. Piping excavation (tank ID#)				
11.	ANY SIGNS OF CONTAMINATION?				X
	a. Visible (Tank ID#'s) b. Odor (Tank ID#'s)				
12.	WAS A SITE ASSESSMENT PERFORMED?	X			
	LABORATORY ANALYSIS OR FIELD ASSESSMENT? (CIRCLE TYPE DONE) IF FIELD ANALYSIS, INSTRUMENT USED				
13.	PHOTOS TAKEN?	X			
14.	WAS OVEREXCAVATION PERFORMED?				X
15.	DESCRIBE HOW AND WHERE THE CONTAMINATED SOIL WAS DISPOSED OF:				

FACILITY ID # 11410 CONTRACTOR # CL89074

SAMPLING RESULTS

TANK: COLLECT AND ANALYZE TWO SAMPLES PER TANK. INDICATE THE LOCATIONS WHERE THE SAMPLES WERE COLLECTED AND THEIR RESPECTIVE IDENTIFICATION NUMBERS ON THE SITE PLAN. IN THE TABLE BELOW PLACE THE RESULTS OF SAMPLING IN THE TANK NUMBER COLUMNS. INDICATE THE DEPTH AT WHICH EACH SAMPLE WAS TAKEN IN THE DEPTH COLUMN.

Groundwater Sampling Results for TRPH (ppm)

TANK #	1		2		3		4		5		6		7		8	
SAMPLE	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH
1T	1.1	8'														
2T																
3T																
4T																
T																
6T																
7T																
8T																
9T																
10T																

_____ CHECK HERE IF DISPENSER IS DIRECTLY ABOVE TANK - NO ADDITIONAL SAMPLING IS REQUIRED FOR PRODUCT LINES

LINES: INDICATE WHERE EACH SAMPLE WAS TAKEN AND THEIR RESPECTIVE IDENTIFICATION NUMBER ON THE SITE PLAN.

LINE #	1		2		3		4		5		6		7		8	
SAMPLE	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH
1L																
2L																
3L																
4L																
5L																
6L																
7L																
8L																

DISPENSER ISLANDS: INDICATE WHERE EACH SAMPLE WAS TAKEN AND THEIR RESPECTIVE IDENTIFICATION NUMBER ON THE SITE PLAN.

DISPENSER	1		2		3		4		5		6		7		8	
SAMPLE	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH
1D																
2D																
3D																
4D																

SITE PLAN

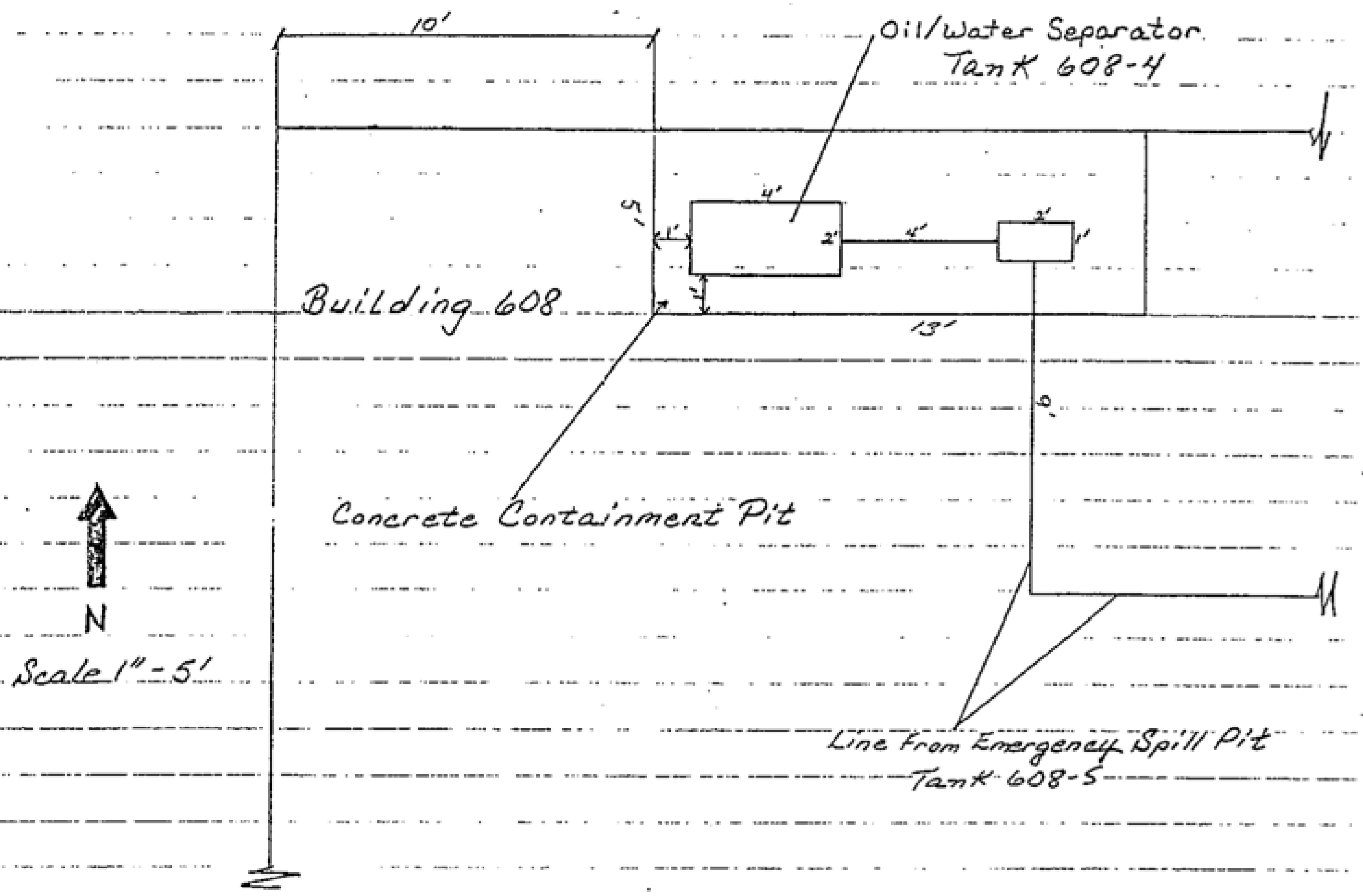
FACILITY ID# 11410

CONTRACTOR # CL89074

DATE OF CLOSURE: 10-30-95 th. 11-2-95

LAYOUT OF THE TANK SYSTEM (TANK AND PRODUCT LINES) AND PLACEMENT OF EXCAVATION AND DISPENSER(S) LOCATION. THE SITE PLAN MUST BE APPROXIMATELY TO SCALE, INCLUDING DISTANCES AND THE NORTH ARROW. ALSO SHOW THE TANKS RELATIONSHIP TO PERMANENT OBJECTS.

INDICATE NORTH WITH AN ARROW



ADDITIONAL CLOSURE COMMENTS

FACILITY ID# 11410

DATE OF CLOSURE: 10-30-95 th. 11-2-95

CONTRACTOR # CL89074

Tank 608-4 was an oil/water separator located within Building 608 at the Lincoln Air Guard Base. It was of steel construction and had contained waste oil. The separator was surrounded by a concrete containment pit. No soil samples could be obtained for headspace analysis during closure proceedings.

Closure activities began on October 30, 1995. On this date liquids contained in the separator were removed and the oil/water separator with its associated piping were cut.

Work on cutting the separator continued on October 31, 1995. After cutting was completed, the separator and piping were removed from the building. Holes were punched through the floor on this date.

On November 1, 1995 a groundwater sample was collected at the site. Groundwater had entered the containment pit through the holes. The analytical report is attached. The influent pipe was grouted shut at the edge of the containment pit.

Backfilling took place on November 1st and 2nd. A clean sand was used to fill the area of the containment pit. A concrete cap was poured on November 7, 1995.

This tank was not required to be registered with the Nebraska State Fire Marshal.

Evergreen Analytical Sample Log Sheet

Project # 95-3706

Date(s) Sampled: 11/01,02/95 COC

Date Due: 11/08/95

Date Received: 11/03/95 1000

Holding Time(s):

Client Project I.D. 2302164

Rush STANDARD

Client: Geotechnical Services, Inc.

Shipping Charges 5.00

Address: 4817 N. 56th Street, Ste. A1

Lincoln, NE 68504

E.A. Cooler # N/A

Airbill # FEDEX 73307074526

Contact: BOB JURGENS

Custody Seal Intact? Y
Cooler X Bottles X
COC Present
Sample Tags Present?
Sample Tags Listed?
Sample(s) Sealed?

Client P.O. 0201600

Phone #402-466-8154 Fax #402-466-8195

Special Invoicing/Billing

Special Instructions

Lab ID #	Client ID#	Analysis	Mtx	Btl	Loc
X15155A	W-1-608-5	TRPH	S	4WM	C6
X15156A	E-1-608-5	TRPH	S	4WM	C6
X15157A	GW-1-608-4	TRPH	W	1LA	C6

R=Sample to be returned

Route To GC/MS __ GC __ Metals __ Wet Chem X SxPrep __ Acctg __

SxRec C QA/QC C Sales C File Orig

Custodian/Date: CC 11/03/95

EVERGREEN ANALYTICAL, INC.
4036 Youngfield St. Wheat Ridge, CO 80033
(303) 425-6021

TOTAL RECOVERABLE PETROLEUM HYDROCARBONS

Date Sampled	: 11/1,2/95	Client Project ID	: 2302164
Date Received	: 11/3/95	Lab Project No.	: 95-3706
Date Prepared	: 11/6/95	Method	: EPA 418.1
Date Analyzed	: 11/6/95		

Evergreen Sample No.	Client Sample ID	Matrix	TRPH*	
				(mg/Kg)
X15155	W-1-608-5	Soil	68	
X15156	E-1-608-5	Soil	33	
				(mg/L)
X15157	GW-1-608-4	Water	1.1	

* Detection limit 3.33 mg/Kg for soils, 0.10 mg/L for waters.
  Blank value subtracted.

Delma J. Byrne
Analyst

Approved

3706mkp.2

EVERGREEN ANALYTICAL, INC.
4036 Youngfield St. Wheat Ridge, CO 80033
(303) 425-6021

TOTAL RECOVERABLE PETROLEUM HYDROCARBONS BY EPA METHOD 418.1

DATE	TIME
95/11/06	14:07

Project #
95-3706

Sample #
15157.000

.lient sample #
G-W-1-608-4

Matrix : Water

Volume of water (liters) extracted
1.000

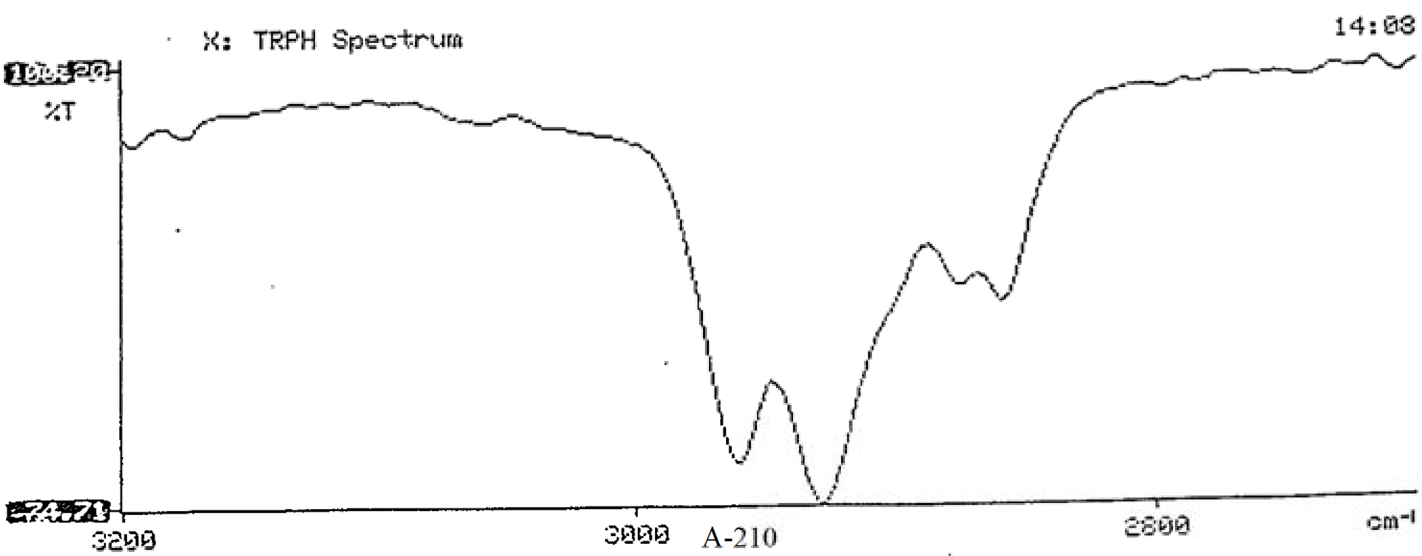
Detection limit in mg/L
0.100

Reagent blank
0.037

Dilution factor
1.000

TRPH mg/L

1.107



Evergreen Analytical Sample Receipt/Check-in Record

Date & Time Rec'd: 11/03/95 1000 Shipped Via: FED EXP. 7230704
(Airbill # if applicable)

Client : GSI

Client Project ID(s): 2302164

EAL Project #(s): 95- 3706 EAL Cooler(s): Y N

Cooler# Clients

Ice packs Y N Y N Y N Y N Y N.

Temperature °C 9°C OBTAIN APPROVAL FROM NDEQ SINCE ~~[illegible]~~ SAMPLES WERE NOT PRESERVED AT 4°C.

	Y	N	N/A
1. Custody seal(s) present:	X		
Seals on cooler intact	X		
Seals on bottle intact	X		
2. Chain of Custody present:	X		
3. Samples Radioactive: (Comment on COC if > 0.5mr/h)		X	
4. Containers broken or leaking: (Comment on COC if Y)		X	
5. Containers labeled:	X		
6. COC agrees w/ bottles received: (Comment on COC if N)	X		
7. COC agrees w/ labels: (Comment on COC if N)	X		
8. Headspace in vials-waters only: (Comment on COC if Y)			X
9. VOA samples preserved:			X
10. pH measured on metals, cyanide or phenolics*:			X

List discrepancies ______

*Non-EAL provided containers only, water samples only.

	Y	N
11. Metal samples present:		X
Total ______ , Dissolved ______ , TCLP ______		
D or PD to be filtered:		
T,TR,D,PD to be Preserved:		
12. Short holding times:		X
Specify parameters ______		
13. Multi-phase sample(s) present:		X
14. COC signed w/ date/time:	X	

Comments: ______

(Additional comments on back)

Custodian Signature/Date: [signature] 11/03/95

Evergreen Analytical Inc.

4036 Youngfield St.
Wheat Ridge, Colorado 80033
(303) 425-6021
FAX (303) 425-6854
(800) 845-7400

COMPANY Geotechnical Services Inc
ADDRESS 4817 N.56th St., Ste 27
CITY Lincoln STATE NE ZIP 68504
PHONE# 402-466-8154 FAX # 402-466-8195 FAX RESULTS Y / N

CLIENT CONTACT (print) Bob Jurgens
PROJECT I.D. 2302164
EAL QUOTE # ______ P.O.# 020160C
TURNAROUND REQUIRED* std UST
*expedited turnaround subject to additional fee

Sampler Name:
(signature) [signature]
(print) Bob Jurgens
GSI ~~Evergreen Analytical~~ Cooler No. 27A
Cooler Received ______

Please **PRINT** all information:

CLIENT SAMPLE IDENTIFICATION	DATE SAMPLED	TIME	No. of Containers	MATRIX: Water-Drinking/Discharge/Ground (circle)	MATRIX: Soil/Solid	MATRIX: Oil / Sludge	TCLP VOA/BNA/Pest/Herb/Metals (circle)	VOA 8260/624/524.2 (circle)	BNA 8270/625 (circle)	Pesticides 8080/608 (circle)	Pest/PCBs 8080/608/508 (circle)	Herbicides 8150/515 (circle)	PCB Screen	BTEX 8020/602 (circle)/MTBE (circle)	TRPH 418.1/Oil & Grease 413.1 (circle)	TVPH 8015mod. (Gasoline)	TEPH 8015mod. (Diesel)	Total Metals-DW / NPDES / SW846 (circle & list metals below)	Dissolved Metals - DW / SW846 (circle & list metals below)	EAL Sample No.
W-1-608-5	11-2-95	AM	1		X										X					
E-1-608-5	11-2-95	AM	1		X										X					
GW-1-608-4	11-1-95	PM	1	X											X					
HT:																				Location
DD:																				Container Size

EAL use only. Do not write in shaded area
EAL ______
Project # ______
Custodian ______

Instructions:

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
[signature]	11/1/95 17:52	[signature]	11/2			C. Carlson	11/07/95

TANK 608-5
Concrete Emergency Spill Pit

FACILITY ID# 11410

DATE OF CLOSURE October 25, 1995 thru November 2, 1995

NEBRASKA STATE FIRE MARSHAL

FLAMMABLE LIQUID STORAGE DIVISION

CLOSURE ASSESSMENT REPORT

RECEIVED
FEB 05 1996
DEPARTMENT OF ENVIRONMENTAL QUALITY

FIRE MARSHAL
NEBRASKA

CERTIFICATION OF COMPLIANCE

I CERTIFY THAT THIS CLOSURE WAS CONDUCTED IN ACCORDANCE WITH TITLE 159, RULES AND REGULATIONS FOR UNDERGROUND STORAGE TANKS, REGARDING PERMANENT CLOSURE AND CHANGE-IN-SERVICE AND THAT ALL THE INFORMATION PRESENTED HEREIN IS CORRECT AND ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

X [signature]
CARL R. WILLERT, LTC, NEANG
BASE CIVIL ENGINEER
OWNER/OPERATOR

DATE: 26 Jan 96

X Deborah L. Myers
CERTIFIED CLOSURE INDIVIDUAL

DATE: 12-13-95

(REV 3/93)

TANK CLOSURE CHECKLIST

FACILITY ID#: 11410
FACILITY NAME: Lincoln Air Guard Base
ADDRESS: Building 608
CITY: Lincoln, NE

OWNER NAME: Nebraska Air National Guard
ADDRESS: 2420 W. Butler Avenue
CITY/STATE: Lincoln, NE
PHONE #: 402-458-1513

INSPECTOR:
DATE:
CONTRACTOR LICENSE #: CL89074
DATE TANK(S) LAST USED: 10-95

PRODUCT STORED: TANK ID# (1) Waste Oil ( ) ______ ( ) ______ ( ) ______ ( ) ______
TANK DIMENSIONS: TANK ID# (1) 12'L x 5'W x 8.5'D ( ) ______ ( ) ______ ( ) ______ ( ) ______

TYPE OF CLOSURE - (TANK) REMOVAL - IN PLACE
(PIPING) REMOVAL - IN PLACE (CIRCLE ONE)

MATERIAL USED TO FILL TANK IN PLACE: 47B Sand/Gravel

		YES	NO	NW	NA
1.	PERMIT TO CLOSE ON SITE?				X
2.	CERTIFIED CLOSER ON SITE?		X		
3.	AREA SECURED FROM PUBLIC AND NO SMOKING SIGNS POSTED?	X			
4.	TANK INERTED / PURGED (CIRCLE ONE).				X
5.	TANK ATMOSPHERE MONITORED BEFORE AND DURING CLOSURE?				X
	a. Instrument(s) used: ______ ______				
6.	IS TANK ATMOSPHERE SAFE FOR CLOSURE?				X
	a. Instrument(s) readings ____ ____ ____ ____				
7.	ANY PRODUCT SPILLED DURING EXCAVATION OF TANK / PIPING?		X		
	a. Approximate amount ______				
8.	ANY CORROSION HOLES PRESENT BEFORE OR AFTER SCRAPING?				X
	a. Tank ID#'s ____ ____ ____ ____ b. Piping ID#'s ____ ____ ____ ____				
9.	GROUND WATER PRESENT IN EXCAVATION?		X		
	a. Approximate depth to groundwater ______				
10.	ANY DISCOLORED SOILS (GREEN-GRAY/BLACK) ENCOUNTERED?				X
	a. Tank excavation (tank ID#) ____ ____ ____ ____ b. Piping excavation (tank ID#) ____ ____ ____ ____				
11.	ANY SIGNS OF CONTAMINATION?		X		
	a. Visible (Tank ID#'s) ____ ____ ____ ____ ____ b. Odor (Tank ID#'s) ____ ____ ____ ____ ____				
12.	WAS A SITE ASSESSMENT PERFORMED?	X			
	LABORATORY ANALYSIS OR FIELD ASSESSMENT? (CIRCLE TYPE DONE) IF FIELD ANALYSIS, INSTRUMENT USED ______				
13.	PHOTOS TAKEN?	X			
14.	WAS OVEREXCAVATION PERFORMED?		X		
15.	DESCRIBE HOW AND WHERE THE CONTAMINATED SOIL WAS DISPOSED OF: ______				

FACILITY ID # 11410　　　　　　　　　　　　　　　　　　　　　　CONTRACTOR # CL8907

SAMPLING RESULTS

TANK: COLLECT AND ANALYZE TWO SAMPLES PER TANK. INDICATE THE LOCATIONS WHERE THE SAMPLES WERE COLLECTED AND THEIR RESPECTIVE IDENTIFICATION NUMBERS ON THE SITE PLAN. IN THE TABLE BELOW PLACE THE RESULTS OF SAMPLING IN THE TANK NUMBER COLUMNS. INDICATE THE DEPTH AT WHICH EACH SAMPLE WAS TAKEN IN THE DEPTH COLUMN.

TRPH Results in parts per million (ppm)

TANK #	1		2		3		4		5		6		7		8	
SAMPLE	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH
1T (T1)	68	9.5'														
2T (T2)	33	9.5'														
3T																
4T																
6T																
7T																
8T																
9T																
10T																

____ *CHECK HERE IF DISPENSER IS DIRECTLY ABOVE TANK - NO ADDITIONAL SAMPLING IS REQUIRED FOR PRODUCT LINES*

LINES: INDICATE WHERE EACH SAMPLE WAS TAKEN AND THEIR RESPECTIVE IDENTIFICATION NUMBER ON THE SITE PLAN.

LINE #	1		2		3		4		5		6		7		8	
SAMPLE	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH
1L																
2L																
3L																
4L																
5L																
6L																
7L																
8L																

DISPENSER ISLANDS: INDICATE WHERE EACH SAMPLE WAS TAKEN AND THEIR RESPECTIVE IDENTIFICATION NUMBER ON THE SITE PLAN.

DISPENSER	1		2		3		4		5		6		7		8	
SAMPLE	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH	TEST RESULTS	DEPTH
1D																
2D																
3D																
4D																

SITE PLAN

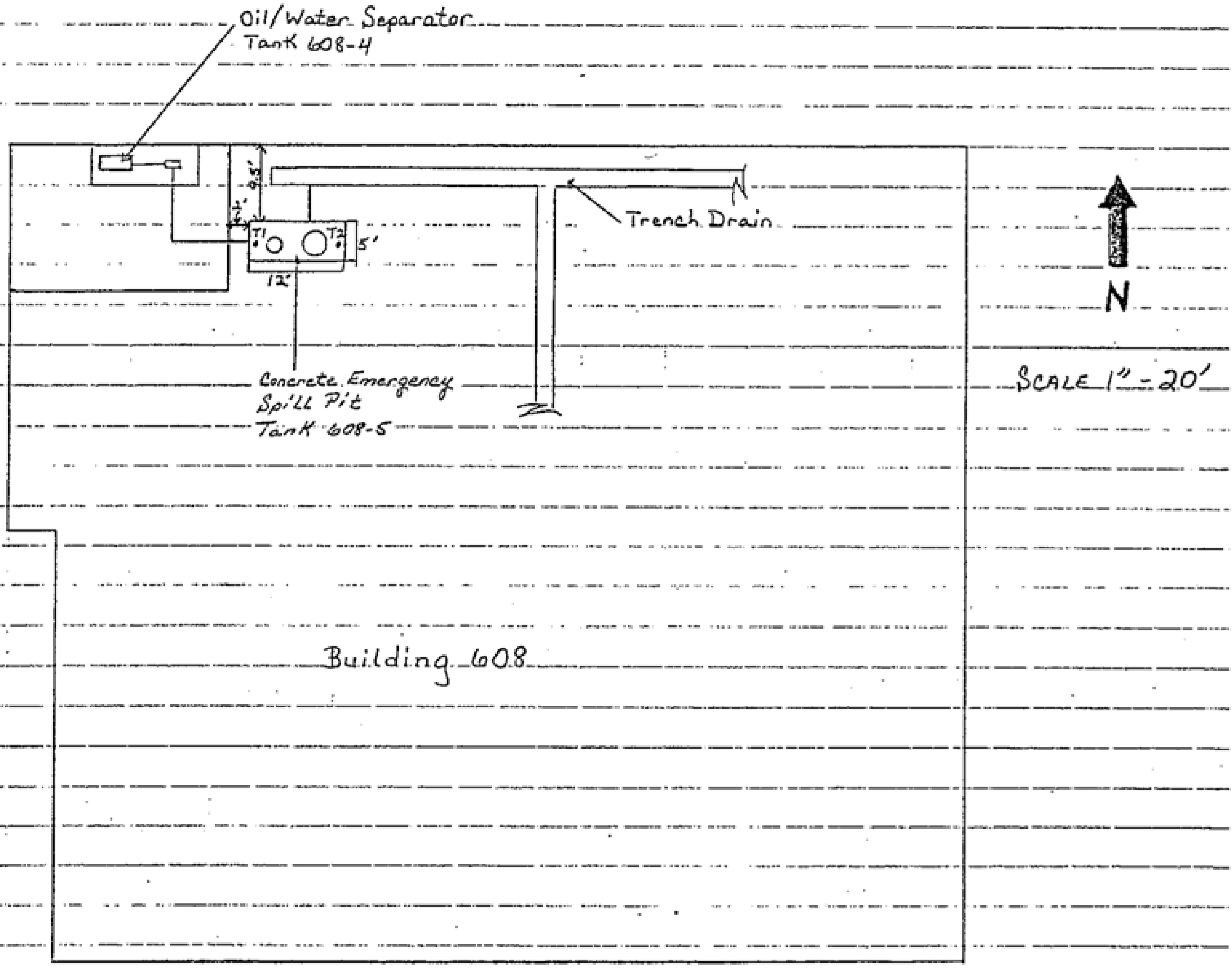
FACILITY ID# 11410

DATE OF CLOSURE: ~~Oct. 25, 1995~~ Nov. 2, 1995

CONTRACTOR # CL89074

LAYOUT OF THE TANK SYSTEM (TANK AND PRODUCT LINES) AND PLACEMENT OF EXCAVATION AND DISPENSER(S) LOCATION. THE SITE PLAN MUST BE APPROXIMATELY TO SCALE, INCLUDING DISTANCES AND THE NORTH ARROW. ALSO SHOW THE TANKS RELATIONSHIP TO PERMANENT OBJECTS.

INDICATE NORTH WITH AN ARROW



ADDITIONAL CLOSURE COMMENTS

FACILITY ID# 11410

DATE OF CLOSURE: Oct. 25, 1995 - Nov. 2, 1995

CONTRACTOR # CL89074

Tank 608-5 was a concrete emergency spill pit located within Building 608 at the Lincoln Air Guard Base. This tank was part of an oil/water separator system and as such was not required to be registered with the Nebraska State Fire Marshal. No soil samples could be obtained for headspace analysis.

Closure of this structure began October 25, 1995. Concrete was sawed and jackhammered on this date.

Debris was removed from the pit on October 26, 1995. Pumpable liquids were removed, drummed and labeled. The drums were transported to a designated storage area on base.

The pit was steam cleaned November 1, 1995. Rinsate was pumped and drummed. The drums were labeled and transported to the designated storage area. Holes were pierced through the bottom of the pit. Soil samples were collected for laboratory analysis. The analytical report is attached. Influent and effluent lines were plugged with non-shrink grout.

Backfilling took place on November 1st and 2nd. The backfill material was 47B Sand/Gravel. A concrete cap was poured on November 7, 1995.

Evergreen Analytical Sample Log Sheet

Project # 95-3706

Date(s) Sampled: 11/01,02/95 COC

Date Due: 11/08/95

Date Received: 11/03/95 1000

Holding Time(s):

Client Project I.D. 2302164

Rush STANDARD

Client: Geotechnical Services, Inc.

Address: 4817 N. 56th Street, Ste. A1

Lincoln, NE 68504

Contact: BOB JURGENS

Client P.O. 0201600

Phone #402-466-8154 Fax #402-466-8195

Shipping Charges 5.00

E.A. Cooler # N/A

Airbill # FEDEX 73307074526

Custody Seal Intact? Y

Cooler X Bottles X

COC Present

Sample Tags Present?

Sample Tags Listed?

Sample(s) Sealed?

Special Invoicing/Billing

Special Instructions

Lab ID #	Client ID#	Analysis	Mtx	Btl	Loc
X15155A	W-1-608-5 (T1)	TRPH	S	4WM	C6
X15156A	E-1-608-5 (T2)	TRPH	S	4WM	C6
X15157A	GW-1-608-4	TRPH	W	1LA	C6

R=Sample to be returned

Route To GC/MS ___ GC ___ Metals ___ Wet Chem X SxPrep ___ Acctg 1

SxRec C QA/QC C Sales C File Orig

Custodian/Date: CC 11/03/95

EVERGREEN ANALYTICAL, INC.
4036 Youngfield St. Wheat Ridge, CO 80033
(303) 425-6021

TOTAL RECOVERABLE PETROLEUM HYDROCARBONS

Date Sampled : 11/1,2/95
Date Received : 11/3/95
Date Prepared : 11/6/95
Date Analyzed : 11/6/95

Client Project ID: 2302164
Lab Project No. : 95-3706
Method : EPA 418.1

Evergreen Sample No.	Client Sample ID	Matrix	TRPH*
			(mg/Kg)
X15155	W-1-608-5 (T1)	Soil	68
X15156	E-1-608-5 (T2)	Soil	33
			(mg/L)
X15157	GW-1-608-4	Water	1.1

* Detection limit 3.33 mg/Kg for soils, 0.10 mg/L for waters.
Blank value subtracted.

Analyst

Approved

3706mkp.2

EVERGREEN ANALYTICAL, INC.
4036 Youngfield St. Wheat Ridge, CO 80033
(303) 425-6021

TOTAL RECOVERABLE PETROLEUM HYDROCARBONS
BY EPA METHOD 418.1

DATE	TIME
95/11/06	16:35

Project #
95-3706

mple #
.5155.000

Client sample # W-1-608-5 (T1)

Matrix : soil

Weight of soil (Kg) extracted
0.030

Detection limit in mg/Kg
3.333

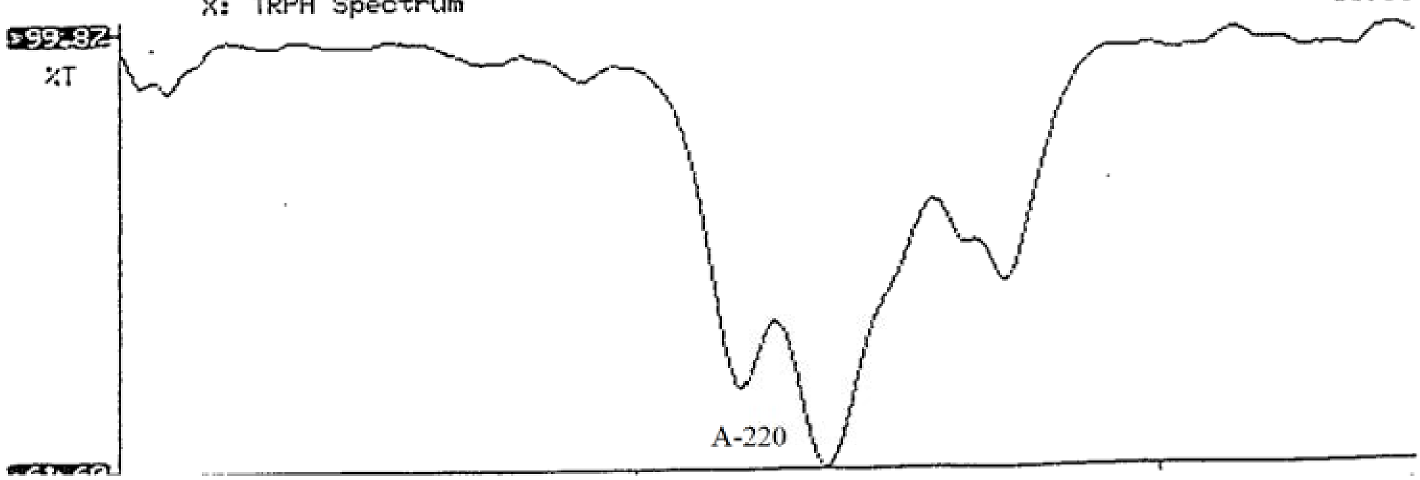
Reagent blank
2.110

Dilution factor
1.000

TRPH mg/Kg

67.533

X: TRPH Spectrum 16:35



EVERGREEN ANALYTICAL, INC.
4036 Youngfield St. Wheat Ridge, CO 80033
(303) 425-6021

TOTAL RECOVERABLE PETROLEUM HYDROCARBONS
BY EPA METHOD 418.1

DATE	TIME
95/11/06	16:38

Project #
95-3706

`ample #
15156.000

Client sample # E-1-668-5 (T2)

Matrix : soil

Weight of soil (Kg) extracted
0.030

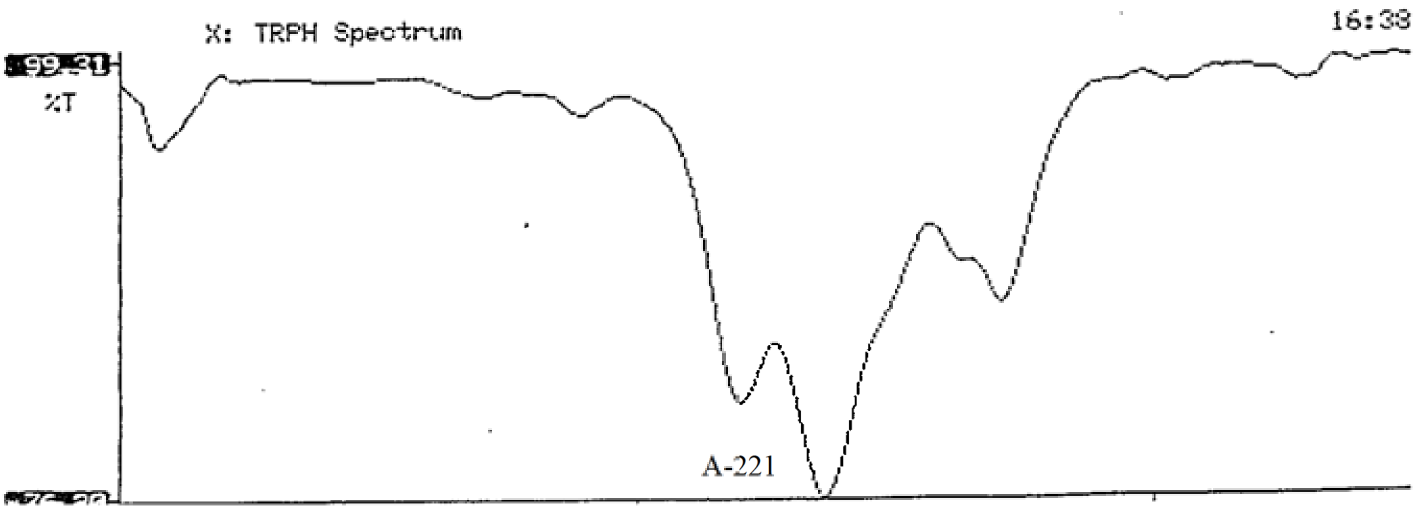
Detection limit in mg/Kg
3.333

Reagent blank
2.110

Dilution factor
1.000

TRPH mg/Kg

33.443



Evergreen Analytical Sample Receipt/Check-in Record

Date & Time Rec'd: 11/03/95 1100 Shipped Via: FED EXP. 72307046
(Airbill # if applicable)

Client : GSI

Client Project ID(s): 2302164

EAL Project #(s): 95- 3706 EAL Cooler(s): Y N

Cooler# Clients

Ice packs Y N Y N Y N Y N Y N

Temperature °C 9°C OBTAIN APPROVAL FROM NDEQ SINCE ~~[illegible]~~ SAMPLES WERE NOT PRESERVED AT 4OC.

	Y	N	N/A
1. Custody seal(s) present:	X		
Seals on cooler intact	X		
Seals on bottle intact	X		
2. Chain of Custody present:	X		
3. Samples Radioactive: (Comment on COC if > 0.5mr/h)		X	
4. Containers broken or leaking: (Comment on COC if Y)		X	
5. Containers labeled:	X		
6. COC agrees w/ bottles received: (Comment on COC if N)	X		
7. COC agrees w/ labels: (Comment on COC if N)	X		
8. Headspace in vials-waters only: (Comment on COC if Y)			X
9. VOA samples preserved:			X
10. pH measured on metals, cyanide or phenolics*:			X

List discrepancies

*Non-EAL provided containers only, water samples only.

	Y	N
11. Metal samples present:		X
Total ______ , Dissolved ______ , TCLP ______		
D or PD to be filtered:		
T,TR,D,PD to be Preserved:		
12. Short holding times:		X
Specify parameters		
13. Multi-phase sample(s) present:		X
14. COC signed w/ date/time:	X	

Comments:

(Additional comments on back)

Custodian Signature/Date: [illegible signature] 11/03/95

Evergreen Analytical Inc.

4036 Youngfield St.
Wheat Ridge, Colorado 80033
(303) 425-6021
FAX (303) 425-6854
(800) 845-7400

COMPANY Geotechnical Services Inc
ADDRESS 4817 N.56th St., Ste 27
CITY Lincoln STATE NE ZIP 68504
PHONE# 402-466-8154 FAX # 402-466-8195 FAX RESULTS Y / N

CLIENT CONTACT (print) Bob Jurgens
PROJECT I.D. 2302164
EAL QUOTE # ______ P.O.# 020160C
TURNAROUND REQUIRED* std UST
*expedited turnaround subject to additional fee

Sampler Name:
(signature) [signature]
(print) Bob Jurgens
GSI
~~Evergreen Analytical~~ Cooler No. 27 A
Cooler Received ______

Please **PRINT** all information:

CLIENT SAMPLE IDENTIFICATION	DATE SAMPLED	TIME	No. of Containers	MATRIX: Water (Drinking/Discharge/Ground) (circle)	MATRIX: Soil/~~Solid~~	MATRIX: Oil / Sludge	TCLP VOA/BNA/Pest/Herb/Metals (circle)	VOA 8260/624/524.2 (circle)	BNA 8270/625 (circle)	Pesticides 8080/608 (circle)	Pest/PCBs 8080/608/508 (circle)	Herbicides 8150/515 (circle)	PCB Screen	BTEX 8020/602 (circle)/MTBE (circle)	TRPH 418.1/~~Oil & Grease 413.1~~ (circle)	TVPH 8015mod. (Gasoline)	TEPH 8015mod. (Diesel)	Total Metals-DW / NPDES / SW846 (circle & list metals below)	Dissolved Metals - DW / SW846 (circle & list metals below)	EAL Sample No.
W-1-608-5	11-2-95	AM	1		X										X					
E-1-608-5	11-2-95	AM	1		X										X					
GW-1-608-4	11-1-95	PM	1	X											X					
HT:																				Location
DD:																				Container Size

EAL use only. Do not write in shaded area.
EAL
Project #
Custodian

Instructions:

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date
[signature]	11/2/95 17:52	[signature]	11/2			C. Carlson	11/03/95

101

FINAL

TIER 1 PETROLEUM RELEASE SITE INVESTIGATION BUILDING 608 (NDEQ RELEASE No. UG#040996-GW-0935)

NEBRASKA AIR NATIONAL GUARD
155TH AIR REFUELING WING
LINCOLN, NEBRASKA

Prepared For:

Nebraska Air National Guard
Lincoln, Nebraska

Project No. 1911914.781803

April 2001

Prepared By:

Montgomery Watson
11153 Aurora Avenue
Des Moines, Iowa 50322
(515) 253-0830

TABLE OF CONTENTS

NEBRASKA AIR NATIONAL GUARD
155 Air Refueling Wing
2420 West Butler Avenue
Lincoln, NE 68524 – 1897

Monday, 09 April, 2001

Certification of Receipt:

TIER 1 PETROLEUM RELEASE SITE INVESTIGATIONS,
Buildings 203, 635 and 608

Please send this receipt and Nebraska Air National Guard Document to:

Ms. Nancy Mann
LUST/ER section

Printed name of NDEQ representative: Jill Jarosz

Signature: Jill Jarosz

RE [illegible] D
AP [illegible]
NEBRAS[illegible] DEPT OF
ENVIR[illegible]

1.0 RESPONSIBLE PARTY/GENERAL SITE INFORMATION

Montgomery Watson, under contract with the Nebraska Air National Guard (NEANG), has prepared this report documenting a petroleum release investigation completed at Building 608, 155th Air Refueling Wing (155th ARW). The site is located on property owned by the Nebraska Military Department, and is adjacent to the southeast corner the Lincoln Municipal Airport, Lincoln, Nebraska, as depicted in Figure 1, included in Appendix A. The Nebraska Department of Environmental Quality (NDEQ) spill number and, responsible party and consultant information are included on the Report Format Sheet #1, included in Appendix B.

The purpose of the field investigation is to collect site information necessary for the NDEQ to perform a Tier 1 assessment. Montgomery Watson met with the NDEQ Project Manager to review NDEQ site files and requirements, conducted a preliminary site survey, and interviewed NEANG employees on product history. This information was used to develop the October 2000 work plan for the soil and groundwater sampling field investigation. The work plan was approved by the NDEQ on November 14, 2000. Montgomery Watson completed soil and groundwater sampling activities at the site in December 2000 and January 2001.

2.0 HISTORICAL DATA/LAND USE ASSESSMENT

2.1 PETROLEUM RELEASE HISTORY

The site is located adjacent to and inside Building 608, the Fuel Cell Repair building. The site consists of several former oil-water separators that have been removed and replaced. One 265-gallon welded steel oil-water separator underground storage tank (UST) (UST 608-1), one 250-gallon welded steel oil interceptor tank UST and concrete containment pit (UST 608-4), and one 2,600-gallon concrete emergency containment pit (UST 608-5) were all installed in 1975. No dispensers were associated with this oil-water separator system. This UST was in use through October 1995, and has subsequently been replaced with a new oil-water separator system.

There are no known reported releases from this UST system prior to 1996. There are three separate spill releases documented to be at Building 608 (NDEQ file numbers 071196-NM-1115, 010896-NH-1530, and 102595-NH-1600), each apparently associated with releases of fire-fighting foam. It was unknown whether these spills entered the oil-water separator system. The NDEQ is not requiring any further action associated with these releases.

On October 25, 1995, closure activities for UST 608-1 were initiated. Approximately 260 to 270 gallons of pumpable fluids were removed from the tank prior to removal. Discolored soils and a strong petroleum odor were observed after removal of the UST by Tony's Cement Works, Inc. (Tony). The UST was reported to be corroded and had numerous holes of up to ¼-inch in diameter. Removed piping appeared to be in good condition, and there were no visible signs of leakage observed in the piping excavation. Excavated soils were stockpiled on polyethylene sheeting awaiting disposal. It is Montgomery Watson's understanding that these soils were ultimately disposed at the NEANG 155th ARW. Groundwater was not encountered. Two soil samples were collected from the excavation beneath either end of the removed UST by GeoTechnical Services, Inc. (GTS), and submitted to Evergreen Analytical, Inc. (Evergreen), for analysis of total recoverable petroleum hydrocarbons (TRPH) using EPA Method 418.1. Detectable concentrations of TRPH were reported in both soil samples. A summary of these activities and the sample results was documented in a Closure Assessment Report dated January 1996.

Closure activities for UST 608-4 were also initiated by Tony's on October 25 1995. Fluids from the UST were removed, and the tank and piping were cut and removed from the concrete containment pit. No soil samples were collected during the UST removal activities. A hole was punched through the floor of the containment pit on October 31, 1995, and groundwater that had entered through the holes was sampled on November 1, 1995 by GTS. The groundwater sample was submitted to Evergreen for analysis of TRPH using EPA Method 418.1. Detectable concentrations of TRPH were reported in the groundwater sample. The influent piping was grouted shut and the containment pit was backfilled with clean sand. The excavation was capped with concrete on November 7, 1995. A summary of these activities and sample results was documented in a separate Closure Assessment Report dated January 1996.

Closure activities for UST 608-5 were also initiated by Tony's on October 25, 1995. The concrete above the emergency spill pit was cut and removed, and pumpable liquids were removed on October 26, 1995. The pit was steam-cleaned on November 1, 1995 and holes were pierced through the bottom of the pit. The presence or absence of groundwater in the excavation was not reported. Although no soil samples were collected for headspace analysis, two soil samples were collected from these holes by GTS on November 1 and 2, 1995. The soil samples were submitted to Evergreen for analysis of TRPH using EPA Method 418.1. Detectable concentrations of TRPH were reported in the two soil samples. The influent and effluent lines were grouted, the excavation backfilled with sand, and a concrete cap poured by November 7, 1995. A summary of these activities and sample results was documented in a separate Closure Assessment Report dated January 1996. The locations of the former USTs, replacement oil-water separators, soil and groundwater samples, and other pertinent site features are illustrated in Figure 2, included in Appendix A.

In August 1996, Olsson Environmental Services (Olsson) reviewed the Closure Assessment Reports and data collected at NEANG Installation Restoration Program (IRP) sites to determine areal hydrogeologic conditions and possible off-site contaminant sources near the Building 608 site. No possible off-site sources were identified. Olsson recommended a Step 6 Groundwater Investigation be conducted at the site. On June 18, 1997, the NDEQ sent a letter to the NEANG indicating this site was scored and no further investigation would be required until the site reached the top of the priority list. On November 3, 1999, the NDEQ notified the NEANG that the site was being reactivated, and an Initial (Tier 1) Site Investigation and Pre-Investigation Work Plan Form would be required.

2.2 PRODUCT STORAGE HISTORY

Available documentation on the characteristics of the wastes stored in USTs 608-1, 608-4, and 608-5 indicate their contents consisted on "Unknown" (UST 608-1 and 608-5) and "oil" (UST 608-4). To better determine the types of materials that may have been stored in these former USTs, Montgomery Watson reviewed the Spill Prevention and Response Plan (Plan) prepared by Odgen Environmental dated June 1999 to determine the types of hazardous substances stored at Building 608. According to this Plan, antifreeze, hydraulic fluid, motor oil, used oil, and PD-680 cleaning solvent (containing petroleum distillates) were stored at this facility. Given the nature of the operations at this facility, it is likely jet fuels may also have been handled inside the Fuel Cell Repair building.

2.3 LAND USE

The site is located southeast of the Lincoln Municipal Airport on the 155th ARW military facility. The land use at the site is military, approximately equivalent to commercial use. No residential dwellings or sensitive population centers are present within a 500-foot radius of the site source area, as illustrated in Figure 3, included in Appendix A.

2.4 COMMINGLED OR OFF-SITE SOURCE AREAS

An active flight ramp is located in the apparent upgradient direction from the site. Although no spills have been documented, it is possible minor spills associated with operations on this ramp could impact the site.

Montgomery Watson is aware of a Waste JP-4 release site (UST 608-3; IRP Site 2) located southwest of the Building 608 source areas (NDEQ file No. UG#073191-RF-1200). The results of sampling activities documented in a March 1992 Site Assessment Report prepared by Operational Technologies Corporation (OpTech), indicate low concentrations of benzene were reported in soil samples collected from borehole MW-5 completed closest to the Building 608 source areas. Low concentrations of toluene and xylenes were also reported in groundwater samples collected from monitoring wells (MW-2 and MW-5) located nearest to the Building 608 source areas. The locations of these sampling points are illustrated in Figure 2, included in Appendix A. It is possible these constituents may have impacted the Building 608 source areas, given the distance and side-gradient location of IRP Site 2 to the Building 608 source areas, as documented in the Site Assessment Report prepared by OpTech. The NDEQ is not requiring any further action for the IRP Site 2 release.

2.5 POTENTIAL POINTS OF EXPOSURE

2.5.1 Water Supply Wells

Montgomery Watson contacted the Nebraska Department of Natural Resources (NDNR), Captain John Buhrmann of the 155th ARW Environmental Management Office, and Mr. Dennis McCaugerty of the 155th ARW Civil Engineering Squadron regarding the locations of any water supply wells in the vicinity of the site. These sources indicated no water supply wells were located within a 2,000-foot radius of the Building 608 source areas, as illustrated in Figure 3.

2.5.2 Subsurface Structures and Utilities

There are no known basements or inhabitable subsurface structures identified as being located within a 200-foot radius of the site source areas. There are numerous subsurface utilities located in the vicinity of the site source areas, as illustrated in Figure 4. Buried utilities identified as being located within a 200-foot radius include water, storm sewer, sanitary sewer, natural gas, electric, communications, and an abandoned steam line. Information regarding the depth and backfill characteristics of these utilities is summarized on Report Format Sheet # 3B, included as part of Appendix B. A vapor survey of these utilities was not completed, as free product was not encountered during this site investigation.

2.5.3 Surface Water Bodies

The only surface water body located within 1,000 feet is Old Oak Creek Channel, an ephemeral wetland/drainage located approximately 175 feet south-southwest of former UST source areas, as shown in Figure 3, included as Attachment A. Old Oak Creek Channel generally slopes eastward and drains into Oak Creek southeast of the NEANG 155th ARW. These wetlands were inspected on January 5, 2001. No obvious impacts (i.e., petroleum sheen or staining, or stressed vegetation) that would be associated with the site were noted.

3.0 SITE INVESTIGATION ACTIVITIES

3.1 SOURCE AREA IDENTIFICATION/SAMPLING LOCATIONS

The source area(s) for this investigation are the excavation areas for former USTs 608-1, 608-4 and 608-5. Grab samples of soil and groundwater that were present in each of these excavations indicated elevated concentrations of TRPH. Additional assessment of current petroleum impacts to each of these source areas was determined to be necessary, to document the likely reduction in contaminant concentrations in the 6-year period since the closure activities.

On December 28, 2000, as part of site investigation activities, Montgomery Watson completed four soil borings and installed four monitoring wells (MW-608-8 through MW-608-11). Soil boring and monitoring well installation activities were completed by J&R Drilling Services, Inc. of Grimes, Iowa, under the supervision of Montgomery Watson. Monitoring well MW-608-8 was installed north of Building 608 as a background monitoring point. Monitoring well MW-608-9 was installed off of the south end of former UST 608-1. Monitoring well MW-608-10 was installed outside of Building 608, immediately north of former UST 608-4. Monitoring well MW-608-11 was installed inside Building 608 off of the south end of former UST 608-5. The locations of these monitoring points are illustrated in Figure 2, included in Appendix A.

A truck-mounted drill rig equipped with hollow-stem augers and a split-spoon soil sampler was used to advance the borings and collect soil samples. Soil samples were collected continuously from both locations using the 5-foot long split-spoon sampler until a saturated unit was encountered capable of yielding sufficient groundwater for sampling. Soil samples were collected at 2 ½-foot intervals for headspace readings and possible laboratory analysis. If poor recovery was obtained from the split-spoon sampler, a single soil sample was collected from the 5-foot interval. For those soil samples retained for potential laboratory analysis, portions of each sample interval were placed in 4-ounce laboratory-provided jars, labeled, and placed on ice. Portions of the soil samples were also placed in clean, 1-quart mason jars, covered with tin foil, and allowed to equilibrate for at least 30 minutes pursuant to NDEQ Tier 1 assessment guidance. Headspace readings were collected from these samples using a calibrated MicroTIP™ photoionization detector (PID). The surficial geology and field screening results for each sampling point are documented on the soil boring diagrams included in Appendix C. Two soil samples collected from intervals located above the field-interpreted saturated zone in each soil boring were submitted for laboratory analysis under chain-of-custody protocol. All soil samples were submitted to Keystone Laboratories, Inc. (Keystone) of Newton, Iowa for analysis of benzene, toluene, ethylbenzene, and xylenes (BTEX), methyl tert-butyl ether (MTBE) and n-hexane using EPA Method 8260; total extractable hydrocarbon (TEH) constituents using Method OA-2; and Resource Conservation and Recovery Act (RCRA) metals using Solid Waste (SW) Method 6010B.

Upon completion of each soil boring a monitoring well was constructed as documented in the monitoring well construction diagrams included in Appendix C. After completion, Montgomery Watson personnel developed each monitoring well via hand-bailing to remove fine-grained sediments and to ensure hydraulic communication with the surrounding aquifer. The location and surface elevation of each sampling location was surveyed by HWS Consulting, Inc. (HWS), as documented in Appendix D. Permanent marks were placed on the top of casing of each monitoring well to be gauged to indicate the surveyed location and to ensure duplication when collecting future groundwater elevation data, if necessary.

Montgomery Watson returned to the site on January 4, 2001 to collect water level data and groundwater samples from the newly-installed monitoring wells. Prior to sampling, each monitoring well was gauged to determine the depth to water and to inspect for the presence of free product using a Solinst Model 110 electronic oil-water interface probe. After gauging, the newly-installed monitoring wells were purged with dedicated disposable hand-bailers. Temperature, pH, and conductivity were monitored with a Myron L Model ARH1 pH/conductivity meter during purging activities to verify stabilization (within $\pm$ 10 percent) of parameters prior to collection of groundwater samples. At least three saturated well volumes were removed from each monitoring well to be sampled. The wells were then allowed sufficient time to recover before sampling. A groundwater sample was collected from each monitoring well, using a dedicated disposable bailer, placed in laboratory-provided containers, sealed, labeled, and placed in laboratory-provided coolers on ice. The groundwater samples were sent to Keystone, under chain-of-custody protocol, for analysis of BTEX, MTBE, and n-hexane using EPA Method 8260, TEH using Method OA-2, and dissolved RCRA metals using SW Method 6010B. The groundwater samples collected for metals were field filtered through 0.45-micron filters prior to preservation in laboratory-supplied bottles.

3.2 SURFACE SOIL SAMPLING RESULTS

No surface soil samples were collected at the source areas, as there were no surficial piping or dispensers associated with the UST system. The excavation was apparently backfilled with clean soil after removal of the tanks and piping. Source areas UST-608-4 and UST-608-5 are covered with concrete. Source area UST-608-1 is capped with sod.

One surface soil sample (0- to 2.5-foot interval) was collected at the background sampling location, MW-608-8, to verify there was no surficial contamination and to quantify background surface soil concentrations. The analytical results for petroleum constituents are summarized on Report Format Sheet # 4, included in Appendix B. The concentrations of all analyzed constituents in this soil sample were reportedly less than laboratory quantitation limits with the exception of arsenic, barium, and chromium. The analytical laboratory data report and completed chain-of-custody record are included in Appendix E.

3.3 SUBSURFACE SOIL SAMPLING RESULTS

The native site geology generally consists of silty clays to a depth of approximately 10 to 19 feet below ground surface (bgs), underlain by clayey sands and sands to a maximum investigative depth of 20 feet bgs. Fill sands associated with the former UST-608-1 excavation were encountered to a depth of 9.5 feet during completion of MW-608-9. Fill sand associated with a buried abandoned steam line was encountered at a depth of 4 to 4.5 feet bgs during the completion of MW-608-10. Saturated soils, field-interpreted as the local water table, were generally encountered at depths of 14 to 15 feet bgs. Although petroleum odors and staining were noted during the completion of MW-608-9, product-saturated soils were not encountered during completion of any of the monitoring wells.

With the exception of MW-608-8, a total of two subsurface soil samples were collected from each monitoring well from the intervals exhibiting the highest field-screening readings above the field-interpreted saturated zone. For upgradient sampling location MW-608-8, one soil sample was collected immediately above the field screening readings, as this location did not exhibit detectable volatile organic concentrations using field screening techniques. A total of seven subsurface soil samples were submitted for laboratory analysis. The analytical results for petroleum constituents are summarized on Report Format Sheet # 5, included in Appendix B. Detectable levels of MTBE was not reported in any of the subsurface soil samples. Detectable levels of n-hexane were not reported in any of the soil samples, with the exception of the 7.5- to 10-foot interval collected from MW-608-11. The concentrations of BTEX and TEH constituents in the seven subsurface soil samples were reported to be less than laboratory quantitation limits with the exception of the 10- to 12.5-foot interval collected from MW-608-9, and the 5- to 7.5-foot and 7.5- to 10-foot intervals collected from MW-608-11. Detectable concentrations of metals including arsenic, barium, chromium, lead, and mercury were reported in all submitted subsurface soil samples. The analytical laboratory data report and completed chain-of-custody record are included in Appendix E.

3.4 GROUNDWATER SAMPLING RESULTS

Groundwater samples were collected from the four newly-installed monitoring wells and submitted for laboratory analysis using the methodology previously discussed. One trip blank was also submitted with the groundwater samples and analyzed for BTEX constituents, MTBE, and n-hexane using EPA Method 8260. The analytical results for petroleum constituents are summarized on Report Format Sheet #6 (Appendix B). The concentrations of MTBE and n-hexane were not reported above detectable levels in these samples. Detectable levels of BTEX constituents were reported in the groundwater samples collected from MW-608-9 and MW-608-11. Detectable levels of TEH constituents were reported in the groundwater sample collected from MW-608-9. With the exception of barium, detectable levels of dissolved metals were not reported in any of the groundwater samples. The analytical laboratory data report and completed chain-of-custody record are included in Appendix E.

3.5 SATURATED ZONE PARAMETERS

On January 4, 2001, groundwater elevations were gauged at each of the newly-installed monitoring wells. Surveyed top-of-casing elevations provided by HWS, and depth-to-water measurements in each well were used in determining groundwater elevations. A copy of the survey information prepared by HWS is included in Appendix D for reference.

Groundwater elevations were measured from each newly-installed monitoring point at various times following installation, to determine stabilization in groundwater levels, as documented on the monitoring well construction diagrams included in Appendix C. The newly-installed monitoring wells and three existing monitoring wells located west and south of the site were gauged on January 4, 2001 to determine groundwater flow direction and gradient across the site.

For reference, copies of the available soil boring log and well construction information for the three gauged existing wells are included in Appendix C. A summary of the static groundwater levels as measured on January 4, 2001 is included in Appendix F. Based on this information, apparent groundwater flow is to the southwest at a gradient of approximately 0.005 feet/foot. A groundwater elevation map is presented as Figure 5, included in Appendix A.

The surficial aquifer at the site generally consists of a clayey sand to sand unit at least 8 feet thick. The hydraulic conductivity of this aquifer is estimated to range between 1.9×10^{-3} to 3.7×10^{-2} centimeters per second (cm/sec). This information is based on data collected and evaluated by Parsons-ES at nearby IRP Site 1 (Old POL site), located at the NEANG base. Based on a review of well logs generated at the Old POL site, the sand aquifers appear to be similar lithologically, and would be expected to have similar hydrogeologic characteristics. The slug test data is reported in the December 1992 Draft Final Site Assessment Report for Sites 1 and 13 prepared by Parsons ES.

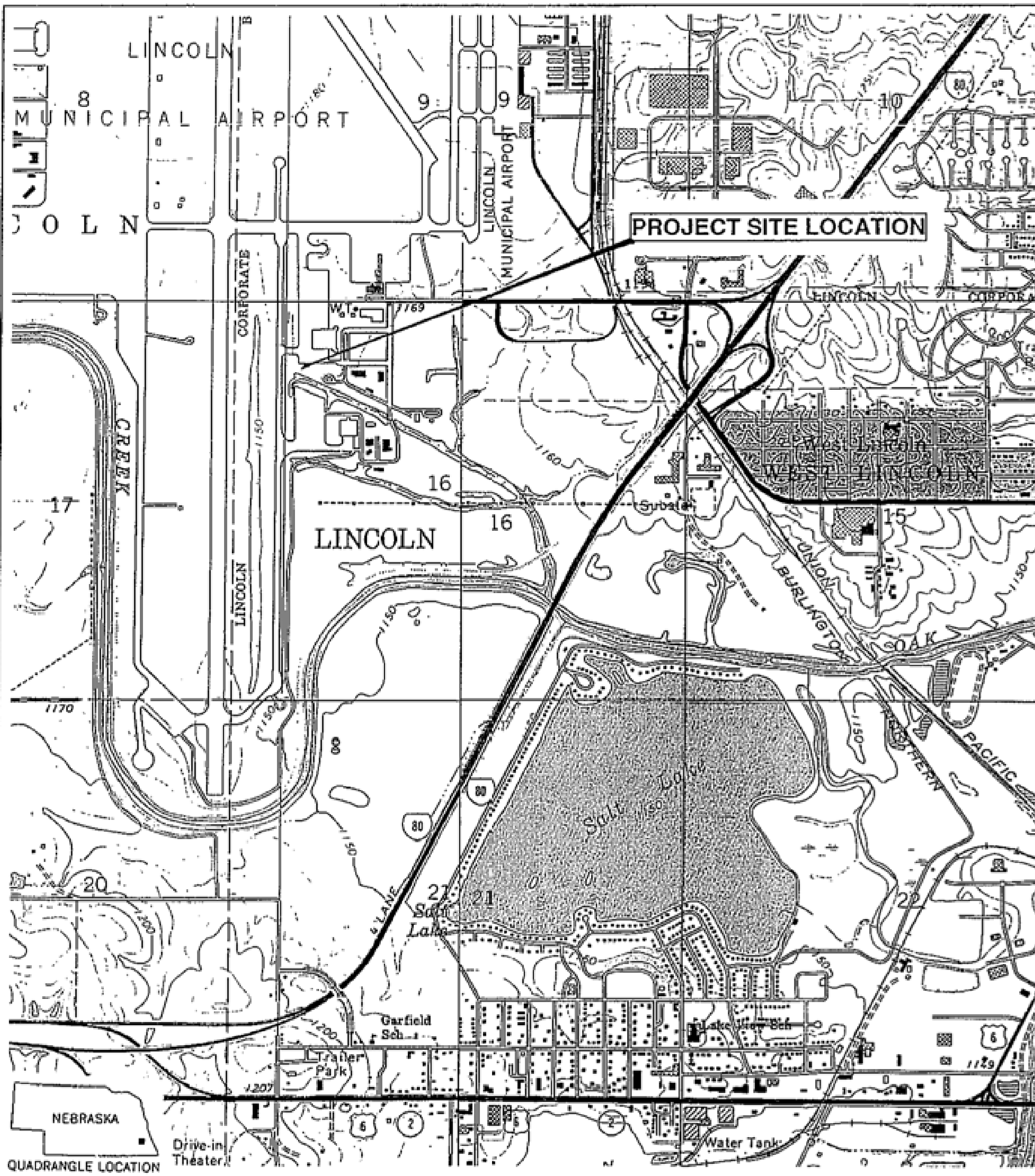
The porosity of the clayey sand to sand aquifer is estimated at 40%, based on the range of values of sands given in Groundwater (1979), a book authored by Freeze and Cherry. Using the conservative estimate of hydraulic conductivity of 3.7×10^{-2} cm/sec (or 105 feet per day), a porosity of 40%, and a gradient of 0.005 feet/foot, groundwater velocity at the site is estimated at 1.3 feet per day.

4.0 FREE PRODUCT CHARACTERIZATION

The four newly-installed monitoring, and the three existing and assessable nearby monitoring wells, were gauged with a Solinst Model 110 electronic oil-water interface probe to detect floating free product. Measurable amounts of free product were not detected using this instrument. The disposable bailers were used to visually inspect for free product in the four newly-installed monitoring wells at the initiation of purging activities. No observable thickness of free product was identified during well development, well purging, or groundwater sampling activities conducted by Montgomery Watson. A slight "sheen" was observed on development waters removed from MW-608-9 on December 29, 2000.

A further assessment of free product or petroleum vapors was not conducted at the site given the current site conditions.

APPENDIX A



MAP SOURCE:
USGS TOPOGRAPHIC QUADRANGLES,
EMERALD, NEBRASKA (1964, REVISED 1972) &
LINCOLN, NEBRASKA (1964, REVISED 1980)

north

0 1000 2000
SCALE IN FEET

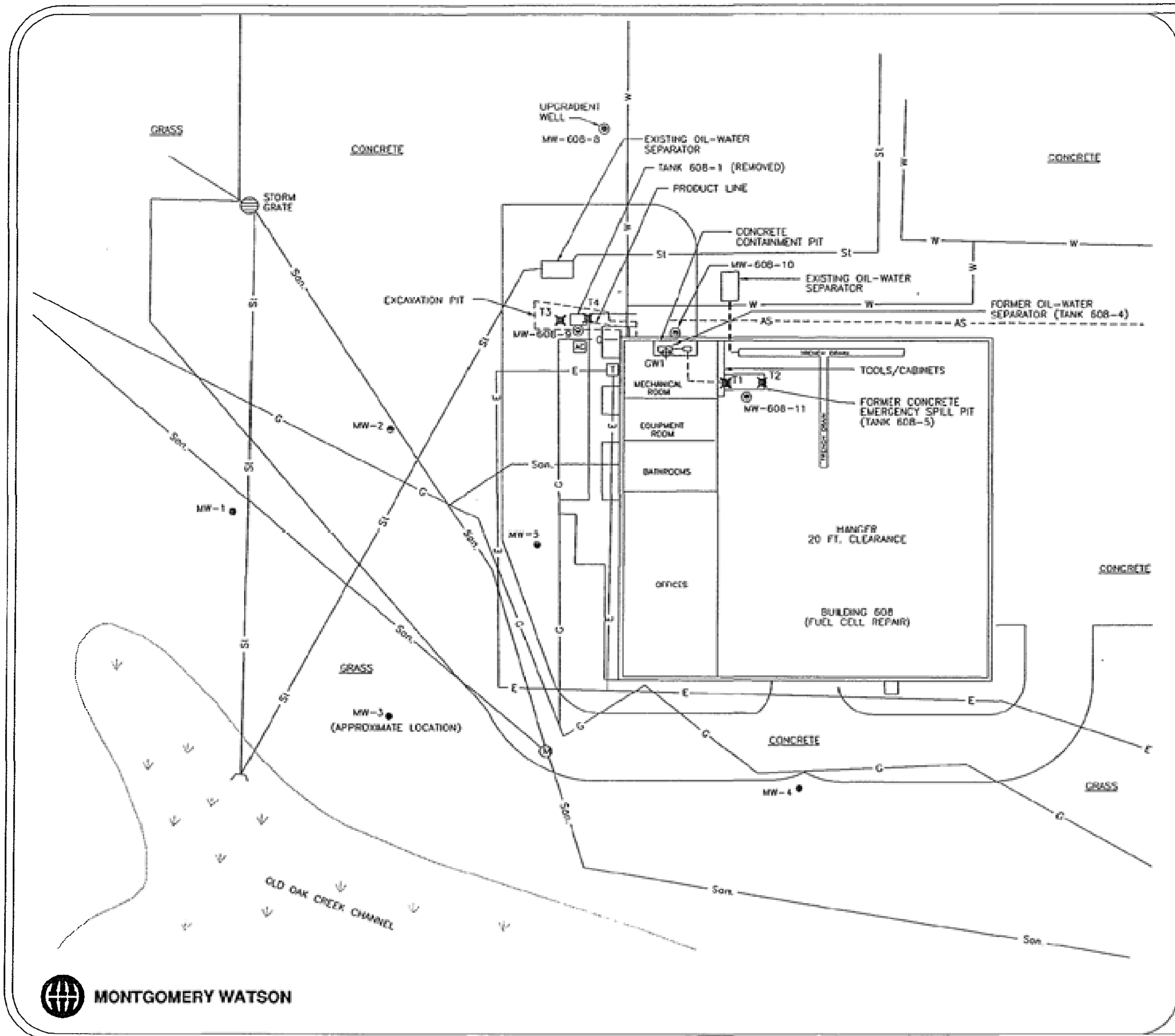
NEBRASKA AIR NATIONAL GUARD – OLD POL
155th AIR REFUELING WING
LINCOLN, NEBRASKA

SITE LOCATION MAP

FIGURE 1

MONTGOMERY WATSON

bdr.dgn



POINTMAP FILE:BLDG608_2.DWG (3/8/01)

0 30
SCALE IN FEET

LEGEND:

- NEWLY-INSTALLED MONITORING WELL (MW)
- EXISTING MONITORING WELL (Op Tech)
- TANK CLOSURE SAMPLE (SOIL)(GTS)
- TANK CLOSURE SAMPLE (WATER)(GTS)
- T TRANSFORMER
- DG GENERATOR
- M MANHOLE
- WETLANDS
- ---AS--- ABANDONED STEAM LINE
- —E— ELECTRIC LINE
- —G— GAS LINE
- —San.— SANITARY SEWER LINE
- —St— STORM SEWER LINE
- —W— WATER LINE

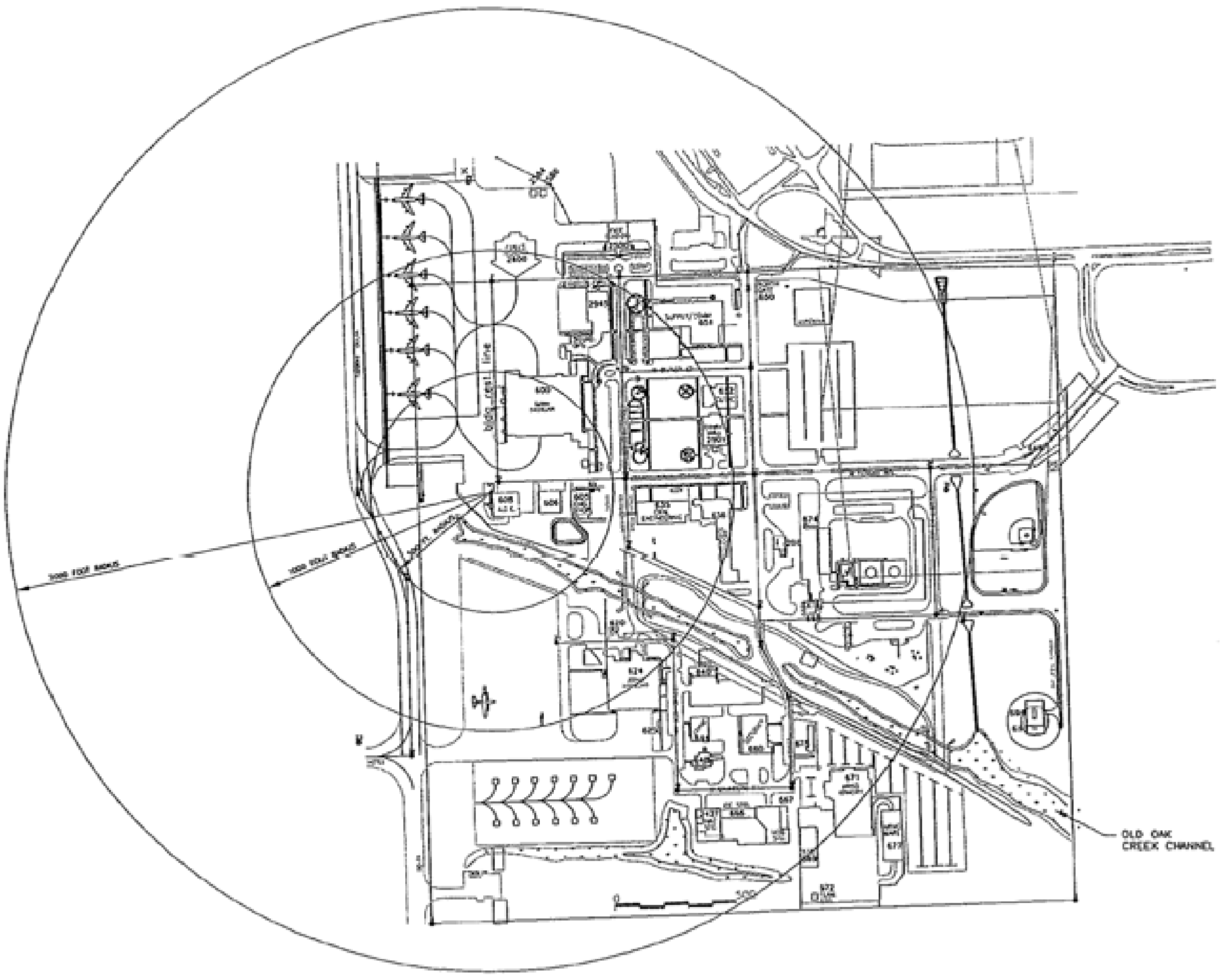
MAP SOURCE:

1. NEBRASKA AIR NATIONAL GUARD, CIVIL ENGINEERING 155th AIR REFUELING WING BASE CADD FILES.
2. NEBRASKA STATE FIRE MARSHALL CLOSURE ASSESMENT REPORTS FOR TANKS 608-1, 608-4 AND 608-5, DECEMBER, 1995.
3. OPERATIONAL TECHNOLOGIES CORPORATION, SITE ASSESSMENT, LINCOLN AIR NATIONAL GUARD BASE (FOR IRP SITE 2), MARCH 1992.
4. MONTGOMERY WATSON FIELD NOTES AND OBSERVATIONS.

NEBRASKA AIR NATIONAL GUARD
155th AIR REFUELING WING
LINCOLN, NEBRASKA

SAMPLING LOCATION MAP
BUILDING 608
NDEQ UG/040998-GW-0935

FIGURE 2



LEGEND:

BUILDING

WETLANDS/WATERWAYS

NOTES:

1. THERE ARE NO SENSITIVE POPULATIONS LOCATED WITHIN 500 FEET OF THE SITE SOURCE AREAS.
2. THERE ARE NO WATER SUPPLY WELLS LOCATED WITHIN 2665 FEET OF THE SITE SOURCE AREAS.

MAP SOURCE:

1. NEBRASKA AIR NATIONAL GUARD, CIVIL ENGINEERING 155TH AIR REFUELING WING BASE CADD FILES.
2. MONTGOMERY WATSON FIELD NOTES AND OBSERVATIONS (AUGUST AND SEPTEMBER, 2000)

MONTGOMERY WATSON

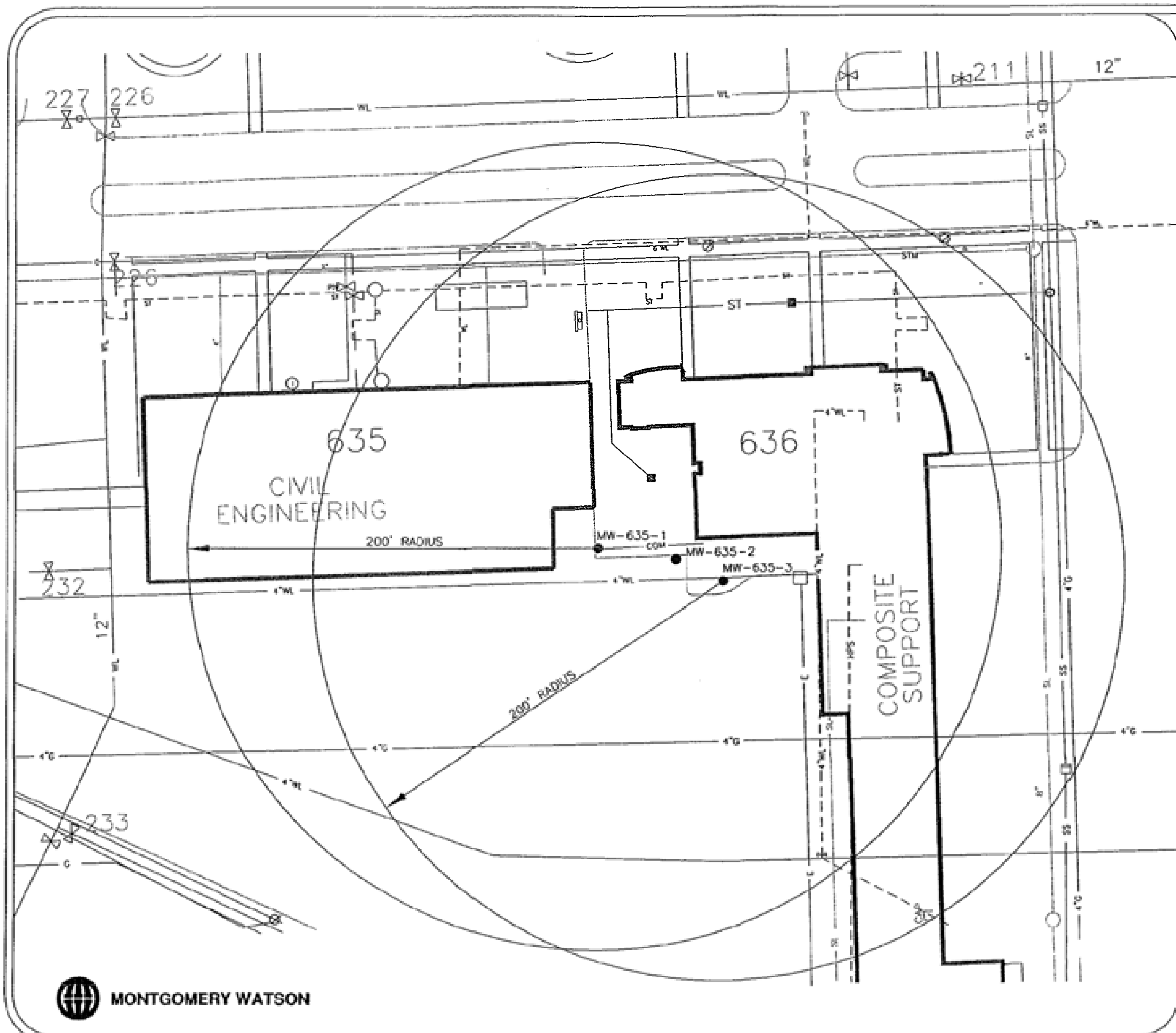
NEBRASKA AIR NATIONAL GUARD
155th AIR REFUELING WING
LINCOLN, NEBRASKA

SENSITIVE POPULATION, SURFACE WATER AND WATER WELL SURVEY MAP
BUILDING 608

NDEQ UG#040996-GW-0935

FIGURE 3

POINTMAP FILE: BLOWUP608_3.DWG (3/8/01)



POINTMAP FILE: BLDMUP635_4.DWG (3/8/01)

N

0 50
SCALE IN FEET

LEGEND:

●	MONITORING WELL
– – – – – –	ABANDONED UTILITIES
—— E ——	ELECTRIC LINE
—— 4"G ——	GAS LINE
—— SL ——	SANITARY SEWER LINE
—— SS ——	STORM SEWER LINE
—— WL ——	WATER LINE
—— COM ——	COMMUNICATION LINE
⋈	SHUT-OFF VALVE
-○-	MANHOLE

MAP SOURCE:

1. NEBRASKA AIR NATIONAL GUARD, CIVIL ENGINEERING 155TH AIR REFUELING WING BASE CADD FILES.
4. SINCLAIR, HILLE AND ASSOCIATES, INC. COMPOSITE SUPPLY UTILITY CONSTRUCTION (DATE UNKNOWN).
5. MONTGOMERY WATSON FIELD NOTES AND OBSERVATIONS (AUGUST AND SEPTEMBER, 2000).

NOTE:

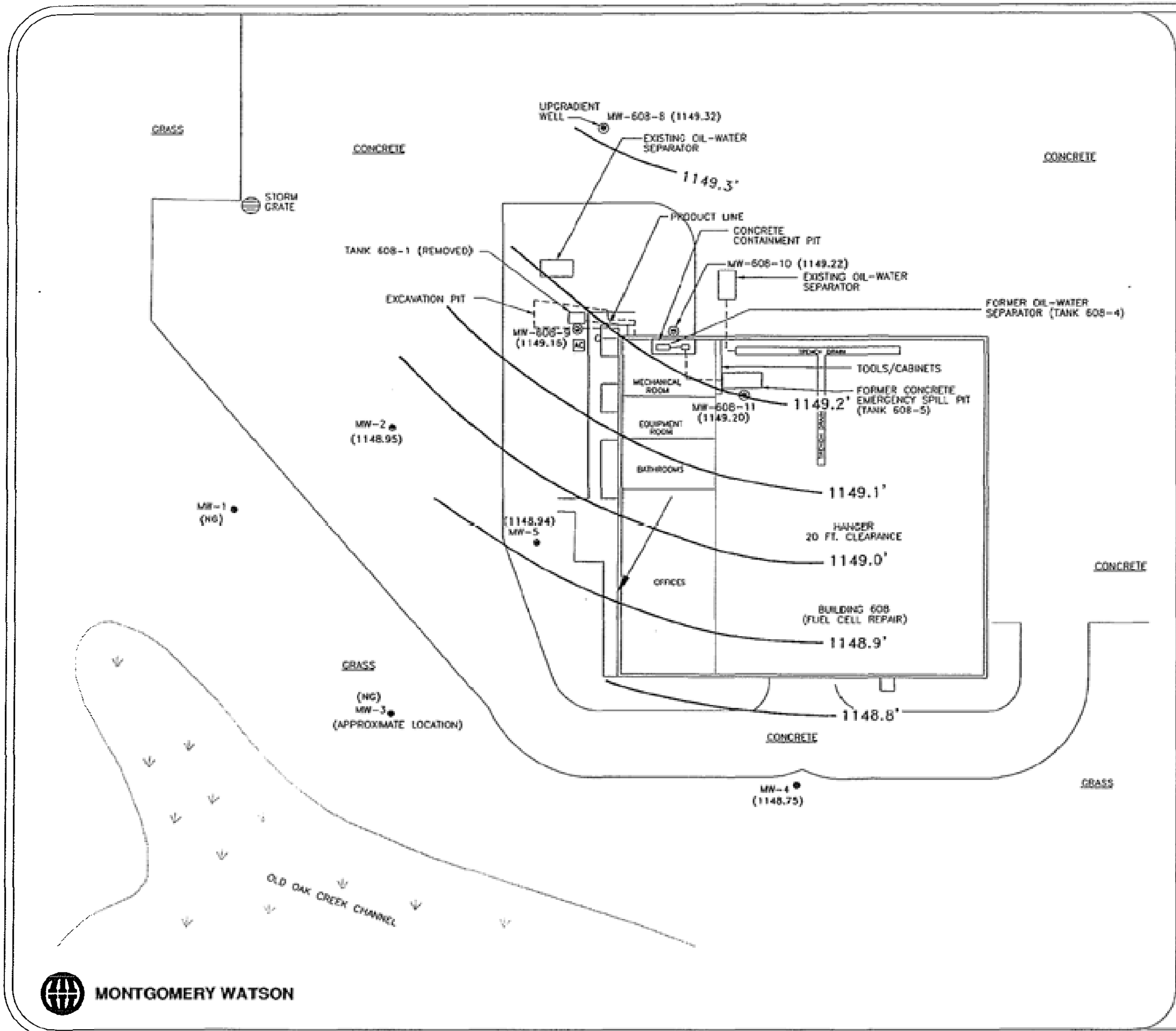
THERE ARE NO INHABITABLE SUBSURFACE STRUCTURES LOCATED WITHIN 200 FEET OF THE SITE SOURCE AREAS.

NEBRASKA AIR NATIONAL GUARD
155th AIR REFUELING WING
LINCOLN, NEBRASKA

SUBSURFACE STRUCTURE
AND UTILITY MAP
BUILDING 635

NDEQ UC#072996-CW-1450

FIGURE 4



POINTMAP FILE:BLDG608_5.DWG (3/8/01)

N

0 30
SCALE IN FEET

LEGEND:

- NEWLY-INSTALLED MONITORING WELL (MW)
- EXISTING MONITORING WELL (Op Tech)
- WETLANDS
- 1149.1' GROUNDWATER ELEVATION CONTOUR
- (NG) NOT GAUGED
- APPARENT GROUNDWATER FLOW DIRECTION

MAP SOURCE:

1. NEBRASKA AIR NATIONAL GUARD, CIVIL ENGINEERING 155th AIR REFUELING WING BASE CADD FILES.
2. NEBRASKA STATE FIRE MARSHALL CLOSURE ASSESMENT REPORTS FOR TANKS 608-1, 608-4 AND 608-5, DECEMBER, 1995.
3. OPERATIONAL TECHNOLOGIES CORPORATION, SITE ASSESSMENT, LINCOLN AIR NATIONAL GUARD BASE (FOR IRP SITE 2), MARCH 1997.
4. MONTGOMERY WATSON FIELD NOTES AND OBSERVATIONS.

NEBRASKA AIR NATIONAL GUARD
155th AIR REFUELING WING
LINCOLN, NEBRASKA
GROUNDWATER ELEVATION MAP
BUILDING 608
NDEQ UG#040998-GW-0935
FIGURE 5

APPENDIX B

MONTGOMERY WATSON

Report Format Sheet #1: General Site/RP/Consultant Information

Basic Site Information

Site Name: Nebraska Air National Guard - Building 608

NDEQ Spill Number: UG #040996-GW-0935

Street Address: 2420 West Butler Avenue

Spill City: Lincoln

Legal Location: T10 N, R6E, Section 16 NW¼, NW ¼, SW½

Latitude/Longitude: N40° 50.4', W96° 45.4'

Responsible Party Information

RP Point of Contact: Captain John Buhrmann

RP Phone Number: 402-458-1490

Company Name: Nebraska Air National Guard, 155th Air Refueling Wing

Mailing Address: 2420 West Butler Avenue

City: Lincoln State: NE Zip Code: 68524-1888

Consultant Information

Consulting Firm Name: Montgomery Watson

Consultant Firm Project Manager: Jeffrey L. Coon, P.E.

Consultant Phone Number: (515) 253-0830

Statement of Completion & RP/Consultant Signature Block

The consultant representative acknowledges that this report meets the minimum requirements for site investigations at this petroleum release site, as specified in the Department's Site Investigation Procedures at Petroleum Release Sites guidance document. Any procedures that differ from the guidance document specifications are noted in the report, were approved by the Department and are accompanied by appropriate documentation. The responsible party acknowledges that they have read or discussed with their consultant this site investigation report and are aware of their responsibility for the timely submission to the Department of the required report.

Jeffrey L. Coon	4/5/01	John D. Buhrmann	9 Apr 01
Consultant Representative Signature	Date	Responsible Party Signature	Date

Report Format Sheet #2: Petroleum Release/Storage History & Area Land Use

Part A. Petroleum Release History **NOT APPLICABLE**

If past petroleum releases have been identified at this site other than the release currently under investigation (e.g., an older UST system, surface spill from overfill), provide the following information.

NDEQ Spill Number: ______________________ Product Released: ______________________

RP Company Name: ______________________ Investigation/Cleanup Performed? YES ☐ NO ☐

NDEQ Spill Number: ______________________ Product(s) Released: ______________________

RP Company Name: ______________________ Investigation/Cleanup Performed? YES ☐ NO ☐

If additional releases have occurred, attach a second Petroleum Release sheet.

Part B. Product Storage History

Identify and indicate the various petroleum products and associated waste products stored at any time during the tenure of the responsible party.

Gasoline ☐ Jet Fuels ☒ Kerosene ☐

Diesel Fuel/Fuel Oil #2 ☐ Other Fuel Oil ☐ If other, specify: ______________

Waste Oil ☒ If waste oil was stored, waste included: Motor oil ☒
Solvents ☒
Antifreeze ☒
Hydraulic Fluid ☒

Part C. Land Use

Determine the presence and location of dwellings and sensitive population centers within 500 feet of any source area.

Are any dwellings present within 500 feet of a source area? YES ☐ NO ☒

Are any sensitive population centers within 500 feet of a source area? YES ☐ NO ☒

Check the type(s) of sensitive population centers present.

Day Care Centers ☐ Grade Schools ☐ Hospitals ☐ Nursing Homes ☐ Other ☐
If other, specify: ______________________

Locate all dwellings and sensitive population centers on the Area and Site Maps in Appendix A.

Report Format Sheet #3A: Point of Exposure Survey

Water Supply Wells   **NO WATER SUPPLY WELLS WITHIN 2,000 FEET.**

Provide the location of all water supply wells within 2000 feet of any source area. Use the well designation provided below as a map label. Provide the following information for each well.

Well Designation: ____________	Well Location: ______________________________
Distance from source area (feet): ________	Well type: __________________

Well Designation: ____________	Well Location: ______________________________
Distance from source area (feet): ________	Well type: __________________

Well Designation: ____________	Well Location: ______________________________
Distance from source area (feet): ________	Well type: __________________

Well Designation: ____________	Well Location: ______________________________
Distance from source area (feet): ________	Well type: __________________

Well Designation: ____________	Well Location: ______________________________
Distance from source area (feet): ________	Well type: __________________

Well designation may be the DWR Registration #, municipal designation, land owner or some other designation. Well location may be a property address or a brief point of reference description. Well type refers to municipal, domestic, irrigation, industrial or other use.

If additional water supply wells are present, attach another Point of Exposure sheet.

Subsurface Structures: Basements/Other Habitable Subgrade Structures

NO BASEMENTS OR HABITABLE SUBSURFACE STRUCTURES WITHIN 200 FEET.

Provide the location of the three closest habitable subsurface structures, when present, within 200 feet of a source area.

Location: ______________________________	Use: __________________________

Location: ______________________________	Use: __________________________

Location: ______________________________	Use: __________________________

Report Format Sheet #3B: Point of Exposure Survey

Subsurface Utilities

Provide the following information regarding subsurface utilities within 200 feet of a source area.

Type of Utility	Depth of Utility (feet)	Type of Fill Material
Sanitary Sewer	18	Sand/Gravel
Storm Sewer	5-8	Unknown
Water Lines	5	Sand
Electrical	2-3	Sand
Natural Gas	3	Sand
Communications	2-3	Sand
Abandoned/Steam Line	5	Sand

Depth of utility refers to the bottom of the utility. If this depth cannot be measured or otherwise determined, indicate the depth is unknown. If municipal authorities or utilities personnel cannot provide information regarding the fill material around the utility, indicate this information is unknown. If the utility listed is not present within 200 feet of a source area, indicate that this information is not applicable.

Surface Water

Provide the name (or some other designation if not named) of any surface water body within 1000 feet of a source area and indicate any evidence of petroleum impact to the water body.

Surface Water Name/Designation: Old Oak Creek Channel

Distance from source area (feet): 175

Evidence for petroleum impact: None

Surface Water Name/Designation: ____________

Distance from source area (feet): ____________

Evidence for petroleum impact: ____________

Surface Water Name/Designation: ____________

Distance from source area (feet): ____________

Evidence for petroleum impact: ____________

Report Format Sheet #4: Surface Soil Sampling Data

Petroleum Constituent	Surface Soil Sample Designation		
	1 MW-608-8 @ 0-2.5'	2	3
Benzene	<0.005		
Toluene	<0.005		
Ethylbenzene	<0.005		
Total Xylenes	<0.015		
MTBE	<0.015		
n-Hexane	<0.005		
Naphthalene	Not Analyzed		
Pyrene	Not Analyzed		
Benzo(a)pyrene	Not Analyzed		
TEH	<10		

List laboratory results in units of milligrams per kilogram (mg/kg).

Provide laboratory analysis sheets and chain of custody form(s) in Appendix E.

Indicate the location of sampling points on the Site Map in Appendix A. Use the appropriate sample designation as the map label.

Report Format Sheet #5: Subsurface Soil Sampling Data

Petroleum Constituent	Subsurface Soil Sample Designation (provide depth or interval from which the sample was obtained below the sample designation)						
	1 MW-608-8	2 MW-608-9	3 MW-608-9	4 MW-608-10	5 MW-608-10	6 MW-608-11	7 MW-608-11
Sample Depth/Interval	10-12.5 feet	5-10 feet	10-12.5 feet	7.5-10 feet	10-12.5 feet	5-7.5 feet	7.5-10 feet
Benzene	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Toluene	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.007
Ethylbenzene	<0.005	<0.005	0.671	<0.005	<0.005	0.006	0.283
Total Xylenes	<0.015	<0.015	1.16	<0.015	<0.015	0.090	2.46
MTBE	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
n-Hexane	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.040
Naphthalene	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed
Pyrene	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed
Benzo(a)pyrene	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed
TEH	<10	<10	261	<10	<10	223	678

List laboratory results in units of milligrams per kilogram (mg/kg).

Provide laboratory analysis sheets and chain of custody form(s) in Appendix E.

Indicate the location of sampling points on the Site Map in Appendix A. Use the appropriate sample designation as the map label.

Report Format Sheet #6: Ground Water Sampling Data

Petroleum Constituent	Ground Water Sample Designation					
	1 MW-608-8	2 MW-608-9	3 MW-608-10	4 MW-608-11	5	6
Benzene	<0.001	<0.001	<0.001	0.0017		
Toluene	<0.001	<0.001	<0.001	<0.001		
Ethylbenzene	<0.001	0.119	<0.001	0.0016		
Total Xylenes	<0.003	0.0935	<0.003	0.0114		
MTBE	<0.001	<0.001	<0.001	<0.001		
n-Hexane	<0.001	<0.001	<0.001	<0.001		
Naphthalene	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed		
Pyrene	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed		
Benzo(a)pyrene	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed		
TEH	<0.380	2.340	<0.380	<0.380		

List laboratory results in units of milligrams per liter (mg/l).

Provide laboratory analysis sheets and chain of custody form(s) in Appendix E.

Indicate the location of sampling points on the Site Map in Appendix A. Use the appropriate sample designation as the map label.

Report Format Sheet #7: Saturated Zone Parameters

Provide the following information.

Depth to Ground Water

Monitoring Well Designation	Depth to Ground Water (feet) (measured from top of casing)
MW-2	13.04
MW-4	16.12
MW-5	16.29
MW-608-8	13.17
MW-608-9	13.70
MW-608-10	14.05
MW-608-11	14.16

Locations of points on well casings where measurements were taken for purposes of measuring ground water depth must be marked on the well casings and stated in the report.

If monitoring wells were not constructed, provide the sampling point designation.

Ground Water Flow Velocity

Hydraulic Conductivity: 105 (feet/day)
(For multiple slug out tests, provide the highest value calculated.)

Water Table Gradient: 0.005

Aquifer porosity: 40%

Calculated flow velocity: 1.3 (feet/day)

Hydraulic conductivity, unless otherwise agreed to by the Department, is to be determined by the use of multiple slug out tests or a pump test. Porosity may be estimated from literature values. Flow velocity may be calculated by multiplying the hydraulic conductivity by the water table gradient and dividing by the aquifer porosity.

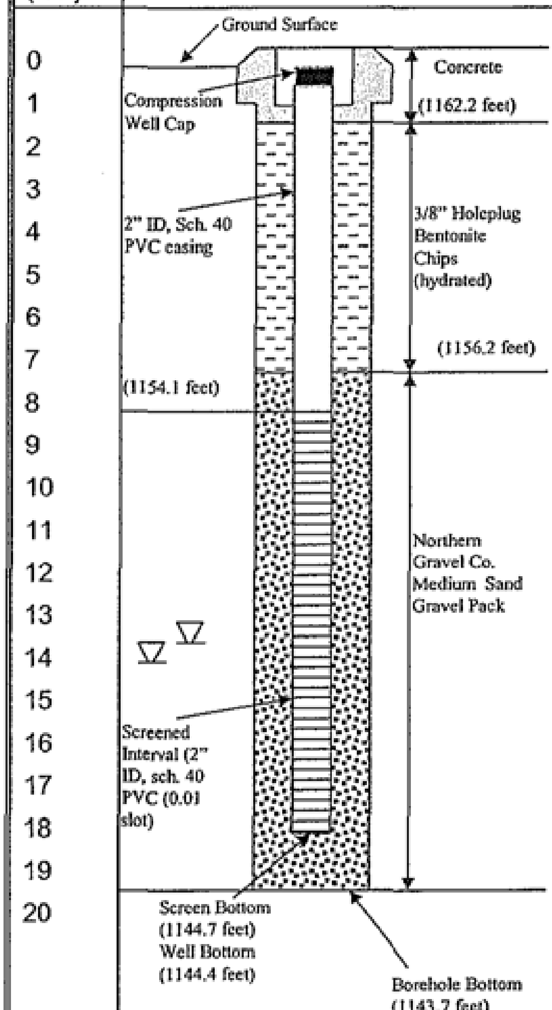
Ground Water Flow Direction: Southwest

APPENDIX C

SOIL BORING LOG AND MONITORING WELL CONSTRUCTION DIAGRAM

Boring / Well Number: **MW-608-8**	Facility Name: **NEANG – Building 608**	Facility Street Address: **2420 W. Butler Avenue, Lincoln**
Boring Depth (ft) X Diameter (in): 19.5 feet X 8 inch OD		Drilling Method: Hollow-Stem Auger
Well Contractor Name/Location: J&R Drilling/Grimes, Iowa Certified Driller Number: 19205		Logged by: Steve Varsa Consultant: Montgomery Watson
Ground Surface Elevation (ASL): 1,163.20 feet	Top of Casing Elevation (ASL): 1,162.49 feet	
Start Date: 01-28-2001 Start Time: 08:00	End Date: 01-28-2001 End Time: 09:10	NDEQ Release Number: **UG # 040996-GW-0935**

Static GW (feet) — Well Construction Details (Elevations in feet ASL)



Blow Count: Not Applicable

Sample Interval	Recovery	PID Reading
0-2.5	4/5	0.0*
2.5-5		0.0
5-7.5	3.5/5	0.0
7.5-10		0.0
10-12.5	5/5	0.0*
12.5-15		0.0
15-17.5	4/4.5	0.0
17.5-20		0.0

Rock Formations, Soil, Color Classifications, Observations (moisture, odor, etc.), USCS.

0-1': Concrete, base sand fill.

1-2': Dark gray and brown sandy clay, with pebbles, hard, dry to moist, no odor, CL-SW/GW.

2-5': Brown silty clay, firm, moist, no odor, CL-ML.

5-9': Light brown and black mottled silty clay, firm, moist, no odor, CL-ML.

9-10': Tan med-coarse sand, moist, no odor, SW.

10-12': Light brown silty clay, soft, moist, no odor, CL-ML.

12-15': Dark brown sandy clay, soft, moist to wet, no odor, CL-SW.

15-16.5': Brown very fine to fine sand, soft, wet, no odor, SW.

16.5-19': Light brown sandy silt, soft to firm, wet, no odor, ML-SW.

19-19.5': Reddish brown fine to coarse sand, wet, no odor, SW.

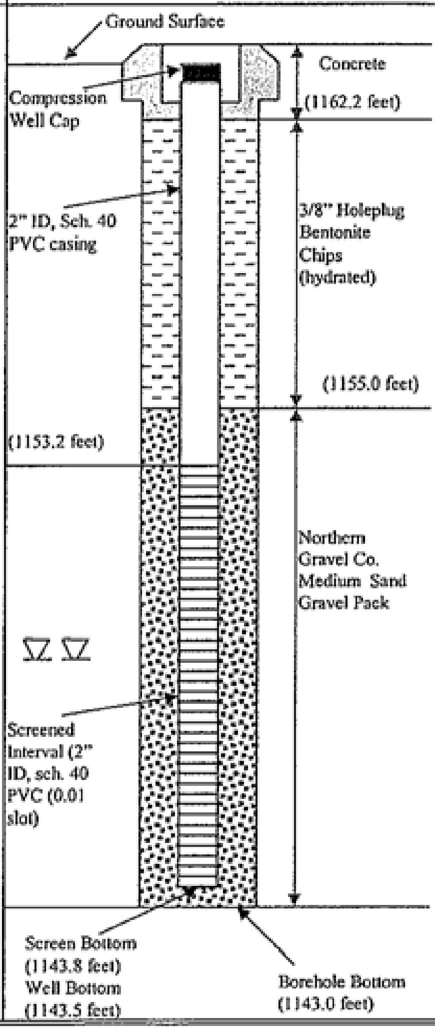
End of boring at 19.5 feet below ground surface.

* Soil sample submitted for laboratory analysis. Note: All soil samples were collected using a 5-foot split-spoon sampler.

Static Groundwater Observations	Date:	12-29-2000	01-04-2001			
Water Levels (feet ASL)	Level:	1,148.94	1,149.32			
Static Water Level Symbol v	Time:	14:40	11:38			

SOIL BORING LOG AND MONITORING WELL CONSTRUCTION DIAGRAM

Boring / Well Number: **MW-608-9**	Facility Name: **NEANG – Building 608**	Facility Street Address: **2420 W. Butler Avenue, Lincoln**
Boring Depth (ft) X Diameter (in): 20 feet X 8 inch OD		Drilling Method: Hollow-Stem Auger
Well Contractor Name/Location: J&R Drilling/Grimes, Iowa Certified Driller Number: 19205		Logged by: Steve Varsa Consultant: Montgomery Watson
Ground Surface Elevation (ASL): 1,163.25 feet	Top of Casing Elevation (ASL): 1,162.86 feet	
Start Date: 01-28-2001 Start Time: 09:30	End Date: 01-28-2001 End Time: 10:25	NDEQ Release Number: **UG # 040996-GW-0935**

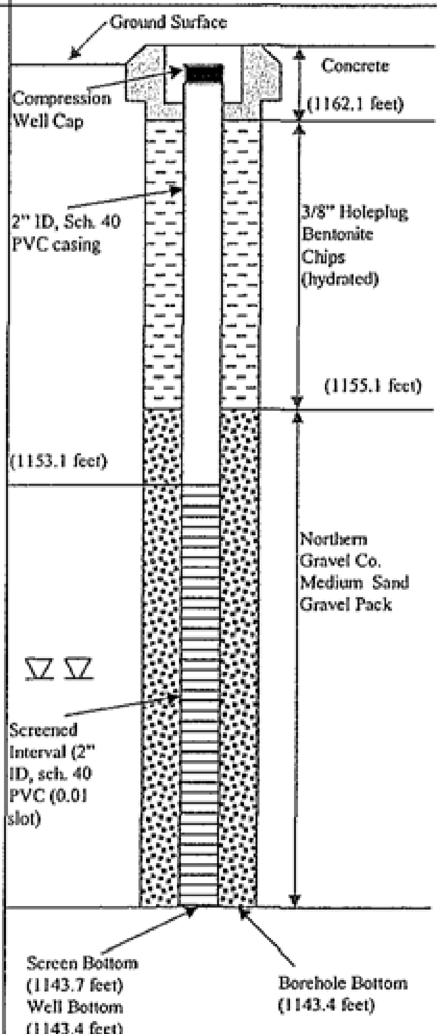
Static GW (feet)	Well Construction Details (Elevations in feet ASL)	Blow Count	Sample Interval	Sample Recovery	PID Reading	Rock Formations, Soil, Color Classifications, Observations (moisture, odor, etc.), USCS.
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20		Not Applicable	0-2.5 2.5-5 5-10 10-12.5 12.5-15 15-17.5 17.5-20	3.5/5 1.5/5 5/5 4/5 	0.0 0.1 24.2* >2500* 2421 >2500 42.4	0-3': Dark brown silty clay, moist, no odor, CL-ML. 3-9': Tan fine to coarse sand, moist, no odor, SW. 9-13': Greenish gray silty sandy clay, moist, petroleum odor, CL-SM. 13-15': Dark greenish gray sandy clay, moist to wet at 14.5', petroleum odor, CL-ML. 15-16': Greenish gray and black clayey sand, wet, petroleum odor, SC. 16-17.5': Grayish brown clayey sand, wet, petroleum odor, SC. 17.5-20': Reddish brown clayey sand, wet, no odor, SC. End of boring at 20 feet below ground surface.

* Soil sample submitted for laboratory analysis. Note: All soil samples were collected using a 5-foot split-spoon sampler.

Static Groundwater Observations	Date:	12-29-2000	01-04-2001			
Water Levels (feet ASL)	Level:	1,148.95	1,149.16			
Static Water Level Symbol v	Time:	15:05	11:57			

SOIL BORING LOG AND MONITORING WELL CONSTRUCTION DIAGRAM

Boring / Well Number: **MW-608-10**	Facility Name: **NEANG – Building 608**	Facility Street Address: **2420 W. Butler Avenue, Lincoln**
Boring Depth (ft) X Diameter (in): 20 feet X 8 inch OD		Drilling Method: Hollow-Stem Auger
Well Contractor Name/Location: J&R Drilling/Grimes, Iowa Certified Driller Number: 19205		Logged by: Steve Varsa Consultant: Montgomery Watson
Ground Surface Elevation (ASL): 1,163.59 feet	Top of Casing Elevation (ASL): 1,163.27 feet	
Start Date: 01-28-2001 Start Time: 10:40	End Date: 01-28-2001 End Time: 12:00	NDEQ Release Number: **UG # 040996-GW-0935**

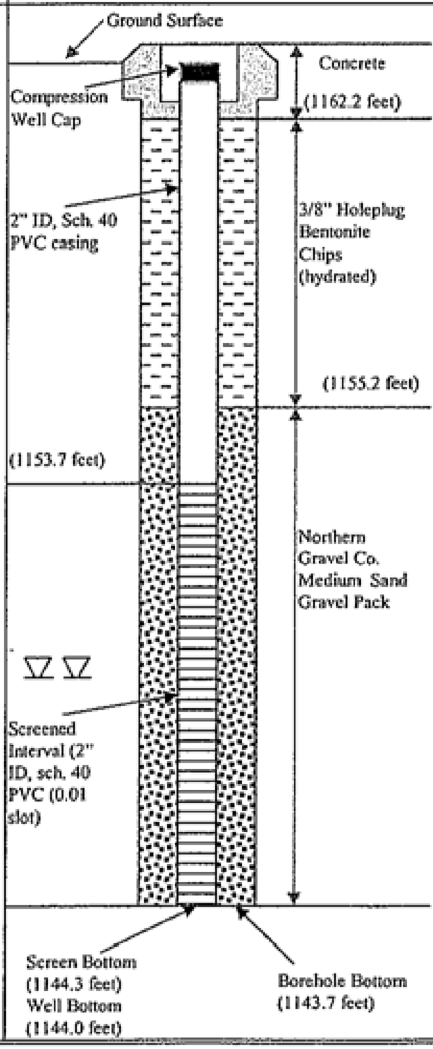
Static GW (feet)	Well Construction Details (Elevations in feet ASL)	Blow Count	Sample Interval	Sample Recovery	PID Reading	Rock Formations, Soil, Color Classifications, Observations (moisture, odor, etc.), USCS.
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20		Not Applicable	0-2.5	3/5	0.0	0-0.5': Concrete and base sand, no odor, fill.
			2.5-5		0.0	0.5-2': Dark brown gravelly clay fill, moist, no odor, CL-GW.
			5-7.5	5/5	0.0	2-4': Brown silty clay, moist, no odor, CL-ML.
			7.5-10		0.2*	4-4.5': Tan c-f sand, moist, no odor, SW.
			10-12.5	5/5	0.1*	4.5-8': Brownish gray and darl brown silty clay, firm, moist, no odor, CL-ML.
			12.5-15		0.0	8-9': Reddish brown, gray and brown mottled silty clay, hard, moist, no odor, CL-ML.
			15-17.5	5/5	0.0	9-10': Very dark brown silty clay, firm, moist, slight petroleum odor, CL-ML.
			17.5-20		0.0	10-14': Grayish brown silty clay, with few pebbles, moist, no odor, CL-ML.
						14-15': Reddish brown silty clay, hard, moist, no odor, CL-ML.
						15-19.5': Reddish brown sandy clay, wet, no odor, CL-SW.
						19.5-20': Reddish brown sand, wet, no odor, SW.
						End of boring at 20 feet below ground surface.

* Soil sample submitted for laboratory analysis. Note: All soil samples were collected using a 5-foot split-spoon sampler.

Static Groundwater Observations	Date:	12-29-2000	01-04-2001			
Water Levels (feet ASL)	Level:	1,149.11	1,149.22			
Static Water Level Symbol v	Time:	15:25	11:52			

SOIL BORING LOG AND MONITORING WELL CONSTRUCTION DIAGRAM

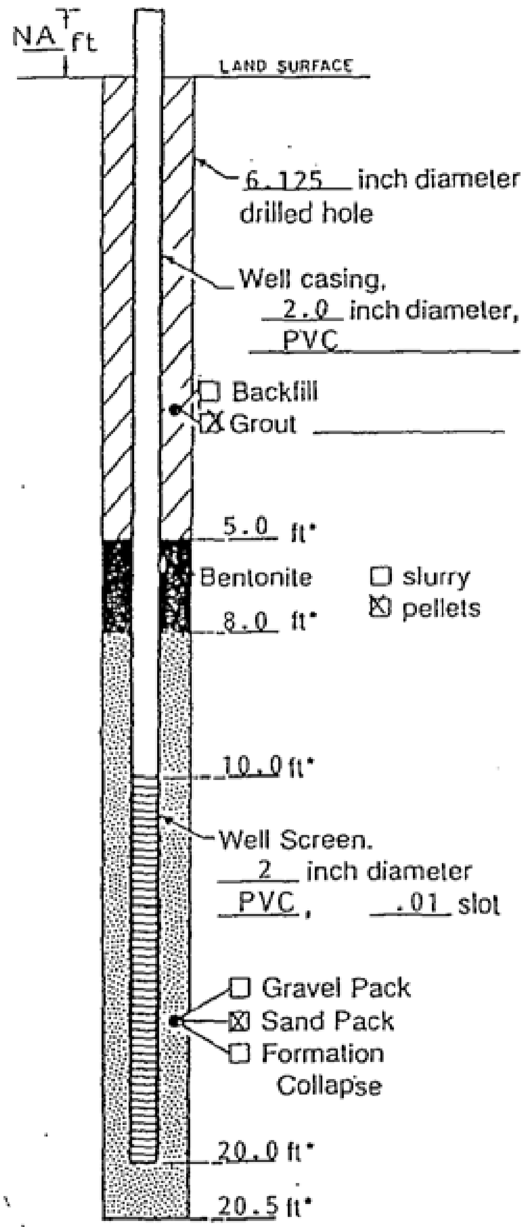
Boring / Well Number: **MW-608-11**	Facility Name: **NEANG – Building 608**	Facility Street Address: **2420 W. Butler Avenue, Lincoln**
Boring Depth (ft) X Diameter (in): 20 feet X 8 inch OD		Drilling Method: Hollow-Stem Auger
Well Contractor Name/Location: J&R Drilling/Grimes, Iowa Certified Driller Number: 19205		Logged by: Steve Varsa Consultant: Montgomery Watson
Ground Surface Elevation (ASL): 1,163.73 feet	Top of Casing Elevation (ASL): 1,163.36 feet	
Start Date: 01-28-2001 Start Time: 13:50	End Date: 01-28-2001 End Time: 16:00	NDEQ Release Number: **UG # 040996-GW-0935**

Static GW (feet)	Well Construction Details (Elevations in feet ASL)	Blow Count	Sample Interval	Sample Recovery	PID Reading	Rock Formations, Soil, Color Classifications, Observations (moisture, odor, etc.), USCS.
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20		Not Applicable	0-2.5 2.5-5 5-7.5 7.5-10 10-12.5 12.5-15 15-17.5 17.5-20	3/5 3/5 4.5/5 3.5/5 	0.0 0.0 249* 1121* 54.6 1.2 2.9 0.3	0-2': Concrete and base sand, no odor, fill. 2-6.5': Brown silty clay, with few pebbles, moist, no odor, CL-ML. 6.5-10': Grayish brown silty clay, moist, no odor, CL-ML. 10-12': Very dark brown silty clay, firm, moist, no odor, CL-ML. 12-15': Grayish brown sandy clay, very firm, moist, septic odor, CL-SW. 15-17': Brown silty clay, firm, wet, no odor, CL-ML. 17-19': Grayish brown clay, with minor sand, very firm, wet, no odor, CL. 19-20': Dark grayish brown sandy clay, wet, no odor, CL-SW. End of boring at 20 feet below ground surface.

* Soil sample submitted for laboratory analysis. Note: All soil samples were collected using a 5-foot split-spoon sampler.

Static Groundwater Observations	Date:	12-29-2000	01-04-2001			
Water Levels (feet ASL)	Level:	1,149.21	1,149.20			
Static Water Level Symbol v	Time:	15:55	11:54			

WELL CONSTRUCTION LOG



Measuring Point is Top of Well Casing Unless Otherwise Noted.

*Depth Below Land Surface

Project 155th TRG Lincoln, NE Well LANGB MW-2

Town/City Lincoln

County Lancaster State Nebraska

Permit No. NA

Land-Surface Elevation and Datum 1160.88 feet ☒ surveyed
ASL ☐ estimated

Installation Date(s) 14 Nov 91

Drilling Method Hollow Stem Auger

Drilling Contractor Lanyne-Western

Drilling Fluid None

Development Techniques(s) and Date(s)
Bailer & Rediflow 2 pump & surge block

Fluid Loss During Drilling None gallons

Water Removed During Development 17 gallons

Static Depth to Water 14.89 feet below M.P.

Pumping Depth to Water NA feet below M.P.

Pumping Duration 3.5 hours

Yield NA gpm Date 20 Nov 91

Specific Capacity NA gpm/ft

Well Purpose Ground Water Monitoring Well

Remarks Well recovered very slowly

Prepared by

Depth (Feet)	Blows	PID	S	Graphic	Description
0					Portland Cement Concrete
		10.1			
5		10.1			Silty Clay, brown very dense, moist
		20.2			
10		20.2			Clayey Sand, light brown, subrounded, fine-medium grained; 60% sand, moist
		16.6			
15		20.2			Sand, light brown medium-coarse grained; 70% sand, subrounded to subangular, moist
20					

Logged By: JHM

Date Drilled: 14 Nov 91

Drilling Co.: Layne-Western

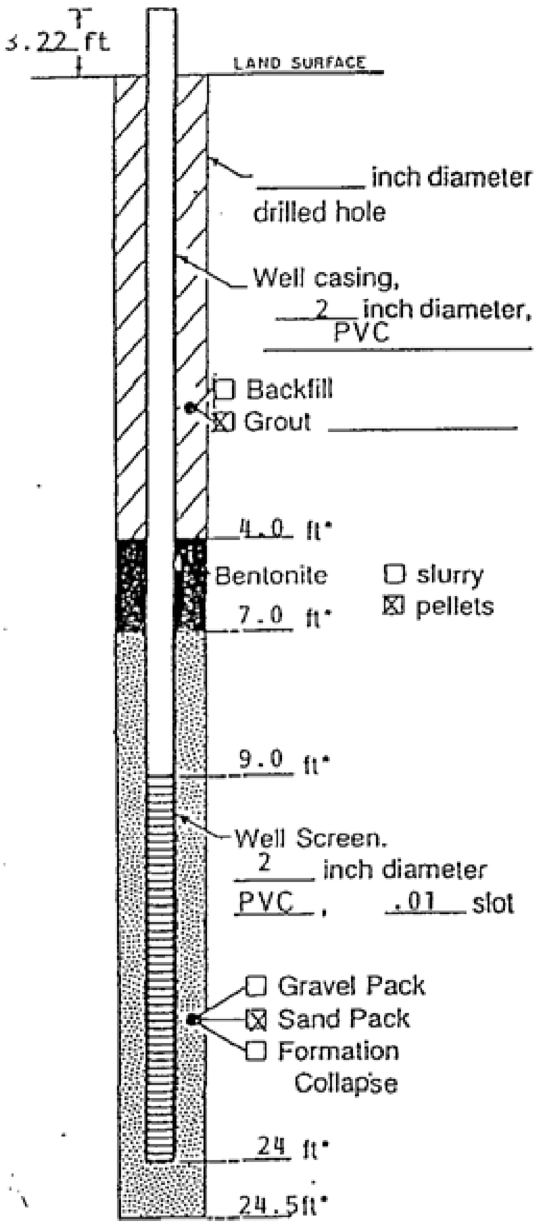
Drilling Method: Hollow-Stem Auger

Sampling Method: 2" Split Spoon

Log of Monitor Well MW-2
Lincoln Air National Guard Base
Lincoln, Nebraska

OPTECH
OPERATIONAL TECHNOLOGIES CORPORATION

WELL CONSTRUCTION LOG



Measuring Point is Top of Well Casing Unless Otherwise Noted.

*Depth Below Land Surface

Project 155th TRG Lincoln, NE Well LANGB MW-4

Town/City Lincoln

County Lancaster State Nebraska

Permit No. NA

Land-Surface Elevation

and Datum 1164.39 feet ☒ surveyed

ASL ☐ estimated

Installation Dales(s) 17 Nov 91

Drilling Method Hollow stem Auger

Drilling Contractor Layne-Western

Drilling Fluid None

Development Techniques(s) and Date(s)

Rediflow 2 pump

Fluid Loss During Drilling ______ gallons

Water Removed During Development 47 gallons

Static Depth to Water 17.00 feet below M.P.

Pumping Depth to Water NA feet below M.P.

Pumping Duration 2.0 hours

Yield NA gpm Date 20 Nov 91

Specific Capacity NA gpm/ft

Well Purpose Ground Water Monitoring Well

Remarks ______

Prepared by ______

Depth (Feet)	Blows	PID	S	Graphic	Description
0					
		6.0			
5		6.1			
		2.7			
10		2.7			Silty Clay, brown very dense, moist
		3.6			
15		3.7			
		3.7			
20		3.9			

Logged By: JHM

Drilling Co.: Layne-Western

Date Drilled: 17 Nov 91

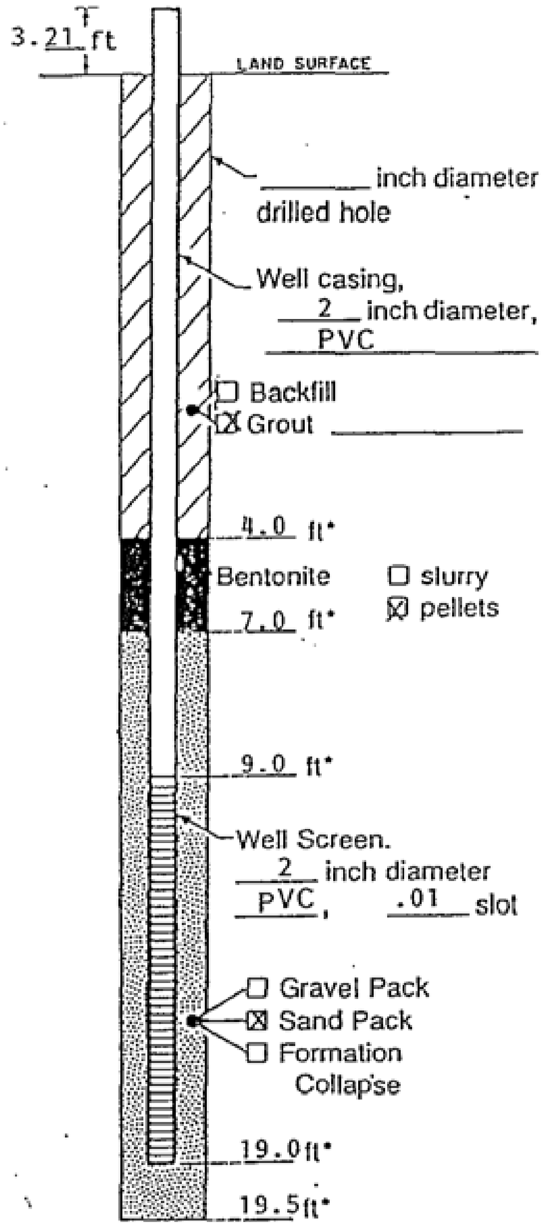
Drilling Method: Hollow-Stem Auger

Sampling Method: 2" Split Spoon

Log of Monitor Well MW-4
Lincoln Air National Guard Base
Lincoln, Nebraska

OPTECH
Operational Technologies Corporation

WELL CONSTRUCTION LOG



Measuring Point is Top of Well Casing Unless Otherwise Noted.

*Depth Below Land Surface

Project 155th TRG Lincoln, NE Well LANGB MW-5

Town/City Lincoln

County Lancaster State Nebraska

Permit No. NA

Land-Surface Elevation and Datum 1164.93 feet ☒ surveyed ☐ estimated

Installation Dates(s) 18 Nov 91

Drilling Method Hollow Stem Auger

Drilling Contractor Layne-Western

Drilling Fluid None

Development Techniques(s) and Date(s)
Rediflow 2 pump

Fluid Loss During Drilling None gallons

Water Removed During Development 42 gallons

Static Depth to Water 17.29 feet below M.P.

Pumping Depth to Water NA feet below M.P.

Pumping Duration 1.5 hours

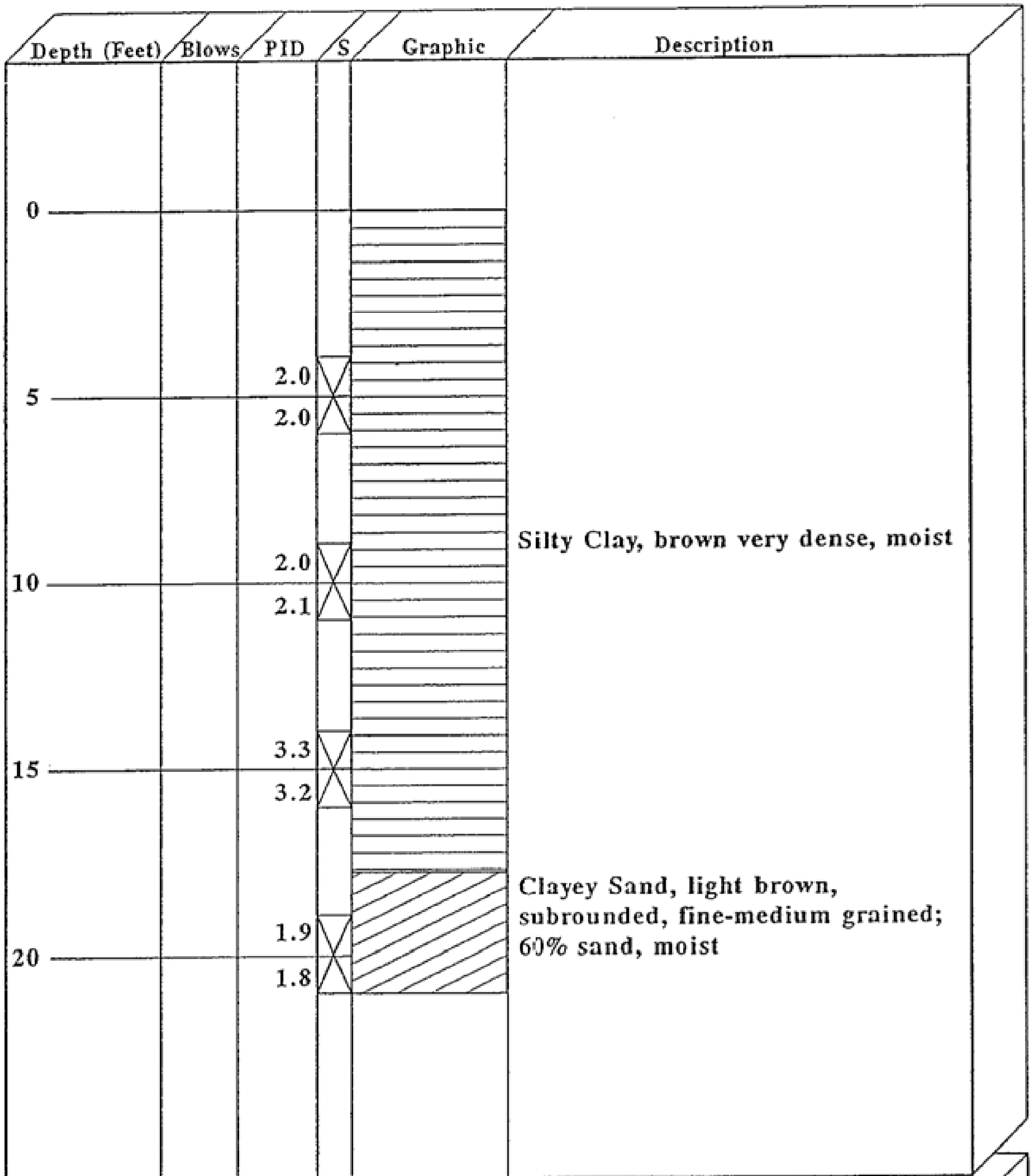
Yield NA gpm Date 20 Nov 91

Specific Capacity NA gpm/ft

Well Purpose Ground Water Monitoring Well

Remarks

Prepared by



Logged By: JHM

Drilling Co.: Layne-Western

Date Drilled: 18 Nov 91

Drilling Method: Hollow-Stem Auger

Sampling Method: 2" Split Spoon

Log of Monitor Well MW-5
Lincoln Air National Guard Base
Lincoln, Nebraska

OPTECH
Operational Technologies Corporation

APPENDIX D

Well Name	North Coordinate	East Coordinate	Elevation	Description	Notes
MW 608-08	383,763.91	2,537,096.32	1,162.49	MW 608-08 - Top of 2" PVC Casing - North Edge	At Building 608
			1,162.83	MW 608-08 - North Rim Protective Cover	At Building 608
MW 608-09	383,703.10	2,537,092.06	1,162.86	MW 608-09 - Top of 2" PVC Casing - North Edge	At Building 608
			1,163.30	MW 608-09 - North Rim Protective Cover	At Building 608
			1,163.2	MW 608-09 - Ground Surface	At Building 608
MW 608-10	383,703.18	2,537,117.37	1,163.27	MW 608-10 - Top of 2" PVC Casing - North Edge	At Building 608
			1,163.59	MW 608-10 - North Rim Protective Cover	At Building 608
MW 608-11	383,686.92	2,537,138.66	1,163.36	MW 608-11 - Top of 2" PVC Casing - North Edge	At Building 608
			1,163.73	MW 608-11 - North Rim Protective Cover	At Building 608
MW 635-01	383,575.15	2,537,926.56	1,158.05	MW 635-01 - Top of 2" PVC Casing - Northwest Edge	At Building 635
			1,158.49	MW 635-01 - North Rim Protective Cover	At Building 635
MW 635-02	383,578.84	2,537,959.70	1,157.95	MW 635-02 - Top of 2" PVC Casing - West Edge	At Building 635
			1,158.44	MW 635-02 - North Rim Protective Cover	At Building 635
MW 635-03	383,567.24	2,537,984.29	1,158.11	MW 635-03 - Top of 2" PVC Casing - West Edge	At Building 635
			1,158.44	MW 635-03 - North Rim Protective Cover	At Building 635
			1,158.6	MW 635-03 - Ground Surface	At Building 635
MW 203-01	382,103.12	2,537,086.22	1,157.00	MW 203-01 - Top of 2" PVC Casing - North Edge	At Former Building 203
			1,155.2	MW 203-01 - Ground Surface	At Former Building 203
MW 203-02	382,138.67	2,537,067.29	1,156.87	MW 203-02 - Top of 2" PVC Casing - South Edge	At Former Building 203
			1,154.3	MW 203-02 - Ground Surface	At Former Building 203
MW 1	383,664.13	2,536,997.65	1,161.32	MW 1 - Top of 2" Steel Casing Cap - Unable to remove	At Building 608
			1,161.42	MW 1 - Rim - Inner Rim - Original Protective Casing - North Side	At Building 608
			1,161.69	MW 1 - Flush Mount Rim - Outer Rim Flush With Conc - North Side	At Building 608
MW 2	383,678.96	2,537,038.96	1,161.99	MW 2 - Top of 2" PVC Casing - North Edge	At Building 608
			1,162.29	MW 2 - North Rim Protective Cover	At Building 608
MW 4	383,569.06	2,537,168.44	1,164.87	MW 4 - Top of 2" PVC Casing - North Edge	At Building 608
			1,163.22	MW 4 - Concrete Base - North Side Steel Protective Casing	At Building 608
			1,163.2	MW 4 - Ground Surface	At Building 608
MW 5	383,632.93	2,537,065.01	1,165.23	MW 5 - Top of 2" PVC Casing - North Edge	At Building 608
			1,163.54	MW 5 - Concrete Base - North Side Steel Protective Casing	At Building 608
			1,163.4	MW 5 - Ground Surface	At Building 608
MW 6	383,437.93	2,537,010.87	1,156.66	MW 6 - Top of 2" PVC Casing - North Edge	At Building 608
			1,154.23	MW 6 - Concrete Base - North Side Steel Protective Casing	At Building 608
			1,153.7	MW 6 - Ground Surface	At Building 608

Well Name	North Coordinate	East Coordinate	Elevation	Description	Notes
MW 7	383,393.40	2,537,130.86	1,156.14	MW 7 - Top of 2" PVC Casing - North Edge	At Building 608
			1,153.84	MW 7 - Concrete Base - North Side Steel Protective Casing	At Building 608
			1,153.3	MW 7 - Ground Surface	At Building 608
BORE 1	383,665.41	2,537,035.98	1,162.25	BORE 1 - Concrete Elevation	At Building 608
BORE 2	383,640.02	2,537,064.27	1,162.64	BORE 2 - Concrete Elevation	At Building 608
ADDITIONAL REQUESTED ELEVATIONS					
MW 0210	383,012.50	2,538,493.23	1,156.01	MW 0210 - Top of 4" PVC Casing - S. Side	1.23' Above Recorded Elevation - Well has been modified from original survey
1 MW 7	383,125.78	2,538,562.59	1,153.31	1 MW 7 - Top OF 2" PVC Casing - W. Side	1.24' Above Recorded Elevation - Well has been modified from original survey
1 MW 10	383,090.59	2,538,855.37	1,153.33	1 MW 10 - Top OF 2" PVC Casing - S. Side	1.30' Above Recorded Elevation - Well not modified from original survey
SURVEY CONTROL POINTS AND BENCHMARKS					
1" Rebar	383,223.56	2,538,205.45	1,152.52	Survey Monument - NW 24th & Oak	1.32' Above Recorded Elevation
1/2" Rebar	383,777.40	2,538,187.50	1,155.60	Survey Monument - NW 24th & W Furnas Avenue	
Benchmark	383,236.35	2,538,245.47	1,155.44	Tail of Arrow - FHY - NE Cor NW 24th & Oak	1.31' Above Recorded Elevation
Stainless Steel Rod			1,166.03	National Geodetic Survey Benchmark "N 440" - Elevation is NAVD '88	
1" Rebar	383,473.46	2,537,664.83	1,155.15	Survey Monument - NW 25th & Oak	
1" Rebar	383,759.89	2,537,655.28	1,161.08	Survey Monument - NW 25th & W Furnas Avenue	
1" Rebar	384,217.09	2,538,173.21	1,158.96	Survey Monument - NW 24th & W Butler Street	
Pk Spike	383,773.40	2,537,217.37	1,163.74	Topo Survey Control Point	
Pk Spike	383,657.11	2,537,020.68	1,162.05	Topo Survey Control Point	
3" Brass Disk	383,390.43	2,536,990.56	1,154.60	Defense Mapping Agency "IN-12 REF2 RESET 1988 GSS"	
Benchmark	383,364.98	2,537,036.00	1,154.50	Top Northeast Tiedown for ARNG Helicopter W8	
Pk Spike	383,545.83	2,537,966.02	1,157.99	Topo Survey Control Point	
Pk Spike	382,300.72	2,537,046.13	1,153.10	Topo Survey Control Point	

ELEVATION SUMMARY

The original survey was done April 18th, 1997. The elevations that were used at that time were based off information supplied by Dennis McCaugherty with the Nebraska Air National Guard. The elevations used for this survey were based off NGS Benchmark "N440" located at the intersection of Adams Street and the original entrance to the Nebraska Air National Guard. The elevations obtained during this survey are 1.31 feet above the original elevations obtained and are on North American Vertical Datum of 1988. The factor of 1.31 feet was derived from the average of three elevation points that are the same as the original survey. The Fire Hydrant at the Northeast Corner of 24th & Oak, the 1" Rebar in the intersection of 24th & Oak and the measuring point on Monitor Well 1 MW 10 have not been tampered with or adjusted since the original survey in 1997.

APPENDIX E

TestAmerica
INCORPORATED

RECEIVED
JAN 17 2001
MW / IOWA

ANALYTICAL REPORT

Steve Varsa
MONTGOMERY WATSON
11153 Aurora Avenue
Des Moines, IA 50322

01/12/2001

Job Number: 00.16528.1

Sample Number: 600470

Project ID: NEANG-Bldg. 608, Lincoln, NE

Sample ID: MW-608-8 0-2.5'

Date Taken: 12/28/2000 Date Received: 01/03/2001

Analyte	Result	Units	Result Flag	Analyst	Date Analyzed	Method	Quantitation Limit
Mercury,CVAA	<0.020	mg/kg		heh	01/11/2001	EPA 245.5	0.020
ICP Metals Prep (Solid)	1.032	g		gjv	01/05/2001		
ICP Metals-Solid	Complete	mg/kg	IE	llw	01/08/2001	SW 6010B	
Arsenic, ICP	8.1	mg/kg		llw	01/08/2001	SW 6010B	4.0
Barium, ICP	73	mg/kg		llw	01/08/2001	SW 6010B	0.50
Cadmium, ICP	<2.0	mg/kg		llw	01/08/2001	SW 6010B	1.0
Chromium, ICP	7.4	mg/kg		llw	01/08/2001	SW 6010B	1.0
Lead, ICP	<10	mg/kg		llw	01/08/2001	SW 6010B	5.0
Selenium, ICP	<15	mg/kg		llw	01/08/2001	SW 6010B	7.5
Silver, ICP	<2.0	mg/kg		llw	01/08/2001	SW 6010B	1.0
UST VOLATILE COMPOUNDS - 8260							
Benzene	<0.005	mg/kg		mmk	01/05/2001	IA OA-1/8260B	0.005
Toluene	<0.005	mg/kg		mmk	01/05/2001	IA OA-1/8260B	0.005
Ethylbenzene	<0.005	mg/kg		mmk	01/05/2001	IA OA-1/8260B	0.005
Xylenes	<0.015	mg/kg		mmk	01/05/2001	IA OA-1/8260B	0.015
MTBE	<0.015	mg/kg		mmk	01/05/2001	IA OA-1/8260B	0.015
Hexane	<0.005	mg/kg		mmk	01/05/2001	IA OA-1/8260B	0.005
Extraction Prep, soil	COMPLETE			jdm	01/04/2001	IOWA-OA2	
EXTRACTABLE HYDROCARBONS-SOIL							
Total Extractable Hydrocarbons	<10	mg/kg		mpc	01/05/2001	IA-OA2/S-8015	10
Diesel	<10	mg/kg		mpc	01/05/2001	IA-OA2/S-8015	10
Gasoline	<10	mg/kg		mpc	01/05/2001	IA-OA2/S-8015	10
Motor Oil	<10	mg/kg		mpc	01/05/2001	IA-OA2/S-8015	10
Ethylene Glycol Non-Aqueous	<10	ug/g		sjg	01/05/2001	GC-FID	10

IE - Elevated Reporting Limit due to interelement interference.

R.L. Bindert
Operations Manager

TestAmerica
INCORPORATED

ANALYTICAL REPORT

Steve Varsa
MONTGOMERY WATSON
11153 Aurora Avenue
Des Moines, IA 50322

01/12/2001

Job Number: 00.16528.1

Sample Number: 600471

Project ID: NEANG-Bldg. 608, Lincoln, NE

Sample ID: MW-608-8 10-12.5'

Date Taken: 12/28/2000

Date Received: 01/03/2001

Analyte	Result	Units	Result Flag	Analyst	Date Analyzed	Method	Quantitation Limit
Mercury,CVAA	<0.020	mg/kg		heh	01/11/2001	EPA 245.5	0.020
ICP Metals Prep (Solid)	1.024	g		gjv	01/05/2001		
ICP Metals-Solid	Complete	mg/kg		llw	01/08/2001	SW 6010B	
Arsenic, ICP	6.6	mg/kg		llw	01/08/2001	SW 6010B	4.0
Barium, ICP	71	mg/kg		llw	01/08/2001	SW 6010B	0.50
Cadmium, ICP	<1.0	mg/kg		llw	01/08/2001	SW 6010B	1.0
Chromium, ICP	11	mg/kg		llw	01/08/2001	SW 6010B	1.0
Lead, ICP	9.0	mg/kg		llw	01/08/2001	SW 6010B	5.0
Selenium, ICP	<7.5	mg/kg		llw	01/08/2001	SW 6010B	7.5
Silver, ICP	<1.0	mg/kg		llw	01/08/2001	SW 6010B	1.0
UST VOLATILE COMPOUNDS - 8260							
Benzene	<0.005	mg/kg		mmk	01/05/2001	IA OA-1/8260B	0.005
Toluene	<0.005	mg/kg		mmk	01/05/2001	IA OA-1/8260B	0.005
Ethylbenzene	<0.005	mg/kg		mmk	01/05/2001	IA OA-1/8260B	0.005
Xylenes	<0.015	mg/kg		mmk	01/05/2001	IA OA-1/8260B	0.015
MTBE	<0.015	mg/kg		mmk	01/05/2001	IA OA-1/8260B	0.015
Hexane	<0.005	mg/kg		mmk	01/05/2001	IA OA-1/8260B	0.005
Extraction Prep, soil	COMPLETE			jdm	01/04/2001	IOWA-OA2	
EXTRACTABLE HYDROCARBONS-SOIL							
Total Extractable Hydrocarbons	<10	mg/kg		mpc	01/05/2001	IA-OA2/S-8015	10
Diesel	<10	mg/kg		mpc	01/05/2001	IA-OA2/S-8015	10
Gasoline	<10	mg/kg		mpc	01/05/2001	IA-OA2/S-8015	10
Motor Oil	<10	mg/kg		mpc	01/05/2001	IA-OA2/S-8015	10
Ethylene Glycol Non-Aqueous	<10	ug/g		sjg	01/05/2001	GC-FID	10

R.L. Bindert
Operations Manager

TestAmerica
INCORPORATED

ANALYTICAL REPORT

Steve Varsa
MONTGOMERY WATSON
11153 Aurora Avenue
Des Moines, IA 50322

01/12/2001

Job Number: 00.16528.1

Sample Number: 600472

Project ID: NEANG-Bldg. 608, Lincoln, NE

Sample ID: MW-608-9 5-10'

Date Taken: 12/28/2000

Date Received: 01/03/2001

Analyte	Result	Units	Result Flag	Analyst	Date Analyzed	Method	Quantitation Limit
Mercury,CVAA	<0.020	mg/kg		heh	01/11/2001	EPA 245.5	0.020
ICP Metals Prep (Solid)	1.026	g		gjv	01/05/2001		
ICP Metals-Solid	Complete	mg/kg		llw	01/08/2001	SW 6010B	
Arsenic, ICP	<4.0	mg/kg		llw	01/08/2001	SW 6010B	4.0
Barium, ICP	12	mg/kg		llw	01/08/2001	SW 6010B	0.50
Cadmium, ICP	<1.0	mg/kg		llw	01/08/2001	SW 6010B	1.0
Chromium, ICP	1.8	mg/kg		llw	01/08/2001	SW 6010B	1.0
Lead, ICP	<5.0	mg/kg		llw	01/08/2001	SW 6010B	5.0
Selenium, ICP	<7.5	mg/kg		llw	01/08/2001	SW 6010B	7.5
Silver, ICP	<1.0	mg/kg		llw	01/08/2001	SW 6010B	1.0
UST VOLATILE COMPOUNDS - 8260							
Benzene	<0.005	mg/kg		mmk	01/08/2001	IA OA-1/8260B	0.005
Toluene	<0.005	mg/kg		mmk	01/08/2001	IA OA-1/8260B	0.005
Ethylbenzene	<0.005	mg/kg		mmk	01/08/2001	IA OA-1/8260B	0.005
Xylenes	<0.015	mg/kg		mmk	01/08/2001	IA OA-1/8260B	0.015
MTBE	<0.015	mg/kg		mmk	01/08/2001	IA OA-1/8260B	0.015
Hexane	<0.005	mg/kg		mmk	01/08/2001	IA OA-1/8260B	0.005
Extraction Prep, soil	COMPLETE			jdm	01/04/2001	IOWA-OA2	
EXTRACTABLE HYDROCARBONS-SOIL							
Total Extractable Hydrocarbons	<10	mg/kg		mpc	01/05/2001	IA-OA2/S-8015	10
Diesel	<10	mg/kg		mpc	01/05/2001	IA-OA2/S-8015	10
Gasoline	<10	mg/kg		mpc	01/05/2001	IA-OA2/S-8015	10
Motor Oil	<10	mg/kg		mpc	01/05/2001	IA-OA2/S-8015	10
Ethylene Glycol Non-Aqueous	<10	ug/g		sjg	01/05/2001	GC-FID	10

R.L. Bindert
Operations Manager

TestAmerica
INCORPORATED

ANALYTICAL REPORT

Steve Varsa
MONTGOMERY WATSON
11153 Aurora Avenue
Des Moines, IA 50322

01/12/2001

Job Number: 00.16528.1

Sample Number: 600473

Project ID: NEANG-Bldg. 608, Lincoln, NE

Sample ID: MW-608-9 10-12.5'

Date Taken: 12/28/2000

Date Received: 01/03/2001

Analyte	Result	Units	Result Flag	Analyst	Date Analyzed	Method	Quantitation Limit
Mercury,CVAA	<0.020	mg/kg		heh	01/11/2001	EPA 245.5	0.020
ICP Metals Prep (Solid)	1.016	g		gjv	01/05/2001		
ICP Metals-Solid	Complete	mg/kg		llw	01/08/2001	SW 6010B	
Arsenic, ICP	<4.0	mg/kg		llw	01/08/2001	SW 6010B	4.0
Barium, ICP	59	mg/kg		llw	01/08/2001	SW 6010B	0.50
Cadmium, ICP	<1.0	mg/kg		llw	01/08/2001	SW 6010B	1.0
Chromium, ICP	6.7	mg/kg		llw	01/08/2001	SW 6010B	1.0
Lead, ICP	6.6	mg/kg		llw	01/08/2001	SW 6010B	5.0
Selenium, ICP	<7.5	mg/kg		llw	01/08/2001	SW 6010B	7.5
Silver, ICP	<1.0	mg/kg		llw	01/08/2001	SW 6010B	1.0
UST VOLATILE COMPOUNDS - 8260							
Benzene	<0.005	mg/kg		mmk	01/09/2001	IA OA-1/8260B	0.005
Toluene	<0.005	mg/kg		mmk	01/09/2001	IA OA-1/8260B	0.005
Ethylbenzene	0.671	mg/kg		mmk	01/09/2001	IA OA-1/8260B	0.005
Xylenes	1.16	mg/kg		mmk	01/09/2001	IA OA-1/8260B	0.015
MTBE	<0.015	mg/kg		mmk	01/09/2001	IA OA-1/8260B	0.015
Hexane	<0.005	mg/kg		mmk	01/09/2001	IA OA-1/8260B	0.005
Extraction Prep, soil	COMPLETE			jdm	01/04/2001	IOWA-OA2	
EXTRACTABLE HYDROCARBONS-SOIL							
Total Extractable Hydrocarbons	261	mg/kg		mpc	01/05/2001	IA-OA2/S-8015	10
Diesel	<10	mg/kg		mpc	01/05/2001	IA-OA2/S-8015	10
Gasoline	261	mg/kg		mpc	01/05/2001	IA-OA2/S-8015	10
Motor Oil	<10	mg/kg		mpc	01/05/2001	IA-OA2/S-8015	10
Ethylene Glycol Non-Aqueous	<10	ug/g		sjg	01/05/2001	GC-FID	10

R.L. Bindert
Operations Manager

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ANALYTICAL REPORT

Steve Varsa
MONTGOMERY WATSON
11153 Aurora Avenue
Des Moines, IA 50322

01/12/2001

Job Number: 00.16528.1

Sample Number: 600474

Project ID: NEANG-Bldg. 608, Lincoln, NE

Sample ID: MW-608-10 7.5-10'

Date Taken: 12/28/2000

Date Received: 01/03/2001

Analyte	Result	Units	Result Flag	Analyst	Date Analyzed	Method	Quantitation Limit
Mercury,CVAA	<0.020	mg/kg		heh	01/11/2001	EPA 245.5	0.020
ICP Metals Prep (Solid)	1.043	g		gjv	01/05/2001		
ICP Metals-Solid	Complete	mg/kg		llw	01/08/2001	SW 6010B	
Arsenic, ICP	7.6	mg/kg		llw	01/08/2001	SW 6010B	4.0
Barium, ICP	120	mg/kg		llw	01/08/2001	SW 6010B	0.50
Cadmium, ICP	<1.0	mg/kg		llw	01/08/2001	SW 6010B	1.0
Chromium, ICP	11	mg/kg		llw	01/08/2001	SW 6010B	1.0
Lead, ICP	12	mg/kg		llw	01/08/2001	SW 6010B	5.0
Selenium, ICP	<7.5	mg/kg		llw	01/08/2001	SW 6010B	7.5
Silver, ICP	<1.0	mg/kg		llw	01/08/2001	SW 6010B	1.0
UST VOLATILE COMPOUNDS - 8260							
Benzene	<0.005	mg/kg		mmk	01/09/2001	IA OA-1/8260B	0.005
Toluene	<0.005	mg/kg		mmk	01/09/2001	IA OA-1/8260B	0.005
Ethylbenzene	<0.005	mg/kg		mmk	01/09/2001	IA OA-1/8260B	0.005
Xylenes	<0.015	mg/kg		mmk	01/09/2001	IA OA-1/8260B	0.015
MTBE	<0.015	mg/kg		mmk	01/09/2001	IA OA-1/8260B	0.015
Hexane	<0.005	mg/kg		mmk	01/09/2001	IA OA-1/8260B	0.005
Extraction Prep, soil	COMPLETE			jdm	01/04/2001	IOWA-OA2	
EXTRACTABLE HYDROCARBONS-SOIL							
Total Extractable Hydrocarbons	<10	mg/kg		mpc	01/08/2001	IA-OA2/S-8015	10
Diesel	<10	mg/kg		mpc	01/08/2001	IA-OA2/S-8015	10
Gasoline	<10	mg/kg		mpc	01/08/2001	IA-OA2/S-8015	10
Motor Oil	<10	mg/kg		mpc	01/08/2001	IA-OA2/S-8015	10
Ethylene Glycol Non-Aqueous	<10	ug/g		sjg	01/05/2001	GC-FID	10

R.L. Bindert
Operations Manager

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ANALYTICAL REPORT

Steve Varsa
MONTGOMERY WATSON
11153 Aurora Avenue
Des Moines, IA 50322

01/12/2001

Job Number: 00.16528.1

Sample Number: 600475

Project ID: NEANG-Bldg. 608, Lincoln, NE

Sample ID: MW-608-10 ·10-12.5'

Date Taken: 12/28/2000

Date Received: 01/03/2001

Analyte	Result	Units	Result Flag	Analyst	Date Analyzed	Method	Quantitation Limit
Mercury,CVAA	<0.020	mg/kg		heh	01/11/2001	EPA 245.5	0.020
ICP Metals Prep (Solid)	1.011	g		gjv	01/05/2001		
ICP Metals-Solid	Complete	mg/kg		llw	01/08/2001	SW 6010B	
Arsenic, ICP	10	mg/kg		llw	01/08/2001	SW 6010B	4.0
Barium, ICP	180	mg/kg		llw	01/08/2001	SW 6010B	0.50
Cadmium, ICP	<1.0	mg/kg		llw	01/08/2001	SW 6010B	1.0
Chromium, ICP	12	mg/kg		llw	01/08/2001	SW 6010B	1.0
Lead, ICP	13	mg/kg		llw	01/08/2001	SW 6010B	5.0
Selenium, ICP	<7.5	mg/kg		llw	01/08/2001	SW 6010B	7.5
Silver, ICP	<1.0	mg/kg		llw	01/08/2001	SW 6010B	1.0
UST VOLATILE COMPOUNDS - 8260							
Benzene	<0.005	mg/kg		mmk	01/09/2001	IA OA-1/8260B	0.005
Toluene	<0.005	mg/kg		mmk	01/09/2001	IA OA-1/8260B	0.005
Ethylbenzene	<0.005	mg/kg		mmk	01/09/2001	IA OA-1/8260B	0.005
Xylenes	<0.015	mg/kg		mmk	01/09/2001	IA OA-1/8260B	0.015
MTBE	<0.015	mg/kg		mmk	01/09/2001	IA OA-1/8260B	0.015
Hexane	<0.005	mg/kg		mmk	01/09/2001	IA OA-1/8260B	0.005
Extraction Prep, soil	COMPLETE			jdm	01/04/2001	IOWA-OA2	
EXTRACTABLE HYDROCARBONS-SOIL							
Total Extractable Hydrocarbons	<10	mg/kg		mpc	01/05/2001	IA-OA2/S-8015	10
Diesel	<10	mg/kg		mpc	01/05/2001	IA-OA2/S-8015	10
Gasoline	<10	mg/kg		mpc	01/05/2001	IA-OA2/S-8015	10
Motor Oil	<10	mg/kg		mpc	01/05/2001	IA-OA2/S-8015	10
Ethylene Glycol Non-Aqueous	<10	ug/g		sjg	01/05/2001	GC-FID	10

R.L. Bindert
Operations Manager

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ANALYTICAL REPORT

Steve Varsa
MONTGOMERY WATSON
11153 Aurora Avenue
Des Moines, IA 50322

01/12/2001

Job Number: 00.16528.1

Sample Number: 600476

Project ID: NEANG-Bldg. 608, Lincoln, NE

Sample ID: MW-608-11 5-7.5'

Date Taken: 12/28/2000

Date Received: 01/03/2001

Analyte	Result	Units	Result Flag	Analyst	Date Analyzed	Method	Quantitation Limit
Mercury,CVAA	0.029	mg/kg		heh	01/11/2001	EPA 245.5	0.020
ICP Metals Prep (Solid)	1.035	g		gjv	01/05/2001		
ICP Metals-Solid	Complete	mg/kg		llw	01/08/2001	SW 6010B	
Arsenic, ICP	9.1	mg/kg		llw	01/08/2001	SW 6010B	4.0
Barium, ICP	240	mg/kg		llw	01/08/2001	SW 6010B	0.50
Cadmium, ICP	<1.0	mg/kg		llw	01/08/2001	SW 6010B	1.0
Chromium, ICP	11	mg/kg		llw	01/08/2001	SW 6010B	1.0
Lead, ICP	12	mg/kg		llw	01/08/2001	SW 6010B	5.0
Selenium, ICP	<7.5	mg/kg		llw	01/08/2001	SW 6010B	7.5
Silver, ICP	<1.0	mg/kg		llw	01/08/2001	SW 6010B	1.0
UST VOLATILE COMPOUNDS - 8260							
Benzene	<0.005	mg/kg		mmk	01/05/2001	IA OA-1/8260B	0.005
Toluene	<0.005	mg/kg		mmk	01/05/2001	IA OA-1/8260B	0.005
Ethylbenzene	0.006	mg/kg		mmk	01/05/2001	IA OA-1/8260B	0.005
Xylenes	0.090	mg/kg		mmk	01/05/2001	IA OA-1/8260B	0.015
MTBE	<0.015	mg/kg		mmk	01/05/2001	IA OA-1/8260B	0.015
Hexane	<0.005	mg/kg		mmk	01/05/2001	IA OA-1/8260B	0.005
Extraction Prep, soil	COMPLETE			jdm	01/04/2001	IOWA-OA2	
EXTRACTABLE HYDROCARBONS-SOIL							
Total Extractable Hydrocarbons	223	mg/kg		mpc	01/05/2001	IA-OA2/S-8015	10
Diesel	39.9	mg/kg		mpc	01/05/2001	IA-OA2/S-8015	10
Gasoline	183	mg/kg		mpc	01/05/2001	IA-OA2/S-8015	10
Motor Oil	<10	mg/kg		mpc	01/05/2001	IA-OA2/S-8015	10
Ethylene Glycol Non-Aqueous	<10	ug/g		sjg	01/05/2001	GC-FID	10

R.L. Bindert
Operations Manager

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ANALYTICAL REPORT

Steve Varsa
MONTGOMERY WATSON
11153 Aurora Avenue
Des Moines, IA 50322

01/12/2001

Job Number: 00.16528.1

Sample Number: 600477

Project ID: NEANG-Bldg. 608, Lincoln, NE

Sample ID: MW-608-11 7.5-10'

Date Taken: 12/28/2000

Date Received: 01/03/2001

Analyte	Result	Units	Result Flag	Analyst	Date Analyzed	Method	Quantitation Limit
Mercury, CVAA	0.036	mg/kg		heh	01/11/2001	EPA 245.5	0.020
ICP Metals Prep (Solid)	1.062	g		gjv	01/05/2001		
ICP Metals-Solid	Complete	mg/kg		llw	01/08/2001	SW 6010B	
Arsenic, ICP	8.6	mg/kg		llw	01/08/2001	SW 6010B	4.0
Barium, ICP	400	mg/kg		llw	01/08/2001	SW 6010B	0.50
Cadmium, ICP	<1.0	mg/kg		llw	01/08/2001	SW 6010B	1.0
Chromium, ICP	11	mg/kg		llw	01/08/2001	SW 6010B	1.0
Lead, ICP	12	mg/kg		llw	01/08/2001	SW 6010B	5.0
Selenium, ICP	<7.5	mg/kg		llw	01/08/2001	SW 6010B	7.5
Silver, ICP	<1.0	mg/kg		llw	01/08/2001	SW 6010B	1.0
UST VOLATILE COMPOUNDS - 8260							
Benzene	<0.005	mg/kg		mmk	01/09/2001	IA OA-1/8260B	0.005
Toluene	0.007	mg/kg		mmk	01/09/2001	IA OA-1/8260B	0.005
Ethylbenzene	0.283	mg/kg		mmk	01/09/2001	IA OA-1/8260B	0.005
Xylenes	2.46	mg/kg		mmk	01/09/2001	IA OA-1/8260B	0.015
MTBE	<0.015	mg/kg		mmk	01/09/2001	IA OA-1/8260B	0.015
Hexane	0.040	mg/kg		mmk	01/09/2001	IA OA-1/8260B	0.005
Extraction Prep, soil	COMPLETE			jdm	01/04/2001	IOWA-OA2	
EXTRACTABLE HYDROCARBONS-SOIL							
Total Extractable Hydrocarbons	678	mg/kg		mpc	01/05/2001	IA-OA2/S-8015	10
Diesel	66.5	mg/kg		mpc	01/05/2001	IA-OA2/S-8015	10
Gasoline	611	mg/kg		mpc	01/05/2001	IA-OA2/S-8015	10
Motor Oil	<10	mg/kg		mpc	01/05/2001	IA-OA2/S-8015	10
Ethylene Glycol Non-Aqueous	<10	ug/g		sjg	01/05/2001	GC-FID	10

R.L. Bindert
Operations Manager

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QUALITY CONTROL REPORT

MONTGOMERY WATSON
11153 Aurora Avenue
Des Moines, IA 50322

01/12/2001

Steve Varsa

Job Number: 00.16528.1

	Result	Units	Date Analyzed	Prep Batch Number	Run Batch Number	Analysis Method	Quantitation Limit
600470 MW-608-8 0-2.5'			12/28/2000				
Mercury, CVAA	<0.020	mg/kg	01/11/2001		1582	EPA 245.5	0.020
ICP Metals Prep (Solid)	1.032	g	01/05/2001	950			
ICP Metals-Solid	Complete	mg/kg	01/08/2001		1149	SW 6010B	
Arsenic, ICP	8.1	mg/kg	01/08/2001	950	1179	SW 6010B	4.0
Barium, ICP	73	mg/kg	01/08/2001	950	1183	SW 6010B	0.50
Cadmium, ICP	<2.0	mg/kg	01/08/2001	950	1186	SW 6010B	1.0
Chromium, ICP	7.4	mg/kg	01/08/2001	950	1187	SW 6010B	1.0
Lead, ICP	<10	mg/kg	01/08/2001	950	1187	SW 6010B	5.0
Selenium, ICP	<15	mg/kg	01/08/2001	950	1179	SW 6010B	7.5
Silver, ICP	<2.0	mg/kg	01/08/2001	950	1186	SW 6010B	1.0
UST VOLATILE COMPOUNDS - 8260							
Benzene	<0.005	mg/kg	01/05/2001		590	IA OA-1/8260B	0.005
Toluene	<0.005	mg/kg	01/05/2001		590	IA OA-1/8260B	0.005
Ethylbenzene	<0.005	mg/kg	01/05/2001		590	IA OA-1/8260B	0.005
Xylenes	<0.015	mg/kg	01/05/2001		590	IA OA-1/8260B	0.015
MTBE	<0.015	mg/kg	01/05/2001		590	IA OA-1/8260B	0.015
Hexane	<0.005	mg/kg	01/05/2001		590	IA OA-1/8260B	0.005
Toluene-d8 (Surr.)	92	%	01/05/2001		590	IA OA-1/8260B	
4-Bromofluorobenzene (Surr.)	95	%	01/05/2001		590	IA OA-1/8260B	
Extraction Prep, soil	COMPLETE		01/04/2001	2373		IOWA-OA2	
EXTRACTABLE HYDROCARBONS-SOIL							
Total Extractable Hydrocarbons	<10	mg/kg	01/05/2001	2373	3837	IA-OA2/S-8015	10
Diesel	<10	mg/kg	01/05/2001	2373	3837	IA-OA2/S-8015	10
Gasoline	<10	mg/kg	01/05/2001	2373	3837	IA-OA2/S-8015	10
Motor Oil	<10	mg/kg	01/05/2001	2373	3837	IA-OA2/S-8015	10
N-Octacosane (Surr.)	93	%	01/05/2001	2373	3837	IA-OA2/S-8015	1.0
Ethylene Glycol Non-Aqueous	<10	ug/g	01/05/2001		66	GC-FID	10

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QUALITY CONTROL REPORT

MONTGOMERY WATSON
11153 Aurora Avenue
Des Moines, IA 50322

01/12/2001

Steve Varsa

Job Number: 00.16528.1

	Result	Units	Date Analyzed	Prep Batch Number	Run Batch Number	Analysis Method	Quantitation Limit
600471 MW-608-8 10-12.5'			12/28/2000				
Mercury,CVAA	<0.020	mg/kg	01/11/2001		1582	EPA 245.5	0.020
ICP Metals Prep (Solid)	1.024	g	01/05/2001	950			
ICP Metals-Solid	Complete	mg/kg	01/08/2001		1149	SW 6010B	
Arsenic, ICP	6.6	mg/kg	01/08/2001	950	1179	SW 6010B	4.0
Barium, ICP	71	mg/kg	01/08/2001	950	1183	SW 6010B	0.50
Cadmium, ICP	<1.0	mg/kg	01/08/2001	950	1186	SW 6010B	1.0
Chromium, ICP	11	mg/kg	01/08/2001	950	1187	SW 6010B	1.0
Lead, ICP	9.0	mg/kg	01/08/2001	950	1187	SW 6010B	5.0
Selenium, ICP	<7.5	mg/kg	01/08/2001	950	1179	SW 6010B	7.5
Silver, ICP	<1.0	mg/kg	01/08/2001	950	1186	SW 6010B	1.0
UST VOLATILE COMPOUNDS - 8260							
Benzene	<0.005	mg/kg	01/05/2001		590	IA OA-1/8260B	0.005
Toluene	<0.005	mg/kg	01/05/2001		590	IA OA-1/8260B	0.005
Ethylbenzene	<0.005	mg/kg	01/05/2001		590	IA OA-1/8260B	0.005
Xylenes	<0.015	mg/kg	01/05/2001		590	IA OA-1/8260B	0.015
MTBE	<0.015	mg/kg	01/05/2001		590	IA OA-1/8260B	0.015
Hexane	<0.005	mg/kg	01/05/2001		590	IA OA-1/8260B	0.005
Toluene-d8 (Surr.)	88	%	01/05/2001		590	IA OA-1/8260B	
4-Bromofluorobenzene (Surr.)	93	%	01/05/2001		590	IA OA-1/8260B	
Extraction Prep, soil	COMPLETE		01/04/2001	2373		IOWA-OA2	
EXTRACTABLE HYDROCARBONS-SOIL							
Total Extractable Hydrocarbons	<10	mg/kg	01/05/2001	2373	3837	IA-OA2/S-8015	10
Diesel	<10	mg/kg	01/05/2001	2373	3837	IA-OA2/S-8015	10
Gasoline	<10	mg/kg	01/05/2001	2373	3837	IA-OA2/S-8015	10
Motor Oil	<10	mg/kg	01/05/2001	2373	3837	IA-OA2/S-8015	10
N-Octacosane (Surr.)	88	%	01/05/2001	2373	3837	IA-OA2/S-8015	1.0
Ethylene Glycol Non-Aqueous	<10	ug/g	01/05/2001		66	GC-FID	10

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QUALITY CONTROL REPORT

MONTGOMERY WATSON
11153 Aurora Avenue
Des Moines, IA 50322

01/12/2001

Steve Varsa

Job Number: 00.16528.1

	Result	Units	Date Analyzed	Prep Batch Number	Run Batch Number	Analysis Method	Quantitation Limit
600472 MW-608-9 5-10'			12/28/2000				
Mercury,CVAA	<0.020	mg/kg	01/11/2001		1582	EPA 245.5	0.020
ICP Metals Prep (Solid)	1.026	g	01/05/2001	950			
ICP Metals-Solid	Complete	mg/kg	01/08/2001		1149	SW 6010B	
Arsenic, ICP	<4.0	mg/kg	01/08/2001	950	1179	SW 6010B	4.0
Barium, ICP	12	mg/kg	01/08/2001	950	1183	SW 6010B	0.50
Cadmium, ICP	<1.0	mg/kg	01/08/2001	950	1186	SW 6010B	1.0
Chromium, ICP	1.8	mg/kg	01/08/2001	950	1187	SW 6010B	1.0
Lead, ICP	<5.0	mg/kg	01/08/2001	950	1187	SW 6010B	5.0
Selenium, ICP	<7.5	mg/kg	01/08/2001	950	1179	SW 6010B	7.5
Silver, ICP	<1.0	mg/kg	01/08/2001	950	1186	SW 6010B	1.0
UST VOLATILE COMPOUNDS - 8260							
Benzene	<0.005	mg/kg	01/08/2001		591	IA OA-1/8260B	0.005
Toluene	<0.005	mg/kg	01/08/2001		591	IA OA-1/8260B	0.005
Ethylbenzene	<0.005	mg/kg	01/08/2001		591	IA OA-1/8260B	0.005
Xylenes	<0.015	mg/kg	01/08/2001		591	IA OA-1/8260B	0.015
MTBE	<0.015	mg/kg	01/08/2001		591	IA OA-1/8260B	0.015
Hexane	<0.005	mg/kg	01/08/2001		591	IA OA-1/8260B	0.005
Toluene-d8 (Surr.)	99	%	01/08/2001		591	IA OA-1/8260B	
4-Bromofluorobenzene (Surr.)	98	%	01/08/2001		591	IA OA-1/8260B	
Extraction Prep, soil	COMPLETE		01/04/2001	2373		IOWA-OA2	
EXTRACTABLE HYDROCARBONS-SOIL							
Total Extractable Hydrocarbons	<10	mg/kg	01/05/2001	2373	3837	IA-OA2/S-8015	10
Diesel	<10	mg/kg	01/05/2001	2373	3837	IA-OA2/S-8015	10
Gasoline	<10	mg/kg	01/05/2001	2373	3837	IA-OA2/S-8015	10
Motor Oil	<10	mg/kg	01/05/2001	2373	3837	IA-OA2/S-8015	10
N-Octacosane (Surr.)	102	%	01/05/2001	2373	3837	IA-OA2/S-8015	1.0
Ethylene Glycol Non-Aqueous	<10	ug/g	01/05/2001		66	GC-FID	10

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QUALITY CONTROL REPORT

MONTGOMERY WATSON
11153 Aurora Avenue
Des Moines, IA 50322

01/12/2001

Steve Varsa

Job Number: 00.16528.1

	Result	Units	Date Analyzed	Prep Batch Number	Run Batch Number	Analysis Method	Quantitation Limit
600473 MW-608-9 10-12.5'			12/28/2000				
Mercury,CVAA	<0.020	mg/kg	01/11/2001		1582	EPA 245.5	0.020
ICP Metals Prep (Solid)	1.016	g	01/05/2001	950			
ICP Metals-Solid	Complete	mg/kg	01/08/2001		1149	SW 6010B	
Arsenic, ICP	<4.0	mg/kg	01/08/2001	950	1179	SW 6010B	4.0
Barium, ICP	59	mg/kg	01/08/2001	950	1183	SW 6010B	0.50
Cadmium, ICP	<1.0	mg/kg	01/08/2001	950	1186	SW 6010B	1.0
Chromium, ICP	6.7	mg/kg	01/08/2001	950	1187	SW 6010B	1.0
Lead, ICP	6.6	mg/kg	01/08/2001	950	1187	SW 6010B	5.0
Selenium, ICP	<7.5	mg/kg	01/08/2001	950	1179	SW 6010B	7.5
Silver, ICP	<1.0	mg/kg	01/08/2001	950	1186	SW 6010B	1.0
UST VOLATILE COMPOUNDS - 8260							
Benzene	<0.005	mg/kg	01/09/2001		591	IA OA-1/8260B	0.005
Toluene	<0.005	mg/kg	01/09/2001		591	IA OA-1/8260B	0.005
Ethylbenzene	0.671	mg/kg	01/09/2001		591	IA OA-1/8260B	0.005
Xylenes	1.16	mg/kg	01/09/2001		591	IA OA-1/8260B	0.015
MTBE	<0.015	mg/kg	01/09/2001		591	IA OA-1/8260B	0.015
Hexane	<0.005	mg/kg	01/09/2001		591	IA OA-1/8260B	0.005
Toluene-d8 (Surr.)	92	%	01/09/2001		591	IA OA-1/8260B	
4-Bromofluorobenzene (Surr.)	93	%	01/09/2001		591	IA OA-1/8260B	
Extraction Prep, soil	COMPLETE		01/04/2001	2373		IOWA-OA2	
EXTRACTABLE HYDROCARBONS-SOIL							
Total Extractable Hydrocarbons	261	mg/kg	01/05/2001	2373	3837	IA-OA2/S-8015	10
Diesel	<10	mg/kg	01/05/2001	2373	3837	IA-OA2/S-8015	10
Gasoline	261	mg/kg	01/05/2001	2373	3837	IA-OA2/S-8015	10
Motor Oil	<10	mg/kg	01/05/2001	2373	3837	IA-OA2/S-8015	10
N-Octacosane (Surr.)	87	%	01/05/2001	2373	3837	IA-OA2/S-8015	1.0
Ethylene Glycol Non-Aqueous	<10	ug/g	01/05/2001		66	GC-FID	10

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QUALITY CONTROL REPORT

MONTGOMERY WATSON
11153 Aurora Avenue
Des Moines, IA 50322

01/12/2001

Steve Varsa

Job Number: 00.16528.1

	Result	Units	Date Analyzed	Prep Batch Number	Run Batch Number	Analysis Method	Quantitation Limit
600474 MW-608-10 7.5-10'			12/28/2000				
Mercury,CVAA	<0.020	mg/kg	01/11/2001		1582	EPA 245.5	0.020
ICP Metals Prep (Solid)	1.043	g	01/05/2001	950			
ICP Metals-Solid	Complete	mg/kg	01/08/2001		1149	SW 6010B	
Arsenic, ICP	7.6	mg/kg	01/08/2001	950	1179	SW 6010B	4.0
Barium, ICP	120	mg/kg	01/08/2001	950	1183	SW 6010B	0.50
Cadmium, ICP	<1.0	mg/kg	01/08/2001	950	1186	SW 6010B	1.0
Chromium, ICP	11	mg/kg	01/08/2001	950	1187	SW 6010B	1.0
Lead, ICP	12	mg/kg	01/08/2001	950	1187	SW 6010B	5.0
Selenium, ICP	<7.5	mg/kg	01/08/2001	950	1179	SW 6010B	7.5
Silver, ICP	<1.0	mg/kg	01/08/2001	950	1186	SW 6010B	1.0
UST VOLATILE COMPOUNDS - 8260							
Benzene	<0.005	mg/kg	01/09/2001		591	IA OA-1/8260B	0.005
Toluene	<0.005	mg/kg	01/09/2001		591	IA OA-1/8260B	0.005
Ethylbenzene	<0.005	mg/kg	01/09/2001		591	IA OA-1/8260B	0.005
Xylenes	<0.015	mg/kg	01/09/2001		591	IA OA-1/8260B	0.015
MTBE	<0.015	mg/kg	01/09/2001		591	IA OA-1/8260B	0.015
Hexane	<0.005	mg/kg	01/09/2001		591	IA OA-1/8260B	0.005
Toluene-d8 (Surr.)	98	%	01/09/2001		591	IA OA-1/8260B	
4-Bromofluorobenzene (Surr.)	98	%	01/09/2001		591	IA OA-1/8260B	
Extraction Prep, soil	COMPLETE		01/04/2001	2374		IOWA-OA2	
EXTRACTABLE HYDROCARBONS-SOIL							
Total Extractable Hydrocarbons	<10	mg/kg	01/08/2001	2374	3838	IA-OA2/S-8015	10
Diesel	<10	mg/kg	01/08/2001	2374	3838	IA-OA2/S-8015	10
Gasoline	<10	mg/kg	01/08/2001	2374	3838	IA-OA2/S-8015	10
Motor Oil	<10	mg/kg	01/08/2001	2374	3838	IA-OA2/S-8015	10
N-Octacosane (Surr.)	112	%	01/08/2001	2374	3838	IA-OA2/S-8015	1.0
Ethylene Glycol Non-Aqueous	<10	ug/g	01/05/2001		66	GC-FID	10

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QUALITY CONTROL REPORT

MONTGOMERY WATSON
11153 Aurora Avenue
Des Moines, IA 50322

01/12/2001

Steve Varsa

Job Number: 00.16528.1

	Result	Units	Date Analyzed	Prep Batch Number	Run Batch Number	Analysis Method	Quantitation Limit
600475 MW-608-10 10-12.5'			12/28/2000				
Mercury,CVAA	<0.020	mg/kg	01/11/2001		1582	EPA 245.5	0.020
ICP Metals Prep (Solid)	1.011	g	01/05/2001	950			
ICP Metals-Solid	Complete	mg/kg	01/08/2001		1149	SW 6010B	
Arsenic, ICP	10	mg/kg	01/08/2001	950	1179	SW 6010B	4.0
Barium, ICP	180	mg/kg	01/08/2001	950	1183	SW 6010B	0.50
Cadmium, ICP	<1.0	mg/kg	01/08/2001	950	1186	SW 6010B	1.0
Chromium, ICP	12	mg/kg	01/08/2001	950	1187	SW 6010B	1.0
Lead, ICP	13	mg/kg	01/08/2001	950	1187	SW 6010B	5.0
Selenium, ICP	<7.5	mg/kg	01/08/2001	950	1179	SW 6010B	7.5
Silver, ICP	<1.0	mg/kg	01/08/2001	950	1186	SW 6010B	1.0
UST VOLATILE COMPOUNDS - 8260							
Benzene	<0.005	mg/kg	01/09/2001		591	IA OA-1/8260B	0.005
Toluene	<0.005	mg/kg	01/09/2001		591	IA OA-1/8260B	0.005
Ethylbenzene	<0.005	mg/kg	01/09/2001		591	IA OA-1/8260B	0.005
Xylenes	<0.015	mg/kg	01/09/2001		591	IA OA-1/8260B	0.015
MTBE	<0.015	mg/kg	01/09/2001		591	IA OA-1/8260B	0.015
Hexane	<0.005	mg/kg	01/09/2001		591	IA OA-1/8260B	0.005
Toluene-d8 (Surr.)	98	%	01/09/2001		591	IA OA-1/8260B	
4-Bromofluorobenzene (Surr.)	103	%	01/09/2001		591	IA OA-1/8260B	
Extraction Prep, soil	COMPLETE		01/04/2001	2374		IOWA-OA2	
EXTRACTABLE HYDROCARBONS-SOIL							
Total Extractable Hydrocarbons	<10	mg/kg	01/05/2001	2374	3836	IA-OA2/S-8015	10
Diesel	<10	mg/kg	01/05/2001	2374	3836	IA-OA2/S-8015	10
Gasoline	<10	mg/kg	01/05/2001	2374	3836	IA-OA2/S-8015	10
Motor Oil	<10	mg/kg	01/05/2001	2374	3836	IA-OA2/S-8015	10
N-Octacosane (Surr.)	103	%	01/05/2001	2374	3836	IA-OA2/S-8015	1.0
Ethylene Glycol Non-Aqueous	<10	ug/g	01/05/2001		66	GC-FID	10

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QUALITY CONTROL REPORT

MONTGOMERY WATSON
11153 Aurora Avenue
Des Moines, IA 50322

01/12/2001

Steve Varsa

Job Number: 00.16528.1

	Result	Units	Date Analyzed	Prep Batch Number	Run Batch Number	Analysis Method	Quantitation Limit
600476 MW-608-11 5-7.5'			12/28/2000				
Mercury,CVAA	0.029	mg/kg	01/11/2001		1582	EPA 245.5	0.020
ICP Metals Prep (Solid)	1.035	g	01/05/2001	950			
ICP Metals-Solid	Complete	mg/kg	01/08/2001		1149	SW 6010B	
Arsenic, ICP	9.1	mg/kg	01/08/2001	950	1179	SW 6010B	4.0
Barium, ICP	240	mg/kg	01/08/2001	950	1183	SW 6010B	0.50
Cadmium, ICP	<1.0	mg/kg	01/08/2001	950	1186	SW 6010B	1.0
Chromium, ICP	11	mg/kg	01/08/2001	950	1187	SW 6010B	1.0
Lead, ICP	12	mg/kg	01/08/2001	950	1187	SW 6010B	5.0
Selenium, ICP	<7.5	mg/kg	01/08/2001	950	1179	SW 6010B	7.5
Silver, ICP	<1.0	mg/kg	01/08/2001	950	1186	SW 6010B	1.0
UST VOLATILE COMPOUNDS - 8260							
Benzene	<0.005	mg/kg	01/05/2001		590	IA OA-1/8260B	0.005
Toluene	<0.005	mg/kg	01/05/2001		590	IA OA-1/8260B	0.005
Ethylbenzene	0.006	mg/kg	01/05/2001		590	IA OA-1/8260B	0.005
Xylenes	0.090	mg/kg	01/05/2001		590	IA OA-1/8260B	0.015
MTBE	<0.015	mg/kg	01/05/2001		590	IA OA-1/8260B	0.015
Hexane	<0.005	mg/kg	01/05/2001		590	IA OA-1/8260B	0.005
Toluene-d8 (Surr.)	89	%	01/05/2001		590	IA OA-1/8260B	
4-Bromofluorobenzene (Surr.)	101	%	01/05/2001		590	IA OA-1/8260B	
Extraction Prep, soil	COMPLETE		01/04/2001	2374		IOWA-OA2	
EXTRACTABLE HYDROCARBONS-SOIL							
Total Extractable Hydrocarbons	223	mg/kg	01/05/2001	2374	3836	IA-OA2/S-8015	10
Diesel	39.9	mg/kg	01/05/2001	2374	3836	IA-OA2/S-8015	10
Gasoline	183	mg/kg	01/05/2001	2374	3836	IA-OA2/S-8015	10
Motor Oil	<10	mg/kg	01/05/2001	2374	3836	IA-OA2/S-8015	10
N-Octacosane (Surr.)	93	%	01/05/2001	2374	3836	IA-OA2/S-8015	1.0
Ethylene Glycol Non-Aqueous	<10	ug/g	01/05/2001		66	GC-FID	10

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QUALITY CONTROL REPORT

MONTGOMERY WATSON
11153 Aurora Avenue
Des Moines, IA 50322

01/12/2001

Steve Varsa

Job Number: 00.16528.1

	Result	Units	Date Analyzed	Prep Batch Number	Run Batch Number	Analysis Method	Quantitation Limit
600477 MW-608-11 7.5-10'			12/28/2000				
Mercury,CVAA	0.036	mg/kg	01/11/2001		1582	EPA 245.5	0.020
ICP Metals Prep (Solid)	1.062	g	01/05/2001	950			
ICP Metals-Solid	Complete	mg/kg	01/08/2001		1149	SW 6010B	
Arsenic, ICP	8.6	mg/kg	01/08/2001	950	1179	SW 6010B	4.0
Barium, ICP	400	mg/kg	01/08/2001	950	1183	SW 6010B	0.50
Cadmium, ICP	<1.0	mg/kg	01/08/2001	950	1186	SW 6010B	1.0
Chromium, ICP	11	mg/kg	01/08/2001	950	1187	SW 6010B	1.0
Lead, ICP	12	mg/kg	01/08/2001	950	1187	SW 6010B	5.0
Selenium, ICP	<7.5	mg/kg	01/08/2001	950	1179	SW 6010B	7.5
Silver, ICP	<1.0	mg/kg	01/08/2001	950	1186	SW 6010B	1.0
UST VOLATILE COMPOUNDS - 8260							
Benzene	<0.005	mg/kg	01/09/2001		591	IA OA-1/8260B	0.005
Toluene	0.007	mg/kg	01/09/2001		591	IA OA-1/8260B	0.005
Ethylbenzene	0.283	mg/kg	01/09/2001		591	IA OA-1/8260B	0.005
Xylenes	2.46	mg/kg	01/09/2001		591	IA OA-1/8260B	0.015
MTBE	<0.015	mg/kg	01/09/2001		591	IA OA-1/8260B	0.015
Hexane	0.040	mg/kg	01/09/2001		591	IA OA-1/8260B	0.005
Toluene-d8 (Surr.)	92	%	01/09/2001		591	IA OA-1/8260B	
4-Bromofluorobenzene (Surr.)	93	%	01/09/2001		591	IA OA-1/8260B	
Extraction Prep, soil	COMPLETE		01/04/2001	2374		IOWA-OA2	
EXTRACTABLE HYDROCARBONS-SOIL							
Total Extractable Hydrocarbons	678	mg/kg	01/05/2001	2374	3836	IA-OA2/S-8015	10
Diesel	66.5	mg/kg	01/05/2001	2374	3836	IA-OA2/S-8015	10
Gasoline	611	mg/kg	01/05/2001	2374	3836	IA-OA2/S-8015	10
Motor Oil	<10	mg/kg	01/05/2001	2374	3836	IA-OA2/S-8015	10
N-Octacosane (Surr.)	101	%	01/05/2001	2374	3836	IA-OA2/S-8015	1.0
Ethylene Glycol Non-Aqueous	<10	ug/g	01/05/2001		66	GC-FID	10

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QUALITY CONTROL REPORT
CONTINUING CALIBRATION VERIFICATION

Steve Varsa
MONTGOMERY WATSON
11153 Aurora Avenue
Des Moines, IA 50322

01/12/2001

Job Number: 00.16528.1

Analyte	Prep Batch No.	Run Batch No.	CCV True Value	Units	CCV Conc Found	CCV % Rec	Flag	Date Analyzed
Mercury, CVAA		1582	1.00	ug/kg	0.96	96		01/11/2001
Mercury, CVAA		1582	1.00	ug/kg	0.96	96		01/11/2001
Mercury, CVAA		1582	1.00	ug/kg	1.02	102		01/11/2001
Mercury, CVAA		1582	1.00	ug/kg	1.01	101		01/11/2001
Mercury, CVAA		1582	1.00	ug/kg	1.04	104		01/11/2001
Mercury, CVAA		1582	1.00	ug/kg	1.05	105		01/11/2001
ICP Metals-Solid		1149	1.0	mg/L	1.0	100		01/08/2001
Arsenic, ICP		1179	5.00	mg/L	4.77	95		01/08/2001
Arsenic, ICP		1179	5.00	mg/L	4.77	95		01/08/2001
Barium, ICP		1183	5.0	mg/L	4.97	99		01/08/2001
Barium, ICP		1183	5.0	mg/L	4.95	99		01/08/2001
Cadmium, ICP		1186	5.0	mg/L	4.90	98		01/08/2001
Cadmium, ICP		1186	5.0	mg/L	4.85	97		01/08/2001
Chromium, ICP		1187	5.0	mg/L	4.81	96		01/08/2001
Chromium, ICP		1187	5.0	mg/L	4.78	96		01/08/2001
Lead, ICP		1187	5.0	mg/L	4.89	98		01/08/2001
Lead, ICP		1187	5.0	mg/L	4.80	96		01/08/2001
Selenium, ICP		1179	5.0	mg/L	4.76	95		01/08/2001
Selenium, ICP		1179	5.0	mg/L	4.77	95		01/08/2001
Silver, ICP		1186	1.0	mg/L	0.9747	98		01/08/2001
Silver, ICP		1186	1.0	mg/L	0.9678	97		01/08/2001
UST VOLATILE COMPOUNDS - 8260								
UST VOLATILE COMPOUNDS - 8260								
Benzene		590	50.0	ug/L	54.4	109		01/05/2001
Toluene		590	50.0	ug/L	47.8	96		01/05/2001
Ethylbenzene		590	50.0	ug/L	50.8	102		01/05/2001
Xylenes		590	150.	ug/L	154	103		01/05/2001
MTBE		590	50.0	ug/L	57.8	116		01/05/2001
Hexane		590	50.0	ug/L	62.7	125		01/05/2001
Toluene-d8 (Surr.)		590	100	%	94	94		01/05/2001
4-Bromofluorobenzene (Surr.)		590	100	%	98	98		01/05/2001
UST VOLATILE COMPOUNDS - 8260								

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QUALITY CONTROL REPORT
CONTINUING CALIBRATION VERIFICATION

Steve Varsa
MONTGOMERY WATSON
11153 Aurora Avenue
Des Moines, IA 50322

01/12/2001

Job Number: 00.16528.1

Analyte	Prep Batch No.	Run Batch No.	CCV True Value	Units	CCV Conc Found	CCV % Rec	Flag	Date Analyzed
Benzene		591	50.0	mg/kg	54.4	109		01/08/2001
Toluene		591	50.0	mg/kg	54.8	110		01/08/2001
Ethylbenzene		591	50.0	mg/kg	55.8	112		01/08/2001
Xylenes		591	150.	mg/kg	166	111		01/08/2001
MTBE		591	50.0	mg/kg	51.2	102		01/08/2001
Hexane		591	50.0	mg/kg	49.6	99		01/08/2001
Toluene-d8 (Surr.)		591	100	%	102	102		01/08/2001
4-Bromofluorobenzene (Surr.)		591	100	%	102	102		01/08/2001
EXTRACTABLE HYDROCARBONS-SOIL								
Diesel		3836	2500	mg/kg	2,595	104		01/05/2001
Motor Oil		3836	2500	mg/kg	2,502	100		01/05/2001
EXTRACTABLE HYDROCARBONS-SOIL								
Diesel		3837	2500	mg/kg	2,723	109		01/05/2001
Motor Oil		3837	2500	mg/kg	2,488	100		01/05/2001
EXTRACTABLE HYDROCARBONS-SOIL								
Diesel		3838	2500	mg/kg	2,577	103		01/08/2001
Motor Oil		3838	2500	mg/kg	2,449	98		01/08/2001
Ethylene Glycol Non-Aqueous		66	143	ug/g	142	99		01/05/2001
Ethylene Glycol Non-Aqueous		66	143	ug/g	132	92		01/06/2001

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QUALITY CONTROL REPORT
BLANKS

Steve Varsa
MONTGOMERY WATSON
11153 Aurora Avenue
Des Moines, IA 50322

01/12/2001

Job Number: 00.16528.1

Analyte	Prep Batch No.	Run Batch No.	Blank Value	Flag	Units	Quantitation Limit	Date Analyzed
Mercury,CVAA		1582	<0.020		mg/kg	0.020	01/11/2001
Arsenic, ICP	950	1179	<0.080		mg/L	4.0	01/08/2001
Barium, ICP	950	1183	<0.010		mg/L	0.50	01/08/2001
Cadmium, ICP	950	1186	<0.020		mg/L	1.0	01/08/2001
Chromium, ICP	950	1187	<0.020		mg/L	1.0	01/08/2001
Lead, ICP	950	1187	<0.10		mg/L	5.0	01/08/2001
Selenium, ICP	950	1179	<0.15		mg/L	7.5	01/08/2001
Silver, ICP	950	1186	<0.020		mg/L	1.0	01/08/2001
UST VOLATILE COMPOUNDS - 8260							
UST VOLATILE COMPOUNDS - 8260							
Benzene		590	<0.005		mg/kg	0.005	01/05/2001
Toluene		590	<0.005		mg/kg	0.005	01/05/2001
Ethylbenzene		590	<0.005		mg/kg	0.005	01/05/2001
Xylenes		590	<0.015		mg/kg	0.015	01/05/2001
MTBE		590	<0.015		mg/kg	0.015	01/05/2001
Hexane		590	<0.005		mg/kg	0.005	01/05/2001
Toluene-d8 (Surr.)		590	89		%		01/05/2001
4-Bromofluorobenzene (Surr.)		590	97		%		01/05/2001
UST VOLATILE COMPOUNDS - 8260							
UST VOLATILE COMPOUNDS - 8260							
Benzene		591	<0.005		mg/kg	0.005	01/08/2001
Toluene		591	<0.005		mg/kg	0.005	01/08/2001
Ethylbenzene		591	<0.005		mg/kg	0.005	01/08/2001
Xylenes		591	<0.015		mg/kg	0.015	01/08/2001
MTBE		591	<0.015		mg/kg	0.015	01/08/2001
Hexane		591	<0.005		mg/kg	0.005	01/08/2001
Toluene-d8 (Surr.)		591	97		%		01/08/2001
4-Bromofluorobenzene (Surr.)		591	95		%		01/08/2001
EXTRACTABLE HYDROCARBONS-SOIL							
Total Extractable Hydrocarbons	2374	3834	<10		mg/kg	10	01/04/2001
Diesel	2374	3834	<10		mg/kg	10	01/04/2001
Gasoline	2374	3834	<10		mg/kg	10	01/04/2001
Motor Oil	2374	3834	<10		mg/kg	10	01/04/2001
N-Octacosane (Surr.)	2374	3834	61		%	1.0	01/04/2001

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QUALITY CONTROL REPORT
BLANKS

Steve Varsa
MONTGOMERY WATSON
11153 Aurora Avenue
Des Moines, IA 50322

01/12/2001

Job Number: 00.16528.1

Analyte	Prep Batch No.	Run Batch No.	Blank Value	Flag	Units	Quantitation Limit	Date Analyzed
EXTRACTABLE HYDROCARBONS-SOIL							
Total Extractable Hydrocarbons	2373	3833	<10		mg/kg	10	01/03/2001
Diesel	2373	3833	<10		mg/kg	10	01/03/2001
Gasoline	2373	3833	<10		mg/kg	10	01/03/2001
Motor Oil	2373	3833	<10		mg/kg	10	01/03/2001
N-Octacosane (Surr.)	2373	3833	78		%	1.0	01/03/2001
EXTRACTABLE HYDROCARBONS-SOIL							
Total Extractable Hydrocarbons	2373	3836	<10		mg/kg	10	01/05/2001
Diesel	2373	3836	<10		mg/kg	10	01/05/2001
Gasoline	2373	3836	<10		mg/kg	10	01/05/2001
Motor Oil	2373	3836	<10		mg/kg	10	01/05/2001
N-Octacosane (Surr.)	2373	3836	105		%	1.0	01/05/2001
Ethylene Glycol Non-Aqueous		66	<10		ug/g	10	01/05/2001

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QUALITY CONTROL REPORT
LABORATORY CONTROL STANDARD

Steve Varsa
MONTGOMERY WATSON
11153 Aurora Avenue
Des Moines, IA 50322

01/12/2001

Job Number: 00.16528.1

Analyte	Prep Batch No.	Run Batch No.	LCS True Conc	Units	LCS Conc Found	LCS % Rec.	Flag	Date Analyzed
Mercury,CVAA		1582	0.0997	mg/kg	0.103	103		01/11/2001
Arsenic, ICP	950	1179	2.00	mg/L	1.89	95		01/08/2001
Barium, ICP	950	1183	1.0	mg/L	0.9374	94		01/08/2001
Cadmium, ICP	950	1186	1.0	mg/L	0.9654	97		01/08/2001
Chromium, ICP	950	1187	1.0	mg/L	0.9460	95		01/08/2001
Lead, ICP	950	1187	2.0	mg/L	1.97	99		01/08/2001
Selenium, ICP	950	1179	4.0	mg/L	3.76	94		01/08/2001
Silver, ICP	950	1186	1.0	mg/L	1.01	101		01/08/2001
UST VOLATILE COMPOUNDS - 8260								
UST VOLATILE COMPOUNDS - 8260								
Benzene		590	0.0257	mg/kg	0.0248	97		01/05/2001
Toluene		590	0.0257	mg/kg	0.0227	88		01/05/2001
Ethylbenzene		590	0.0257	mg/kg	0.0251	98		01/05/2001
Xylenes		590	0.0771	mg/kg	0.0794	103		01/05/2001
MTBE		590	0.0257	mg/kg	0.0299	116		01/05/2001
Hexane		590	0.0257	mg/kg	0.0308	120		01/05/2001
Toluene-d8 (Surr.)		590	100.000	%	92.3	92		01/05/2001
4-Bromofluorobenzene (Surr.)		590	100.000	%	98.4	98		01/05/2001
UST VOLATILE COMPOUNDS - 8260								
UST VOLATILE COMPOUNDS - 8260								
Benzene		591	0.0261	mg/kg	0.0247	95		01/08/2001
Toluene		591	0.0261	mg/kg	0.0254	97		01/08/2001
Ethylbenzene		591	0.0261	mg/kg	0.0274	105		01/08/2001
Xylenes		591	0.0782	mg/kg	0.0822	105		01/08/2001
MTBE		591	0.0261	mg/kg	0.0249	95		01/08/2001
Hexane		591	0.0261	mg/kg	0.0229	88		01/08/2001
Toluene-d8 (Surr.)		591	100.000	%	96.7	97		01/08/2001
4-Bromofluorobenzene (Surr.)		591	100.000	%	103	103		01/08/2001
EXTRACTABLE HYDROCARBONS-SOIL								
Diesel	2374	3834	65.3	mg/kg	49.4	76		01/04/2001
N-Octacosane (Surr.)	2374	3834	100	%	71	71		01/04/2001
EXTRACTABLE HYDROCARBONS-SOIL								
Diesel	2373	3833	65.3	mg/kg	59.9	92		01/03/2001

TestAmerica
INCORPORATED

QUALITY CONTROL REPORT
LABORATORY CONTROL STANDARD

Steve Varsa
MONTGOMERY WATSON
11153 Aurora Avenue
Des Moines, IA 50322

01/12/2001

Job Number: 00.16528.1

Analyte	Prep Batch No.	Run Batch No.	LCS True Conc	Units	LCS Conc Found	LCS % Rec.	Flag	Date Analyzed
N-Octacosane (Surr.)	2373	3833	100	%	85	85		01/03/2001
Ethylene Glycol Non-Aqueous		66	142	ug/g	128	90		01/05/2001
Ethylene Glycol Non-Aqueous		66	142	ug/g	132	93		01/05/2001

TestAmerica
INCORPORATED

QUALITY CONTROL REPORT
MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Steve Varsa
MONTGOMERY WATSON
11153 Aurora Avenue
Des Moines, IA 50322

01/12/2001

Job Number: 00.16528.1

Analyte	Prep Batch No.	Run Batch No.	Sample Result	Units	MS Spike Conc. Added	MS Result	MS %Rec.	MSD Spike Conc. Added	MSD Result	MSD % Rec.	RPD	Flag(s)
Mercury,CVAA		1582	<0.020	mg/kg	0.0997	0.106	106	0.0996	0.106	106	0	
ICP Metals-Solid		1149	Complete	mg/kg								
Arsenic, ICP	950	1179	<4.0	mg/kg	188	180	96	194	188	97	4.3	
Barium, ICP	950	1183	12	mg/kg	94.0	96.6	90	97.2	100	91	3.4	
Cadmium, ICP	950	1186	<1.0	mg/kg	94.0	90.4	96	97.2	94.0	97	3.9	
Chromium, ICP	950	1187	1.8	mg/kg	94.0	90.6	95	97.2	94.2	95	3.9	
Lead, ICP	950	1187	<5.0	mg/kg	188	184	98	194	190	98	3.2	
Selenium, ICP	950	1179	<7.5	mg/kg	376	357	95	389	373	96	4.4	
Silver, ICP	950	1186	<1.0	mg/kg	48.7	48.6	100					
UST VOLATILE COMPOUNDS - 8260												
Benzene		590	<0.005	mg/kg	0.0372	0.0330	89	0.0370	0.0283	77	15	
Toluene		590	<0.005	mg/kg	0.0372	0.0299	80	0.0370	0.0235	64	24	M
Ethylbenzene		590	<0.005	mg/kg	0.0372	0.0316	85	0.0370	0.0247	67	25	M
Xylenes		590	<0.015	mg/kg	0.112	0.100	89	0.111	0.078	70	25	M
MTBE		590	<0.015	mg/kg	0.0372	0.0419	113	0.0370	0.0566	153	30	M
Hexane		590	<0.005	mg/kg	0.0372	0.0377	101	0.0370	0.0284	77	28	M
UST VOLATILE COMPOUNDS - 8260												
Benzene		591	<0.005	mg/kg	0.0471	0.0456	97	0.0420	0.0401	96	13	
Toluene		591	<0.005	mg/kg	0.0471	0.0470	100	0.0420	0.0417	99	12	
Ethylbenzene		591	<0.005	mg/kg	0.0471	0.0495	105	0.0420	0.0429	102	14	
Xylenes		591	<0.015	mg/kg	0.141	0.133	94	0.126	0.115	91	15	
MTBE		591	<0.015	mg/kg	0.0471	0.0436	93	0.0420	0.0402	96	8.1	
Hexane		591	<0.005	mg/kg	0.0471	0.0377	80	0.0420	0.0329	78	14	
EXTRACTABLE HYDROCARBONS-SOIL												MSO
Diesel	2374	3834	199	mg/kg	64.9	190	0	64.5	218	30	14	
EXTRACTABLE HYDROCARBONS-SOIL												
Diesel	2373	3833	<10	mg/kg	56.1	64.8	116	51.6	64.1	124	1.1	

MSO - MS or MSD is out control for this analyte.

TestAmerica
INCORPORATED

r Fal: sion
704 Enterprise Drive
Cedar Falls, IA 50613

ıe: 3 77 - : or) - 75 :01
Fax: 319 - 277 - 2425

Company: Montgomery Watson
Send Report To: Steve Varsa
Address: 11153 Aurora Avenue
City/State/Zip Code: Des Moines, IA 50322
Telephone Number: (515) 253-0830 Fax: 253-0830
Sampled by: (Print Name) Stephen Varsa
(Signature)

Your PO #: 10071 OF
Invoice To: Steve Varsa
TA Quote #: 08-09-00: Tier I Investigation - 3 UST sites
Project Name: NEANG - Bldg 635, Lincoln, NE
Project Number: 1911914.781801
Project Manager: Jeff Coon
Proj. Mgr. Telephone: (515) 253-0830

Sample ID	Date Sampled	Time Sampled	# of containers shipped	Grab	Composite	Field Filtered	Preservative: Ice	HNO_3 (Red & White Label)	HCl (Blue & White Label)	NaOH (Orange & White Label)	H_2SO_4 Plastic (Yellow & White Label)	H_2SO_4 Glass (Yellow & White Label)	None (Black & White Label)	Other (Specify)	Matrix: Groundwater	Wastewater	Drinking Water	Sludge	Soil	Other Specify:	Analyze For: BTEX (8260)	n-hexane (8260)	MTBE (8260)	Ethylene Glycol	TEH-gasoline (OA-2)	TEH-diesel (OA-2)	TEH-used oil (OA-2)	8 RCRA metals				RUSH TAT (Must call ahead!)	Standard TAT	Fax Results	Send QC with report
MW-608-8 @ 0-2.5'	12/28/00	08:13	2	X			X						X						X		X	X	X	X	X	X	X	X					X	X	X
MW-608-8 @ 10-12.5'	12/28/00	08:28	2	X			X						X						X		X	X	X	X	X	X	X	X					X	X	X
MW-608-9 @ 5-10'	12/28/00	09:45	2	X			X						X						X		X	X	X	X	X	X	X	X					X	X	X
MW-608-9 @ 10-12.5'	12/28/00	09:48	2	X			X						X						X		X	X	X	X	X	X	X	X					X	X	X
MW-608-10 @ 7.5-10'	12/28/00	11:00	2	X			X						X						X		X	X	X	X	X	X	X	X					X	X	X
MW-608-10 @ 10-12.5'	12/28/00	11:03	2	X			X						X						X		X	X	X	X	X	X	X	X					X	X	X
MW-608-11 @ 5-7.5'	12/28/00	15:08	2	X			X						X						X		X	X	X	X	X	X	X	X					X	X	X
MW-608-11 @ 7.5-10'	12/28/00	15:10	2	X			X						X						X		X	X	X	X	X	X	X	X					X	X	X

NOTE: All turn around times are calculated from the time of receipt at TestAmerica.
NOTICE: Pre-Arrangements must be made *AT LEAST 48 Hours in ADVANCE* to receive results with RUSH turn around time commitments; *additional charges* may be assessed.
NOTE: There may be a charge assessed for TestAmerica disposing of sample remainders.

NOTES:
see bid sheet for requirements
Nebraska LUST/RBCA requirements

Relinquished by:	Date	Time	Received by:	Date	Time	Relinquished by:	Date	Time
[signature]	12/29/00	23:00	Test America	1-3-01	2:30	[signature]		
Shipped Via:			Comments:			Shipped Via:		
Received for TestAmerica by	Date	Time	Temperature Upon Receipt:			Laboratory Comments:		

RECEIVED
JAN 19 2001
MW / IOWA

ANALYTICAL REPORT

Steve Varsa
MONTGOMERY WATSON
11153 Aurora Avenue
Des Moines, IA 50322

01/17/2001

Job Number: 00.16625

Sample Number: 600767

Project ID: NEANG-Bldg. 608/Lincoln, NE

Sample ID: MW-608-8

Date Taken: 01/04/2001 Date Received: 01/06/2001

Analyte	Result	Units	Result Flag	Analyst	Date Analyzed	Method	Quantitation Limit
Mercury,Cold Vapor	<0.00020	mg/L		heh	01/11/2001	EPA 245.1	0.0002
ICP Metals - SW-6010B	Complete			llw	01/10/2001	SW 6010B	
Arsenic, ICP	<0.080	mg/L		llw	01/10/2001	SW 6010B	0.080
Barium, ICP	0.101	mg/L		llw	01/10/2001	SW 6010B	0.010
Cadmium, ICP	<0.020	mg/L		llw	01/10/2001	SW 6010B	0.020
Chromium, ICP	0.021	mg/L		llw	01/10/2001	SW 6010B	0.020
Lead, ICP	<0.10	mg/L		llw	01/10/2001	SW 6010B	0.10
Selenium, ICP	<0.15	mg/L		llw	01/10/2001	SW 6010B	0.15
Silver, ICP	<0.020	mg/L		llw	01/10/2001	SW 6010B	0.020
UST VOLATILE COMPOUNDS - 8260							
Benzene	<1.0	ug/L		mmk	01/10/2001	IA OA-1/8260B	1.0
Toluene	<1.0	ug/L		mmk	01/10/2001	IA OA-1/8260B	1.0
Ethylbenzene	<1.0	ug/L		mmk	01/10/2001	IA OA-1/8260B	1.0
Xylenes	<3.0	ug/L		mmk	01/10/2001	IA OA-1/8260B	3.0
MTBE	<1.0	ug/L		mmk	01/10/2001	IA OA-1/8260B	1.0
Hexane	<1.0	ug/L		mmk	01/10/2001	IA OA-1/8260B	1.0
Extraction Prep	COMPLETE			kje	01/08/2001	IOWA-OA2	
EXTRACTABLE HYDROCARBONS-WATER							
Total Extractable Hydrocarbons	<380	ug/L		mpc	01/09/2001	IA-OA2/S-8015	380
Diesel	<380	ug/L		mpc	01/09/2001	IA-OA2/S-8015	380
Gasoline	<380	ug/L		mpc	01/09/2001	IA-OA2/S-8015	380
Motor Oil	<380	ug/L		mpc	01/09/2001	IA-OA2/S-8015	380
Ethylene Glycol - Aqueous	<10	mg/L		sjg	01/16/2001	SW-8015B	10
VOA Preservation pH	<2.0	units		mmk	01/10/2001	SW 9041A	

R.L. Bindert
Operations Manager

TestAmerica INCORPORATED

ANALYTICAL REPORT

Steve Varsa
MONTGOMERY WATSON
11153 Aurora Avenue
Des Moines, IA 50322

01/17/2001

Job Number: 00.16625

Sample Number: 600768

Project ID: NEANG-Bldg. 608/Lincoln, NE

Sample ID: MW-608-9

Date Taken: 01/04/2001 Date Received: 01/06/2001

Analyte	Result	Units	Result Flag	Analyst	Date Analyzed	Method	Quantitation Limit
Mercury,Cold Vapor	<0.00020	mg/L		heh	01/11/2001	EPA 245.1	0.0002
ICP Metals - SW-6010B	Complete			llw	01/10/2001	SW 6010B	
Arsenic, ICP	<0.080	mg/L		llw	01/10/2001	SW 6010B	0.080
Barium, ICP	0.195	mg/L		llw	01/10/2001	SW 6010B	0.010
Cadmium, ICP	<0.020	mg/L		llw	01/10/2001	SW 6010B	0.020
Chromium, ICP	<0.020	mg/L		llw	01/10/2001	SW 6010B	0.020
Lead, ICP	<0.10	mg/L		llw	01/10/2001	SW 6010B	0.10
Selenium, ICP	<0.15	mg/L		llw	01/10/2001	SW 6010B	0.15
Silver, ICP	<0.020	mg/L		llw	01/10/2001	SW 6010B	0.020
UST VOLATILE COMPOUNDS - 8260							
Benzene	<1.0	ug/L		mmk	01/10/2001	IA OA-1/8260B	1.0
Toluene	<1.0	ug/L		mmk	01/10/2001	IA OA-1/8260B	1.0
Ethylbenzene	119	ug/L		mmk	01/10/2001	IA OA-1/8260B	1.0
Xylenes	93.5	ug/L		mmk	01/10/2001	IA OA-1/8260B	3.0
MTBE	<1.0	ug/L		mmk	01/10/2001	IA OA-1/8260B	1.0
Hexane	<1.0	ug/L		mmk	01/10/2001	IA OA-1/8260B	1.0
Extraction Prep	COMPLETE			kje	01/08/2001	IOWA-OA2	
EXTRACTABLE HYDROCARBONS-WATER							
Total Extractable Hydrocarbons	2,340	ug/L		mpc	01/09/2001	IA-OA2/S-8015	380
Diesel	<380	ug/L		mpc	01/09/2001	IA-OA2/S-8015	380
Gasoline	2,340	ug/L		mpc	01/09/2001	IA-OA2/S-8015	380
Motor Oil	<380	ug/L		mpc	01/09/2001	IA-OA2/S-8015	380
Ethylene Glycol - Aqueous	<10	mg/L		sjg	01/16/2001	SW-8015B	10
VOA Preservation pH	<2.0	units		mmk	01/10/2001	SW 9041A	

R.L. Bindert
Operations Manager

ANALYTICAL REPORT

Steve Varsa
MONTGOMERY WATSON
11153 Aurora Avenue
Des Moines, IA 50322

01/17/2001

Job Number: 00.16625

Sample Number: 600769

Project ID: NEANG-Bldg. 608/Lincoln, NE

Sample ID: MW-608-10

Date Taken: 01/04/2001

Date Received: 01/06/2001

Analyte	Result	Units	Result Flag	Analyst	Date Analyzed	Method	Quantitation Limit
Mercury,Cold Vapor	<0.00020	mg/L		heh	01/11/2001	EPA 245.1	0.0002
ICP Metals - SW-6010B	Complete			llw	01/10/2001	SW 6010B	
Arsenic, ICP	<0.080	mg/L		llw	01/10/2001	SW 6010B	0.080
Barium, ICP	0.127	mg/L		llw	01/10/2001	SW 6010B	0.010
Cadmium, ICP	<0.020	mg/L		llw	01/10/2001	SW 6010B	0.020
Chromium, ICP	<0.020	mg/L		llw	01/10/2001	SW 6010B	0.020
Lead, ICP	<0.10	mg/L		llw	01/10/2001	SW 6010B	0.10
Selenium, ICP	<0.15	mg/L		llw	01/10/2001	SW 6010B	0.15
Silver, ICP	<0.020	mg/L		llw	01/10/2001	SW 6010B	0.020
UST VOLATILE COMPOUNDS - 8260							
Benzene	<1.0	ug/L		mmk	01/10/2001	IA OA-1/8260B	1.0
Toluene	<1.0	ug/L		mmk	01/10/2001	IA OA-1/8260B	1.0
Ethylbenzene	<1.0	ug/L		mmk	01/10/2001	IA OA-1/8260B	1.0
Xylenes	<3.0	ug/L		mmk	01/10/2001	IA OA-1/8260B	3.0
MTBE	<1.0	ug/L		mmk	01/10/2001	IA OA-1/8260B	1.0
Hexane	<1.0	ug/L		mmk	01/10/2001	IA OA-1/8260B	1.0
Extraction Prep	COMPLETE			kje	01/08/2001	IOWA-OA2	
EXTRACTABLE HYDROCARBONS-WATER							
Total Extractable Hydrocarbons	<380	ug/L		mpc	01/09/2001	IA-OA2/S-8015	380
Diesel	<380	ug/L		mpc	01/09/2001	IA-OA2/S-8015	380
Gasoline	<380	ug/L		mpc	01/09/2001	IA-OA2/S-8015	380
Motor Oil	<380	ug/L		mpc	01/09/2001	IA-OA2/S-8015	380
Ethylene Glycol - Aqueous	<10	mg/L		sjg	01/16/2001	SW-8015B	10
VOA Preservation pH	<2.0	units		mmk	01/10/2001	SW 9041A	

R.L. Bindert
Operations Manager

ANALYTICAL REPORT

Steve Varsa
MONTGOMERY WATSON
11153 Aurora Avenue
Des Moines, IA 50322

01/17/2001

Job Number: 00.16625

Sample Number: 600770

Project ID: NEANG-Bldg. 608/Lincoln, NE

Sample ID: MW-608-11

Date Taken: 01/04/2001 Date Received: 01/06/2001

Analyte	Result	Units	Result Flag	Analyst	Date Analyzed	Method	Quantitation Limit
Mercury,Cold Vapor	<0.00020	mg/L		heh	01/11/2001	EPA 245.1	0.0002
ICP Metals - SW-6010B	Complete			llw	01/10/2001	SW 6010B	
Arsenic, ICP	<0.080	mg/L		llw	01/10/2001	SW 6010B	0.080
Barium, ICP	0.123	mg/L		llw	01/10/2001	SW 6010B	0.010
Cadmium, ICP	<0.020	mg/L		llw	01/10/2001	SW 6010B	0.020
Chromium, ICP	<0.020	mg/L		llw	01/10/2001	SW 6010B	0.020
Lead, ICP	<0.10	mg/L		llw	01/10/2001	SW 6010B	0.10
Selenium, ICP	<0.15	mg/L		llw	01/10/2001	SW 6010B	0.15
Silver, ICP	<0.020	mg/L		llw	01/10/2001	SW 6010B	0.020
UST VOLATILE COMPOUNDS - 8260							
Benzene	1.7	ug/L		mmk	01/10/2001	IA OA-1/8260B	1.0
Toluene	<1.0	ug/L		mmk	01/10/2001	IA OA-1/8260B	1.0
Ethylbenzene	1.6	ug/L		mmk	01/10/2001	IA OA-1/8260B	1.0
Xylenes	11.4	ug/L		mmk	01/10/2001	IA OA-1/8260B	3.0
MTBE	<1.0	ug/L		mmk	01/10/2001	IA OA-1/8260B	1.0
Hexane	<1.0	ug/L		mmk	01/10/2001	IA OA-1/8260B	1.0
Extraction Prep	COMPLETE			kje	01/08/2001	IOWA-OA2	
EXTRACTABLE HYDROCARBONS-WATER							
Total Extractable Hydrocarbons	<380	ug/L		mpc	01/09/2001	IA-OA2/S-8015	380
Diesel	<380	ug/L		mpc	01/09/2001	IA-OA2/S-8015	380
Gasoline	<380	ug/L		mpc	01/09/2001	IA-OA2/S-8015	380
Motor Oil	<380	ug/L		mpc	01/09/2001	IA-OA2/S-8015	380
Ethylene Glycol - Aqueous	<10	mg/L		sjg	01/16/2001	SW-8015B	10
VOA Preservation pH	<2.0	units		mmk	01/10/2001	SW 9041A	

R.L. Bindert
Operations Manager

TestAmerica
INCORPORATED

ANALYTICAL REPORT

Steve Varsa
MONTGOMERY WATSON
11153 Aurora Avenue
Des Moines, IA 50322

01/17/2001

Job Number: 00.16625

Sample Number: 600771

Project ID: NEANG-Bldg. 608/Lincoln, NE

Sample ID: Trip Blank

Date Taken:

Date Received: 01/06/2001

Analyte	Result	Units	Result Flag	Analyst	Date Analyzed	Method	Quantitation Limit
UST VOLATILE COMPOUNDS - 8260							
Benzene	<1.0	ug/L		mmk	01/10/2001	IA OA-1/8260B	1.0
Toluene	<1.0	ug/L		mmk	01/10/2001	IA OA-1/8260B	1.0
Ethylbenzene	<1.0	ug/L		mmk	01/10/2001	IA OA-1/8260B	1.0
Xylenes	<3.0	ug/L		mmk	01/10/2001	IA OA-1/8260B	3.0
MTBE	<1.0	ug/L		mmk	01/10/2001	IA OA-1/8260B	1.0
Hexane	<1.0	ug/L		mmk	01/10/2001	IA OA-1/8260B	1.0
VOA Preservation pH	<2.0	units		mmk	01/10/2001	SW 9041A	

R.L. Bindert
Operations Manager

TestAmerica
INCORPORATED

QUALITY CONTROL REPORT

MONTGOMERY WATSON
11153 Aurora Avenue
Des Moines, IA 50322

01/17/2001

Job Number: 00.16625

Steve Varsa

Enclosed is the Quality Control data for the following samples submitted to TestAmerica, Inc. - Cedar Falls for analysis:

Sample Number	Sample Description	Date Taken	Date Received
600767	MW-608-8	01/04/2001	01/06/2001
600768	MW-608-9	01/04/2001	01/06/2001
600769	MW-608-10	01/04/2001	01/06/2001
600770	MW-608-11	01/04/2001	01/06/2001
600771	Trip Blank		01/06/2001

This Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

Iowa Laboratory Certification number - 7

TestAmerica
INCORPORATED

QUALITY CONTROL REPORT

MONTGOMERY WATSON
11153 Aurora Avenue
Des Moines, IA 50322

01/17/2001

Steve Varsa

Job Number: 00.16625

	Result	Units	Date Analyzed	Prep Batch Number	Run Batch Number	Analysis Method	Quantitation Limit
600767 MW-608-8			01/04/2001				
Mercury,Cold Vapor	<0.00020	mg/L	01/11/2001		1858	EPA 245.1	0.00020
ICP Metals - SW-6010B	Complete		01/10/2001		2954	SW 6010B	
Arsenic, ICP	<0.080	mg/L	01/10/2001	2252	3310	SW 6010B	0.080
Barium, ICP	0.101	mg/L	01/10/2001	2252	3344	SW 6010B	0.010
Cadmium, ICP	<0.020	mg/L	01/10/2001	2252	3356	SW 6010B	0.020
Chromium, ICP	0.021	mg/L	01/10/2001	2252	3356	SW 6010B	0.020
Lead, ICP	<0.10	mg/L	01/10/2001	2252	3326	SW 6010B	0.10
Selenium, ICP	<0.15	mg/L	01/10/2001	2252	3304	SW 6010B	0.15
Silver, ICP	<0.020	mg/L	01/10/2001	2252	3351	SW 6010B	0.020
UST VOLATILE COMPOUNDS - 8260							
Benzene	<1.0	ug/L	01/10/2001		923	IA OA-1/8260B	1.0
Toluene	<1.0	ug/L	01/10/2001		923	IA OA-1/8260B	1.0
Ethylbenzene	<1.0	ug/L	01/10/2001		923	IA OA-1/8260B	1.0
Xylenes	<3.0	ug/L	01/10/2001		923	IA OA-1/8260B	3.0
MTBE	<1.0	ug/L	01/10/2001		923	IA OA-1/8260B	1.0
Hexane	<1.0	ug/L	01/10/2001		923	IA OA-1/8260B	1.0
Toluene-d8 (Surr.)	104	%	01/10/2001		923	IA OA-1/SW 8260B	
4-Bromofluorobenzene (Surr.)	99	%	01/10/2001		923	IA OA-1/SW 8260B	
Extraction Prep	COMPLETE		01/08/2001	1604		IOWA-OA2	
EXTRACTABLE HYDROCARBONS-WATER							
Total Extractable Hydrocarbons	<380	ug/L	01/09/2001	1604	2695	IA-OA2/S-8015	380
Diesel	<380	ug/L	01/09/2001	1604	2695	IA-OA2/S-8015	380
Gasoline	<380	ug/L	01/09/2001	1604	2695	IA-OA2/S-8015	380
Motor Oil	<380	ug/L	01/09/2001	1604	2695	IA-OA2/S-8015	380
N-Octacosane (Surr.)	87	%	01/09/2001	1604	2695	IA-OA2/S-8015	100
Ethylene Glycol - Aqueous	<10	mg/L	01/16/2001		150	SW-8015B	10
VOA Preservation pH	<2.0	units	01/10/2001		115	SW 9041A	

TestAmerica
INCORPORATED

QUALITY CONTROL REPORT

MONTGOMERY WATSON
11153 Aurora Avenue
Des Moines, IA 50322

01/17/2001

Steve Varsa

Job Number: 00.16625

	Result	Units	Date Analyzed	Prep Batch Number	Run Batch Number	Analysis Method	Quantitation Limit
600768 MW-608-9			01/04/2001				
Mercury,Cold Vapor	<0.00020	mg/L	01/11/2001		1858	EPA 245.1	0.00020
ICP Metals - SW-6010B	Complete		01/10/2001		2954	SW 6010B	
Arsenic, ICP	<0.080	mg/L	01/10/2001	2252	3310	SW 6010B	0.080
Barium, ICP	0.195	mg/L	01/10/2001	2252	3344	SW 6010B	0.010
Cadmium, ICP	<0.020	mg/L	01/10/2001	2252	3356	SW 6010B	0.020
Chromium, ICP	<0.020	mg/L	01/10/2001	2252	3356	SW 6010B	0.020
Lead, ICP	<0.10	mg/L	01/10/2001	2252	3326	SW 6010B	0.10
Selenium, ICP	<0.15	mg/L	01/10/2001	2252	3304	SW 6010B	0.15
Silver, ICP	<0.020	mg/L	01/10/2001	2252	3351	SW 6010B	0.020
UST VOLATILE COMPOUNDS - 8260							
Benzene	<1.0	ug/L	01/10/2001		923	IA OA-1/8260B	1.0
Toluene	<1.0	ug/L	01/10/2001		923	IA OA-1/8260B	1.0
Ethylbenzene	119	ug/L	01/10/2001		923	IA OA-1/8260B	1.0
Xylenes	93.5	ug/L	01/10/2001		923	IA OA-1/8260B	3.0
MTBE	<1.0	ug/L	01/10/2001		923	IA OA-1/8260B	1.0
Hexane	<1.0	ug/L	01/10/2001		923	IA OA-1/8260B	1.0
Toluene-d8 (Surr.)	105	%	01/10/2001		923	IA OA-1/SW 8260B	
4-Bromofluorobenzene (Surr.)	98	%	01/10/2001		923	IA OA-1/SW 8260B	
Extraction Prep	COMPLETE		01/08/2001	1604		IOWA-0A2	
EXTRACTABLE HYDROCARBONS-WATER							
Total Extractable Hydrocarbons	2,340	ug/L	01/09/2001	1604	2695	IA-OA2/S-8015	380
Diesel	<380	ug/L	01/09/2001	1604	2695	IA-OA2/S-8015	380
Gasoline	2,340	ug/L	01/09/2001	1604	2695	IA-OA2/S-8015	380
Motor Oil	<380	ug/L	01/09/2001	1604	2695	IA-OA2/S-8015	380
N-Octacosane (Surr.)	81	%	01/09/2001	1604	2695	IA-OA2/S-8015	100
Ethylene Glycol - Aqueous	<10	mg/L	01/16/2001		150	SW-8015B	10
VOA Preservation pH	<2.0	units	01/10/2001		115	SW 9041A	

TestAmerica
INCORPORATED

QUALITY CONTROL REPORT

MONTGOMERY WATSON
11153 Aurora Avenue
Des Moines, IA 50322

01/17/2001

Steve Varsa

Job Number: 00.16625

	Result	Units	Date Analyzed	Prep Batch Number	Run Batch Number	Analysis Method	Quantitation Limit
600769 MW-608-10			01/04/2001				
Mercury,Cold Vapor	<0.00020	mg/L	01/11/2001		1858	EPA 245.1	0.00020
ICP Metals - SW-6010B	Complete		01/10/2001		2954	SW 6010B	
Arsenic, ICP	<0.080	mg/L	01/10/2001	2252	3310	SW 6010B	0.080
Barium, ICP	0.127	mg/L	01/10/2001	2252	3344	SW 6010B	0.010
Cadmium, ICP	<0.020	mg/L	01/10/2001	2252	3356	SW 6010B	0.020
Chromium, ICP	<0.020	mg/L	01/10/2001	2252	3356	SW 6010B	0.020
Lead, ICP	<0.10	mg/L	01/10/2001	2252	3326	SW 6010B	0.10
Selenium, ICP	<0.15	mg/L	01/10/2001	2252	3304	SW 6010B	0.15
Silver, ICP	<0.020	mg/L	01/10/2001	2252	3351	SW 6010B	0.020
UST VOLATILE COMPOUNDS - 8260							
Benzene	<1.0	ug/L	01/10/2001		923	IA OA-1/8260B	1.0
Toluene	<1.0	ug/L	01/10/2001		923	IA OA-1/8260B	1.0
Ethylbenzene	<1.0	ug/L	01/10/2001		923	IA OA-1/8260B	1.0
Xylenes	<3.0	ug/L	01/10/2001		923	IA OA-1/8260B	3.0
MTBE	<1.0	ug/L	01/10/2001		923	IA OA-1/8260B	1.0
Hexane	<1.0	ug/L	01/10/2001		923	IA OA-1/8260B	1.0
Toluene-d8 (Surr.)	105	%	01/10/2001		923	IA OA-1/SW 8260B	
4-Bromofluorobenzene (Surr.)	99	%	01/10/2001		923	IA OA-1/SW 8260B	
Extraction Prep	COMPLETE		01/08/2001	1604		IOWA-OA2	
EXTRACTABLE HYDROCARBONS-WATER							
Total Extractable Hydrocarbons	<380	ug/L	01/09/2001	1604	2695	IA-OA2/S-8015	380
Diesel	<380	ug/L	01/09/2001	1604	2695	IA-OA2/S-8015	380
Gasoline	<380	ug/L	01/09/2001	1604	2695	IA-OA2/S-8015	380
Motor Oil	<380	ug/L	01/09/2001	1604	2695	IA-OA2/S-8015	380
N-Octacosane (Surr.)	62	%	01/09/2001	1604	2695	IA-OA2/S-8015	100
Ethylene Glycol - Aqueous	<10	mg/L	01/16/2001		150	SW-8015B	10
VOA Preservation pH	<2.0	units	01/10/2001		115	SW 9041A	

TestAmerica
INCORPORATED

QUALITY CONTROL REPORT

MONTGOMERY WATSON
11153 Aurora Avenue
Des Moines, IA 50322

01/17/2001

Steve Varsa

Job Number: 00.16625

	Result	Units	Date Analyzed	Prep Batch Number	Run Batch Number	Analysis Method	Quantitation Limit
600770 MW-608-11			01/04/2001				
Mercury,Cold Vapor	<0.00020	mg/L	01/11/2001		1858	EPA 245.1	0.00020
ICP Metals - SW-6010B	Complete		01/10/2001		2954	SW 6010B	
Arsenic, ICP	<0.080	mg/L	01/10/2001	2252	3310	SW 6010B	0.080
Barium, ICP	0.123	mg/L	01/10/2001	2252	3344	SW 6010B	0.010
Cadmium, ICP	<0.020	mg/L	01/10/2001	2252	3356	SW 6010B	0.020
Chromium, ICP	<0.020	mg/L	01/10/2001	2252	3356	SW 6010B	0.020
Lead, ICP	<0.10	mg/L	01/10/2001	2252	3326	SW 6010B	0.10
Selenium, ICP	<0.15	mg/L	01/10/2001	2252	3304	SW 6010B	0.15
Silver, ICP	<0.020	mg/L	01/10/2001	2252	3351	SW 6010B	0.020
UST VOLATILE COMPOUNDS - 8260							
Benzene	1.7	ug/L	01/10/2001		923	IA OA-1/8260B	1.0
Toluene	<1.0	ug/L	01/10/2001		923	IA OA-1/8260B	1.0
Ethylbenzene	1.6	ug/L	01/10/2001		923	IA OA-1/8260B	1.0
Xylenes	11.4	ug/L	01/10/2001		923	IA OA-1/8260B	3.0
MTBE	<1.0	ug/L	01/10/2001		923	IA OA-1/8260B	1.0
Hexane	<1.0	ug/L	01/10/2001		923	IA OA-1/8260B	1.0
Toluene-d8 (Surr.)	106	%	01/10/2001		923	IA OA-1/SW 8260B	
4-Bromofluorobenzene (Surr.)	99	%	01/10/2001		923	IA OA-1/SW 8260B	
Extraction Prep	COMPLETE		01/08/2001	1604		IOWA-OA2	
EXTRACTABLE HYDROCARBONS-WATER							
Total Extractable Hydrocarbons	<380	ug/L	01/09/2001	1604	2695	IA-OA2/S-8015	380
Diesel	<380	ug/L	01/09/2001	1604	2695	IA-OA2/S-8015	380
Gasoline	<380	ug/L	01/09/2001	1604	2695	IA-OA2/S-8015	380
Motor Oil	<380	ug/L	01/09/2001	1604	2695	IA-OA2/S-8015	380
N-Octacosane (Surr.)	79	%	01/09/2001	1604	2695	IA-OA2/S-8015	100
Ethylene Glycol - Aqueous	<10	mg/L	01/16/2001		150	SW-8015B	10
VOA Preservation pH	<2.0	units	01/10/2001		115	SW 9041A	

TestAmerica
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QUALITY CONTROL REPORT

MONTGOMERY WATSON
11153 Aurora Avenue
Des Moines, IA 50322

01/17/2001

Steve Varsa

Job Number: 00.16625

	Result	Units	Date Analyzed	Prep Batch Number	Run Batch Number	Analysis Method	Quantitation Limit
600771 Trip Blank							
UST VOLATILE COMPOUNDS - 8260							
Benzene	<1.0	ug/L	01/10/2001		923	IA OA-1/8260B	1.0
Toluene	<1.0	ug/L	01/10/2001		923	IA OA-1/8260B	1.0
Ethylbenzene	<1.0	ug/L	01/10/2001		923	IA OA-1/8260B	1.0
Xylenes	<3.0	ug/L	01/10/2001		923	IA OA-1/8260B	3.0
MTBE	<1.0	ug/L	01/10/2001		923	IA OA-1/8260B	1.0
Hexane	<1.0	ug/L	01/10/2001		923	IA OA-1/8260B	1.0
Toluene-d8 (Surr.)	104	%	01/10/2001		923	IA OA-1/SW 8260B	
4-Bromofluorobenzene (Surr.)	98	%	01/10/2001		923	IA OA-1/SW 8260B	
VOA Preservation pH	<2.0	units	01/10/2001		115	SW 9041A	

QUALITY CONTROL REPORT
CONTINUING CALIBRATION VERIFICATION

MONTGOMERY WATSON
11153 Aurora Avenue
Des Moines, IA 50322

01/17/2001

Steve Varsa

Job Number: 00.16625

Analyte	Prep Batch Number	Run Batch Number	CCV True Concentration	Concentration Found	Percent Recovery
Mercury,Cold Vapor		1858	1.00	0.96	96.0
Mercury,Cold Vapor		1858	1.00	0.93	93.0
ICP Metals - SW-6010B		2954		Complete	
Arsenic, ICP		3310	5.00	4.84	96.8
Arsenic, ICP		3310	5.00	4.79	95.8
Barium, ICP		3344	5.00	5.06	101.2
Barium, ICP		3344	5.00	5.05	101.0
Cadmium, ICP		3356	5.00	5.04	100.8
Cadmium, ICP		3356	5.00	5.05	101.0
Chromium, ICP		3356	5.00	5.00	100.0
Chromium, ICP		3356	5.00	5.00	100.0
Lead, ICP		3326	5.00	5.06	101.2
Lead, ICP		3326	5.00	5.11	102.2
Selenium, ICP		3304	5.00	4.96	99.2
Selenium, ICP		3304	5.00	4.86	97.2
Silver, ICP		3351	1.00	1.00	100.0
Silver, ICP		3351	1.00	1.00	100.0
UST VOLATILE COMPOUNDS - 8260					
UST VOLATILE COMPOUNDS - 8260					
Benzene		923	50.0	49.2	98.4
Toluene		923	50.0	50.2	100.4
Ethylbenzene		923	50.0	48.0	96.0
Xylenes		923	150.	148	98.7
MTBE		923	50.0	42.5	85.0
Hexane		923	50.0	39.4	78.8
Toluene-d8 (Surr.)		923	100	103	103.0
4-Bromofluorobenzene (Surr.)		923	100	99	99.0
EXTRACTABLE HYDROCARBONS-WATER					
Diesel		2695	2500	2,663	106.5
Motor Oil		2695	2500	2,381	95.2
Ethylene Glycol - Aqueous		150	125	131	104.8
Ethylene Glycol - Aqueous		150	125	160	128.0

CCV - Continuing Calibration Verification

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QUALITY CONTROL REPORT
CONTINUING CALIBRATION VERIFICATION

MONTGOMERY WATSON
11153 Aurora Avenue
Des Moines, IA 50322

01/17/2001

Steve Varsa

Job Number: 00.16625

Analyte	Prep Batch Number	Run Batch Number	CCV True Concentration	Concentration Found	Percent Recovery
VOA Preservation pH		115	0.0	1.02	0

CCV - Continuing Calibration Verification

TestAmerica
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QUALITY CONTROL REPORT
BLANKS

MONTGOMERY WATSON
11153 Aurora Avenue
Des Moines, IA 50322

01/17/2001

Steve Varsa

Job Number: 00.16625

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis	Units
Mercury,Cold Vapor		1858	<0.0002)	mg/L
Arsenic, ICP	2252	3310	<0.080	mg/L
Barium, ICP	2252	3344	<0.010	mg/L
Cadmium, ICP	2252	3356	<0.020	mg/L
Chromium, ICP	2252	3356	<0.020	mg/L
Lead, ICP	2252	3326	<0.10	mg/L
Selenium, ICP	2252	3304	<0.15	mg/L
Silver, ICP	2252	3351	<0.020	mg/L
UST VOLATILE COMPOUNDS - 8260				
UST VOLATILE COMPOUNDS - 8260				
Benzene		923	<1.0	ug/L
Toluene		923	<1.0	ug/L
Ethylbenzene		923	<1.0	ug/L
Xylenes		923	<3.0	ug/L
MTBE		923	<1.0	ug/L
Hexane		923	<1.0	ug/L
Toluene-d8 (Surr.)		923	104	%
4-Bromofluorobenzene (Surr.)		923	98	%
EXTRACTABLE HYDROCARBONS-WATER				
Total Extractable Hydrocarbons	1604	2694	<380	ug/L
Diesel	1604	2694	<380	ug/L
Motor Oil	1604	2694	<380	ug/L
N-Octacosane (Surr.)	1604	2694	94	%

Advisory Control Limits for Blanks:
Metals/Wet Chemistry/ Conventionals/GC - all compounds should be less than the Reporting Limit.
GC/MS - Semi-Volatiles - all compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the reporting limit.
Volatiles - Toluene, methylene chloride, acetone and chloroform should be less than 5 times the Reporting Limit. All other volatile compounds should be less than the Reporting Limit.

704 Enterprise Drive / Cedar Falls, Iowa 50613 / 319-277-2401 / Fax: 319-277-2425 / 800-750-2401

TestAmerica INCORPORATED

QUALITY CONTROL REPORT
BLANKS

MONTGOMERY WATSON
11153 Aurora Avenue
Des Moines, IA 50322

01/17/2001

Steve Varsa

Job Number: 00.16625

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis	Units
EXTRACTABLE HYDROCARBONS-WATER				
Total Extractable Hydrocarbons	1604	2696	<380	ug/L
Diesel	1604	2696	<380	ug/L
Motor Oil	1604	2696	<380	ug/L
N-Octacosane (Surr.)	1604	2696	104	%
Ethylene Glycol - Aqueous		150	<10	mg/L
VOA Preservation pH		115	<0.10	units

Advisory Control Limits for Blanks:
Metals/Wet Chemistry/ Conventionals/GC - all compounds should be less than the Reporting Limit.
GC/MS - Semi-Volatiles - all compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the reporting limit.
Volatiles - Toluene, methylene chloride, acetone and chloroform should be less than 5 times the Reporting Limit. All other volatile compounds should be less than the Reporting Limit.

TestAmerica
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QUALITY CONTROL REPORT
MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MONTGOMERY WATSON
11153 Aurora Avenue
Des Moines, IA 50322

01/17/2001

Steve Varsa

Job Number: 00.16625

Analyte	Prep Batch Number	Run Batch Number	Matrix Spike Result	Sample Result	Spike Amount	Units	Percent Recovery	MSD Result	MSD Spike Amount	Units	Percent Recovery	MS/MSD RPD
Mercury,Cold Vapor		1858	0.00167	<0.0002	0.0016	mg/L	100.0	0.0016	0.0016	mg/L	101.2	1.2
Mercury,Cold Vapor		1858	0.00168	<0.0002	0.0016	mg/L	100.6	0.0016	0.0016	mg/L	100.6	0.0
ICP Metals - SW-6010B		2954		Complet								
Arsenic, ICP	2252	3310	2.01	<0.080	2.00	mg/L	100.5	2.01	2.00	mg/L	100.5	0.0
Barium, ICP	2252	3344	1.10	0.101	1.00	mg/L	99.9	1.10	1.00	mg/L	99.9	0.0
Cadmium, ICP	2252	3356	1.01	<0.020	1.00	mg/L	101.0	1.02	1.00	mg/L	102.0	1.0
Chromium, ICP	2252	3356	1.01	0.021	1.00	mg/L	98.9	1.01	1.00	mg/L	98.9	0.0
Lead, ICP	2252	3326	2.05	<0.10	2.00	mg/L	102.5	2.06	2.00	mg/L	103.0	0.5
Selenium, ICP	2252	3304	4.04	<0.15	4.00	mg/L	101.0	4.09	4.00	mg/L	102.3	1.2
Silver, ICP	2252	3351	1.98	<0.020	2.00	mg/L	99.0			mg/L		

NOTE: Matrix Spike Samples may not be samples from this job.

Advisory Control Limits for MS/MSDs
Inorganic Parameters and GC Volatiles
The spike recovery should be 75 - 125% if the spike added value was greater than or equal to one fourth of the sample result value. If not, the control limits are not established. The RPD for the MS/MSD pair should be less than 20.

RPD = Relative Percent Difference

QUALITY CONTROL REPORT
LABORATORY CONTROL STANDARD

MONTGOMERY WATSON
11153 Aurora Avenue
Des Moines, IA 50322

01/17/2001

Steve Varsa ·

Job Number: 00.16625

Analyte	Prep Batch Number	Run Batch Number	LCS True Concentration	LCS % Recovery
Mercury,Cold Vapor		1858	0.00167	99.4
Arsenic, ICP	2252	3310	2.00	99.5
Barium, ICP	2252	3344	1.00	101.0
Cadmium, ICP	2252	3356	1.00	103.0
Chromium, ICP	2252	3356	1.00	101.0
Lead, ICP	2252	3326	2.00	104.5
Selenium, ICP	2252	3304	4.00	101.3
Silver, ICP	2252	3351	1.00	101.0
UST VOLATILE COMPOUNDS - 8260				
UST VOLATILE COMPOUNDS - 8260				
Benzene		923	20.0	108.0
Toluene		923	20.0	116.0
Ethylbenzene		923	20.0	119.5
Xylenes		923	60.0	122.5
MTBE		923	20.0	89.0
Hexane		923	20.0	90.0
Toluene-d8 (Surr.)		923	100	105.0
4-Bromofluorobenzene (Surr.)		923	100	100.0
EXTRACTABLE HYDROCARBONS-WATER				
Diesel	1604	2694	1,960	83.4
N-Octacosane (Surr.)	1604	2694	100	85.0
EXTRACTABLE HYDROCARBONS-WATER				
Diesel	1604	2694	1,960	101.6
N-Octacosane (Surr.)	1604	2694	100	96.0

LCS - Laboratory Control Standard

Advisory Control Limits - Inorganics - LCS recovery should be 80 - 120%.

TestAmerica
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QUALITY CONTROL REPORT
LABORATORY CONTROL STANDARD

MONTGOMERY WATSON
11153 Aurora Avenue
Des Moines, IA 50322

01/17/2001

Steve Varsa

Job Number: 00.16625

Analyte	Prep Batch Number	Run Batch Number	LCS True Concentration	LCS % Recovery
Ethylene Glycol - Aqueous		150	125	117.6
Ethylene Glycol - Aqueous		150	125	144.8
VOA Preservation pH		115	0.0	0

LCS - Laboratory Control Standard

Advisory Control Limits - Inorganics - LCS recovery should be 80 - 120%.

COOLER TEMPERATURES

CLIENT: Montgomery Watson

CITY: ______ PROJECT: Bldg 608

DATE TAKEN: 1-6-01 TAKEN BY: CH

Cooler #1: -1° °C / ON ICE

Cooler #3: ______ °C / ON ICE

Cooler #2: ______ °C / ON ICE

Cooler #4: ______ °C / ON ICE

Increased emphasis has been put on sample preservation by the various regulators. Any sample being sent to NET must be properly preserved, this includes sending samples in a properly cooled shipping container. The majority of tests performed for regulatory compliance must be preserved at 4° C $\pm$ 2° C during storage and shipment as directed by 40 CFR Part 136. Results from samples which are not properly preserved at 4°C $\pm$ 2° C may be rejected by regulators. Rejection or acceptance is solely at the discretion of the regulators.

TestAmerica INCORPORATED

Cedar Falls Division
704 Enterprise Drive
Cedar Falls, IA 50613

Phone: 319-277-2401
Fax: 319-277-2425

To assist us in using the proper analytical methods, is this work being conducted for regulatory purposes?
Compliance Monitoring: Nebraska LUST

Client Name: Montgomery Watson
Client #:
Address: 11153 Aurora Avenue
City/State/Zip Code: Des Moines, IA 50322
Project Manager: Jeff Coon
Telephone Number: (515) 253-0830
Fax: (515) 253-9572
Sampler Name: (Print Name) Stephen Vaca
Sampler Signature: [signature]

Project Name: Nebraska Air National Guard - Building 608
Project #: 1911914.781801
Site/Location ID: Lincoln
State: NE
Report To: Steve Vaca
Invoice To: Steve Vaca
Quote #: NEANG-LUST
PO#: 10071 OF

TAT
X Standard
___ Rush (surcharges may apply)

Date Needed: ___

Fax Results: (Y) N

SAMPLE ID	Date Sampled	Time Sampled	G = Grab, C = Composite	Field Filtered	Matrix: SL - Sludge, DW - Drinking Water, GW - Groundwater, S - Soil/Solid, WW - Wastewater, Specify Other	HNO_3/Field filtered	HCl	NaOH	H_2SO_4	Methanol	None	Other (Specify)	BTEX (8260)	n-hexane (8260)	MTBE (8260)	Ethylene Glycol	TEH-gasoline (CA-2)	TEH-diesel (CA-2)	TEH-waste oil (CA-2)	RCRA metals			REMARKS
mw-608-8	01-04-01	15:50	G	✓		1	3				3		X	X	X	X	X	X	X	X			
mw-608-9	01-04-01	16:15	G	✓		1	3				3		X	X	X	X	X	X	X	X			
mw-608-10	01-04-01	15:55	G	✓		1	3				3		X	X	X	X	X	X	X	X			
mw-608-11	01-04-01	16:05	G	✓		1	3				3		X	X	X	X	X	X	X	X			
Trip Blank	01-04-01	—	—				1						X	X	X								

Preservation & # of Containers (columns HNO_3 through Other)
Analyze For: (columns BTEX through the two blank columns)

QC Deliverables
___ None
___ Level 2 (Batch QC)
___ Level 3
___ Level 4
Other: per Quote

Special Instructions:
see bid package for requirements

Relinquished By	Date	Time	Received By	Date	Time
[signature]	1-5-01	16:00	Fedex # 311 2006 466		
			[signature]	1/6/01	10:15

LABORATORY COMMENTS:
Init Lab Temp:
Rec Lab Temp:
Custody Seals: Y N N/A
Bottles Supplied by TestAmerica: Y N
Method of Shipment:

APPENDIX F

APPENDIX F

GROUNDWATER ELEVATION DATA
NEBRASKA AIR NATIONAL GUARD - BUILDING 608
LINCOLN, NEBRASKA

Date Collected: January 4, 2001

Monitoring Point	Top of Casing Elevation (feet ASL)	Depth to Water (feet)	Groundwater Elevation (feet ASL)
MW-1	–	Not Accessible	Not Accurately Surveyed, or Gauged
MW-2	1,161.99	13.04	1,148.95
MW-3	–	Not Found	Not Surveyed or Gauged
MW-4	1,164.87	16.12	1,148.75
MW-5	1,165.23	16.29	1,148.94
MW-608-8	1,162.49	13.17	1,149.32
MW-608-9	1,162.86	13.70	1,149.16
MW-608-10	1,163.27	14.05	1,149.22
MW-608-11	1,163.36	14.16	1,149.20

Notes:

ASL = Above sea level.

APPENDIX F

GROUNDWATER ELEVATION DATA
NEBRASKA AIR NATIONAL GUARD - BUILDING ~~635~~ 608
LINCOLN, NEBRASKA

Date Collected: January 4, 2001

Monitoring Point	Top of Casing Elevation (feet ASL)	Depth to Water (feet)	Groundwater Elevation (feet ASL)
~~MW-635-1~~	1158.05 1,158.05	9.93	~~1148.12~~
MW-635-2	~~1157.95~~ ?	9.91	1148.04
MW-635-3	1158.11	8.89	~~1149.22~~

Notes:

ASL = Above sea level.

mw-1		Not Accessible - Not Gauged	accurately ~~accurate~~ Surveyed at
mw-2	1,161.99	13.04	1,148.95 ~~1,145.87~~
mw-3		Not Found	- Not Surveyed or Gauged
mw-4	1,164.87	16.12	1,148.75
mw-5	1,165.23	16.29	1,148.94
mw-608-8	1,162.49	13.17	1,149.32
mw-608-9	1,162.86	13.70	1,149.16
mw-608-10	1,163.27	14.05	1,149.22
mw-608-11	1,163.36	14.16	1,149.20

14.15 on ~~13~~ sheet #7 Appendix B based upon log — need to change sheet #7

used on Figure 5

Steve Varsa
03/04/2001 01:48 PM

To: Verlee A Snedden/User/Americas/Montgomery Watson@MW
cc:

Subject: NEANG UST Compliance - Building 608 Tier 1 SI Report

The NDEQ file number referenced on the cover is wrong. It should be:

UG# 040996-GW-0935

not

UG# 072996-GW-1450

Thanks!

Steve Varsa
03/02/2001 09:07 PM

To: Verlee A Snedden/User/Americas/Montgomery Watson@MW
cc:

Subject: NEANG UST Compliance - Building 608 Tier 1 SI Report

Please format and proof, similar to the previous reports.

02-01-Bldg 608 Tier 1 SI Report.(

Hard copies of attachment mark-ups in your "in-box". Thanks.

BATTERY ACID NEUTRALIZATION PIT IN BUILDING 636 (TU017)

TU017_Sept 5 12

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A-317

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FORMER DETERGENT AND/OR WASTE OIL UNDERGROUND STORAGE TANKS AT BUILDING 608 (TU018)

1989_Detergent Analysis

1990_608 UST Removal

1992a_608 USTs Status

1992b_608 Dropped from SFM

1992c_LUST at 608

1995_608-1 Status

1995_Site 2 SI

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fake 511K

LABORATORY ANALYSIS REPORT AND RECORD (General) Date: 14 NOV 1995

To: USAF From: TMA/Norcal

Sample Identity Bulk Material Date Received July 7, 1989

NSN = 6850-01-235-7458 ARCRET SOAP

Sample From LINCOLN NEANG Lab Control NR MK-89-24

USED BY MAGI + MAFSm PERSONNEL - PRODUCT PLACED IN SOAP TANK AT BLDG 608

Test For Bulk Identification Date Analyzed: August 3, 1989

Base Number:	GM890014			
OEHL Number:	034839		Bulk	Bulk
TMA/Norcal:	3624-532-11	pH	Components	Concentration %
		10.3	Aqueous	100

EP Toxicity Metals Results mg/l		Detection Limits mg/l	Method
Arsenic	<20	20	EPA 6010
Barium	<3	3	" "
Cadmium	<2	2	" "
Chromium	620	2	" "
Lead	<2	2	" "
Mercury	<0.005	0.005	EPA 7470
Selenium	<20	20	EPA 6010
Silver	<3	3	" "

Reactivity	mg/l	mg/l	
Cyanide	<0.02	0.02	SM 412D
Sulfide	<100	100	SM 427D

J.W. ENNIS, SSGT, AFSC 90770
BIO-ENVIRONMENTAL ENG. TECH
155th TACTICAL CLINIC, NEANG

MICHAEL J. WANTLAND, TSgt, USAF,
NCOIC Occupational Chemistry Branch

SAMPLES ANALYZED BY CONTRACT LAB

Requesting Agency (Mailing Address)

155 TAC CLINIC/SGPB
LINCOLN MAP NEANG, NE 68524-1897

Lawrence A. Johnson
Program Manager

AFSC Form 3511, DEC 85

UST

file 31k
TB
19 Ju

NEBRASKA AIR NATIONAL GUARD
HEADQUARTERS 155TH TACTICAL RECONNAISSANCE GROUP
2301 WEST ADAMS
LINCOLN MAP (ANG), LINCOLN, NEBRASKA 68524-1897

REPLY TO ATTN OF: 155 TRG/SGPB

1 April 1990

SUBJECT: Fuel Tank Removal

TO: 155 MSS/AO
TRG/CC
CES/CC
DE
IN TURN:

1. The underground fuel tank removal from the apron west of Bldg. 608 began on 29 March 1991 using contract No. DAHA25-91-C-0002.

2. Upon removal of the surrounding concrete and exposing the substrait it was noted that there was extensive saturation of sand fill encompassing this 1000 gallon tank.

3. A Photo ionizing device (PID) was used to determine the extent of saturation of the soil.

4. The contaminant has been identified as waste JP-4 aviation fuel.

5. PID values were in excess of 200 parts per million (ppm).

6. Mr. Hank Lohman of the National Guard Bureau was notified of this condition on 1 April 91 at approximately 0930 hours.

7. It is this offices belief that reporting to the Nebraska State Department of Environmental Control be pursued IAW Title 126, Chapter 18, para. 002 through 008.01.

J.W. ENNIS TSgt, NE ANG
NCOIC, Bioenvironmental Engineering Services

copy:
file

READINESS .... IS OUR PROFESSION

FILE 31K EM

NEBRASKA AIR NATIONAL GUARD
HEADQUARTERS 155TH TACTICAL RECONNAISSANCE GROUP
2301 WEST ADAMS
LINCOLN MAP (ANG), LINCOLN, NEBRASKA 68524-1897

PARATI ATQUE POTENTES

REPLY TO ATTN OF: DEE

25 February 1992

SUBJECT: Underground Storage Tank (UST) Program Status Report

TO: 155 TRG/CC BS 27 Feb 92
TAG NE/ESSO
ANGRC/CEV
IN TURN

1. This letter serves to report status of test results on 25 UST's at the Lincoln ANG Base. Basically, all tanks that are currently in use passed. Three tanks that are abandoned pending closure failed to hold air pressure and are as follows:

Tank ID	Cap	Prod	Test Date
600-1	500	Waste Oil	26 Nov 91
608-2	2,000	Detergent	25 Nov 91
637	8,000	Diesel	25 Nov 91

One additional tank still carried on your records has been removed, it is:

608-3	1,000	Waste JP-4

See attached Underground Storage Tank Leak Detection Compliance worksheet for specific information.

2. In addition, several activities are occurring in the UST program for Lincoln that you should be made aware of:

a. The Bureau of Fire Prevention for the City of Lincoln conducted an inspection of the NEANG UST program 12 Feb 92 and found that everything was in order. Some deficiencies in recordkeeping by the State was pointed out by NEANG as is addressed in para 2.C.

b. A monitoring system for pressurized piping is currently in design and should be installed by summer 92.

c. A clarification of registration requirements letter has been sent to the State Fire Marshall's office. Of the 11 tanks the State currently carries, one has been removed and two others are not regulated. On the flip side of this, fifteen other tanks are in operation and we believe five or six of those should be registered. We will update our records with you once this is all sorted out. As an aside, we originally registered twenty-one tanks with the State--how they ended up with eleven, we don't know.

d. In addition, we have also asked the State to waiver closure requirements on the three abandoned tanks shown in para 1. pending removal under the UST Removal Project scheduled for FY 95.

READINESS . . . . IS OUR PROFESSION

3. This summarizes our current work with the UST Program. If you have any questions or comments, please call us at DSN 946-1251.

J. STEVEN KRAJNIK, CPT, NEANG
Assistant Base Civil Engineer

1 Atch
UST Leak Detection Compliance Worksheet

cc: CETSC
EM

MEMO FOR RECORD

Response to State Fire Marshall Orders per 28 April Inspection

1. Tanks 635-2 and 635-3.

   a. Inventory will now be monitored daily.

   b. Measurements of water level will be measured and recorded.

   c. Warning and operations signs are posted.

   d. Annual tank tightness testing was performed in Nov 91 and is currently being contracted to occur in June or July 93.

2. Tanks 624-2 and 655.

   a. Inventory measurements will be performed Apr - Nov.

3. Tanks 203-2, 605-1, 608-1, 632, and 635-1. All expeditiously emptied and all are to dropped from SFM Order.

4. Tanks 640-1 and 640-2. ARNG FMO is handling these tanks.

DEE/CPT Krajnik/19 May 92/1251/tp

STATE OF NEBRASKA

DEPARTMENT OF ENVIRONMENTAL CONTROL
Randolph Wood
Director
301 Centennial Mall South
P.O. Box 98922
Lincoln, Nebraska 68509-8922
Phone (402) 471-2186

E. Benjamin Nelson
Governor

DEC 01 1992

Major Carl R. Willert
Nebraska Air National Guard
Headquarters 155th Tactical Reconnaissance Group
2301 West Adams, Lincoln Map (ANG)
Lincoln, NE 68524-1897

RE: Site Closure
UG #073191-RF-1200

Dear Major Willert:

The Department has reviewed the Step 7 detailed site assessment report submitted by Operational Technologies. The report indicated that ground water samples taken from eight monitoring wells detected recordable concentrations of four of the eight analyzed compounds. The following is a list of the compounds with the highest recorded concentrations:

Toluene - 2.1 ppb
Xylenes - 3.7 ppb
1,3-dichlorobenzenes - 2.5 ppb
1,4-dichlorobenzenes - 5.9 ppb
ppb - parts per billion

These levels are below Nebraska maximum contamination levels for these compounds.

No further remedial actions will be required at this time. However, if a problem arises in the future as a result of this release, Nebraska Air National Guard will be held responsible for further remedial action.

Since ground water has been impacted, the Department is required by law to publish the proposed site closure for a 30-day comment period (copy enclosed). In most cases, few, if any, comments are received. However, if the Department receives a comment which is justified, additional remedial actions will be required.

Thank you for your cooperation. If you have any questions, please contact me at (402) 471-4230.

Sincerely,

Nancy Mann

Nancy Mann, Geologist
LUST/ER Section
Water Quality Division

NM/sh
Enclosure

DEPARTMENTS OF THE ARMY AND THE AIR FORCE
NATIONAL GUARD BUREAU
OFFICE OF THE UNITED STATES PROPERTY AND FISCAL OFFICER, NEBRASKA
1234 MILITARY ROAD
LINCOLN, NEBRASKA 68508-1092

USPFO-PC-C 6 NOVEMBER 1995

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: PN: NGCB 909559, REPL USTS, CONTRACT NO. DAHA-25-C-0009, CONTAMINATED SITES, 0930 HRS, BCE CLASSROOM, ANG BASE, LINCOLN, NE

1. A meeting was held to discuss the contaminated sites situation with the persons in attendance as stated on the attached roster.

2. CPT Yager stated the intent of the ANGRC/CE was to have all contaminated sites at a state of a "buildable site". A "buildable site" was further defined as a contaminated site that would pass the DEQ requirements for disturbed soils. This requirement will stand if the site can be overexcavated as stated in the specifications to meet this standard.

3. The contaminated soils are to remain separate from each site to allow specific testing of those soils to determine how the soils will be disposed of.

4. The ANGRC/CE will only allow 3 different types of disposal.

a. Land farming - if the soil is volitable - petroleum based.
b. Incineration.
c. Taken to an asphalt batch plant for use in making asphalt.

5. The BCE does not know of a disposal site for b and c, therefore a is the only option at this point.

6. Jeff Johnson stated that DEQ will only allow land farming for volitable contaminants - petroleum based contaminants, as well as having to be a certain type, i.e. unleaded gas. Will not allow for waste oil sites.

7. The status of the tanks are as follows.

a. 203-1 & 203-2 have been backfilled and final grading is done. Contamination was found in 203-2.

b. 608-1 has been backfilled. There was contamination.

c. 605-1 & 605-2 have been backfilled. These tanks are considered clean sites. A trace of contamination was found but would sites fall within disturbed soils standards based on the A-E's opinion.

SUBJECT: PN: NGCB 909559, REPL USTS, CONTRACT NO. DAHA-25-C-0009, CONTAMINATED SITES, 0930 HRS, BCE CLASSROOM, ANG BASE, LINCOLN, NE

d. 600 has been backfilled. Hazardous waste was found in this tank and site. RECRA closure will be required by DEQ according to A-E's opinion of test results.

e. 637 has been backfilled to amount of contract. The ground water is contaminated. Contractor has been directed to backfill all sites to contract amounts. Additional backfill will be added to the contract.

f. The samples for contamination were taken intermitently through out the excavation process. The A-E stated that the samples were to be submitted at 4 degrees celsius and some of the samples were not. Contractor will retake samples for those submitted that were above 6 degrees celsius.

g. A-E is going to meet with BCE to determine additional requirements needed and the BCE Will begin a change order for a design change to start remidiation of the sites as needed.

h. The A-E will be doing ground water samples at tanks 608-1, 203-2 and 600-1.

Carrie Hancock

CARRIE L. HANCOCK
CONTRACT SPEC
Contract Administrator

CF:
Mr. Dale Bixler
Mr. Tony Ruhge
Mr. Harlan Biere
Ms. Holly Johnson
Mr. Jim Condon
Mr. Jeff Johnson
CPT Dan Kluck
CPT Bob Yager
SMSgt Garry Jochum
SFC Carrie Hancock

INSTALLATION RESTORATION PROGRAM

FINAL
REVISION 04

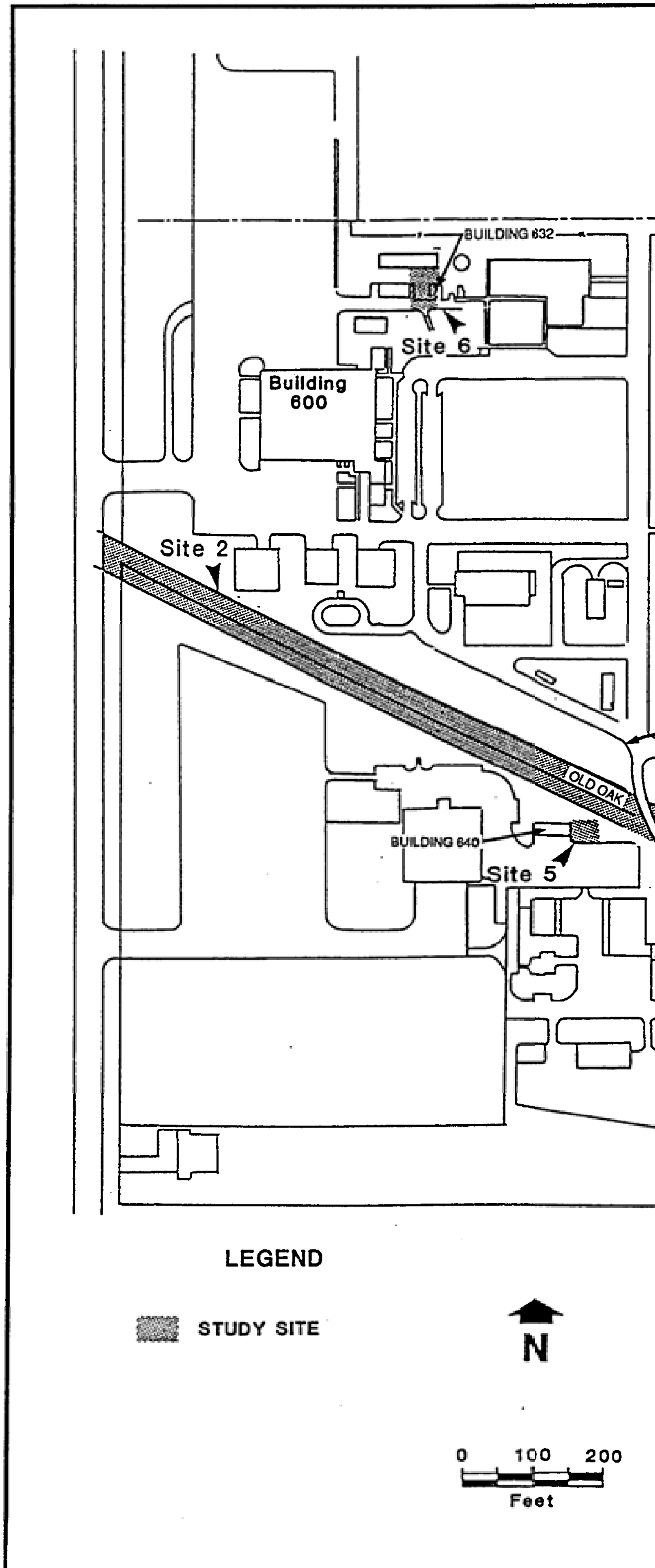
SITE INVESTIGATION REPORT
VOLUME 1: SECTIONS 1 THROUGH 6, APPENDIX A

155th Air Refueling Group
Nebraska Air National Guard
Lincoln Municipal Airport
Lincoln, Nebraska

April 1995

AIR NATIONAL GUARD

HAZARDOUS WASTE REMEDIAL ACTIONS PROGRAM
Environmental Restoration and Waste Management Programs
Oak Ridge, Tennessee 37831-7606
managed by MARTIN MARIETTA ENERGY SYSTEMS, INC.
For the U.S. DEPARTMENT OF ENERGY under contract DE-AC05-840R21400



Source: Base Records

FIGURE 1.2

STUDY SITE LOCATIONS

155th Air Refueling Group
Nebraska Air National Guard
Lincoln Municipal Airport
Lincoln, Nebraska

PARSONS ENGINEERING SCIENCE, INC.
Denver, Colorado

SECTION 6

CONCLUSIONS AND RECOMMENDATIONS

6.1 CONCLUSIONS

6.1.1 Site 1 - POL Storage Area

Site 1, the POL storage area, showed the highest degree of contamination and poses the greatest potential threat to human health and the environment. Measurable free product was observed in wells RW-2 and 1201. In addition, product films were noted in wells 1202 and 1203, and slight sheens were present in wells 0209 and 0216. Ground water samples were collected and analyzed. Dissolved chemicals of concern associated with free product included benzene, ethyl benzene, toluene, and xylenes. The extent of the plume of dissolved contaminants is larger than the area of detected free product; however, both dissolved chemicals and free product contamination appears to be localized in the vicinity of the tank farm. Levels of petroleum hydrocarbons detected in 1989 appear to have decreased since 1983, perhaps due to a combination of dilution, degradation, and operation of the product recovery system. Levels of common anions and metals in ground water were similar to levels observed in upgradient wells 0206 and 2-MW1. No soils samples were collected at Site 1.

Results of the risk evaluation show that benzene, nitrate, and selenium exceed their respective human health criteria in ground water. Nitrate in ground water also exceeded the livestock drinking water criterion at this site. Nitrate, often the result of agricultural practices, was detected at levels similar to those found throughout the state (Chambers, 1989). Selenium is a naturally-occurring element (see Table 4.6 and Section 5.2.4.2), and ground water concentrations are probably derived from the soil. Benzene poses a health risk only if ground water is used as a potable water source, which is unlikely due to its onsite location. Because Site 1 shows evidence of ground water contamination by petroleum products, both from the presence of free product and dissolved constituents, and because a southerly ground water migration direction appears to have brought the leading edges of the plumes into close proximity to the Old Oak Creek channel, additional investigations are recommended at Site 1.

6.1.2 Site 2 - Old Oak Creek Channel

Site 2, the Old Oak Creek channel, exhibits minimal contamination near storm drainage outfalls. Surface water, sediment, and ground water samples were collected from Site 2 and analyzed. Volatile and semivolatile organics were not detected in the surface water samples, but low levels of petroleum hydrocarbons were detected at stations located downstream from Site 1. This suggests that ground water containing petroleum hydrocarbons is discharging into the creek at Site 1. Levels of common anions and metals in surface water were generally similar to those detected in upgradient wells 0206 and 2-MW1. At several stations located near storm drainage outfalls, levels were slightly higher.

PNAs, phthalates, and petroleum hydrocarbons were detected in stream sediments at Site 2. However, phthalates and PNAs are strongly adsorbed onto suspended particulates in bottom sediments and are typically found in most sediments throughout the world, including those not polluted by man. The EPA guideline of 100 mg/Kg for total PNAs in soils was not exceeded. Common anions and metals were also detected in sediments along the length of the stream. Levels of lead and cadmium exceeded phytotoxic levels for plants. However, these metals may be relatively immobile in the sediments and unavailable for uptake by aquatic plants. The phytotoxicity level for lead is based on the soluble lead fraction; the guideline for total lead was not exceeded.

Ground water quality in well 2-MW1 at Site 2 is generally indicative of background water quality, except that petroleum hydrocarbons were detected at concentrations slightly above the detection limit. Levels of anions and metals were similar to those detected in upgradient well 0206. Nitrate exceeded the MCL of 10 mg/L and livestock drinking water criteria in ground water, but the levels detected are similar to those found in ground water throughout the state (Chambers, 1989).

Old Oak Creek exhibits minimal contamination at outfalls, but appears to pose no immediate threat to human health or the environment. However, because of the potential for contaminated ground water at Site 1 to migrate into Site 2, continued monitoring of the Old Oak Creek channel located downgradient from Site 1 is recommended.

6.1.3 Site 3 - Former Tank Cleaning Area

At Site 3, the former tank-cleaning area, soils and ground water were sampled. Petroleum hydrocarbons were detected in soil borings, but were not detected in ground water samples. Metals and anions were detected in soil samples, but were within typical background ranges. The risk evaluation showed that arsenic in soils was the only chemical to exceed its health-based criteria. Arsenic is not associated with any site-related activities, and occurs at levels similar to those reported regionally (Table 4.6 and Section 5.2.4.3). Fluoride and lead exceeded plant phytotoxic levels in soils, however, the phytotoxicity guideline for total lead was not exceeded. Fluoride concentrations are similar to those reported for the region (Section 5.3.3.3). Both elements are expected to be relatively immobile in the environment and unavailable for plant uptake, and appear to be indicative of baseline conditions. Therefore, the potential for adverse health or environmental effects is low, and no further action is recommended.

6.1.4 Site 4 - South Rock Road

At Site 4, the access road, soil samples were collected. Petroleum hydrocarbons were detected, with the highest concentrations occurring at the 0- to 1-foot interval. This is probably due to past road spraying (dust control) activities and movement of motor vehicles across the road. Petroleum hydrocarbons are not particularly mobile in the soil, and would not be expected to migrate into the ground water.

Anion concentrations are within reported background ranges. Arsenic, barium, cadmium, and lead concentrations were highest at Site 4, and may not represent baseline conditions. However, the risk evaluation indicated that only arsenic levels in soils exceeded the human health criterion, and fluoride and lead exceeded their plant phytotoxic levels. Maximum site arsenic concentrations (10.4 mg/Kg and 6.9 mg/Kg in surface and subsurface soils, respectively) are similar to levels reported regionally (Table 4.6 and Section 5.2.4.3). Fluoride concentrations were within reported background concentrations for the region (Section 5.3.3.3), and only slightly exceeded the criterion for plants. Fluoride is not expected to be readily bioavailable. The lead criterion is based on the soluble fraction, and the phytotoxicity guideline for total lead in soils was not exceeded. The maximum detected value for lead in soils at Site 4 was found to be an outlier, which may indicate a low to moderate risk to vegetation at Site 4. However, lead levels decrease rapidly with depth, indicating that lead is relatively immobile in the soil and plant growth is inhibited by the road surface and use. Therefore, risks to human health and environmental receptors are low, and no further action is recommended.

6.1.5 Site 5 - Army National Guard Oil Storage Area

Soil and ground water samples were collected at Site 5, the Army National Guard Oil Storage Area. Petroleum hydrocarbons were detected in soil samples, but were not found in the ground water sample. Common anions and metals were detected in soil samples, but did not exceed background ranges. Levels of metals and anions detected in the ground water were comparable to levels detected in background wells 0206 and 2-MW1. The risk evaluation showed that arsenic in soils was the only chemical exceeding its human health criterion, and fluoride in soils exceeded its plant phytotoxic level. According to available baseline and historical data, both elements are naturally occurring. Because the small amounts of petroleum hydrocarbons in soils do not appear to be migrating, no further action is recommended for Site 5.

6.1.6 Site 6 - Hydraulic Fluid Spill Area

Three soil samples and one ground water sample were collected at Site 6. Petroleum hydrocarbons were detected in soil samples, but were not detected in the ground water sample. Levels of metals in soils and ground water were comparable to background levels. The risk evaluation showed that arsenic in soils was the only chemical exceeding its human health criteria. Arsenic is not associated with any site-related activities, was not an outlier in a statistical analysis of site samples, and is similar in concentration to regional levels (Table 4.6 and Section 5.2.4.3). No other criteria were exceeded. Therefore, no further action is recommended for this site.

6.2 RECOMMENDATIONS

Based on the information collected during the SI, no further action is needed at Sites 3, 4, 5, and 6. Contamination at Site 2 is presently at low levels which do not threaten human health or the environment. However, its proximity to Site 1 indicates that contaminant concentrations may increase in the future. Therefore, no further action is recommended for the upgradient portions of Site 2, and the lower portions are proposed for inclusion in Site 1. It is recommended that additional information be obtained for Site 1 through an extended SI. Recommended activities at Site 1 are listed below.

1. Recover existing free product to the extent possible utilizing existing monitoring and/or recovery wells.
2. Obtain additional information on existing monitoring and recovery wells. Currently, geologic logs and well construction information are available for 8 of 25 existing wells at Site 1. Additional information will allow further definition of geologic and hydrogeologic conditions for design of a remedial action program, and will help determine the suitability of the wells for continued use. If the information cannot be obtained from existing records, well depths can be determined using weighted probes, and a physical means of well probing can be employed to determine screened intervals.
3. Redevelop the existing monitoring wells. Due to the incomplete documentation for these wells, it is not known whether they were ever developed following their installation. Redevelopment will allow for greater confidence in results obtained from product thickness measurements, ground water quality sampling, and aquifer testing.
4. Obtain additional water level and product thickness measurements in existing wells to define seasonal variations. Data obtained from additional measurements will allow further quantification of the thickness of the free product layer, and will aid in design of a remedial system.
5. Install additional monitoring wells to better define the lateral extent of the dissolved contaminant plume, and perform supplemental ground water sampling in selected wells. A greater number of wells in the sampling program will allow for better definition of the extent and magnitude of dissolved contamination, and will guide the placement of a remedial system. Samples should be analyzed for total petroleum hydrocarbons and the VOCs benzene, toluene, ethyl benzene, and xylenes.
6. Perform slug tests in selected monitoring wells to provide more refined estimations of hydraulic conductivity. Such estimations will be necessary for design of a remedial action program.
7. Drill soil borings and collect soil samples from the unsaturated zone to define the extent and magnitude of soil contamination. Information obtained from soil sampling should help evaluate the necessity for remediation of soils in the unsaturated zone.

8. Install a limited number of monitoring well clusters, each consisting of one well screened entirely in the less-permeable clay horizon and one well screened entirely in the underlying sand. Hydrogeologic data obtained from Appendix D of the Hazardous Materials Technical Center report (1987) indicates that ground water was often first encountered in the upper, clayey unit during drilling of the existing wells, and that wells 0202 and 0209, which are screened entirely within the clayey zone, are water-bearing. In addition, the moderate to high fuel concentrations observed during drilling were located in the upper unit. In order to facilitate development of a remedial action program, water quality variations in the sand and clay layers, as well as the hydraulic characteristics of each of the horizons, should be investigated.

9. Collect additional soil samples in an area where no contaminant sources are known to exist to determine background concentrations of metals and anions.

10. Continue monitoring surface water quality in the Old Oak Creek channel at stations 2-SW4, 2-SW3, and 2-SW1. Surface water samples obtained from these stations should be analyzed for total petroleum hydrocarbons and the VOCs benzene, toluene, ethyl benzene, and xylenes. Periodic monitoring should provide data on the degree to which discharge of Site 1 ground water into the creek is affecting surface water quality.

The shallow ground water at Site 1 has little or no potential for use as a public or private drinking water supply. In such cases, the State of Nebraska ground water remedial action protocol (Title 118, Appendix A) requires cleanup of readily-removable contaminants (i.e., free product) and monitoring. It may also be necessary to set cleanup levels which protect streams from contaminated ground water discharge that would violate surface water standards. The recommended SI activities are designed to facilitate achievement of these remedial action objectives.

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FORMER OIL/WATER SEPARATOR AT BUILDING 605 (OW020)

1992_605 USTs

1995_605 Status

1996a_605_UST_SI

1996b_605-1_Closure

2003_605 Site Closure

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MEMO FOR RECORD

Response to State Fire Marshall Orders per 28 April Inspection

1. Tanks 635-2 and 635-3.

   a. Inventory will now be monitored daily.

   b. Measurements of water level will be measured and recorded.

   c. Warning and operations signs are posted.

   d. Annual tank tightness testing was performed in Nov 91 and is currently being contracted to occur in June or July 93.

2. Tanks 624-2 and 655.

   a. Inventory measurements will be performed Apr - Nov.

3. Tanks 203-2, 605-1, 608-1, 632, and 635-1. All expeditiously emptied and all are to dropped from SFM Order.

4. Tanks 640-1 and 640-2. ARNG FMO is handling these tanks.

DEE/CPT Krajnik/19 May 92/1251/tp

DEPARTMENTS OF THE ARMY AND THE AIR FORCE
NATIONAL GUARD BUREAU
OFFICE OF THE UNITED STATES PROPERTY AND FISCAL OFFICER, NEBRASKA
1234 MILITARY ROAD
LINCOLN, NEBRASKA 68508-1092

USPFO-PC-C

6 NOVEMBER 1995

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: PN: NGCB 909559, REPL USTS, CONTRACT NO. DAHA-25-C-0009, CONTAMINATED SITES, 0930 HRS, BCE CLASSROOM, ANG BASE, LINCOLN, NE

1. A meeting was held to discuss the contaminated sites situation with the persons in attendance as stated on the attached roster.

2. CPT Yager stated the intent of the ANGRC/CE was to have all contaminated sites at a state of a "buildable site". A "buildable site" was further defined as a contaminated site that would pass the DEQ requirements for disturbed soils. This requirement will stand if the site can be overexcavated as stated in the specifications to meet this standard.

3. The contaminated soils are to remain separate from each site to allow specific testing of those soils to determine how the soils will be disposed of.

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a. Land farming - if the soil is volitable - petroleum based.
b. Incineration.
c. Taken to an asphalt batch plant for use in making asphalt.

5. The BCE does not know of a disposal site for b and c, therefore a is the only option at this point.

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a. 203-1 & 203-2 have been backfilled and final grading is done. Contamination was found in 203-2.

b. 608-1 has been backfilled. There was contamination.

c. 605-1 & 605-2 have been backfilled. These tanks are considered clean sites. A trace of contamination was found but would sites fall within disturbed soils standards based on the A-E's opinion.

SUBJECT: PN: NGCB 909559, REPL USTS, CONTRACT NO. DAHA-25-C-0009, CONTAMINATED SITES, 0930 HRS, BCE CLASSROOM, ANG BASE, LINCOLN, NE

d. 600 has been backfilled. Hazardous waste was found in this tank and site. RECRA closure will be required by DEQ according to A-E's opinion of test results.

e. 637 has been backfilled to amount of contract. The ground water is contaminated. Contractor has been directed to backfill all sites to contract amounts. Additional backfill will be added to the contract.

f. The samples for contamination were taken intermitently through out the excavation process. The A-E stated that the samples were to be submitted at 4 degrees celsius and some of the samples were not. Contractor will retake samples for those submitted that were above 6 degrees celsius.

g. A-E is going to meet with BCE to determine additional requirements needed and the BCE Will begin a change order for a design change to start remidiation of the sites as needed.

h. The A-E will be doing ground water samples at tanks 608-1, 203-2 and 600-1.

Carrie L Hancock

CARRIE L. HANCOCK
CONTRACT SPEC
Contract Administrator

CF:
Mr. Dale Bixler
Mr. Tony Ruhge
Mr. Harlan Biere
Ms. Holly Johnson
Mr. Jim Condon
Mr. Jeff Johnson
CPT Dan Kluck
CPT Bob Yager
SMSgt Garry Jochum
SFC Carrie Hancock

March 6, 1996

GARY JOCHUM
NE AIR NATIONAL GUARD
2420 WEST BUTLER AVE
LINCOLN NE 68524

Facility ID Number: AP11410 030696-AP-0000
Facility Location: BLDG 605 City: LINCOLN

Dear GARY JOCHUM:

This letter is in regard to the site assessment conducted in accordance with the Underground Storage Tank System Site Assessment Protocol for Permanent Closure and Change-in-Service for the above referenced facility.

At this time, the Department will not require any further action at this facility. However, if a problem is recognized in the future that may be attributed to a release of a regulated substance from this tank system, the last owner/operator, as defined by Nebr. Rev. Stat. 81-15,119, will be held responsible for further remedial action.

Thank you for your cooperation in this matter. If you have any questions, please call Rosemary Fenton (402) 471-4230.

Sincerely,

David Chambers

David Chambers, Section Supervisor
Ground Water Section
Water Quality Division

cc State Fire Marshal

STATE OF NEBRASKA

DEPARTMENT OF ENVIRONMENTAL QUALITY
Randolph Wood
Director
Suite 400, The Atrium
1200 'N' Street
P.O. Box 98922
Lincoln, Nebraska 68509-8922
Phone (402) 471-2186

JUL 23 1996

E. Benjamin Nelson
Governor

Lt. Col Carl Willert
USP&FO
1234 Military
Lincoln, Ne 68508

Re:	Facility Name:	Lincoln ANG Base, #605-1
	Facility Id Number:	11410
	UG#:	**071796-AP-0004**
	Location:	Lincoln ANG Base, Building 605
	City:	Lincon, Nebraska

Dear Col. Willert:

The Department has received the Closure Assessment Report for the October 24, 1996 closure of all or part of the underground storage tank system at the facility listed above. Based on the information presented in this report the Department is not requiring any action.

If at a later time additional information is presented that shows contamination resulting from a release at this facility, the Department may require further action.

Sincerely,

Gene Wiggins

Gene Wiggins, UST Closure Coordinator
LUST/ER Section
Water Quality Division

GW/dph

11SH59696

STATE OF NEBRASKA

DEPARTMENT OF ENVIRONMENTAL QUALITY
Michael J. Linder
Director
Suite 400, The Atrium
1200 'N' Street
P.O. Box 98922
Lincoln, Nebraska 68509-8922
Phone (402) 471-2186
FAX (402) 471-2909

OCT 30 2003

Mike Johanns
Governor

Captain John Buhrmann
Nebraska Air National Guard
155th Air Refueling Wing
2415 West Butler Avenue
Lincoln, NE 68524

RE: Site Closure
Nebraska Air National Guard
UG #072996-GW-1450, UG #040996-GW-0800, UG #040996-GW-0935

Dear Mr. Buhrmann:

The Department has received notification of water well abandonment at the above referenced site. No further remedial actions will be required at this time. However, if problem arises in the future as a result of this release, Nebraska Air National Guard will remain responsible for further remedial actions.

Thank you for your cooperation in this matter. If you have any questions or comments, please contact me at (402) 471-4230.

Sincerely,

Heather Stetson

for Nancy Mann, Geologist
Petroleum Remediation Section
Water Quality Division

2003000667

APPENDIX B
BORING LOGS

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HTRW DRILLING LOG

PROJECT Lincoln, NANGB | INSPECTOR M Kudzzets | SHEET 2 OF 3

ELEV (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	HEADSPACE SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
	0	0.0-2.2FT: SAND (SW) LOOSE, POORLY SORTED, PREDOMINATELY QUARTZ, VERY PALE BROWN (10YR 7/3) DRY.		PID=0.0 PPM		RUN: 0-5FT REC: 2.2FT
	1			PID= 0.0ppm		
	2	2.2-5.0FT: LOSS		2.0FT HS= 0.0ppm		
	3					
	4					
	5	5.0-5.9FT: CONCRETE, BROKEN BY DRT. FRESH, NO ODOR, WET	PID= 0.0ppm			RUN: 5.0-7.0FT REC 0.9FT
	6					
	7					DRILLER REPORTS REFUSAL AT 7.FT BGS
	8					
	9					
	10					

PROJECT | HOLE NUMBER SB-1

HTRW DRILLING LOG

HOLE NUMBER SB-1A TU014

PROJECT: Lincoln, NANGB | INSPECTOR M. KLIDZEJS | SHEET 3 OF 3

ELEV (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	HEADSPACE SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO (F)	REMARKS (G)	
		0.0-0.5FT: CONCRETE					~~10~~ 0
	1	0.5-1.6FT:				RUN: 0-5FT REC: 1.1FT SOIL 0.5FT CONCRETE	1
2	~~11~~	SAND (SP), LOOSE, POORLY SORTED, QUARTZ + FELDSPAR	PID=0.0 ppm 1.1FT HS=0.0 ppm				~~11~~ 2
	3	MOIST, VERY PALE BROWN					3
4	~~12~~	1.6-5.0FT: LOSS					~~12~~ 4
	5						5
6	~~15~~	5.0-6.3FT: SAND				RUN: 5-10FT REC: 1.7FT	~~13~~ 6
	7	AS ABOVE, DRY WET AT C.1FT.	PID= 0.0ppm				7
8	~~14~~	6.3-6.7FT: CLAY	6.7FT				~~14~~ 8
	9	(CH), SOFT, PLASTIC TRACE GRAVEL	HS=1.3ppm				9
10	~~15~~	(FINE) DARK GRAY (10YR 4/1)			LNC-014-DB-SB1-01		~~15~~ 10
	11	VERY MOIST TO WET. 6.7-10.0FT LOSS	PID= 0.0ppm		15:25 10-11FT	RUN: 10-15FT REC: 3.0FT	11
12	~~16~~	10.0-13.0FT:				2.0FT COLLAPSE	~~16~~ 12
	13	CLAY AS ABOVE, NO GRAVEL, WET	PID= 0.0ppm 11.0FT HS=0.8ppm				13
14	~~17~~						~~17~~ 14
	15	15.0-18.0FT:	15.0FT HS=1.1ppm			RUN: 15-20FT REC: 3.0FT	15
16	~~18~~	CLAY AS ABOVE. WET	PID= 0.0ppm			2.0FT OF COLLAPSE	~~18~~ 16
	17						17
18	~~19~~		18.0FT HS= 2.7ppm				~~19~~ 18
	19						19
							20

PROJECT | HOLE NUMBER SB-1A

HTRW DRILLING LOG

HOLE NUMBER SB-2 (70014)

PROJECT Lincoln, NANGB

INSPECTOR M. Kudzeis

SHEET 2 OF 3

ELEV (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	HEADSPACE SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
	0	0.0-0.5FT: CONCRETE (DREP)				RUN: 0-5FT REC: 1.2FT (SOIL)
	1	0.5-1.7FT: SAND (SW) POORLY SORTED, FINE TO COARSE GRAINED. PREDOMINATELY FELDSPAR, SLIGHTLY LESS QUARTZ	PID= 0.0			
			1.0FT HS= 0.1ppm			
	2	1.7-5.0FT: LOSS				
	3					
	4					
			5.0FT HS= 1.7PPM			
	5	5.0-7.5FT: CLAY (CL) STIFF LOW TO MOD. PLASTICITY, OLIVE GRAY (5Y 4/2) V. SL. MOIST	PID= 0.0ppm			RUN: 5-10FT REC: 4.7FT
	6				6.4-7.5	
		7.5-8.0FT: CLAY (CH) SOFT, HIGHLY PLASTIC, GRAY (5Y 5/1), WET				
	7		PID= 0.0ppm			WET AT 7.5FT
		8.0-9.7FT: CLAY, (CL) STIFF, LOW TO MOD. PLASTICITY. V. DARK GRAY (2.5Y 3/1) V. SL. MOIST.	7.5FT PID= 1.7ppm			
	8		PID= 0.0ppm			
	9				8.7-9.5	
		9.7-10.0FT: LOSS	10.0FT HS= 1.7PPM			
	10					

HOLE NUMBER SB-2

HTRW DRILLING LOG

HOLE NUMBER TU014 SB-2

INSPECTOR M. K[illegible]

SHEET 3 OF 3

PROJECT Lincoln, NANGB

ELEV (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	HEADSPACE SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
	10	10.0-14.2FT: CLAY (CH) MED STIFF, HIGHLY PLASTIC, DARK GRAY (2.5Y 4/1) GRADING DOWNWARD TO OLIVE BROWN (2.5Y 4/3), V. MOIST.				RUN: 10-15FT REC: ~~9.2~~ 4.2 FT
	11		PID= 0.0ppm			
	12		PID= 0.0ppm 12.5FT HS= 1.4ppm			
	13		PID= 0.0ppm			
	14	14.2-15.0FT: LOSS	14.2FT HS= 0.6ppm			
	15	15.0-16.5FT: CLAY (CH), SOFT, HIGHLY PLASTIC, V. DARK GRAY (2.5Y 3/1), V. MOIST.				RUN: ~~15-20FT~~ 15-20FT REC: 5.0FT
	16	16.5-16.6 FT: SAND (SW) POORLY SORTED, PACKED IN SEAM BETWEEN CLAY, FINE TO COARSE GRAINED, PREDOM COARSE, WET.	PID= 0.0ppm			
	17	16.6-17.5FT: CLAY (CH) STIFF, MOD PLASTICITY GRAYISH BROWN (2.5Y 5/2), V. MOIST.	17.5FT HS= 0.5ppm			
	18	17.5-20.0FT: CLAY (CH) STIFF, HIGHLY PLASTIC V. DARK GRAY (2.5Y 3/1) MOIST.	PID= 0.0ppm			
	19		PID= 0.0ppm 19.7FT HS=1.4ppm			
	20					

HOLE NUMBER SB-2

HTRW DRILLING LOG

HOLE NUMBER SB-1

PROJECT: Lincoln, NANGB

INSPECTOR M. Kuidzess

SHEET 2 OF 2

ELEV (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	HEADSPACE SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
	0	0.0-0.5FT: CONCRETE (CORRD)				RUN: 0-5FT REC: 4.3FT
	1	0.5-0.8FT: SAND (SW)) LOOSE, FINE TO COARSE GRAINED, PREDOM QUARTZ+ FELDSPAR			0.5-1.5FT	
	2	0.8-1.2FT: CLAY (CH), MOD STIFF, HIGHLY PLASTIC, BROWN (7.5YR 5/4). SL. MOIST.				
	3	1.2-4.3FT: CLAY (CL) STIFF, LOW TO MOD PLASTICITY, DARK OLIVE GRAY (5Y 3/2). SL. MOIST				
	4	4.3-5.0FT: LOSS				
	5					TD= 5FT

PROJECT.

HOLE NUMBER SB-1

51

HTRW DRILLING LOG

HOLE NUMBER	TW014 SB-2
INSPECTOR	M. Kidzets
SHEET	2 OF 2

PROJECT: Lincoln, NANGB

ELEV (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	HEADSPACE SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
	0	0.0-0.5 FT: CONCRETE				RUN: 0-5 FT REC 4.05 FT
		0.5-1.0 FT: ~~SANDY~~ CLAY, SOFT TO MED. STIFF, PLASTIC, YELLOWISH BROWN (10YR 5/4) V. MOIST				
	1	1.0-2.5 FT: CLAY (CL) STIFF, LOW TO MOD PLASTICITY BLACK (10YR 7/1) SL. MOIST				
	2					
	3	2.5-4.05 FT: CLAY (CH). VARIABLE HARDNESS FROM SOFT TO STIFF PLASTIC. DARK GRAY (10YR 4/1) MOIST.				
	4					
	5					TD=5 FT

B-8

HOLE NUMBER SB-2

HTRW DRILLING LOG

PROJECT Lincoln, NANGB	INSPECTOR M. Kriedzejs	HOLE NUMBER TU016 SB-3
		SHEET 2 OF 2

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	HEADSPACE SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
	0	0.0-0.5FT: CONCRETE (CORED) 1.1-4.33FT: CLAY (CH) VARIABLE HARDNESS RANGING FROM SOFT TO STIFF, MOSTLY HIGHLY PLASTIC (SOME MODERATE) DARK OLIVE GRAY (5Y 3/2) SL MOIST.				RUN: 0-5FT REC: 4.33
	1					
	2					
	3	0.5-1.1FT: CLAY (CH), SOFT TO MED STIFF, PLASTIC YELLOWISH BROWN (10YR 5/4) V. MOIST				
	4					
	5					

PROJECT | HOLE NUMBER SB-3

HTRW DRILLING LOG

HOLE NUMBER SB-1

PROJECT Lincoln, NANGB | INSPECTOR M. Kildrens | SHEET 2 OF 3

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	HEADSPACE SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
	0	0.0-0.9FT: CONCRETE (CORED)				RUN: 0-5FT REC: 4.3FT (SOIL)
		0.9-5.0FT: CLAY				
	1	(CH). MED. STIFF, HIGHLY PLASTIC, DARK YELLOWISH BROWN (10YR 3/4) MOIST TO 4.7	0.0ppm			
	2	WET IN LAST 0.3FT OF CORE	0.0ppm			
			2.5FT HS=0.5ppm			
	3		0.0ppm			
	4		4.3FT HS= 0.3ppm		2.5-4.7	WET CORE AT ~~4.8FT~~ 4.7F
	5	5.0-6.4FT: CLAY (CH) VERY SOFT, HIGHLY PLASTIC, BROWN (10YR 5/3)				RUN: 5-10FT REC:
	6	V. MOIST TO WET.	~~HS~~ 0.0ppm			
		6.4-10.0FT: CLAY GRADING TO SILTY CLAY, (CL) FIRM,				
	7	LOW PLASTICITY, DARK GRAY (10YR 4/1) SL. MOIST.	~~HS~~ 0.0ppm			
			7.5FT HS: ~~0.5~~ 1.3 ppm			
	8		~~HS~~ 0.0ppm			
	9				8.3-10.0	NOTICEABLE PETROLEUM ODOR
			1710 ppm			
	10					

HOLE NUMBER SB-1

HTRW DRILLING LOG

HOLE NUMBER SB-1

PROJECT: Lincoln, NANGB | INSPECTOR: M. Kuckees | SHEET 3 OF 3

DEPTH (ft)	DESCRIPTION OF MATERIALS (C)	HEADSPACE SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
10	10.0–11.2FT: CLAY SAME AS AT 5.4FT. V. MOIST TO WET	10.0FT HS= 3.2ppm			RUN: 10–15FT REC: 5.0FT
		0.3ppm			PID IN BZ = 0.0 ppm TOP OF BORE-HOLE = 0.0ppm
11	11.2 – 15.5FT: CLAY (CL) STIFF, MOD. PLASTIC. V. DARK GRAY (10YR 3/1) MOIST				
12		3.4ppm			PID IN BZ = 0.0ppm
		12.5FT HS=1.6ppm			
13		0.3ppm			
14		0.1			
15		15.0FT HS= 1.3ppm			RUN: 15–20FT REC: 4.8FT
	15.5–20.0FT: CLAY (CH) VERY SOFT, PLASTIC V. DARK GRAY (10YR 3/1) WET.				
16		0.4ppm			
17		0.1ppm			PID IN BZ = 0.0ppm
		17.5FT HS= 0.8ppm			
18		0.0ppm			
19		19.8FT HS= 0.7ppm			
20					

PROJECT | HOLE NUMBER SB-1

TU015 93

HTRW DRILLING LOG

HOLE NUMBER SB-2

INSPECTOR M. Kildzejs

SHEET 2 OF 3

PROJECT Lincoln, NANGB

DEPTH (B)	DESCRIPTION OF MATERIALS (C)	HEADSPACE SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
0	0.0-0.9FT: CONCRETE (CORED). 0.9-1.6FT: ROAD BASE GRAVEL AND SILT				RUN: 0-5FT REC: 2.0FT (SOIL)
1	1.6-2.9FT: SILTY CLAY (CL) SOFT, SLIGHTLY PLASTIC, V. DARK GRAY (2.5Y 3/1)				
2		PID= 0.0ppm			PID IN BZ = 0.0ppm
		2.9FT HS=1.2			
3	2.9-5.0FT: LOSS				
4					
5	5.0-5.7FT: SAME AS ABOVE	6.2ppm			RUN: 5-10FT REC: ~~4.9FT~~ 5.0FT
6	5.7-7.0FT: CLAY (CH) STIFF, MOD TO HIGHLY PLASTIC, DARK GRAYISH BROWN (2.4 4/2) SL MOIST.	12.2ppm 6.8FT HS=7.6ppm			
7	7.0-7.4FT: SAME AS ABOVE BUT DARK GRAY (2.5/ 4/1) MOIST.	11.4 PPM			
8	7.4-8.1FT: CLAY (CH) SOFT, PLASTIC DARK GRAY (5Y 4/1) V. MOIST.	12.4pm	8.1	7.3-8.1	
9	8.1-10.0FT: SILTY CLAY, (CL) STIFF, LOW PLASTICITY BLACK (2.5Y 2.5/1) SL. MOIST	8.9ppm 10.0FT 3.0 ppm		8.5-9.3	
10					

HOLE NUMBER SB-2

HTRW DRILLING LOG

HOLE NUMBER TJ015 SB-2

INSPECTOR M. Kwickets

SHEET 3 OF 3

Lincoln, NANGB

DEPTH	DESCRIPTION OF MATERIALS (C)	HEADSPACE SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
10	10.0-11.2FT: CLAY (CH) SOFT, V PLASTIC, GRAYISH BROWN (2.5Y 5/2) BUT W/ GREENISH HUE (NOT ON CHART) V. MOIST TO WET	10.7FT HS= 76.3ppm			RUN: 10-15FT REC: 5.0FT
11		11.8FT 1488ppm HS= 17.9ppm			
12	11.2-15.0FT: CLAY (CH) STIFF W/ SOME ZONES SOFT, PLASTIC V. DARK GRAY (2.5Y 3/1) MOIST.	1.7ppm			
13		5.8ppm			
14		0.3ppm			
15	15.0-20.0FT: CLAY (CH) SOFT, H. PLASTIC, LIGHT OLIVE BROWN (2.5Y 5/3) V MOIST TO WET	15.0FT HS=1.8ppm			RUN: 15-20FT REC: 5.0FT
16		0.0ppm			
17		0.1ppm 17.5ppm HS=1.8ppm			
18		0.0ppm			
19		0.0ppm			
20	20	20FT HS=1.4ppm			TD = 20FT

HOLE NUMBER SB-2

SHW 17

HTRW DRILLING LOG

HOLE NUMBER SB-1

INSPECTOR M. Klidzejs

SHEET 2 OF 3

PROJECT Lincoln, NANGB

DEPTH (B)	DESCRIPTION OF MATERIALS (C)	HEADSPACE SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
0	0.0-0.6FT: CONCRETE (CORED)				RUN: 0-5FT REC: 4.4FT (SOIL)
	0.6-1.0FT: SAND (SW), POORLY SORTED, PRED. MED TO COARSE GRAINED, LOOSE, WST (FROM RAIN).	0.0ppm			
1					
2	1.0-3.5FT: CLAY (CL) STIFF, MOD. PLASTIC, DARK GRAY (10YR 4/1) SL MOIST	0.0ppm 2.5FT HS=1.7ppm			
3	3.5-5.0FT: CL (CH), SOFT, PLASTIC, LT. OLIVE BROWN (2.5Y 5/3) V. MOIST	0.0ppm			
4		0.0ppm			
5	5.0-7.2FT: SAME AS AT 1.0FT SL MOIST	5.0FT HS=1.9ppm			RUN: 5-10FT REC: 4.4FT
6		0.0ppm			
7	7.2-8.4FT: SILTY CLAY (CL), SOFT, MOD. PLASTIC, GRAY (5Y6/1) SL MOIST.	0.0ppm 7.0FT HS=2.1ppm		7.2-7.9	
8		0.0ppm			
	8.4-9.4FT: SILTY CLAY (CH) SOFT, PLASTIC, LT OLIVE BROWN (2.5Y 5/3), V. MOIST TO 9.0, WET BELOW 9.0FT			8.5-9.2	
9		0.0ppm 9.4FT HS=2.0ppm			
10					

HOLE NUMBER SB-1

100

HTRW DRILLING LOG

HOLE NUMBER SB-1 (SH-01?)
SHEET 3 OF 3

Lincoln, NANGB

INSPECTOR M. Kuczetz

ELEV (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	HEADSPACE SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
	10					RUN: 10-15F REC: 5.0F
	11	SAME AS ABOVE EXTREMELY SOFT TO SOUPY BELOW ~12FT SATURATE	0.0ppm			
	12		0.0ppm 12.5FT HS= 1.6ppm			
	13					
	14	GRADING FROM ABOVE TO SANDY CLAY AND TO CLAYEY SAND BY 17FT SLIGHTLY COHESIVE	0.0ppm 15.0FT HS=			
	15	YELLOWISH BROWN (10YR 5/4) SATURATED.				RUN: 15-20F REC: 3.5FT
	16		0.0ppm			
	17		0.0ppm 17.5FT HS: 1.2ppm			
	18		0.0ppm 18.5FT HS: 1.2ppm			
	19					
	20					TD = 20FT

HOLE NUMBER SB-1

HTRW DRILLING LOG

HOLE NUMBER SB-2 SAW017

Lincoln, NANGB

INSPECTOR M. Kidzejs

SHEET 2 OF 3

DEPTH (ft)	DESCRIPTION OF MATERIALS (C)	HEADSPACE SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
0	0.0-0.6FT: CONCRETE (CORED) 0.6-0.9FT: SAND (SW) FINE TO COARSE GRAINED, POORLY SORTED, LOOSE	0.0PPM			RUN: 0-5FT REC: 3.4FT
1–2	0.9-4.0FT: CLAY (CH), MED STIFF HIGHLY PLASTIC DARK GRAY (2.5Y 4/1), SL. MOIST.	2.0FT HS=0.1PPM; 0.0PPM			
3		0.0PPM			
4	4.0-5.0FT: LOSS	4.0FT HS= 0.2PPM			
5	5.0-10.0FT: CLAY (CH), SOFT, MOD. PLASTIC GRADING IN COLOR FROM DARK GRAY (AS ABOVE) TO LIGHT BROWNISH GRAY (2.5Y 6/2) V. MOIST TO WET BELOW 9.0 FT.				RUN: 5-10FT REC: 4.8FT
6		0.0PPM		6.0-7.0FT	
7		0.0PPM; 7.5FT HS=0.4PPM			
8		0.0PPM		8.0-9.0FT	
9		0.0PPM; 9.8FT HS=0.3PPM ~~10.0~~			
10					

HOLE NUMBER SB-2

SA014 122

HTRW DRILLING LOG

HOLE NUMBER SB2	SHEET 3 OF 3

INSPECTOR M. Kriczejs

Lincoln, NANGB

DEPTH	DESCRIPTION OF MATERIALS (C)	HEADSPACE SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
10					RUN: 10-15FT REC: 4.5FT
11	SAME AS ABOVE, LIGHT BROWNISH GRAY, EXTREMELY SOFT/SOUPY SATURATED.	0.0ppm			
12		0.0ppm 12.5FT HS= 0.5ppm			
13		0.0ppm			
14		0.0ppm 14.5FT HS= 0.5ppm			
15	GRADING FROM ABOVE TO ~~CLAYE~~ SANDY CLAY TO CLAYEY SAND TO SAND AT 18.4FT				RUN: 15-20FT REC: 5.0FT
16		0.0ppm			
17		0.0ppm 17.5FT HS= 0.9ppm			
18	18.4-20.0FT: SAND W/ SOME CLAY (SC), MOD COHESION FINE TO MED GRAINED. MOD WELL SORTED. ~~DARK~~ YELLOWISH BROWN (10YR 5/4) SATURATED	0.0ppm			
19		0.0ppm 20.0FT HS=0.1ppm			
20					TD=20FT

HOLE NUMBER SB-2

HTRW DRILLING LOG

INSPECTOR M. Kuidzejs

Lincoln, NANGB

DEPTH (ft)	DESCRIPTION OF MATERIALS (C)	HEADSPACE SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
0		0.0FT HS=0.7PPM			RUN: 0.0-5.0F REC: 5.0FT
1	0.0-~2.3FT: CLAY (CH) MOD. STIFF HIGHLY PLASTIC, DARK GRAY (2.5Y 4/1) SL. MOIST	0.0PPM			
2	2.3-3.4FT: SILTY CLAY (CL) MOD. STIFF, V. SL PLASTICITY BLACK (2.5Y/2.5/1) V. SL MOIST.	46.4PPM 3.3FT HS=15.7PPM ~~1452~~ 2322		2.6-3.3	POTENTIAL DARK STAINING AT
4	3.4-5.0FT CLAY AS AT 0.0-2.3FT SL. MOIST	59.1PPM			
5	5.0-10.0FT: CLAY (CH) SOFT HIGHLY PLASTIC LIGHT BROWNISH GRAY (2.5Y 6/2) V. MOIST GRADING TO WET AT 10.0FT	5.0FT HS=25.9PPM 8.0PPM			RUN: 5.0-10.0 REC:
7		0.7PPM		6.6-7.7 ~~7.5~~	
8		8.0FT HS=0.5PPM 0.3			
9		0.2PPM			
10		10.0FT HS=0.8PPM			

HTRW DRILLING LOG

HOLE NUMBER SB-3 (SHALL-1)

SHEET 3 OF 3

INSPECTOR M. Kwiatkowski

Lincoln, NANGB

Depth	DESCRIPTION OF MATERIALS (C)	HEADSPACE SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
10	SAME AS ABOVE AT 11.1 FT BECOMES SATURATED AND SOUPY IN CONSISTENCY COLOR GRADES TO DARK YELLOWISH BROWN (10YR 4/4				
11		0.0ppm			
12		0.0ppm			
		12.5FT HS=0.8ppm			
13		0.0ppm			
14					
15		15.0FT HS= 0.6ppm			TD AT 15FT ADVANCE TO 20 Ft DMB
16					
17					
18					
19					
20					

HOLE NUMBER SB-3

HTRW DRILLING LOG

HOLE NUMBER TU018 SB-1

INSPECTOR M. Kuidrejs

SHEET 2 OF 3

Lincoln, NANGB

DEPTH	DESCRIPTION OF MATERIALS (C)	HEADSPACE SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
0	0.0-4.2FT: CLAY (CH) MED. STIFF, HIGHLY PLASTIC, LIGHT OLIVE BROWN (2.5Y 5/3) MOIST	0.0FT HS=0.7PPM			RUN: 0-5FT REC: 4.2FT
1		0.0ppm			
2		0.0ppm			
2.5		2.5FT HS=0.8ppm			
3		0.0ppm			
4	4.2-5.0FT: LOSS	0.0ppm			
5	~~5.0-10.0FT CLAY (CL) MED.~~ STIFF TO STIFF MOD PLASTICITY LIGHT OLIVE BROWN (2.5Y 5/3) BUT BLACK BETWEEN 6.5-7.5FT. NO ODOR OR ELEVATED PID READING IN THIS INTERVAL SL MOIST	5.0FT HS=0.9ppm		5.3-6.0FT	RUN: 5-10FT REC: 5.0FT
6		0.0ppm			
7		0.0ppm			
7.5		7.5FT HS=1.1ppm			
8		0.0ppm			
9		0.0ppm			
10		10.0FT HS=1.2ppm			

HTRW DRILLING LOG

HOLE NUMBER SB-1

INSPECTOR M. Kuidee JS

SHEET 3 OF 3

Lincoln, NANGB

DEPTH	DESCRIPTION OF MATERIALS (C)	HEADSPACE SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
10					RUN: 10-15 REC: 5.0 FT
11	SAME AS ABOVE BUT BECOMING SOFTER w/ DEPTH. SOFT AT 12 V SOFT BELOW 13 FT. WET BELOW 13 FT	0.0 ppm		~~1110~~ 11.0-12.0.	
12		0.0 ppm 12.5 FT HS=0.5 ppm			
13		0.0 ppm			WET AT ~13 FT
14		0.0 ppm			
15		15.0 FT HS= 0.8 ppm			RUN: 15-20 FT REC: 5.0 FT
16	SAME AS ABOVE BUT BECOMING SLIGHTLY SANDY BY 18 FT	0.0 ppm			
17		0.0 ppm 17.5 FT HS=1.2 ppm			
18	AT 19 FT, BECOMES CLAY SAND, FINE GRAINED, SL. COHESIVE (SC) SATURATED.	0.0 ppm			
19					
20		20.0 FT HS= 0.9 ppm			TD = 20 FT

HOLE NUMBER SB-1

HTRW DRILLING LOG

Lincoln, NANGB

INSPECTOR M. Kudzess

DESCRIPTION OF MATERIALS (C)	HEADSPACE SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
0.0-2.4FT: CLAY (CL), MED. STIFF TO SOFT MOD. PLASTIC. MOTTLED LT OLIVE BROWN (2.5Y 5/3) AND DARK GRAYISH BROWN (2.5Y 4/2) MOIST	0.0FT HS= 0.0PPM; 0.0PPM			RUN: 0-5FT REC: 3.8FT
2.4-3.8FT: CLAY AS ABOVE W/SOME COARSE SAND. V. MOIST.	0.0PPM; 2.5FT HS= 0.4PPM; 0.0PPM			
3.8-5.0FT: LOSS	3.8FT HS= 1.0PPM			
5.0-6.5FT: SAME AS AT 0.0-2.4FT.	0.0PPM; 0.0PPM		5.0-6.0	RUN: ~~0-5FT~~ 5-10 REC: 5.0FT
6.5-10.0FT: CLAY (CL) STIFF LOW TO MOD PLAST. DARK GRAY (2.5Y 4/1) SL. MOIST.	0.0PPM; 7.5FT HS= 0.0PPM; 0.0PPM; 0.0PPM; 10.0FT HS= 0.8PPM			

HOLE NUMBER	SB-2

HTRW DRILLING LOG

INSPECTOR M. Kuidzejs

SHEET 3 OF 3

NANGB

DESCRIPTION OF MATERIALS (C)	HEADSPACE SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
				RUN: 10-15FT REC: 5.0FT
10.0 - 14.4FT: CLAY (CL) STIFF, LOW TO MOD. PLASTICITY, LIGHT OLIVE BROWN (2.5Y 5/3) MOIST BUT GRADATIONALLY BECOMING MORE MOIST W/ DEPTH, V. MOIST BY 14 FT	0.0ppm 0.0 ppm 12.5FT HSF 1.1 ppm 0.0ppm		11.6-12.5	
14.4 - ~~15~~ 17.0FT: SILTY CLAY (CH) SOFT, V. PLASTIC, DARK GRAY (2.5Y 4/1) WET. SOUPY BELOW 15FT	0.0ppm ~~12.5FT~~ 15.0FT HS= 1.4ppm 0.0ppm			RUN: 15-20 REC: 5.0FT
17.0 - 19.2FT: SILTY CLAY (CL) SOFT, MOD PLASTIC, LT. OLIVE BROWN (2.5Y 5/3) V. MOIST	0.0ppm 17.5FT HS= 1.0ppm 0.0ppm			
19.2 - 20.0FT: SAND (SP) TRACE CLAY, FINE GRAINED, MOD WELL SORTED. SLIGHTLY COHESIVE. WET SAME COLOR AS ABOVE	0.0ppm 20.0FT HS=0.0ppm			TD = 20FT

Depth scale: 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20

HOLE NUMBER SB-2

HTRW DRILLING LOG

INSPECTOR M. Kindress

[illegible] Lincoln, NANGB

DEPTH (ft)	DESCRIPTION OF MATERIALS (C)	HEADSPACE SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
0	0.0-4.2FT: CLAY (CH) MED STIFF, HIGHLY PLASTIC, OLIVE BROWN (2.5Y 4/3) MOTTLED W/ DARK GRAY (10YR 4/1) V. MOIST	0.0FT HS= 1.1ppm			RUN: 0-5FT REC: 4.2FT
2		0.0ppm			
2.5		2.5FT HS= 1.0ppm			
3		0.0ppm			
4	4.2-5.0FT: LOSS	4.2FT HS= 1.3ppm			
5	5.0-6.2FT: SAME AS AT 0.0-4.2FT			5.0-6.0FT	RUN: 5-10FT REC: 4.3FT
6	6.2-8.3FT: CLAY (CH) SOFT, HIGHLY PLASTIC, LT OLIVE BROWN (2.5Y 5/3) WET	0.0ppm			
7		0.0ppm			
8	8.3-9.3FT: CLAY (CL) STIFF, MOD PLASTICITY, V. DARK GRAY (2.5Y 3/1) MOIST	0.0ppm			
9	9.3-10.0FT: LOSS	0.0ppm			
10		10.0ppm HS= 1.0ppm			

APPENDIX C
ANALYTICAL RESULTS

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Between May 6 and 9, 2013, 19 soil samples and 2 field duplicates were collected from 5 areas of concern (AOCs) at the Lincoln Air National Guard Base in Lincoln, Nebraska. Samples were subsequently transported via Federal Express to Empirical Laboratories in Nashville, Tennessee, for analysis. Reported results for these samples included detections of acetone in 10 of 21 soil samples at concentrations ranging from 13 to 187 µg/kg and detections of methylene chloride in 17 of 21 soil samples ranging from 34.3 to 490 µg/kg. Neither acetone nor methylene chloride was detected in the associated method blanks, trip blank, or equipment rinsate sample.

Acetone and methylene chloride detections had not been expected based upon historical activities at the five AOCs. Similarly, soil samples collected at two other Installations and submitted by Science Applications International Corporation (SAIC) to Empirical Laboratories during a 3-week window were also unexpectedly reported to contain acetone and methylene chloride.

SAIC requested that Empirical Laboratories conduct an internal investigation to determine whether the reported acetone and methylene chloride concentrations might be the result of laboratory contamination. The subsequent corrective action report dated June 7, 2013, noted that "Samples were received in bulk jars and stored in the soil walk-in with all other bulk jars. While the samples were prepared in the [volatile organic analysis] VOA lab and the VOA lab is free from solvents, the hypothesis is that sample trays containing the VOA sample jars were accidentally taken to the main lab during preparation for another test instead of taking only the jars necessary for the other test preparation." The following note was added to the laboratory reports: "Reported concentrations of acetone/methylene chloride likely attributable to laboratory artifact and not due to actual soil sample concentrations."

Due to the uncertainty surrounding the potential exposure and subsequent contamination of these soil samples to these common laboratory solvents, results for detected concentrations of acetone and methylene chloride were qualified as unusable (R) during data validation.

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ANALYSIS DATA SHEET

LNC-014-05-SB-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Solid	Laboratory ID:	1305125-01RE1	File ID:	0512501R.D
Sampled:	05/06/13 15:25	Prepared:	05/20/13 00:00	Analyzed:	05/20/13 10:40
Solids:	80.66	Preparation:	5035A	Dilution:	1
Batch:	3E20008	Sequence:	3E14106	Calibration:	3140003
Instrument:	MS-VOA3				

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q	
67-64-1	Acetone	33.4	7.40	14.8	29.6	Rx ~~J~~	C05, F12
71-43-2	Benzene		1.85	3.70	7.40	U	U
74-97-5	Bromochloromethane		1.85	3.70	7.40	U	
75-27-4	Bromodichloromethane		1.85	3.70	7.40	U	
75-25-2	Bromoform		1.85	3.70	7.40	U	
74-83-9	Bromomethane		3.70	7.40	14.8	U	
78-93-3	2-Butanone		3.70	7.40	14.8	UX	
75-15-0	Carbon disulfide		1.85	3.70	7.40	U	
56-23-5	Carbon tetrachloride		1.85	3.70	7.40	U	
108-90-7	Chlorobenzene		1.85	3.70	7.40	U	
75-00-3	Chloroethane		3.70	7.40	14.8	U	
67-66-3	Chloroform		1.85	3.70	7.40	U	
74-87-3	Chloromethane		3.70	7.40	14.8	U	
110-82-7	Cyclohexane		1.85	3.70	7.40	U	
124-48-1	Dibromochloromethane		1.85	3.70	7.40	U	
96-12-8	1,2-Dibromo-3-chloropropane		3.70	7.40	14.8	U	
106-93-4	1,2-Dibromoethane (EDB)		1.85	3.70	7.40	U	
95-50-1	1,2-Dichlorobenzene		1.85	3.70	7.40	U	
541-73-1	1,3-Dichlorobenzene		1.85	3.70	7.40	U	
106-46-7	1,4-Dichlorobenzene		1.85	3.70	7.40	U	
75-71-8	Dichlorodifluoromethane		3.70	7.40	14.8	U	
75-34-3	1,1-Dichloroethane		1.85	3.70	7.40	U	
107-06-2	1,2-Dichloroethane		1.85	3.70	7.40	U	
75-35-4	1,1-Dichloroethene		1.85	3.70	7.40	U	
156-59-2	cis-1,2-Dichloroethene		1.85	3.70	7.40	U	
156-60-5	trans-1,2-Dichloroethene		1.85	3.70	7.40	U	
78-87-5	1,2-Dichloropropane		1.85	3.70	7.40	U	
10061-01-5	cis-1,3-Dichloropropene		1.85	3.70	7.40	U	
10061-02-6	trans-1,3-Dichloropropene		1.85	3.70	7.40	U	
100-41-4	Ethylbenzene		1.85	3.70	7.40	U	
591-78-6	2-Hexanone		3.70	7.40	14.8	UXQ	
98-82-8	Isopropylbenzene		1.85	3.70	7.40	U	
75-09-2	Methylene chloride	306	3.70	7.40	14.8		R, F12
79-20-9	Methyl Acetate		3.70	7.40	14.8	U	U
108-87-2	Methylcyclohexane		1.85	3.70	7.40	U	
108-10-1	4-Methyl-2-pentanone		3.70	7.40	14.8	U	
1634-04-4	Methyl t-Butyl Ether		1.85	3.70	7.40	U	
100-42-5	Styrene		1.85	3.70	7.40	U	
79-34-5	1,1,2,2-Tetrachloroethane		1.85	3.70	7.40	U	
127-18-4	Tetrachloroethene		1.85	3.70	7.40	U	

JV 06/25/2013

ANALYSIS DATA SHEET

LNC-014-05-SB-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125		
Client:	SAIC (S732)			Project:	Lincoln NE ANG		
Matrix:	Solid	Laboratory ID:	1305125-01RE1	File ID:	0512501R.D		
Sampled:	05/06/13 15:25	Prepared:	05/20/13 00:00	Analyzed:	05/20/13 10:40		
Solids:	80.66	Preparation:	5035A	Dilution:	1		
Batch:	3E20008	Sequence:	3E14106	Calibration:	3140003	Instrument:	MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
108-88-3	Toluene		1.85	3.70	7.40	U
87-61-6	1,2,3-Trichlorobenzene		1.85	3.70	7.40	U
120-82-1	1,2,4-Trichlorobenzene		1.85	3.70	7.40	U
79-00-5	1,1,2-Trichloroethane		1.85	3.70	7.40	U
71-55-6	1,1,1-Trichloroethane		1.85	3.70	7.40	U
79-01-6	Trichloroethene		1.85	3.70	7.40	U
75-69-4	Trichlorofluoromethane		3.70	7.40	14.8	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		3.70	7.40	14.8	U
75-01-4	Vinyl chloride		1.85	3.70	7.40	U
108-38-3/106-42-	m,p-Xylene		3.70	7.40	14.8	U
95-47-6	o-Xylene		1.85	3.70	7.40	U

Total Target Analytes Reported: 51

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
Bromofluorobenzene	44.38	43.32	97.6	85 - 120	
Dibromofluoromethane	44.38	50.45	114	80 - 125	
1,2-Dichloroethane-d4	44.38	50.63	114	75 - 140	
Toluene-d8	44.38	45.78	103	85 - 115	

ANALYSIS DATA SHEET

LNC-014-05-SB-01

Laboratory: Empirical Laboratories, LLC
SDG: 1305125
Client: SAIC (S732)
Project: Lincoln NE ANG
Matrix: Solid
Laboratory ID: 1305125-01
File ID: 0512501.D
Sampled: 05/06/13 15:25
Prepared: 05/20/13 16:00
Analyzed: 06/02/13 03:57
Solids: 80.66
Preparation: EXT 3546
Dilution: 1
Batch: 3E17014
Sequence: 3F15504
Calibration: 2261001
Instrument: MS-BNA3

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
98-86-2	Acetophenone		99.2	199	396	U
1912-24-9	Atrazine		99.2	199	396	U
100-52-7	Benzaldehyde		99.2	199	396	U
92-52-4	1,1-Biphenyl		99.2	199	396	U
101-55-3	4-Bromophenyl-phenylether		99.2	199	396	U
85-68-7	Butylbenzylphthalate		99.2	199	396	U
105-60-2	Caprolactam		99.2	199	396	UXQ
86-74-8	Carbazole		99.2	199	396	U
59-50-7	4-Chloro-3-methylphenol		99.2	199	396	U
106-47-8	4-Chloroaniline		99.2	199	396	U
111-91-1	Bis(2-chloroethoxy)methane		99.2	199	396	U
111-44-4	Bis(2-chloroethyl)ether		99.2	199	396	UQ
108-60-1	2,2'-Oxybis-1-chloropropane		99.2	199	396	U
91-58-7	2-Chloronaphthalene		99.2	199	396	U
95-57-8	2-Chlorophenol		99.2	199	396	U
7005-72-3	4-Chlorophenyl phenyl ether		99.2	199	396	U
132-64-9	Dibenzofuran		99.2	199	396	U
84-74-2	Di-n-butylphthalate		99.2	199	396	U
91-94-1	3,3'-Dichlorobenzidine		99.2	199	396	U
120-83-2	2,4-Dichlorophenol		99.2	199	396	U
84-66-2	Diethylphthalate		99.2	199	396	U
105-67-9	2,4-Dimethylphenol		396	794	1580	U
131-11-3	Dimethyl phthalate		99.2	199	396	U
534-52-1	4,6-Dinitro-2-methylphenol		992	1990	3960	U
51-28-5	2,4-Dinitrophenol		992	1990	3960	U
121-14-2	2,4-Dinitrotoluene		99.2	199	396	U
606-20-2	2,6-Dinitrotoluene		99.2	199	396	U
117-84-0	Di-n-octylphthalate		99.2	199	396	U
117-81-7	Bis(2-ethylhexyl)phthalate		99.2	199	396	U
118-74-1	Hexachlorobenzene		99.2	199	396	U
87-68-3	Hexachlorobutadiene		99.2	199	396	U
77-47-4	Hexachlorocyclopentadiene		99.2	199	396	U
67-72-1	Hexachloroethane		99.2	199	396	U
78-59-1	Isophorone		99.2	199	396	U
95-48-7	2-Methylphenol		99.2	199	396	U
106-44-5	4-Methylphenol		99.2	199	396	U
100-01-6	4-Nitroaniline		99.2	199	396	UQ
99-09-2	3-Nitroaniline		396	794	1580	U
88-74-4	2-Nitroaniline		396	794	1580	U
98-95-3	Nitrobenzene		396	794	1580	U
			99.2	199	396	U

ANALYSIS DATA SHEET

LNC-014-05-SB-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Solid	Laboratory ID:	1305125-01	File ID:	0512501.D
Sampled:	05/06/13 15:25	Prepared:	05/20/13 16:00	Analyzed:	06/02/13 03:57
Solids:	80.66	Preparation:	EXT 3546	Dilution:	1

Batch: 3E17014 Sequence: 3F15504 Calibration: 2261001 Instrument: MS-BNA3

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
100-02-7	4-Nitrophenol		396	794	1580	U
88-75-5	2-Nitrophenol		99.2	199	396	U
86-30-6	N-Nitrosodiphenylamine		99.2	199	396	U
621-64-7	N-Nitroso-di-n-propylamine		99.2	199	396	U
87-86-5	Pentachlorophenol		396	794	1580	U
108-95-2	Phenol		99.2	199	396	U
95-94-3	1,2,4,5-Tetrachlorobenzene		99.2	199	396	U
58-90-2	2,3,4,6-Tetrachlorophenol		99.2	199	396	U
88-06-2	2,4,6-Trichlorophenol		99.2	199	396	U
95-95-4	2,4,5-Trichlorophenol		99.2	199	396	U

Total Target Analytes Reported: 50

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	3969	3043	76.7	45 - 105	
2-Fluorophenol	7937	7245	91.3	35 - 105	
Nitrobenzene-d5	3969	3072	77.4	35 - 100	
Phenol-d6	7937	7311	92.1	40 - 100	
Terphenyl-d14	3969	3349	84.4	30 - 125	
2,4,6-Tribromophenol	7937	6131	77.2	35 - 125	

ANALYSIS DATA SHEET

LNC-014-05-SB-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125		
Client:	SAIC (S732)			Project:	Lincoln NE ANG		
Matrix:	Solid	Laboratory ID:	1305125-01	File ID:	0512501.D		
Sampled:	05/06/13 15:25	Prepared:	05/20/13 16:00	Analyzed:	06/05/13 23:15		
Solids:	80.66	Preparation:	EXT 3546	Dilution:	1		
Batch:	3E17014	Sequence:	3F15708	Calibration:	3122001	Instrument:	MS-BNA4

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q	
83-32-9	Acenaphthene	**71.4**	1.99	3.96	7.94		=
208-96-8	Acenaphthylene		1.99	3.96	7.94	U	U
120-12-7	Anthracene	**14.0**	1.99	3.96	7.94		=
56-55-3	Benzo(a)anthracene	**3.33** •	1.99	3.96	7.94	J	J
50-32-8	Benzo(a)pyrene		1.99	3.96	7.94	U	U
205-99-2	Benzo(b)fluoranthene	**2.48**	1.99	3.96	7.94	J	J
191-24-2	Benzo(g,h,i)perylene		1.99	3.96	7.94	U	U
207-08-9	Benzo(k)fluoranthene		1.99	3.96	7.94	U	U
123-91-1	1,4-Dioxane		9.92	19.9	39.6	U	U
218-01-9	Chrysene	**2.22** •	1.99	3.96	7.94	J	J
53-70-3	Dibenz(a,h)anthracene		1.99	3.96	7.94	U	U
206-44-0	Fluoranthene	**8.02**	1.99	3.96	7.94		=
86-73-7	Fluorene	**47.4**	1.99	3.96	7.94		=
193-39-5	Indeno(1,2,3-cd)pyrene		1.99	3.96	7.94	U	U
91-57-6	2-Methylnaphthalene		1.99	3.96	7.94	U	U
91-20-3	Naphthalene		1.99	3.96	7.94	U	U
85-01-8	Phenanthrene	**53.5**	1.99	3.96	7.94		=
129-00-0	Pyrene	**6.01**	1.99	3.96	7.94	J	J

Total Target Analytes Reported: 18

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	3969	3432	86.5	45 - 105	
Terphenyl-d14	3969	3387	85.4	30 - 125	
2,4,6-Tribromophenol	7937	7575	95.4	35 - 125	

JU
09/04/2013

ANALYSIS DATA SHEET

LNC-014-05-SB-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125		
Client:	SAIC (S732)			Project:	Lincoln NE ANG		
Matrix:	Solid	Laboratory ID:	1305125-01	File ID:	021F2101.D		
Sampled:	05/06/13 15:25	Prepared:	05/20/13 12:19	Analyzed:	05/23/13 04:33		
Solids:	80.66	Preparation:	EXT 3546	Dilution:	1		
Batch:	3E17023	Sequence:	3E14606	Calibration:	3143004	Instrument:	GL-GCFID2

CAS NO.	COMPOUND	CONC. (mg/Kg dry)	DL	LOD	LOQ	Q
11-84-7	Diesel Range Organics (C10-C28)		7.88	7.88	15.6	U

U

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	1.567	1.169	74.6	35 - 140	

ANALYSIS DATA SHEET

LNC-014-05-SB-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125		
Client:	SAIC (S732)			Project:	Lincoln NE ANG		
Matrix:	Solid	Laboratory ID:	1305125-01	File ID:	006F0601.D		
Sampled:	05/06/13 15:25	Prepared:	05/18/13 17:28	Analyzed:	05/18/13 21:13		
Solids:	80.66	Preparation:	8015GRO	Dilution:	1		
Batch:	3E18011	Sequence:	3E14307	Calibration:	3044001	Instrument:	GL-GCVOA2

CAS NO.	COMPOUND	CONC. (mg/Kg dry)	DL	LOD	LOQ	Q
8006-61-9	Gasoline Range Organics (C6-C10)		3.27	6.54	9.81	U

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q
Bromofluorobenzene	3.270	3.896	119	50 - 150	X

ANALYSIS DATA SHEET

LNC-014-DS-SB2-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Solid	Laboratory ID:	1305125-09RE1	File ID:	0512509R.D
Sampled:	05/06/13 12:45	Prepared:	05/20/13 00:00	Analyzed:	05/20/13 11:09
Solids:	78.85	Preparation:	5035A	Dilution:	1
Batch:	3E20008	Sequence:	3E14106	Calibration:	3140003
Instrument:	MS-VOA3				

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q	
67-64-1	Acetone	187	5.83	11.7	23.3	R X J	COS, F12
71-43-2	Benzene		1.46	2.91	5.83	U	U
74-97-5	Bromochloromethane		1.46	2.91	5.83	U	
75-27-4	Bromodichloromethane		1.46	2.91	5.83	U	
75-25-2	Bromoform		1.46	2.91	5.83	U	
74-83-9	Bromomethane		2.91	5.83	11.7	U	
78-93-3	2-Butanone	42.5	2.91	5.83	11.7	X J	COS
75-15-0	Carbon disulfide		1.46	2.91	5.83	U	U
56-23-5	Carbon tetrachloride		1.46	2.91	5.83	U	
108-90-7	Chlorobenzene		1.46	2.91	5.83	U	
75-00-3	Chloroethane		2.91	5.83	11.7	U	
67-66-3	Chloroform		1.46	2.91	5.83	U	
74-87-3	Chloromethane		2.91	5.83	11.7	U	
110-82-7	Cyclohexane		1.46	2.91	5.83	U	
124-48-1	Dibromochloromethane		1.46	2.91	5.83	U	
96-12-8	1,2-Dibromo-3-chloropropane		2.91	5.83	11.7	U	
106-93-4	1,2-Dibromoethane (EDB)		1.46	2.91	5.83	U	
95-50-1	1,2-Dichlorobenzene		1.46	2.91	5.83	U	
541-73-1	1,3-Dichlorobenzene		1.46	2.91	5.83	U	
106-46-7	1,4-Dichlorobenzene		1.46	2.91	5.83	U	
75-71-8	Dichlorodifluoromethane		2.91	5.83	11.7	U	
75-34-3	1,1-Dichloroethane		1.46	2.91	5.83	U	
107-06-2	1,2-Dichloroethane		1.46	2.91	5.83	U	
75-35-4	1,1-Dichloroethene		1.46	2.91	5.83	U	
156-59-2	cis-1,2-Dichloroethene		1.46	2.91	5.83	U	
156-60-5	trans-1,2-Dichloroethene		1.46	2.91	5.83	U	
78-87-5	1,2-Dichloropropane		1.46	2.91	5.83	U	
10061-01-5	cis-1,3-Dichloropropene		1.46	2.91	5.83	U	
10061-02-6	trans-1,3-Dichloropropene		1.46	2.91	5.83	U	
100-41-4	Ethylbenzene		1.46	2.91	5.83	U	
591-78-6	2-Hexanone		2.91	5.83	11.7	UXQ	
98-82-8	Isopropylbenzene		1.46	2.91	5.83	U	
75-09-2	Methylene chloride	416	2.91	5.83	11.7		~~J~~ R, F12
79-20-9	Methyl Acetate		2.91	5.83	11.7	U	U
108-87-2	Methylcyclohexane		1.46	2.91	5.83	U	
108-10-1	4-Methyl-2-pentanone		2.91	5.83	11.7	U	
1634-04-4	Methyl t-Butyl Ether		1.46	2.91	5.83	U	
100-42-5	Styrene		1.46	2.91	5.83	U	
79-34-5	1,1,2,2-Tetrachloroethane		1.46	2.91	5.83	U	
127-18-4	Tetrachloroethene		1.46	2.91	5.83	U	

ANALYSIS DATA SHEET

LNC-014-DS-SB2-01

Laboratory: Empirical Laboratories, LLC — SDG: 1305125
Client: SAIC (S732) — Project: Lincoln NE ANG
Matrix: Solid — Laboratory ID: 1305125-09RE1 — File ID: 0512509R.D
Sampled: 05/06/13 12:45 — Prepared: 05/20/13 00:00 — Analyzed: 05/20/13 11:09
Solids: 78.85 — Preparation: 5035A — Dilution: 1
Batch: 3E20008 — Sequence: 3E14106 — Calibration: 3140003 — Instrument: MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
108-88-3	Toluene		1.46	2.91	5.83	U
87-61-6	1,2,3-Trichlorobenzene		1.46	2.91	5.83	U
120-82-1	1,2,4-Trichlorobenzene		1.46	2.91	5.83	U
79-00-5	1,1,2-Trichloroethane		1.46	2.91	5.83	U
71-55-6	1,1,1-Trichloroethane		1.46	2.91	5.83	U
79-01-6	Trichloroethene		1.46	2.91	5.83	U
75-69-4	Trichlorofluoromethane		2.91	5.83	11.7	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		2.91	5.83	11.7	U
75-01-4	Vinyl chloride		1.46	2.91	5.83	U
108-38-3/106-42-	m,p-Xylene		2.91	5.83	11.7	U
95-47-6	o-Xylene		1.46	2.91	5.83	U

U

Total Target Analytes Reported: 51

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
Bromofluorobenzene	34.97	34.72	99.3	85 - 120	
Dibromofluoromethane	34.97	37.19	106	80 - 125	
1.2-Dichloroethane-d4	34.97	36.55	105	75 - 140	
Toluene-d8	34.97	35.27	101	85 - 115	

ANALYSIS DATA SHEET

LNC-014-DS-SB2-01

Laboratory:	Empirical Laboratories, LLC		SDG:	1305125	
Client:	SAIC (S732)		Project:	Lincoln NE ANG	
Matrix:	Solid	Laboratory ID: 1305125-09		File ID:	0512509.D
Sampled:	05/06/13 12:45	Prepared: 05/20/13 16:00		Analyzed:	06/02/13 04:25
Solids:	78.85	Preparation: EXT 3546		Dilution:	1
Batch:	3E17014	Sequence: 3F15504	Calibration:	2261001	Instrument: MS-BNA3

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
98-86-2	Acetophenone		101	203	404	U UJ A01
1912-24-9	Atrazine		101	203	404	U
100-52-7	Benzaldehyde		101	203	404	U
92-52-4	1,1-Biphenyl		101	203	404	U
101-55-3	4-Bromophenyl-phenylether		101	203	404	U
85-68-7	Butylbenzylphthalate		101	203	404	U
105-60-2	Caprolactam		101	203	404	UXQ
86-74-8	Carbazole		101	203	404	U
59-50-7	4-Chloro-3-methylphenol		101	203	404	U
106-47-8	4-Chloroaniline		101	203	404	U
111-91-1	Bis(2-chloroethoxy)methane		101	203	404	U
111-44-4	Bis(2-chloroethyl)ether		101	203	404	UQ
108-60-1	2,2'-Oxybis-1-chloropropane		101	203	404	U
91-58-7	2-Chloronaphthalene		101	203	404	U
95-57-8	2-Chlorophenol		101	203	404	U
7005-72-3	4-Chlorophenyl phenyl ether		101	203	404	U
132-64-9	Dibenzofuran		101	203	404	U
84-74-2	Di-n-butylphthalate		101	203	404	U
91-94-1	3,3'-Dichlorobenzidine		101	203	404	U
120-83-2	2,4-Dichlorophenol		101	203	404	U
84-66-2	Diethylphthalate		101	203	404	U
105-67-9	2,4-Dimethylphenol		404	809	1610	U
131-11-3	Dimethyl phthalate		101	203	404	U
534-52-1	4,6-Dinitro-2-methylphenol		1010	2030	4040	U
51-28-5	2,4-Dinitrophenol		1010	2030	4040	U
121-14-2	2,4-Dinitrotoluene		101	203	404	U
606-20-2	2,6-Dinitrotoluene		101	203	404	U
117-84-0	Di-n-octylphthalate		101	203	404	U
117-81-7	Bis(2-ethylhexyl)phthalate		101	203	404	U
118-74-1	Hexachlorobenzene		101	203	404	U
87-68-3	Hexachlorobutadiene		101	203	404	U
77-47-4	Hexachlorocyclopentadiene		101	203	404	U
67-72-1	Hexachloroethane		101	203	404	U
78-59-1	Isophorone		101	203	404	U
95-48-7	2-Methylphenol		101	203	404	U
106-44-5	4-Methylphenol		101	203	404	UQ
100-01-6	4-Nitroaniline		404	809	1610	U
99-09-2	3-Nitroaniline		404	809	1610	U
88-74-4	2-Nitroaniline		404	809	1610	U
98-95-3	Nitrobenzene		101	203	404	U

ANALYSIS DATA SHEET

LNC-014-DS-SB2-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Solid	Laboratory ID:	1305125-09	File ID:	0512509.D
Sampled:	05/06/13 12:45	Prepared:	05/20/13 16:00	Analyzed:	06/02/13 04:25
Solids:	78.85	Preparation:	EXT 3546	Dilution:	1

Batch: 3E17014 Sequence: 3F15504 Calibration: 2261001 Instrument: MS-BNA3

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
100-02-7	4-Nitrophenol		404	809	1610	U UJ Ad
88-75-5	2-Nitrophenol		101	203	404	U
86-30-6	N-Nitrosodiphenylamine		101	203	404	U
621-64-7	N-Nitroso-di-n-propylamine		101	203	404	U
87-86-5	Pentachlorophenol		404	809	1610	U
108-95-2	Phenol		101	203	404	U
95-94-3	1,2,4,5-Tetrachlorobenzene		101	203	404	U
58-90-2	2,3,4,6-Tetrachlorophenol		101	203	404	U
88-06-2	2,4,6-Trichlorophenol		101	203	404	U
95-95-4	2,4,5-Trichlorophenol		101	203	404	U

Total Target Analytes Reported: 50

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	4044	3382	83.6	45 - 105	
2-Fluorophenol	8088	8050	99.5	35 - 105	
Nitrobenzene-d5	4044	3466	85.7	35 - 100	
Phenol-d6	8088	8051	99.5	40 - 100	
Terphenyl-d14	4044	3807	94.1	30 - 125	
2,4,6-Tribromophenol	8088	7130	88.2	35 - 125	

ANALYSIS DATA SHEET

LNC-014-DS-SB2-01

Laboratory: Empirical Laboratories, LLC SDG: 1305125
Client: SAIC (S732) Project: Lincoln NE ANG
Matrix: Solid Laboratory ID: 1305125-09 File ID: 0512509.D
Sampled: 05/06/13 12:45 Prepared: 05/20/13 16:00 Analyzed: 06/05/13 23:42
Solids: 78.85 Preparation: EXT 3546 Dilution: 1
Batch: 3E17014 Sequence: 3F15708 Calibration: 3122001 Instrument: MS-BNA4

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
83-32-9	Acenaphthene		2.03	4.04	8.09	U UJ ni
208-96-8	Acenaphthylene		2.03	4.04	8.09	U
120-12-7	Anthracene		2.03	4.04	8.09	U
56-55-3	Benzo(a)anthracene		2.03	4.04	8.09	U
50-32-8	Benzo(a)pyrene		2.03	4.04	8.09	U
205-99-2	Benzo(b)fluoranthene		2.03	4.04	8.09	U
191-24-2	Benzo(g,h,i)perylene		2.03	4.04	8.09	U
207-08-9	Benzo(k)fluoranthene		2.03	4.04	8.09	U
123-91-1	1,4-Dioxane		10.1	20.3	40.4	U
218-01-9	Chrysene		2.03	4.04	8.09	U
53-70-3	Dibenz(a,h)anthracene		2.03	4.04	8.09	U
206-44-0	Fluoranthene		2.03	4.04	8.09	U
86-73-7	Fluorene		2.03	4.04	8.09	U
193-39-5	Indeno(1,2,3-cd)pyrene		2.03	4.04	8.09	U
91-57-6	2-Methylnaphthalene		2.03	4.04	8.09	U
91-20-3	Naphthalene		2.03	4.04	8.09	U
85-01-8	Phenanthrene		2.03	4.04	8.09	U
129-00-0	Pyrene		2.03	4.04	8.09	U

Total Target Analytes Reported: 18

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	4044	3730	92.2	45 - 105	
Terphenyl-d14	4044	3730	92.2	30 - 125	
2,4,6-Tribromophenol	8088	8342	103	35 - 125	

ANALYSIS DATA SHEET

LNC-014-DS-SB2-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125		
Client:	SAIC (S732)			Project:	Lincoln NE ANG		
Matrix:	Solid	Laboratory ID:	1305125-09	File ID:	022F2201.D		
Sampled:	05/06/13 12:45	Prepared:	05/20/13 12:19	Analyzed:	05/23/13 05:06		
Solids:	78.85	Preparation:	EXT 3546	Dilution:	1		
Batch:	3E17023	Sequence:	3E14606	Calibration:	3143004	Instrument:	GL-GCFID2

CAS NO.	COMPOUND	CONC. (mg/Kg dry)	DL	LOD	LOQ	Q
11-84-7	Diesel Range Organics (C10-C28)		8.30	8.30	16.5	U

U

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	1.651	1.490	90.3	35 - 140	

ANALYSIS DATA SHEET

LNC-014-DS-SB2-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125		
Client:	SAIC (S732)			Project:	Lincoln NE ANG		
Matrix:	Solid	Laboratory ID:	1305125-09	File ID:	007F0701.D		
Sampled:	05/06/13 12:45	Prepared:	05/18/13 17:28	Analyzed:	05/18/13 21:52		
Solids:	78.85	Preparation:	8015GRO	Dilution:	1		
Batch:	3E18011	Sequence:	3E14307	Calibration:	3044001	Instrument:	GL-GCVOA2

CAS NO.	COMPOUND	CONC. (mg/Kg dry)	DL	LOD	LOQ	Q
8006-61-9	Gasoline Range Organics (C6-C10)		3.70	7.39	11.1	U

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q
Bromofluorobenzene	3.695	4.353	118	50 - 150	X

ANALYSIS DATA SHEET

LNC-014-DS-SB2-02

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Solid	Laboratory ID:	1305125-10RE1	File ID:	0512510R.D
Sampled:	05/06/13 12:55	Prepared:	05/20/13 00:00	Analyzed:	05/20/13 11:38
Solids:	71.34	Preparation:	5035A	Dilution:	1
Batch:	3E20008	Sequence:	3E14106	Calibration:	3140003
Instrument:	MS-VOA3				

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q	
67-64-1	Acetone	99.6	7.33	14.7	29.3	R X ~~J~~	C05,F12
71-43-2	Benzene		1.83	3.67	7.33	U	U
74-97-5	Bromochloromethane		1.83	3.67	7.33	U	
75-27-4	Bromodichloromethane		1.83	3.67	7.33	U	
75-25-2	Bromoform		1.83	3.67	7.33	U	
74-83-9	Bromomethane		3.67	7.33	14.7	U	
78-93-3	2-Butanone	23.2	3.67	7.33	14.7	X J	C05
75-15-0	Carbon disulfide		1.83	3.67	7.33	U	U
56-23-5	Carbon tetrachloride		1.83	3.67	7.33	U	
108-90-7	Chlorobenzene		1.83	3.67	7.33	U	
75-00-3	Chloroethane		3.67	7.33	14.7	U	
67-66-3	Chloroform		1.83	3.67	7.33	U	
74-87-3	Chloromethane		3.67	7.33	14.7	U	
110-82-7	Cyclohexane		1.83	3.67	7.33	U	
124-48-1	Dibromochloromethane		1.83	3.67	7.33	U	
96-12-8	1,2-Dibromo-3-chloropropane		3.67	7.33	14.7	U	
106-93-4	1,2-Dibromoethane (EDB)		1.83	3.67	7.33	U	
95-50-1	1,2-Dichlorobenzene		1.83	3.67	7.33	U	
541-73-1	1,3-Dichlorobenzene		1.83	3.67	7.33	U	
106-46-7	1,4-Dichlorobenzene		1.83	3.67	7.33	U	
75-71-8	Dichlorodifluoromethane		3.67	7.33	14.7	U	
75-34-3	1,1-Dichloroethane		1.83	3.67	7.33	U	
107-06-2	1,2-Dichloroethane		1.83	3.67	7.33	U	
75-35-4	1,1-Dichloroethene		1.83	3.67	7.33	U	
156-59-2	cis-1,2-Dichloroethene		1.83	3.67	7.33	U	
156-60-5	trans-1,2-Dichloroethene		1.83	3.67	7.33	U	
78-87-5	1,2-Dichloropropane		1.83	3.67	7.33	U	
10061-01-5	cis-1,3-Dichloropropene		1.83	3.67	7.33	U	
10061-02-6	trans-1,3-Dichloropropene		1.83	3.67	7.33	U	
100-41-4	Ethylbenzene		1.83	3.67	7.33	U	
591-78-6	2-Hexanone		3.67	7.33	14.7	UXO	
98-82-8	Isopropylbenzene		1.83	3.67	7.33	U	
75-09-2	Methylene chloride	215	3.67	7.33	14.7		~~J~~ R,F12
79-20-9	Methyl Acetate		3.67	7.33	14.7	U	U
108-87-2	Methylcyclohexane		1.83	3.67	7.33	U	
108-10-1	4-Methyl-2-pentanone		3.67	7.33	14.7	U	
1634-04-4	Methyl t-Butyl Ether		1.83	3.67	7.33	U	
100-42-5	Styrene		1.83	3.67	7.33	U	
79-34-5	1,1,2,2-Tetrachloroethane		1.83	3.67	7.33	U	
127-18-4	Tetrachloroethene		1.83	3.67	7.33	U	

JW 06/12/2013

ANALYSIS DATA SHEET

LNC-014-DS-SB2-02

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125		
Client:	SAIC (S732)			Project:	Lincoln NE ANG		
Matrix:	Solid	Laboratory ID:	1305125-10RE1	File ID:	0512510R.D		
Sampled:	05/06/13 12:55	Prepared:	05/20/13 00:00	Analyzed:	05/20/13 11:38		
Solids:	71.34	Preparation:	5035A	Dilution:	1		
Batch:	3E20008	Sequence:	3E14106	Calibration:	3140003	Instrument:	MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
108-88-3	Toluene		1.83	3.67	7.33	U
87-61-6	1,2,3-Trichlorobenzene		1.83	3.67	7.33	U
120-82-1	1,2,4-Trichlorobenzene		1.83	3.67	7.33	U
79-00-5	1,1,2-Trichloroethane		1.83	3.67	7.33	U
71-55-6	1,1,1-Trichloroethane		1.83	3.67	7.33	U
79-01-6	Trichloroethene		1.83	3.67	7.33	U
75-69-4	Trichlorofluoromethane		3.67	7.33	14.7	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		3.67	7.33	14.7	U
75-01-4	Vinyl chloride		1.83	3.67	7.33	U
108-38-3/106-42-	m,p-Xylene		3.67	7.33	14.7	U
95-47-6	o-Xylene		1.83	3.67	7.33	U

Total Target Analytes Reported: 51

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
Bromofluorobenzene	43.99	42.86	97.4	85 - 120	
Dibromofluoromethane	43.99	47.10	107	80 - 125	
1,2-Dichloroethane-d4	43.99	48.08	109	75 - 140	
Toluene-d8	43.99	45.12	103	85 - 115	

ANALYSIS DATA SHEET

LNC-014-DS-SB2-02

Laboratory: Empirical Laboratories, LLC SDG: 1305125
Client: SAIC (S732) Project: Lincoln NE ANG
Matrix: Solid Laboratory ID: 1305125-10 File ID: 0512510.D
Sampled: 05/06/13 12:55 Prepared: 05/20/13 16:00 Analyzed: 06/02/13 04:53
Solids: 71.34 Preparation: EXT 3546 Dilution: 1
Batch: 3E17014 Sequence: 3F15504 Calibration: 2261001 Instrument: MS-BNA3

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
98-86-2	Acetophenone		112	224	447	U UJ A01
1912-24-9	Atrazine		112	224	447	U
100-52-7	Benzaldehyde		112	224	447	U
92-52-4	1,1-Biphenyl		112	224	447	U
101-55-3	4-Bromophenyl-phenylether		112	224	447	U
85-68-7	Butylbenzylphthalate		112	224	447	U
105-60-2	Caprolactam		112	224	447	UXQ
86-74-8	Carbazole		112	224	447	U
59-50-7	4-Chloro-3-methylphenol		112	224	447	U
106-47-8	4-Chloroaniline		112	224	447	U
111-91-1	Bis(2-chloroethoxy)methane		112	224	447	U
111-44-4	Bis(2-chloroethyl)ether		112	224	447	UQ
108-60-1	2,2'-Oxybis-1-chloropropane		112	224	447	U
91-58-7	2-Chloronaphthalene		112	224	447	U
95-57-8	2-Chlorophenol		112	224	447	U
7005-72-3	4-Chlorophenyl phenyl ether		112	224	447	U
132-64-9	Dibenzofuran		112	224	447	U
84-74-2	Di-n-butylphthalate		112	224	447	U
91-94-1	3,3'-Dichlorobenzidine		112	224	447	U
120-83-2	2,4-Dichlorophenol		112	224	447	U
84-66-2	Diethylphthalate		112	224	447	U
105-67-9	2,4-Dimethylphenol		447	896	1790	U
131-11-3	Dimethyl phthalate		112	224	447	U
534-52-1	4,6-Dinitro-2-methylphenol		1120	2240	4470	U
51-28-5	2,4-Dinitrophenol		1120	2240	4470	U
121-14-2	2,4-Dinitrotoluene		112	224	447	U
606-20-2	2,6-Dinitrotoluene		112	224	447	U
117-84-0	Di-n-octylphthalate		112	224	447	U
117-81-7	Bis(2-ethylhexyl)phthalate		112	224	447	U
118-74-1	Hexachlorobenzene		112	224	447	U
87-68-3	Hexachlorobutadiene		112	224	447	U
77-47-4	Hexachlorocyclopentadiene		112	224	447	U
67-72-1	Hexachloroethane		112	224	447	U
78-59-1	Isophorone		112	224	447	U
95-48-7	2-Methylphenol		112	224	447	U
106-44-5	4-Methylphenol		112	224	447	UQ
100-01-6	4-Nitroaniline		447	896	1790	U
99-09-2	3-Nitroaniline		447	896	1790	U
88-74-4	2-Nitroaniline		447	896	1790	U
98-95-3	Nitrobenzene		112	224	447	U

ANALYSIS DATA SHEET

LNC-014-DS-SB2-02

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125		
Client:	SAIC (S732)			Project:	Lincoln NE ANG		
Matrix:	Solid	Laboratory ID:	1305125-10	File ID:	0512510.D		
Sampled:	05/06/13 12:55	Prepared:	05/20/13 16:00	Analyzed:	06/02/13 04:53		
Solids:	71.34	Preparation:	EXT 3546	Dilution:	1		
Batch:	3E17014	Sequence:	3F15504	Calibration:	2261001	Instrument:	MS-BNA3

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
100-02-7	4-Nitrophenol		447	896	1790	U UJ AD1
88-75-5	2-Nitrophenol		112	224	447	U
86-30-6	N-Nitrosodiphenylamine		112	224	447	U
621-64-7	N-Nitroso-di-n-propylamine		112	224	447	U
87-86-5	Pentachlorophenol		447	896	1790	U
108-95-2	Phenol		112	224	447	U
95-94-3	1,2,4,5-Tetrachlorobenzene		112	224	447	U
58-90-2	2,3,4,6-Tetrachlorophenol		112	224	447	U
88-06-2	2,4,6-Trichlorophenol		112	224	447	U
95-95-4	2,4,5-Trichlorophenol		112	224	447	U

Total Target Analytes Reported: 50

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	4478	3632	81.1	45 - 105	
2-Fluorophenol	8957	8044	89.8	35 - 105	
Nitrobenzene-d5	4478	3572	79.8	35 - 100	
Phenol-d6	8957	8137	90.8	40 - 100	
Terphenyl-d14	4478	3970	88.6	30 - 125	
2,4,6-Tribromophenol	8957	7289	81.4	35 - 125	

ANALYSIS DATA SHEET

LNC-014-DS-SB2-02

Laboratory: Empirical Laboratories, LLC SDG: 1305125

Client: SAIC (S732) Project: Lincoln NE ANG

Matrix: Solid Laboratory ID: 1305125-10 File ID: 0512510.D

Sampled: 05/06/13 12:55 Prepared: 05/20/13 16:00 Analyzed: 06/06/13 00:09

Solids: 71.34 Preparation: EXT 3546 Dilution: 1

Batch: 3E17014 Sequence: 3F15708 Calibration: 3122001 Instrument: MS-BNA4

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
83-32-9	Acenaphthene		2.24	4.47	8.96	U UJ
208-96-8	Acenaphthylene		2.24	4.47	8.96	U UJ
120-12-7	Anthracene		2.24	4.47	8.96	U UJ
56-55-3	Benzo(a)anthracene	5.94	2.24	4.47	8.96	J J
50-32-8	Benzo(a)pyrene	4.49	2.24	4.47	8.96	J J
205-99-2	Benzo(b)fluoranthene	8.09	2.24	4.47	8.96	J J
191-24-2	Benzo(g,h,i)perylene	4.67	2.24	4.47	8.96	J J
207-08-9	Benzo(k)fluoranthene	4.55	2.24	4.47	8.96	J J
123-91-1	1,4-Dioxane		11.2	22.4	44.7	U UJ
218-01-9	Chrysene	10.7	2.24	4.47	8.96	J
53-70-3	Dibenz(a,h)anthracene		2.24	4.47	8.96	U UJ
206-44-0	Fluoranthene	22.0	2.24	4.47	8.96	J
86-73-7	Fluorene		2.24	4.47	8.96	U UJ
193-39-5	Indeno(1,2,3-cd)pyrene	5.35	2.24	4.47	8.96	J J
91-57-6	2-Methylnaphthalene	4.81	2.24	4.47	8.96	J J
91-20-3	Naphthalene	21.7	2.24	4.47	8.96	J
85-01-8	Phenanthrene	17.9	2.24	4.47	8.96	J
129-00-0	Pyrene	12.6	2.24	4.47	8.96	J

Total Target Analytes Reported: 18

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	4478	3663	81.8	45 - 105	
Terphenyl-d14	4478	3647	81.4	30 - 125	
2,4,6-Tribromophenol	8957	7771	86.8	35 - 125	

AB

ANALYSIS DATA SHEET

LNC-014-DS-SB2-02

Laboratory: Empirical Laboratories, LLC   SDG: 1305125

Client: SAIC (S732)   Project: Lincoln NE ANG

Matrix: Solid   Laboratory ID: 1305125-10   File ID: 023F2301.D

Sampled: 05/06/13 12:55   Prepared: 05/20/13 12:19   Analyzed: 05/23/13 05:40

Solids: 71.34   Preparation: EXT 3546   Dilution: 1

Batch: 3E17023   Sequence: 3E14606   Calibration: 3143004   Instrument: GL-GCFID2

CAS NO.	COMPOUND	CONC. (mg/Kg dry)	DL	LOD	LOQ	Q
11-84-7	Diesel Range Organics (C10-C28)		9.15	9.15	18.2	U

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	1.820	1.963	108	35 - 140	

ANALYSIS DATA SHEET

LNC-014-DS-SB2-02

Laboratory: Empirical Laboratories, LLC SDG: 1305125
Client: SAIC (S732) Project: Lincoln NE ANG
Matrix: Solid Laboratory ID: 1305125-10 File ID: 008F0801.D
Sampled: 05/06/13 12:55 Prepared: 05/18/13 17:28 Analyzed: 05/18/13 22:33
Solids: 71.34 Preparation: 8015GRO Dilution: 1
Batch: 3E18011 Sequence: 3E14307 Calibration: 3044001 Instrument: GL-GCVOA2

CAS NO.	COMPOUND	CONC. (mg/Kg dry)	DL	LOD	LOQ	Q
8006-61-9	Gasoline Range Organics (C6-C10)		3.40	6.79	10.2	U

U

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q
Bromofluorobenzene	3.396	4.232	125	50 - 150	X

ANALYSIS DATA SHEET

LNC-014-DP-SB2-01

Laboratory: Empirical Laboratories, LLC SDG: 1305125
Client: SAIC (S732) Project: Lincoln NE ANG
Matrix: Water Laboratory ID: 1305125-11 File ID: 0512511D.D
Sampled: 05/07/13 14:50 Prepared: 05/18/13 14:45 Analyzed: 05/18/13 14:45
Solids: Preparation: 5030B Dilution: 5
Batch: 3E18005 Sequence: 3E14033 Calibration: 3127004 Instrument: MS-VOA5

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone		12.5	25.0	50.0	U
71-43-2	Benzene		1.25	2.50	5.00	U
74-97-5	Bromochloromethane		1.25	2.50	5.00	U
75-27-4	Bromodichloromethane		1.25	2.50	5.00	U
75-25-2	Bromoform		1.25	2.50	5.00	U
74-83-9	Bromomethane		2.50	5.00	10.0	U
78-93-3	2-Butanone		12.5	25.0	50.0	U
75-15-0	Carbon disulfide		1.25	2.50	5.00	U
56-23-5	Carbon tetrachloride		1.25	2.50	5.00	U
108-90-7	Chlorobenzene		1.25	2.50	5.00	U
75-00-3	Chloroethane		2.50	5.00	10.0	UX
67-66-3	Chloroform		1.25	2.50	5.00	U
74-87-3	Chloromethane		1.25	2.50	5.00	U
110-82-7	Cyclohexane		1.25	2.50	5.00	U
124-48-1	Dibromochloromethane		1.25	2.50	5.00	U
96-12-8	1,2-Dibromo-3-chloropropane		2.50	5.00	10.0	U
106-93-4	1,2-Dibromoethane (EDB)		1.25	2.50	5.00	U
95-50-1	1,2-Dichlorobenzene		1.25	2.50	5.00	U
541-73-1	1,3-Dichlorobenzene		1.25	2.50	5.00	U
106-46-7	1,4-Dichlorobenzene		1.25	2.50	5.00	U
75-71-8	Dichlorodifluoromethane		2.50	5.00	10.0	U
75-34-3	1,1-Dichloroethane		1.25	2.50	5.00	U
107-06-2	1,2-Dichloroethane		1.25	2.50	5.00	U
75-35-4	1,1-Dichloroethene		1.25	2.50	5.00	U
156-59-2	cis-1,2-Dichloroethene		1.25	2.50	5.00	U
156-60-5	trans-1,2-Dichloroethene		1.25	2.50	5.00	U
78-87-5	1,2-Dichloropropane		1.25	2.50	5.00	U
10061-01-5	cis-1,3-Dichloropropene		1.25	2.50	5.00	U
10061-02-6	trans-1,3-Dichloropropene		1.25	2.50	5.00	U
100-41-4	Ethylbenzene		1.25	2.50	5.00	U
591-78-6	2-Hexanone		6.25	12.5	25.0	U
98-82-8	Isopropylbenzene		1.25	2.50	5.00	U
75-09-2	Methylene chloride		2.50	5.00	10.0	U
79-20-9	Methyl Acetate		2.50	5.00	10.0	UX
108-87-2	Methylcyclohexane		1.25	2.50	5.00	U
108-10-1	4-Methyl-2-pentanone		6.25	12.5	25.0	U
1634-04-4	Methyl t-Butyl Ether		1.25	2.50	5.00	U
100-42-5	Styrene		1.25	2.50	5.00	U
79-34-5	1,1,2,2-Tetrachloroethane		1.25	2.50	5.00	U
127-18-4	Tetrachloroethene		1.25	2.50	5.00	U

U

ANALYSIS DATA SHEET

LNC-014-DP-SB2-01

Laboratory:	Empirical Laboratories, LLC		SDG:	1305125	
Client:	SAIC (S732)		Project:	Lincoln NE ANG	
Matrix:	Water	Laboratory ID:	1305125-11	File ID:	0512511D.D
Sampled:	05/07/13 14:50	Prepared:	05/18/13 14:45	Analyzed:	05/18/13 14:45
Solids:		Preparation:	5030B	Dilution:	5
Batch:	3E18005	Sequence: 3E14033	Calibration: 3127004	Instrument:	MS-VOA5

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
108-88-3	Toluene		1.25	2.50	5.00	U
87-61-6	1,2,3-Trichlorobenzene		1.25	2.50	5.00	U
120-82-1	1,2,4-Trichlorobenzene		1.25	2.50	5.00	U
79-00-5	1,1,2-Trichloroethane		1.25	2.50	5.00	U
71-55-6	1,1,1-Trichloroethane		1.25	2.50	5.00	U
79-01-6	Trichloroethene		1.25	2.50	5.00	U
75-69-4	Trichlorofluoromethane		2.50	5.00	10.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		2.50	5.00	10.0	U
75-01-4	Vinyl chloride		1.25	2.50	5.00	UX
108-38-3/106-42-	m,p-Xylene		2.50	5.00	10.0	U
95-47-6	o-Xylene		1.25	2.50	5.00	U

Total Target Analytes Reported: 51

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	27.59	92.0	75 - 120	
Dibromofluoromethane	30.00	29.77	99.2	85 - 115	
1,2-Dichloroethane-d4	30.00	30.46	102	70 - 120	
Toluene-d8	30.00	30.50	102	85 - 120	

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ANALYSIS DATA SHEET

LNC-014-DP-SB2-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Water	Laboratory ID:	1305125-11	File ID:	0512511.D
Sampled:	05/07/13 14:50	Prepared:	05/13/13 12:35	Analyzed:	05/15/13 23:36
Solids:		Preparation:	EXT 3510	Dilution:	1
Batch:	3E13311	Sequence:	3E14040	Calibration:	2261001
Instrument:	MS-BNA3				

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q	
98-86-2	Acetophenone		1.20	2.40	4.81	U UJ	602
1912-24-9	Atrazine		1.20	2.40	4.81	U	
100-52-7	Benzaldehyde		1.20	2.40	4.81	U	
92-52-4	1,1-Biphenyl		1.20	2.40	4.81	U	
101-55-3	4-Bromophenyl-phenylether		1.20	2.40	4.81	U	
85-68-7	Butylbenzylphthalate		1.20	2.40	4.81	U	
105-60-2	Caprolactam		1.20	2.40	4.81	U	
86-74-8	Carbazole		1.20	2.40	4.81	U	
59-50-7	4-Chloro-3-methylphenol		1.20	2.40	4.81	U	U
106-47-8	4-Chloroaniline		1.20	2.40	4.81	U UJ	602
111-91-1	Bis(2-chloroethoxy)methane		1.20	2.40	4.81	U	
111-44-4	Bis(2-chloroethyl)ether		1.20	2.40	4.81	U	
108-60-1	2,2'-Oxybis-1-chloropropane		1.20	2.40	4.81	U	
91-58-7	2-Chloronaphthalene		1.20	2.40	4.81	U	
95-57-8	2-Chlorophenol		1.20	2.40	4.81	U	U
7005-72-3	4-Chlorophenyl phenyl ether		1.20	2.40	4.81	U UJ	602
132-64-9	Dibenzofuran		1.20	2.40	4.81	U UJ	
84-74-2	Di-n-butylphthalate		1.20	2.40	4.81	U	
91-94-1	3,3'-Dichlorobenzidine		1.20	2.40	4.81	U	
120-83-2	2,4-Dichlorophenol		1.20	2.40	4.81	U	U
84-66-2	Diethylphthalate		1.20	2.40	4.81	U UJ	602
105-67-9	2,4-Dimethylphenol		4.81	9.62	19.2	U	U
131-11-3	Dimethyl phthalate		1.20	2.40	4.81	U UJ	602
534-52-1	4,6-Dinitro-2-methylphenol		4.81	9.62	19.2	U	U
51-28-5	2,4-Dinitrophenol		8.01	24.0	48.1	U	U
121-14-2	2,4-Dinitrotoluene		1.20	2.40	4.81	U UJ	602
606-20-2	2,6-Dinitrotoluene		1.20	2.40	4.81	U UJ	
117-84-0	Di-n-octylphthalate		1.20	2.40	4.81	U UJ	
117-81-7	Bis(2-ethylhexyl)phthalate		1.20	2.40	4.81	U UJ	
118-74-1	Hexachlorobenzene		1.20	2.40	4.81	U	
87-68-3	Hexachlorobutadiene		1.20	2.40	4.81	U	
77-47-4	Hexachlorocyclopentadiene		1.20	4.81	9.62	U	
67-72-1	Hexachloroethane		1.20	2.40	4.81	U	
78-59-1	Isophorone		1.20	2.40	4.81	U	
95-48-7	2-Methylphenol		1.20	2.40	4.81	U	U
106-44-5	4-Methylphenol		1.20	2.40	4.81	U	U
100-01-6	4-Nitroaniline		4.81	9.62	19.2	U UJ	602
99-09-2	3-Nitroaniline		4.81	9.62	19.2	U	
88-74-4	2-Nitroaniline		4.81	9.62	19.2	U	
98-95-3	Nitrobenzene		1.20	2.40	4.81	U	

ANALYSIS DATA SHEET

LNC-014-DP-SB2-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125		
Client:	SAIC (S732)			Project:	Lincoln NE ANG		
Matrix:	Water	Laboratory ID:	1305125-11	File ID:	0512511.D		
Sampled:	05/07/13 14:50	Prepared:	05/13/13 12:35	Analyzed:	05/15/13 23:36		
Solids:		Preparation:	EXT 3510	Dilution:	1		
Batch:	3E13311	Sequence:	3E14040	Calibration:	2261001	Instrument:	MS-BNA3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q	
100-02-7	4-Nitrophenol		4.81	9.62	19.2	U	U
88-75-5	2-Nitrophenol		1.20	2.40	4.81	U	U
86-30-6	N-Nitrosodiphenylamine		1.20	2.40	4.81	U UJ	602
621-64-7	N-Nitroso-di-n-propylamine		1.20	2.40	4.81	U UJ	602
87-86-5	Pentachlorophenol		4.81	9.62	19.2	U	U
108-95-2	Phenol		1.20	2.40	4.81	U	U
95-94-3	1,2,4,5-Tetrachlorobenzene		1.20	2.40	4.81	U UJ	602
58-90-2	2,3,4,6-Tetrachlorophenol		2.40	4.81	9.62	U	U
88-06-2	2,4,6-Trichlorophenol		1.20	2.40	4.81	U	
95-95-4	2,4,5-Trichlorophenol		1.20	2.40	4.81	U	

Total Target Analytes Reported: 50

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	48.08	22.32	46.4	50 - 110	*
2-Fluorophenol	96.15	29.39	30.6	20 - 110	
Nitrobenzene-d5	48.08	24.70	51.4	40 - 110	
Phenol-d6	96.15	18.00	18.7	0 - 110	
Terphenyl-d14	48.08	19.33	40.2	50 - 135	*
2,4,6-Tribromophenol	96.15	44.65	46.4	40 - 125	

ANALYSIS DATA SHEET

LNC-014-DP-SB2-01

Laboratory: Empirical Laboratories, LLC   SDG: 1305125
Client: SAIC (S732)   Project: Lincoln NE ANG
Matrix: Water   Laboratory ID: 1305125-11   File ID: 0512511.D
Sampled: 05/07/13 14:50   Prepared: 05/14/13 11:36   Analyzed: 06/04/13 01:35
Solids: Preparation: EXT 3510   Dilution: 1
Batch: 3E14008   Sequence: 3F15509   Calibration: 3122001   Instrument: MS-BNA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
83-32-9	Acenaphthene		0.0472	0.0943	0.189	U UJ F02
208-96-8	Acenaphthylene		0.0472	0.0943	0.189	U UJ
120-12-7	Anthracene		0.0472	0.0943	0.189	U
56-55-3	Benzo(a)anthracene		0.0472	0.0943	0.189	U
50-32-8	Benzo(a)pyrene		0.0472	0.0943	0.189	U
205-99-2	Benzo(b)fluoranthene		0.0472	0.0943	0.189	U
191-24-2	Benzo(g,h,i)perylene		0.0472	0.0943	0.189	U
207-08-9	Benzo(k)fluoranthene		0.0472	0.0943	0.189	U
123-91-1	1,4-Dioxane		0.118	0.236	0.472	U
218-01-9	Chrysene		0.0472	0.0943	0.189	U
53-70-3	Dibenz(a,h)anthracene		0.0472	0.0943	0.189	U
206-44-0	Fluoranthene		0.0472	0.0943	0.189	U
86-73-7	Fluorene		0.0472	0.0943	0.189	U
193-39-5	Indeno(1,2,3-cd)pyrene		0.0472	0.0943	0.189	U
91-57-6	2-Methylnaphthalene		0.0472	0.0943	0.189	U
91-20-3	Naphthalene		0.0472	0.0943	0.189	U
85-01-8	Phenanthrene		0.0472	0.189	0.377	U
129-00-0	Pyrene		0.0472	0.0943	0.189	U

Total Target Analytes Reported: 18

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	47.17	17.44	37.0	50 - 110	*
Terphenyl-d14	47.17	12.83	27.2	50 - 135	*
2,4,6-Tribromophenol	94.34	40.90	43.4	40 - 125	X

ANALYSIS DATA SHEET

LNC-014-DP-SB2-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Water	Laboratory ID:	1305125-11	File ID:	016F1601.D
Sampled:	05/07/13 14:50	Prepared:	05/14/13 19:02	Analyzed:	05/21/13 04:48
Solids:		Preparation:	EXT 3510	Dilution:	1

Batch: 3E14020 Sequence: 3E14605 Calibration: 3143004 Instrument: GL-GCFID2

CAS NO.	COMPOUND	CONC. (mg/L)	DL	LOD	LOQ	Q
11-84-7	Diesel Range Organics (C10-C28)		0.0962	0.0962	0.192	U UJ A01,G02

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/L)	CONC (mg/L)	% REC	QC LIMITS	Q
o-Terphenyl	0.01923	0.005554	28.9	30 - 140	*

ANALYSIS DATA SHEET

LNC-014-DP-SB2-01

Laboratory: Empirical Laboratories, LLC SDG: 1305125

Client: SAIC (S732) Project: Lincoln NE ANG

Matrix: Water Laboratory ID: 1305125-11 File ID: 007F1101.D

Sampled: 05/07/13 14:50 Prepared: 05/16/13 16:53 Analyzed: 05/16/13 16:53

Solids: Preparation: 8015GRO Dilution: 1

Batch: 3E16005 Sequence: 3E14043 Calibration: 3044001 Instrument: GL-GCVOA2

CAS NO.	COMPOUND	CONC. (mg/L)	DL	LOD	LOQ	Q
8006-61-9	Gasoline Range Organics (C6-C10)		0.0500	0.100	0.150	U

U

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/L)	CONC (mg/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	0.05000	0.06461	129	50 - 150	

ANALYSIS DATA SHEET

LNC-015-DS-SB1-01

Laboratory: Empirical Laboratories, LLC SDG: 1305125

Client: SAIC (S732) Project: Lincoln NE ANG

Matrix: Solid Laboratory ID: 1305125-13RE1 File ID: 0512513R.D

Sampled: 05/08/13 09:55 Prepared: 05/21/13 00:00 Analyzed: 05/21/13 15:59

Solids: 78.90 Preparation: 5035A Dilution: 1

Batch: 3E21025 Sequence: 3E14204 Calibration: 3140003 Instrument: MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q	F03
67-64-1	Acetone	26.4	6.24	12.5	25.0		Z R, F1
71-43-2	Benzene		1.56	3.12	6.24	U	U
74-97-5	Bromochloromethane		1.56	3.12	6.24	U	
75-27-4	Bromodichloromethane		1.56	3.12	6.24	U	
75-25-2	Bromoform		1.56	3.12	6.24	U	
74-83-9	Bromomethane		3.12	6.24	12.5	U	
78-93-3	2-Butanone		3.12	6.24	12.5	U	
75-15-0	Carbon disulfide		1.56	3.12	6.24	U	
56-23-5	Carbon tetrachloride		1.56	3.12	6.24	U	
108-90-7	Chlorobenzene		1.56	3.12	6.24	U	
75-00-3	Chloroethane		3.12	6.24	12.5	U	
67-66-3	Chloroform		1.56	3.12	6.24	U	
74-87-3	Chloromethane		3.12	6.24	12.5	UY UJ	C05
110-82-7	Cyclohexane		1.56	3.12	6.24	U	U
124-48-1	Dibromochloromethane		1.56	3.12	6.24	U	
96-12-8	1,2-Dibromo-3-chloropropane		3.12	6.24	12.5	U	
106-93-4	1,2-Dibromoethane (EDB)		1.56	3.12	6.24	U	
95-50-1	1,2-Dichlorobenzene		1.56	3.12	6.24	U	
541-73-1	1,3-Dichlorobenzene		1.56	3.12	6.24	U	
106-46-7	1,4-Dichlorobenzene		1.56	3.12	6.24	U	
75-71-8	Dichlorodifluoromethane		3.12	6.24	12.5	U	
75-34-3	1,1-Dichloroethane		1.56	3.12	6.24	U	
107-06-2	1,2-Dichloroethane		1.56	3.12	6.24	U	
75-35-4	1,1-Dichloroethene		1.56	3.12	6.24	U	
156-59-2	cis-1,2-Dichloroethene		1.56	3.12	6.24	U	
156-60-5	trans-1,2-Dichloroethene		1.56	3.12	6.24	U	
78-87-5	1,2-Dichloropropane		1.56	3.12	6.24	U	
10061-01-5	cis-1,3-Dichloropropene		1.56	3.12	6.24	U	
10061-02-6	trans-1,3-Dichloropropene		1.56	3.12	6.24	U	
100-41-4	Ethylbenzene		1.56	3.12	6.24	U	
591-78-6	2-Hexanone		3.12	6.24	12.5	U	
98-82-8	Isopropylbenzene		1.56	3.12	6.24	U	
75-09-2	Methylene chloride	290	3.12	6.24	12.5		Z R, F12
79-20-9	Methyl Acetate		3.12	6.24	12.5	U	U
108-87-2	Methylcyclohexane		1.56	3.12	6.24	U	
108-10-1	4-Methyl-2-pentanone		3.12	6.24	12.5	U	
1634-04-4	Methyl t-Butyl Ether		1.56	3.12	6.24	U	
100-42-5	Styrene		1.56	3.12	6.24	U	
79-34-5	1,1,2,2-Tetrachloroethane		1.56	3.12	6.24	U	
127-18-4	Tetrachloroethene		1.56	3.12	6.24	U	

JV 06/25/2013

ANALYSIS DATA SHEET

LNC-015-DS-SB1-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125		
Client:	SAIC (S732)			Project:	Lincoln NE ANG		
Matrix:	Solid	Laboratory ID:	1305125-13RE1	File ID:	0512513R.D		
Sampled:	05/08/13 09:55	Prepared:	05/21/13 00:00	Analyzed:	05/21/13 15:59		
Solids:	78.90	Preparation:	5035A	Dilution:	1		
Batch:	3E21025	Sequence:	3E14204	Calibration:	3140003	Instrument:	MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q	
108-88-3	Toluene		1.56	3.12	6.24	U	U
87-61-6	1,2,3-Trichlorobenzene		1.56	3.12	6.24	U	
120-82-1	1,2,4-Trichlorobenzene		1.56	3.12	6.24	U	
79-00-5	1,1,2-Trichloroethane		1.56	3.12	6.24	U	
71-55-6	1,1,1-Trichloroethane		1.56	3.12	6.24	U	
79-01-6	Trichloroethene		1.56	3.12	6.24	U	
75-69-4	Trichlorofluoromethane		3.12	6.24	12.5	U	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		3.12	6.24	12.5	U	
75-01-4	Vinyl chloride		1.56	3.12	6.24	U	
108-38-3/106-42-	m,p-Xylene		3.12	6.24	12.5	U	
95-47-6	o-Xylene		1.56	3.12	6.24	U	

Total Target Analytes Reported: 51

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
Bromofluorobenzene	37.43	36.85	98.5	85 - 120	
Dibromofluoromethane	37.43	39.02	104	80 - 125	
1,2-Dichloroethane-d4	37.43	41.36	110	75 - 140	
Toluene-d8	37.43	39.11	104	85 - 115	

ANALYSIS DATA SHEET

LNC-015-DS-SB1-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Solid	Laboratory ID:	1305125-13	File ID:	0512513.D
Sampled:	05/08/13 09:55	Prepared:	05/21/13 18:30	Analyzed:	05/29/13 21:04
Solids:	78.90	Preparation:	EXT 3546	Dilution:	1

Batch: 3E20013 Sequence: 3E15019 Calibration: 2272005 Instrument: MS-BNA1

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q	
98-86-2	Acetophenone		100	201	401	UX	U
1912-24-9	Atrazine		100	201	401	UY	UJ COS
100-52-7	Benzaldehyde		100	201	401	U	U
92-52-4	1,1-Biphenyl		100	201	401	U	
101-55-3	4-Bromophenyl-phenylether		100	201	401	U	
85-68-7	Butylbenzylphthalate		100	201	401	U	
105-60-2	Caprolactam		100	201	401	U	
86-74-8	Carbazole		100	201	401	U	
59-50-7	4-Chloro-3-methylphenol		100	201	401	U	
106-47-8	4-Chloroaniline		100	201	401	U	
111-91-1	Bis(2-chloroethoxy)methane		100	201	401	U	
111-44-4	Bis(2-chloroethyl)ether		100	201	401	U	
108-60-1	2,2'-Oxybis-1-chloropropane		100	201	401	U	
91-58-7	2-Chloronaphthalene		100	201	401	U	
95-57-8	2-Chlorophenol		100	201	401	U	
7005-72-3	4-Chlorophenyl phenyl ether		100	201	401	U	
132-64-9	Dibenzofuran		100	201	401	U	
84-74-2	Di-n-butylphthalate		100	201	401	U	
91-94-1	3,3'-Dichlorobenzidine		100	201	401	U	
120-83-2	2,4-Dichlorophenol		100	201	401	U	
84-66-2	Diethylphthalate		100	201	401	U	
105-67-9	2,4-Dimethylphenol		401	804	1600	U	
131-11-3	Dimethyl phthalate		100	201	401	U	
534-52-1	4,6-Dinitro-2-methylphenol		1000	2010	4010	U	
51-28-5	2,4-Dinitrophenol		1000	2010	4010	U	
121-14-2	2,4-Dinitrotoluene		100	201	401	U	
606-20-2	2,6-Dinitrotoluene		100	201	401	U	
117-84-0	Di-n-octylphthalate		100	201	401	U	
117-81-7	Bis(2-ethylhexyl)phthalate		100	201	401	U	
118-74-1	Hexachlorobenzene		100	201	401	U	
87-68-3	Hexachlorobutadiene		100	201	401	U	
77-47-4	Hexachlorocyclopentadiene		100	201	401	U	
67-72-1	Hexachloroethane		100	201	401	U	
78-59-1	Isophorone		100	201	401	UX	
95-48-7	2-Methylphenol		100	201	401	U	
106-44-5	4-Methylphenol		100	201	401	U	
100-01-6	4-Nitroaniline		401	804	1600	U	
99-09-2	3-Nitroaniline		401	804	1600	U	
88-74-4	2-Nitroaniline		401	804	1600	U	
98-95-3	Nitrobenzene		100	201	401	U	

ANALYSIS DATA SHEET

LNC-015-DS-SB1-01

Laboratory: Empirical Laboratories, LLC   SDG: 1305125
Client: SAIC (S732)   Project: Lincoln NE ANG
Matrix: Solid   Laboratory ID: 1305125-13   File ID: 0512513.D
Sampled: 05/08/13 09:55   Prepared: 05/21/13 18:30   Analyzed: 05/29/13 21:04
Solids: 78.90   Preparation: EXT 3546   Dilution: 1
Batch: 3E20013   Sequence: 3E15019   Calibration: 2272005   Instrument: MS-BNA1

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
100-02-7	4-Nitrophenol		401	804	1600	U
88-75-5	2-Nitrophenol		100	201	401	U
86-30-6	N-Nitrosodiphenylamine		100	201	401	U
621-64-7	N-Nitroso-di-n-propylamine		100	201	401	UX
87-86-5	Pentachlorophenol		401	804	1600	U
108-95-2	Phenol		100	201	401	U
95-94-3	1,2,4,5-Tetrachlorobenzene		100	201	401	U
58-90-2	2,3,4,6-Tetrachlorophenol		100	201	401	U
88-06-2	2,4,6-Trichlorophenol		100	201	401	U
95-95-4	2,4,5-Trichlorophenol		100	201	401	U

U

Total Target Analytes Reported: 50

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	4016	2712	67.5	45 - 105	
2-Fluorophenol	8032	5667	70.6	35 - 105	
Nitrobenzene-d5	4016	2722	67.8	35 - 100	
Phenol-d6	8032	5995	74.6	40 - 100	
Terphenyl-d14	4016	3161	78.7	30 - 125	
2,4,6-Tribromophenol	8032	6040	75.2	35 - 125	

ANALYSIS DATA SHEET

LNC-015-DS-SB1-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Solid	Laboratory ID:	1305125-13	File ID:	0512513.D
Sampled:	05/08/13 09:55	Prepared:	05/21/13 18:30	Analyzed:	05/30/13 01:17
Solids:	78.90	Preparation:	EXT 3546	Dilution:	1

Batch: 3E20013 Sequence: 3E15018 Calibration: 3122001 Instrument: MS-BNA4

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q	
83-32-9	Acenaphthene		2.01	4.01	8.04	U	U
208-96-8	Acenaphthylene		2.01	4.01	8.04	U	
120-12-7	Anthracene		2.01	4.01	8.04	U	
56-55-3	Benzo(a)anthracene		2.01	4.01	8.04	U	
50-32-8	Benzo(a)pyrene		2.01	4.01	8.04	U	
205-99-2	Benzo(b)fluoranthene		2.01	4.01	8.04	U	
191-24-2	Benzo(g,h,i)perylene		2.01	4.01	8.04	U	
207-08-9	Benzo(k)fluoranthene		2.01	4.01	8.04	U	
123-91-1	1,4-Dioxane		10.0	20.1	40.1	U	
218-01-9	Chrysene		2.01	4.01	8.04	UQ	
53-70-3	Dibenz(a,h)anthracene		2.01	4.01	8.04	U	
206-44-0	Fluoranthene		2.01	4.01	8.04	U	
86-73-7	Fluorene		2.01	4.01	8.04	U	
193-39-5	Indeno(1,2,3-cd)pyrene		2.01	4.01	8.04	U	
91-57-6	2-Methylnaphthalene		2.01	4.01	8.04	U	
91-20-3	Naphthalene		2.01	4.01	8.04	U	
85-01-8	Phenanthrene		2.01	4.01	8.04	U	
129-00-0	Pyrene		2.01	4.01	8.04	U	

Total Target Analytes Reported: 18

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	4016	3602	89.7	45 - 105	
Terphenyl-d14	4016	3703	92.2	30 - 125	
2,4,6-Tribromophenol	8032	7423	92.4	35 - 125	

ANALYSIS DATA SHEET

LNC-015-DS-SB1-01

Laboratory: Empirical Laboratories, LLC | SDG: 1305125
Client: SAIC (S732) | Project: Lincoln NE ANG
Matrix: Solid | Laboratory ID: 1305125-13 | File ID: 024F2401.D
Sampled: 05/08/13 09:55 | Prepared: 05/20/13 12:19 | Analyzed: 05/23/13 06:13
Solids: 78.90 | Preparation: EXT 3546 | Dilution: 1
Batch: 3E17023 | Sequence: 3E14606 | Calibration: 3143004 | Instrument: GL-GCFID2

CAS NO.	COMPOUND	CONC. (mg/Kg dry)	DL	LOD	LOQ	Q
11-84-7	Diesel Range Organics (C10-C28)		8.28	8.28	16.4	U

U

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	1.648	1.245	75.6	35 - 140	

ANALYSIS DATA SHEET

LNC-015-DS-SB1-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125		
Client:	SAIC (S732)			Project:	Lincoln NE ANG		
Matrix:	Solid	Laboratory ID:	1305125-13	File ID:	009F0901.D		
Sampled:	05/08/13 09:55	Prepared:	05/18/13 17:28	Analyzed:	05/18/13 23:13		
Solids:	78.90	Preparation:	8015GRQ	Dilution:	1		
Batch:	3E18011	Sequence:	3E14307	Calibration:	3044001	Instrument:	GL-GCVOA2

CAS NO.	COMPOUND	CONC. (mg/Kg dry)	DL	LOD	LOQ	Q
8006-61-9	Gasoline Range Organics (C6-C10)		3.16	6.31	9.47	U

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q
Bromofluorobenzene	3.156	3.766	119	50 - 150	X

ANALYSIS DATA SHEET

LNC-015-DS-SB1-01DUP

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Solid	Laboratory ID:	1305125-14RE1	File ID:	0512514R.D
Sampled:	05/08/13 09:55	Prepared:	05/21/13 00:00	Analyzed:	05/21/13 16:28
Solids:	79.77	Preparation:	5035A	Dilution:	1
Batch:	3E21025	Sequence:	3E14204	Calibration:	3140003
Instrument:	MS-VOA3				

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q	
67-64-1	Acetone	**36.5**	6.13	12.3	24.5		ZR F1
71-43-2	Benzene		1.53	3.07	6.13	U	U
74-97-5	Bromochloromethane		1.53	3.07	6.13	U	
75-27-4	Bromodichloromethane		1.53	3.07	6.13	U	
75-25-2	Bromoform		1.53	3.07	6.13	U	
74-83-9	Bromomethane		3.07	6.13	12.3	U	
78-93-3	2-Butanone		3.07	6.13	12.3	U	
75-15-0	Carbon disulfide		1.53	3.07	6.13	U	
56-23-5	Carbon tetrachloride		1.53	3.07	6.13	U	
108-90-7	Chlorobenzene		1.53	3.07	6.13	U	
75-00-3	Chloroethane		3.07	6.13	12.3	U	
67-66-3	Chloroform		1.53	3.07	6.13	U	
74-87-3	Chloromethane		3.07	6.13	12.3	UY (UJ)	COS
110-82-7	Cyclohexane		1.53	3.07	6.13	U	U
124-48-1	Dibromochloromethane		1.53	3.07	6.13	U	
96-12-8	1,2-Dibromo-3-chloropropane		3.07	6.13	12.3	U	
106-93-4	1,2-Dibromoethane (EDB)		1.53	3.07	6.13	U	
95-50-1	1,2-Dichlorobenzene		1.53	3.07	6.13	U	
541-73-1	1,3-Dichlorobenzene		1.53	3.07	6.13	U	
106-46-7	1,4-Dichlorobenzene		1.53	3.07	6.13	U	
75-71-8	Dichlorodifluoromethane		3.07	6.13	12.3	U	
75-34-3	1,1-Dichloroethane		1.53	3.07	6.13	U	
107-06-2	1,2-Dichloroethane		1.53	3.07	6.13	U	
75-35-4	1,1-Dichloroethene		1.53	3.07	6.13	U	
156-59-2	cis-1,2-Dichloroethene		1.53	3.07	6.13	U	
156-60-5	trans-1,2-Dichloroethene		1.53	3.07	6.13	U	
78-87-5	1,2-Dichloropropane		1.53	3.07	6.13	U	
10061-01-5	cis-1,3-Dichloropropene		1.53	3.07	6.13	U	
10061-02-6	trans-1,3-Dichloropropene		1.53	3.07	6.13	U	
100-41-4	Ethylbenzene		1.53	3.07	6.13	U	
591-78-6	2-Hexanone		3.07	6.13	12.3	U	
98-82-8	Isopropylbenzene		1.53	3.07	6.13	U	
75-09-2	Methylene chloride	**450**	3.07	6.13	12.3		ZR F12
79-20-9	Methyl Acetate		3.07	6.13	12.3	U	U
108-87-2	Methylcyclohexane		1.53	3.07	6.13	U	
108-10-1	4-Methyl-2-pentanone		3.07	6.13	12.3	U	
1634-04-4	Methyl t-Butyl Ether		1.53	3.07	6.13	U	
100-42-5	Styrene		1.53	3.07	6.13	U	
79-34-5	1,1,2,2-Tetrachloroethane		1.53	3.07	6.13	U	
127-18-4	Tetrachloroethene		1.53	3.07	6.13	U	

JV 06/25/2013

ANALYSIS DATA SHEET

LNC-015-DS-SB1-01DUP

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125		
Client:	SAIC (S732)			Project:	Lincoln NE ANG		
Matrix:	Solid	Laboratory ID:	1305125-14RE1	File ID:	0512514R.D		
Sampled:	05/08/13 09:55	Prepared:	05/21/13 00:00	Analyzed:	05/21/13 16:28		
Solids:	79.77	Preparation:	5035A	Dilution:	1		
Batch:	3E21025	Sequence:	3E14204	Calibration:	3140003	Instrument:	MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
108-88-3	Toluene		1.53	3.07	6.13	U
87-61-6	1,2,3-Trichlorobenzene		1.53	3.07	6.13	U
120-82-1	1,2,4-Trichlorobenzene		1.53	3.07	6.13	U
79-00-5	1,1,2-Trichloroethane		1.53	3.07	6.13	U
71-55-6	1,1,1-Trichloroethane		1.53	3.07	6.13	U
79-01-6	Trichloroethene		1.53	3.07	6.13	U
75-69-4	Trichlorofluoromethane		3.07	6.13	12.3	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		3.07	6.13	12.3	U
75-01-4	Vinyl chloride		1.53	3.07	6.13	U
108-38-3/106-42-	m,p-Xylene		3.07	6.13	12.3	U
95-47-6	o-Xylene		1.53	3.07	6.13	U

U

Total Target Analytes Reported: 51

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
Bromofluorobenzene	36.80	35.99	97.8	85 - 120	
Dibromofluoromethane	36.80	38.62	105	80 - 125	
1,2-Dichloroethane-d4	36.80	39.39	107	75 - 140	
Toluene-d8	36.80	38.68	105	85 - 115	

ANALYSIS DATA SHEET

LNC-015-DS-SB1-01DUP

Laboratory:	Empirical Laboratories, LLC		SDG:	1305125	
Client:	SAIC (S732)		Project:	Lincoln NE ANG	
Matrix:	Solid	Laboratory ID: 1305125-14	File ID:	0512514.D	
Sampled:	05/08/13 09:55	Prepared: 05/21/13 18:30	Analyzed:	05/29/13 21:31	
Solids:	79.77	Preparation: EXT 3546	Dilution:	1	
Batch:	3E20013	Sequence: 3E15019	Calibration:	2272005	Instrument: MS-BNA1

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q	
98-86-2	Acetophenone		102	204	407	UX	U
1912-24-9	Atrazine		102	204	407	UY	UJ COS
100-52-7	Benzaldehyde		102	204	407	U	U
92-52-4	1,1-Biphenyl		102	204	407	U	
101-55-3	4-Bromophenyl-phenylether		102	204	407	U	
85-68-7	Butylbenzylphthalate		102	204	407	U	
105-60-2	Caprolactam		102	204	407	U	
86-74-8	Carbazole		102	204	407	U	
59-50-7	4-Chloro-3-methylphenol		102	204	407	U	
106-47-8	4-Chloroaniline		102	204	407	U	
111-91-1	Bis(2-chloroethoxy)methane		102	204	407	U	
111-44-4	Bis(2-chloroethyl)ether		102	204	407	U	
108-60-1	2,2'-Oxybis-1-chloropropane		102	204	407	U	
91-58-7	2-Chloronaphthalene		102	204	407	U	
95-57-8	2-Chlorophenol		102	204	407	U	
7005-72-3	4-Chlorophenyl phenyl ether		102	204	407	U	
132-64-9	Dibenzofuran		102	204	407	U	
84-74-2	Di-n-butylphthalate		102	204	407	U	
91-94-1	3,3'-Dichlorobenzidine		102	204	407	U	
120-83-2	2,4-Dichlorophenol		102	204	407	U	
84-66-2	Diethylphthalate		102	204	407	U	
105-67-9	2,4-Dimethylphenol		407	814	1620	U	
131-11-3	Dimethyl phthalate		102	204	407	U	
534-52-1	4,6-Dinitro-2-methylphenol		1020	2040	4070	U	
51-28-5	2,4-Dinitrophenol		1020	2040	4070	U	
121-14-2	2,4-Dinitrotoluene		102	204	407	U	
606-20-2	2,6-Dinitrotoluene		102	204	407	U	
117-84-0	Di-n-octylphthalate		102	204	407	U	
117-81-7	Bis(2-ethylhexyl)phthalate		102	204	407	U	
118-74-1	Hexachlorobenzene		102	204	407	U	
87-68-3	Hexachlorobutadiene		102	204	407	U	
77-47-4	Hexachlorocyclopentadiene		102	204	407	U	
67-72-1	Hexachloroethane		102	204	407	U	
78-59-1	Isophorone		102	204	407	UX	
95-48-7	2-Methylphenol		102	204	407	U	
106-44-5	4-Methylphenol		102	204	407	U	
100-01-6	4-Nitroaniline		407	814	1620	U	
99-09-2	3-Nitroaniline		407	814	1620	U	
88-74-4	2-Nitroaniline		407	814	1620	U	
98-95-3	Nitrobenzene		102	204	407	U	

ANALYSIS DATA SHEET

LNC-015-DS-SB1-01DUP

Laboratory: Empirical Laboratories, LLC SDG: 1305125
Client: SAIC (S732) Project: Lincoln NE ANG
Matrix: Solid Laboratory ID: 1305125-14 File ID: 0512514.D
Sampled: 05/08/13 09:55 Prepared: 05/21/13 18:30 Analyzed: 05/29/13 21:31
Solids: 79.77 Preparation: EXT 3546 Dilution: 1
Batch: 3E20013 Sequence: 3E15019 Calibration: 2272005 Instrument: MS-BNA1

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
100-02-7	4-Nitrophenol		407	814	1620	U
88-75-5	2-Nitrophenol		102	204	407	U
86-30-6	N-Nitrosodiphenylamine		102	204	407	U
621-64-7	N-Nitroso-di-n-propylamine		102	204	407	UX
87-86-5	Pentachlorophenol		407	814	1620	U
108-95-2	Phenol		102	204	407	U
95-94-3	1,2,4,5-Tetrachlorobenzene		102	204	407	U
58-90-2	2,3,4,6-Tetrachlorophenol		102	204	407	U
88-06-2	2,4,6-Trichlorophenol		102	204	407	U
95-95-4	2,4,5-Trichlorophenol		102	204	407	U

U

Total Target Analytes Reported: 50

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	4070	2982	73.3	45 - 105	
2-Fluorophenol	8141	6215	76.3	35 - 105	
Nitrobenzene-d5	4070	3095	76.0	35 - 100	
Phenol-d6	8141	6483	79.6	40 - 100	
Terphenyl-d14	4070	3406	83.7	30 - 125	
2,4,6-Tribromophenol	8141	6138	75.4	35 - 125	

ANALYSIS DATA SHEET

LNC-015-DS-SB1-01DUP

Laboratory: Empirical Laboratories, LLC　SDG: 1305125
Client: SAIC (S732)　Project: Lincoln NE ANG
Matrix: Solid　Laboratory ID: 1305125-14　File ID: 0512514.D
Sampled: 05/08/13 09:55　Prepared: 05/21/13 18:30　Analyzed: 05/30/13 01:45
Solids: 79.77　Preparation: EXT 3546　Dilution: 1
Batch: 3E20013　Sequence: 3E15018　Calibration: 3122001　Instrument: MS-BNA4

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
83-32-9	Acenaphthene		2.04	4.07	8.14	U
208-96-8	Acenaphthylene		2.04	4.07	8.14	U
120-12-7	Anthracene		2.04	4.07	8.14	U
56-55-3	Benzo(a)anthracene		2.04	4.07	8.14	U
50-32-8	Benzo(a)pyrene		2.04	4.07	8.14	U
205-99-2	Benzo(b)fluoranthene		2.04	4.07	8.14	U
191-24-2	Benzo(g,h,i)perylene		2.04	4.07	8.14	U
207-08-9	Benzo(k)fluoranthene		2.04	4.07	8.14	U
123-91-1	1,4-Dioxane		10.2	20.4	40.7	U
218-01-9	Chrysene		2.04	4.07	8.14	UQ
53-70-3	Dibenz(a,h)anthracene		2.04	4.07	8.14	U
206-44-0	Fluoranthene		2.04	4.07	8.14	U
86-73-7	Fluorene		2.04	4.07	8.14	U
193-39-5	Indeno(1,2,3-cd)pyrene		2.04	4.07	8.14	U
91-57-6	2-Methylnaphthalene		2.04	4.07	8.14	U
91-20-3	Naphthalene		2.04	4.07	8.14	U
85-01-8	Phenanthrene		2.04	4.07	8.14	U
129-00-0	Pyrene		2.04	4.07	8.14	U

U

Total Target Analytes Reported: 18

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	4070	3667	90.1	45 - 105	
Terphenyl-d14	4070	3809	93.6	30 - 125	
2,4,6-Tribromophenol	8141	7684	94.4	35 - 125	

ANALYSIS DATA SHEET

LNC-015-DS-SB1-01DUP

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125		
Client:	SAIC (S732)			Project:	Lincoln NE ANG		
Matrix:	Solid	Laboratory ID:	1305125-14	File ID:	025F2501.D		
Sampled:	05/08/13 09:55	Prepared:	05/20/13 12:19	Analyzed:	05/23/13 06:46		
Solids:	79.77	Preparation:	EXT 3546	Dilution:	1		
Batch:	3E17023	Sequence:	3E14606	Calibration:	3143004	Instrument:	GL-GCFID2

CAS NO.	COMPOUND	CONC. (mg/Kg dry)	DL	LOD	LOQ	Q
11-84-7	Diesel Range Organics (C10-C28)		8.40	8.40	16.7	U

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	1.672	1.426	85.3	35 - 140	

ANALYSIS DATA SHEET

LNC-015-DS-SB1-01DUP

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Solid	Laboratory ID:	1305125-14	File ID:	010F1001.D
Sampled:	05/08/13 09:55	Prepared:	05/18/13 17:28	Analyzed:	05/18/13 23:53
Solids:	79.77	Preparation:	8015GRO	Dilution:	1
Batch:	3E18011	Sequence:	3E14307	Calibration:	3044001
Instrument:	GL-GCVOA2				

CAS NO.	COMPOUND	CONC. (mg/Kg dry)	DL	LOD	LOQ	Q
8006-61-9	Gasoline Range Organics (C6-C10)		3.03	6.06	9.09	U

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q
Bromofluorobenzene	3.031	3.745	124	50 - 150	X

ANALYSIS DATA SHEET

LNC-015-DP-SB1-01

Laboratory:	Empirical Laboratories, LLC		SDG:	1305125	
Client:	SAIC (S732)		Project:	Lincoln NE ANG	
Matrix:	Water	Laboratory ID: 1305125-17	File ID:	0512517.D	
Sampled:	05/08/13 11:36	Prepared: 05/20/13 00:00	Analyzed:	05/21/13 05:58	
Solids:		Preparation: 5030B	Dilution:	1	
Batch:	3E20019	Sequence: 3E14102	Calibration:	3140001	Instrument: MS-VOA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q	
67-64-1	Acetone		2.50	5.00	10.0	U	U
71-43-2	Benzene	2.89	0.250	0.500	1.00		=
74-97-5	Bromochloromethane		0.250	0.500	1.00	U	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	U	
75-25-2	Bromoform		0.250	0.500	1.00	U	
74-83-9	Bromomethane		0.500	1.00	2.00	U	
78-93-3	2-Butanone		2.50	5.00	10.0	U	
75-15-0	Carbon disulfide		0.250	0.500	1.00	U	
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	U	
108-90-7	Chlorobenzene		0.250	0.500	1.00	U	
75-00-3	Chloroethane		0.500	1.00	2.00	U	
67-66-3	Chloroform		0.250	0.500	1.00	U	
74-87-3	Chloromethane		0.250	0.500	1.00	UY UJ	COS
110-82-7	Cyclohexane	4.60	0.250	0.500	1.00		=
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U	U
96-12-8	1,2-Dibromo-3-chloropropane		0.500	1.00	2.00	U	
106-93-4	1,2-Dibromoethane (EDB)		0.250	0.500	1.00	U	
95-50-1	1,2-Dichlorobenzene		0.250	0.500	1.00	U	
541-73-1	1,3-Dichlorobenzene		0.250	0.500	1.00	U	
106-46-7	1,4-Dichlorobenzene		0.250	0.500	1.00	U	
75-71-8	Dichlorodifluoromethane		0.500	1.00	2.00	U	
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U	
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U	
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U	
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U	
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U	
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U	
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U	
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U	
100-41-4	Ethylbenzene	2.73	0.250	0.500	1.00		=
591-78-6	2-Hexanone		1.25	2.50	5.00	U	U
98-82-8	Isopropylbenzene	0.710	0.250	0.500	1.00	J	J
75-09-2	Methylene chloride		0.500	1.00	2.00	U	U
79-20-9	Methyl Acetate		0.500	1.00	2.00	U	U
108-87-2	Methylcyclohexane	4.82	0.250	0.500	1.00		=
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	U	U
1634-04-4	Methyl t-Butyl Ether		0.250	0.500	1.00	U	
100-42-5	Styrene		0.250	0.500	1.00	U	
79-34-5	1,1,2,2-Tetrachloroethane		0.250	0.500	1.00	U	
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U	

ANALYSIS DATA SHEET

LNC-015-DP-SB1-01

Laboratory: Empirical Laboratories, LLC SDG: 1305125

Client: SAIC (S732) Project: Lincoln NE ANG

Matrix: Water Laboratory ID: 1305125-17 File ID: 0512517.D

Sampled: 05/08/13 11:36 Prepared: 05/20/13 00:00 Analyzed: 05/21/13 05:58

Solids: Preparation: 5030B Dilution: 1

Batch: 3E20019 Sequence: 3E14102 Calibration: 3140001 Instrument: MS-VOA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
108-88-3	Toluene	3.50	0.250	0.500	1.00	
87-61-6	1,2,3-Trichlorobenzene		0.250	0.500	1.00	U
120-82-1	1,2,4-Trichlorobenzene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	U
79-01-6	Trichloroethene		0.250	0.500	1.00	U
75-69-4	Trichlorofluoromethane		0.500	1.00	2.00	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		0.500	1.00	2.00	U
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
108-38-3/106-42-	m,p-Xylene	19.2	0.500	1.00	2.00	
95-47-6	o-Xylene	6.98	0.250	0.500	1.00	

Total Target Analytes Reported: 51

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	30.99	103	75 - 120	
Dibromofluoromethane	30.00	33.68	112	85 - 115	
1,2-Dichloroethane-d4	30.00	31.02	103	70 - 120	
Toluene-d8	30.00	30.07	100	85 - 120	

ANALYSIS DATA SHEET

LNC-015-DP-SB1-01

Laboratory: Empirical Laboratories, LLC SDG: 1305125

Client: SAIC (S732) Project: Lincoln NE ANG

Matrix: Water Laboratory ID: 1305125-17 File ID: 0512517.D

Sampled: 05/08/13 11:36 Prepared: 05/15/13 18:15 Analyzed: 05/20/13 11:44

Solids: Preparation: EXT 3510 Dilution: 1

Batch: 3E15016 Sequence: 3E14505 Calibration: 2261001 Instrument: MS-BNA3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
98-86-2	Acetophenone		1.20	2.40	4.81	U U
1912-24-9	Atrazine		1.20	2.40	4.81	UY UJ COS
100-52-7	Benzaldehyde		1.20	2.40	4.81	U U
92-52-4	1,1-Biphenyl		1.20	2.40	4.81	U
101-55-3	4-Bromophenyl-phenylether		1.20	2.40	4.81	U
85-68-7	Butylbenzylphthalate		1.20	2.40	4.81	U
105-60-2	Caprolactam		1.20	2.40	4.81	U
86-74-8	Carbazole		1.20	2.40	4.81	U
59-50-7	4-Chloro-3-methylphenol		1.20	2.40	4.81	U
106-47-8	4-Chloroaniline		1.20	2.40	4.81	U
111-91-1	Bis(2-chloroethoxy)methane		1.20	2.40	4.81	U
111-44-4	Bis(2-chloroethyl)ether		1.20	2.40	4.81	U
108-60-1	2,2'-Oxybis-1-chloropropane		1.20	2.40	4.81	U
91-58-7	2-Chloronaphthalene		1.20	2.40	4.81	U
95-57-8	2-Chlorophenol		1.20	2.40	4.81	U
7005-72-3	4-Chlorophenyl phenyl ether		1.20	2.40	4.81	U
132-64-9	Dibenzofuran		1.20	2.40	4.81	U
84-74-2	Di-n-butylphthalate		1.20	2.40	4.81	U
91-94-1	3,3'-Dichlorobenzidine		1.20	2.40	4.81	U
120-83-2	2,4-Dichlorophenol		1.20	2.40	4.81	U
84-66-2	Diethylphthalate		1.20	2.40	4.81	U
105-67-9	2,4-Dimethylphenol		4.81	9.62	19.2	U
131-11-3	Dimethyl phthalate		1.20	2.40	4.81	U
534-52-1	4,6-Dinitro-2-methylphenol		4.81	9.62	19.2	U
51-28-5	2,4-Dinitrophenol		8.01	24.0	48.1	U
121-14-2	2,4-Dinitrotoluene		1.20	2.40	4.81	U
606-20-2	2,6-Dinitrotoluene		1.20	2.40	4.81	U
117-84-0	Di-n-octylphthalate		1.20	2.40	4.81	U
117-81-7	Bis(2-ethylhexyl)phthalate		1.20	2.40	4.81	U
118-74-1	Hexachlorobenzene		1.20	2.40	4.81	U
87-68-3	Hexachlorobutadiene		1.20	2.40	4.81	U
77-47-4	Hexachlorocyclopentadiene		1.20	4.81	9.62	U
67-72-1	Hexachloroethane		1.20	2.40	4.81	U
78-59-1	Isophorone		1.20	2.40	4.81	U
95-48-7	2-Methylphenol		1.20	2.40	4.81	U
106-44-5	4-Methylphenol		1.20	2.40	4.81	U
100-01-6	4-Nitroaniline		4.81	9.62	19.2	U
99-09-2	3-Nitroaniline		4.81	9.62	19.2	U
88-74-4	2-Nitroaniline		4.81	9.62	19.2	U
98-95-3	Nitrobenzene		1.20	2.40	4.81	U

ANALYSIS DATA SHEET

LNC-015-DP-SB1-01

Laboratory: Empirical Laboratories, LLC   SDG: 1305125
Client: SAIC (S732)   Project: Lincoln NE ANG
Matrix: Water   Laboratory ID: 1305125-17   File ID: 0512517.D
Sampled: 05/08/13 11:36   Prepared: 05/15/13 18:15   Analyzed: 05/20/13 11:44
Solids: Preparation: EXT 3510   Dilution: 1
Batch: 3E15016   Sequence: 3E14505   Calibration: 2261001   Instrument: MS-BNA3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
100-02-7	4-Nitrophenol		4.81	9.62	19.2	U
88-75-5	2-Nitrophenol		1.20	2.40	4.81	U
86-30-6	N-Nitrosodiphenylamine		1.20	2.40	4.81	U
621-64-7	N-Nitroso-di-n-propylamine		1.20	2.40	4.81	U
87-86-5	Pentachlorophenol		4.81	9.62	19.2	U
108-95-2	Phenol		1.20	2.40	4.81	U
95-94-3	1,2,4,5-Tetrachlorobenzene		1.20	2.40	4.81	U
58-90-2	2,3,4,6-Tetrachlorophenol		2.40	4.81	9.62	U
88-06-2	2,4,6-Trichlorophenol		1.20	2.40	4.81	U
95-95-4	2,4,5-Trichlorophenol		1.20	2.40	4.81	U

Total Target Analytes Reported: 50

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	48.08	36.67	76.3	50 - 110	
2-Fluorophenol	96.15	34.08	35.4	20 - 110	
Nitrobenzene-d5	48.08	36.09	75.1	40 - 110	
Phenol-d6	96.15	19.15	19.9	0 - 110	
Terphenyl-d14	48.08	30.32	63.1	50 - 135	
2,4,6-Tribromophenol	96.15	72.00	74.9	40 - 125	

ANALYSIS DATA SHEET

LNC-015-DP-SB1-01

Laboratory:	Empirical Laboratories, LLC		SDG:	1305125	
Client:	SAIC (S732)		Project:	Lincoln NE ANG	
Matrix:	Water	Laboratory ID: 1305125-17	File ID:	0512517.D	
Sampled:	05/08/13 11:36	Prepared: 05/15/13 18:15	Analyzed:	06/15/13 20:42	
Solids:		Preparation: EXT 3510	Dilution:	1	
Batch:	3E15016	Sequence: 3F16823	Calibration:	3122001	Instrument: MS-BNA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q	
83-32-9	Acenaphthene		0.0481	0.0962	0.192	U	U
208-96-8	Acenaphthylene		0.0481	0.0962	0.192	U	
120-12-7	Anthracene		0.0481	0.0962	0.192	U	
56-55-3	Benzo(a)anthracene		0.0481	0.0962	0.192	U	
50-32-8	Benzo(a)pyrene		0.0481	0.0962	0.192	U	
205-99-2	Benzo(b)fluoranthene		0.0481	0.0962	0.192	U	
191-24-2	Benzo(g,h,i)perylene		0.0481	0.0962	0.192	U	
207-08-9	Benzo(k)fluoranthene		0.0481	0.0962	0.192	U	
123-91-1	1,4-Dioxane		0.120	0.240	0.481	U	
218-01-9	Chrysene		0.0481	0.0962	0.192	U	
53-70-3	Dibenz(a,h)anthracene		0.0481	0.0962	0.192	U	
206-44-0	Fluoranthene		0.0481	0.0962	0.192	U	
86-73-7	Fluorene		0.0481	0.0962	0.192	U	
193-39-5	Indeno(1,2,3-cd)pyrene		0.0481	0.0962	0.192	U	
91-57-6	2-Methylnaphthalene	**5.88**	0.0481	0.0962	0.192		=
91-20-3	Naphthalene	**2.46**	0.0481	0.0962	0.192		=
85-01-8	Phenanthrene		0.0481	0.192	0.385	U	U
129-00-0	Pyrene		0.0481	0.0962	0.192	U	U

Total Target Analytes Reported: 18

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	48.08	38.70	80.5	50 - 110	
Terphenyl-d14	48.08	29.25	60.8	50 - 135	
2,4,6-Tribromophenol	96.15	84.65	88.0	40 - 125	

ANALYSIS DATA SHEET

LNC-015-DP-SB1-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Water	Laboratory ID:	1305125-17	File ID:	018F1801.D
Sampled:	05/08/13 11:36	Prepared:	05/14/13 19:02	Analyzed:	05/21/13 05:54
Solids:		Preparation:	EXT 3510	Dilution:	1

Batch: 3E14020 Sequence: 3E14605 Calibration: 3143004 Instrument: GL-GCFID2

CAS NO.	COMPOUND	CONC. (mg/L)	DL	LOD	LOQ	Q
11-84-7	Diesel Range Organics (C10-C28)		0.0962	0.0962	0.192	U

U

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/L)	CONC (mg/L)	% REC	QC LIMITS	Q
o-Terphenyl	0.01923	0.01083	56.3	30 - 140	

ANALYSIS DATA SHEET

LNC-015-DP-SB1-01

Laboratory: Empirical Laboratories, LLC SDG: 1305125
Client: SAIC (S732) Project: Lincoln NE ANG
Matrix: Water Laboratory ID: 1305125-17 File ID: 009F1301.D
Sampled: 05/08/13 11:36 Prepared: 05/16/13 18:11 Analyzed: 05/16/13 18:11
Solids: Preparation: 8015GRO Dilution: 1
Batch: 3E16005 Sequence: 3E14043 Calibration: 3044001 Instrument: GL-GCVOA2

CAS NO.	COMPOUND	CONC. (mg/L)	DL	LOD	LOQ	Q
8006-61-9	Gasoline Range Organics (C6-C10)	**0.196**	0.0500	0.100	0.150	

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/L)	CONC (mg/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	0.05000	0.05764	115	50 - 150	

ANALYSIS DATA SHEET

LNC-015-DP-SB1-01DUP

Laboratory:	Empirical Laboratories, LLC		SDG:	1305125	
Client:	SAIC (S732)		Project:	Lincoln NE ANG	
Matrix:	Water	Laboratory ID: 1305125-18	File ID:	0512518.D	
Sampled:	05/08/13 11:36	Prepared: 05/21/13 18:22	Analyzed:	05/21/13 18:22	
Solids:		Preparation: 5030B	Dilution:	1	
Batch:	3E21015	Sequence: 3E14209	Calibration:	3140001	Instrument: MS-VOA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone	**4.57**	2.50	5.00	10.0	J
71-43-2	Benzene	**14.8**	0.250	0.500	1.00	
74-97-5	Bromochloromethane		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	U
75-25-2	Bromoform		0.250	0.500	1.00	U
74-83-9	Bromomethane		0.500	1.00	2.00	U
78-93-3	2-Butanone		2.50	5.00	10.0	UX
75-15-0	Carbon disulfide		0.250	0.500	1.00	U
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	U
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform		0.250	0.500	1.00	U
74-87-3	Chloromethane		0.250	0.500	1.00	U
110-82-7	Cyclohexane	**23.4**	0.250	0.500	1.00	
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U
96-12-8	1,2-Dibromo-3-chloropropane		0.500	1.00	2.00	U
106-93-4	1,2-Dibromoethane (EDB)		0.250	0.500	1.00	U
95-50-1	1,2-Dichlorobenzene		0.250	0.500	1.00	U
541-73-1	1,3-Dichlorobenzene		0.250	0.500	1.00	U
106-46-7	1,4-Dichlorobenzene		0.250	0.500	1.00	U
75-71-8	Dichlorodifluoromethane		0.500	1.00	2.00	U
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene	15.6	0.250	0.500	1.00	
591-78-6	2-Hexanone		1.25	2.50	5.00	UX
98-82-8	Isopropylbenzene	**3.67**	0.250	0.500	1.00	
75-09-2	Methylene chloride		0.500	1.00	2.00	U
79-20-9	Methyl Acetate		0.500	1.00	2.00	U
108-87-2	Methylcyclohexane	**25.8**	0.250	0.500	1.00	
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	UX
1634-04-4	Methyl t-Butyl Ether		0.250	0.500	1.00	U
100-42-5	Styrene		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.250	0.500	1.00	U
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U

ANALYSIS DATA SHEET

LNC-015-DP-SB1-01DUP

Laboratory:	Empirical Laboratories, LLC		SDG:	1305125	
Client:	SAIC (S732)		Project:	Lincoln NE ANG	
Matrix:	Water	Laboratory ID: 1305125-18		File ID:	0512518.D
Sampled:	05/08/13 11:36	Prepared: 05/21/13 18:22		Analyzed:	05/21/13 18:22
Solids:		Preparation: 5030B		Dilution:	1
Batch:	3E21015	Sequence: 3E14209	Calibration:	3140001	Instrument: MS-VOA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q	
108-88-3	Toluene	**20.1**	0.250	0.500	1.00		=
87-61-6	1,2,3-Trichlorobenzene		0.250	0.500	1.00	U	U
120-82-1	1,2,4-Trichlorobenzene		0.250	0.500	1.00	U	
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U	
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	U	
79-01-6	Trichloroethene		0.250	0.500	1.00	U	
75-69-4	Trichlorofluoromethane		0.500	1.00	2.00	U	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		0.500	1.00	2.00	U	
75-01-4	Vinyl chloride		0.250	0.500	1.00	U	
108-38-3/106-42-	m,p-Xylene	**109**	0.500	1.00	2.00		=
95-47-6	o-Xylene	**38.6**	0.250	0.500	1.00		=

Total Target Analytes Reported: 51

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	31.52	105	75 - 120	
Dibromofluoromethane	30.00	32.17	107	85 - 115	
1,2-Dichloroethane-d4	30.00	30.41	101	70 - 120	
Toluene-d8	30.00	29.92	99.7	85 - 120	

ANALYSIS DATA SHEET

LNC-015-DP-SB1-01DUP

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Water	Laboratory ID:	1305125-18	File ID:	0512518.D
Sampled:	05/08/13 11:36	Prepared:	05/15/13 18:15	Analyzed:	05/20/13 12:12
Solids:		Preparation:	EXT 3510	Dilution:	1
Batch:	3E15016	Sequence:	3E14505	Calibration:	2261001

Instrument: MS-BNA3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q	
98-86-2	Acetophenone		1.16	2.31	4.63	U	U
1912-24-9	Atrazine		1.16	2.31	4.63	UY (UJ)	CCS
100-52-7	Benzaldehyde		1.16	2.31	4.63	U	U
92-52-4	1,1-Biphenyl		1.16	2.31	4.63	U	
101-55-3	4-Bromophenyl-phenylether		1.16	2.31	4.63	U	
85-68-7	Butylbenzylphthalate		1.16	2.31	4.63	U	
105-60-2	Caprolactam		1.16	2.31	4.63	U	
86-74-8	Carbazole		1.16	2.31	4.63	U	
59-50-7	4-Chloro-3-methylphenol		1.16	2.31	4.63	U	
106-47-8	4-Chloroaniline		1.16	2.31	4.63	U	
111-91-1	Bis(2-chloroethoxy)methane		1.16	2.31	4.63	U	
111-44-4	Bis(2-chloroethyl)ether		1.16	2.31	4.63	U	
108-60-1	2,2'-Oxybis-1-chloropropane		1.16	2.31	4.63	U	
91-58-7	2-Chloronaphthalene		1.16	2.31	4.63	U	
95-57-8	2-Chlorophenol		1.16	2.31	4.63	U	
7005-72-3	4-Chlorophenyl phenyl ether		1.16	2.31	4.63	U	
132-64-9	Dibenzofuran		1.16	2.31	4.63	U	
84-74-2	Di-n-butylphthalate		1.16	2.31	4.63	U	
91-94-1	3,3'-Dichlorobenzidine		1.16	2.31	4.63	U	
120-83-2	2,4-Dichlorophenol		1.16	2.31	4.63	U	
84-66-2	Diethylphthalate		1.16	2.31	4.63	U	
105-67-9	2,4-Dimethylphenol		4.63	9.26	18.5	U	
131-11-3	Dimethyl phthalate		1.16	2.31	4.63	U	
534-52-1	4,6-Dinitro-2-methylphenol		4.63	9.26	18.5	U	
51-28-5	2,4-Dinitrophenol		7.71	23.1	46.3	U	
121-14-2	2,4-Dinitrotoluene		1.16	2.31	4.63	U	
606-20-2	2,6-Dinitrotoluene		1.16	2.31	4.63	U	
117-84-0	Di-n-octylphthalate		1.16	2.31	4.63	U	
117-81-7	Bis(2-ethylhexyl)phthalate		1.16	2.31	4.63	U	
118-74-1	Hexachlorobenzene		1.16	2.31	4.63	U	
87-68-3	Hexachlorobutadiene		1.16	2.31	4.63	U	
77-47-4	Hexachlorocyclopentadiene		1.16	4.63	9.26	U	
67-72-1	Hexachloroethane		1.16	2.31	4.63	U	
78-59-1	Isophorone		1.16	2.31	4.63	U	
95-48-7	2-Methylphenol		1.16	2.31	4.63	U	
106-44-5	4-Methylphenol		1.16	2.31	4.63	U	
100-01-6	4-Nitroaniline		4.63	9.26	18.5	U	
99-09-2	3-Nitroaniline		4.63	9.26	18.5	U	
88-74-4	2-Nitroaniline		4.63	9.26	18.5	U	
98-95-3	Nitrobenzene		1.16	2.31	4.63	U	

ANALYSIS DATA SHEET

LNC-015-DP-SB1-01DUP

Laboratory: Empirical Laboratories, LLC   SDG: 1305125

Client: SAIC (S732)   Project: Lincoln NE ANG

Matrix: Water   Laboratory ID: 1305125-18   File ID: 0512518.D

Sampled: 05/08/13 11:36   Prepared: 05/15/13 18:15   Analyzed: 05/20/13 12:12

Solids: Preparation: EXT 3510   Dilution: 1

Batch: 3E15016   Sequence: 3E14505   Calibration: 2261001   Instrument: MS-BNA3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
100-02-7	4-Nitrophenol		4.63	9.26	18.5	U
88-75-5	2-Nitrophenol		1.16	2.31	4.63	U
86-30-6	N-Nitrosodiphenylamine		1.16	2.31	4.63	U
621-64-7	N-Nitroso-di-n-propylamine		1.16	2.31	4.63	U
87-86-5	Pentachlorophenol		4.63	9.26	18.5	U
108-95-2	Phenol		1.16	2.31	4.63	U
95-94-3	1,2,4,5-Tetrachlorobenzene		1.16	2.31	4.63	U
58-90-2	2,3,4,6-Tetrachlorophenol		2.31	4.63	9.26	U
88-06-2	2,4,6-Trichlorophenol		1.16	2.31	4.63	U
95-95-4	2,4,5-Trichlorophenol		1.16	2.31	4.63	U

U

Total Target Analytes Reported: 50

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	46.30	37.90	81.9	50 - 110	
2-Fluorophenol	92.59	39.10	42.2	20 - 110	
Nitrobenzene-d5	46.30	39.44	85.2	40 - 110	
Phenol-d6	92.59	21.47	23.2	0 - 110	
Terphenyl-d14	46.30	33.15	71.6	50 - 135	
2,4,6-Tribromophenol	92.59	78.88	85.2	40 - 125	

ANALYSIS DATA SHEET

LNC-015-DP-SB1-01DUP

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125		
Client:	SAIC (S732)			Project:	Lincoln NE ANG		
Matrix:	Water	Laboratory ID:	1305125-18	File ID:	0512518.D		
Sampled:	05/08/13 11:36	Prepared:	05/15/13 18:15	Analyzed:	06/15/13 21:10		
Solids:		Preparation:	EXT 3510	Dilution:	1		
Batch:	3E15016	Sequence:	3F16823	Calibration:	3122001	Instrument:	MS-BNA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q	
83-32-9	Acenaphthene		0.0463	0.0926	0.185	U	U
208-96-8	Acenaphthylene		0.0463	0.0926	0.185	U	
120-12-7	Anthracene		0.0463	0.0926	0.185	U	
56-55-3	Benzo(a)anthracene		0.0463	0.0926	0.185	U	
50-32-8	Benzo(a)pyrene		0.0463	0.0926	0.185	U	
205-99-2	Benzo(b)fluoranthene		0.0463	0.0926	0.185	U	
191-24-2	Benzo(g,h,i)perylene		0.0463	0.0926	0.185	U	
207-08-9	Benzo(k)fluoranthene		0.0463	0.0926	0.185	U	
123-91-1	1,4-Dioxane		0.116	0.231	0.463	U	
218-01-9	Chrysene		0.0463	0.0926	0.185	U	
53-70-3	Dibenz(a,h)anthracene		0.0463	0.0926	0.185	U	
206-44-0	Fluoranthene		0.0463	0.0926	0.185	U	
86-73-7	Fluorene		0.0463	0.0926	0.185	U	
193-39-5	Indeno(1,2,3-cd)pyrene		0.0463	0.0926	0.185	U	
91-57-6	2-Methylnaphthalene	**2.65**	0.0463	0.0926	0.185		=
91-20-3	Naphthalene	**1.14**	0.0463	0.0926	0.185		=
85-01-8	Phenanthrene		0.0463	0.185	0.370	U	U
129-00-0	Pyrene	**0.0472**	0.0463	0.0926	0.185	J	J

Total Target Analytes Reported: 18

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	46.30	35.77	77.3	50 - 110	
Terphenyl-d14	46.30	28.06	60.6	50 - 135	
2,4,6-Tribromophenol	92.59	80.89	87.4	40 - 125	

ANALYSIS DATA SHEET

LNC-015-DP-SB1-01DUP

Laboratory: Empirical Laboratories, LLC   SDG: 1305125
Client: SAIC (S732)   Project: Lincoln NE ANG
Matrix: Water   Laboratory ID: 1305125-18   File ID: 019F1901.D
Sampled: 05/08/13 11:36   Prepared: 05/14/13 19:02   Analyzed: 05/21/13 06:28
Solids: Preparation: EXT 3510   Dilution: 1
Batch: 3E14020   Sequence: 3E14605   Calibration: 3143004   Instrument: GL-GCFID2

CAS NO.	COMPOUND	CONC. (mg/L)	DL	LOD	LOQ	Q
11-84-7	Diesel Range Organics (C10-C28)	**0.142**	0.0980	0.0980	0.196	J

J

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/L)	CONC (mg/L)	% REC	QC LIMITS	Q
o-Terphenyl	0.01961	0.009579	48.9	30 - 140	

ANALYSIS DATA SHEET

LNC-015-DP-SB1-01DUP

Laboratory:	Empirical Laboratories, LLC	SDG:	1305125		
Client:	SAIC (S732)	Project:	Lincoln NE ANG		
Matrix:	Water	Laboratory ID:	1305125-18	File ID:	010F1401.D
Sampled:	05/08/13 11:36	Prepared:	05/16/13 18:50	Analyzed:	05/16/13 18:50
Solids:		Preparation:	8015GRO	Dilution:	1

Batch: 3E16005 Sequence: 3E14043 Calibration: 3044001 Instrument: GL-GCVOA2

CAS NO.	COMPOUND	CONC. (mg/L)	DL	LOD	LOQ	Q
8006-61-9	Gasoline Range Organics (C6-C10)	**0.122**	0.0500	0.100	0.150	J

J

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/L)	CONC (mg/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	0.05000	0.06258	125	50 - 150	

ANALYSIS DATA SHEET

LNC-015-DS-SB1-02

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Solid	Laboratory ID:	1305125-15	File ID:	0512515C.D
Sampled:	05/08/13 10:20	Prepared:	05/20/13 00:00	Analyzed:	05/20/13 16:29
Solids:	79.56	Preparation:	5035A	Dilution:	100

Batch: 3E20008 Sequence: 3E14106 Calibration: 3140003 Instrument: MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q	
67-64-1	Acetone		622	1240	2490	UX	U
71-43-2	Benzene		156	311	622	U	
74-97-5	Bromochloromethane		156	311	622	U	
75-27-4	Bromodichloromethane		156	311	622	U	
75-25-2	Bromoform		156	311	622	U	
74-83-9	Bromomethane		311	622	1240	U	
78-93-3	2-Butanone		311	622	1240	UX	
75-15-0	Carbon disulfide		156	311	622	U	
56-23-5	Carbon tetrachloride		156	311	622	U	
108-90-7	Chlorobenzene		156	311	622	U	
75-00-3	Chloroethane		311	622	1240	U	
67-66-3	Chloroform		156	311	622	U	
74-87-3	Chloromethane		311	622	1240	U	
110-82-7	Cyclohexane		156	311	622	U	
124-48-1	Dibromochloromethane		156	311	622	U	
96-12-8	1,2-Dibromo-3-chloropropane		311	622	1240	U	
106-93-4	1,2-Dibromoethane (EDB)		156	311	622	U	
95-50-1	1,2-Dichlorobenzene		156	311	622	U	
541-73-1	1,3-Dichlorobenzene		156	311	622	U	
106-46-7	1,4-Dichlorobenzene		156	311	622	U	
75-71-8	Dichlorodifluoromethane		311	622	1240	U	
75-34-3	1,1-Dichloroethane		156	311	622	U	
107-06-2	1,2-Dichloroethane		156	311	622	U	
75-35-4	1,1-Dichloroethene		156	311	622	U	
156-59-2	cis-1,2-Dichloroethene		156	311	622	U	
156-60-5	trans-1,2-Dichloroethene		156	311	622	U	
78-87-5	1,2-Dichloropropane		156	311	622	U	
10061-01-5	cis-1,3-Dichloropropene		156	311	622	U	
10061-02-6	trans-1,3-Dichloropropene		156	311	622	U	
100-41-4	Ethylbenzene	312	156	311	622	JD	J
591-78-6	2-Hexanone		311	622	1240	UXO	U
98-82-8	Isopropylbenzene		156	311	622	U	U
75-09-2	Methylene chloride	378	311	622	1240	JD	JR F12
79-20-9	Methyl Acetate		311	622	1240	U	U
108-87-2	Methylcyclohexane	315	156	311	622	JD	J
108-10-1	4-Methyl-2-pentanone		311	622	1240	U	U
1634-04-4	Methyl t-Butyl Ether		156	311	622	U	
100-42-5	Styrene		156	311	622	U	
79-34-5	1,1,2,2-Tetrachloroethane		156	311	622	U	
127-18-4	Tetrachloroethene		156	311	622	U	

JV 06/25/2013

ANALYSIS DATA SHEET

LNC-015-DS-SB1-02

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125		
Client:	SAIC (S732)			Project:	Lincoln NE ANG		
Matrix:	Solid	Laboratory ID:	1305125-15	File ID:	0512515C.D		
Sampled:	05/08/13 10:20	Prepared:	05/20/13 00:00	Analyzed:	05/20/13 16:29		
Solids:	79.56	Preparation:	5035A	Dilution:	100		
Batch:	3E20008	Sequence:	3E14106	Calibration:	3140003	Instrument:	MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
108-88-3	Toluene		156	311	622	U
87-61-6	1,2,3-Trichlorobenzene		156	311	622	U
120-82-1	1,2,4-Trichlorobenzene		156	311	622	U
79-00-5	1,1,2-Trichloroethane		156	311	622	U
71-55-6	1,1,1-Trichloroethane		156	311	622	U
79-01-6	Trichloroethene		156	311	622	U
75-69-4	Trichlorofluoromethane		311	622	1240	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		311	622	1240	U
75-01-4	Vinyl chloride		156	311	622	U
108-38-3/106-42-	m,p-Xylene	2560	311	622	1240	D
95-47-6	o-Xylene	922	156	311	622	D

Total Target Analytes Reported: 51

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
Bromofluorobenzene	37.34	38.74	104	85 - 120	
Dibromofluoromethane	37.34	39.15	105	80 - 125	
1,2-Dichloroethane-d4	37.34	39.10	105	75 - 140	
Toluene-d8	37.34	37.24	99.7	85 - 115	

ANALYSIS DATA SHEET

LNC-015-DS-SB1-02

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Solid	Laboratory ID:	1305125-15	File ID:	0512515.D
Sampled:	05/08/13 10:20	Prepared:	05/21/13 18:30	Analyzed:	05/29/13 21:58
Solids:	79.56	Preparation:	EXT 3546	Dilution:	1
Batch:	3E20013	Sequence:	3E15019	Calibration:	2272005
Instrument:	MS-BNA1				

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q	
98-86-2	Acetophenone		102	205	409	UX	U
1912-24-9	Atrazine		102	205	409	UY	UJ C05
100-52-7	Benzaldehyde		102	205	409	U	U
92-52-4	1,1-Biphenyl		102	205	409	U	
101-55-3	4-Bromophenyl-phenylether		102	205	409	U	
85-68-7	Butylbenzylphthalate		102	205	409	U	
105-60-2	Caprolactam		102	205	409	U	
86-74-8	Carbazole		102	205	409	U	
59-50-7	4-Chloro-3-methylphenol		102	205	409	U	
106-47-8	4-Chloroaniline		102	205	409	U	
111-91-1	Bis(2-chloroethoxy)methane		102	205	409	U	
111-44-4	Bis(2-chloroethyl)ether		102	205	409	U	
108-60-1	2,2'-Oxybis-1-chloropropane		102	205	409	U	
91-58-7	2-Chloronaphthalene		102	205	409	U	
95-57-8	2-Chlorophenol		102	205	409	U	
7005-72-3	4-Chlorophenyl phenyl ether		102	205	409	U	
132-64-9	Dibenzofuran		102	205	409	U	
84-74-2	Di-n-butylphthalate		102	205	409	U	
91-94-1	3,3'-Dichlorobenzidine		102	205	409	U	
120-83-2	2,4-Dichlorophenol		102	205	409	U	
84-66-2	Diethylphthalate		102	205	409	U	
105-67-9	2,4-Dimethylphenol		409	818	1630	U	
131-11-3	Dimethyl phthalate		102	205	409	U	
534-52-1	4,6-Dinitro-2-methylphenol		1020	2050	4090	U	
51-28-5	2,4-Dinitrophenol		1020	2050	4090	U	
121-14-2	2,4-Dinitrotoluene		102	205	409	U	
606-20-2	2,6-Dinitrotoluene		102	205	409	U	
117-84-0	Di-n-octylphthalate	328	102	205	409	J	J
117-81-7	Bis(2-ethylhexyl)phthalate	2650	102	205	409		=
118-74-1	Hexachlorobenzene		102	205	409	U	U
87-68-3	Hexachlorobutadiene		102	205	409	U	
77-47-4	Hexachlorocyclopentadiene		102	205	409	U	
67-72-1	Hexachloroethane		102	205	409	U	
78-59-1	Isophorone		102	205	409	UX	
95-48-7	2-Methylphenol		102	205	409	U	
106-44-5	4-Methylphenol		102	205	409	U	
100-01-6	4-Nitroaniline		409	818	1630	U	
99-09-2	3-Nitroaniline		409	818	1630	U	
88-74-4	2-Nitroaniline		409	818	1630	U	
98-95-3	Nitrobenzene		102	205	409	U	

ANALYSIS DATA SHEET

LNC-015-DS-SB1-02

Laboratory: Empirical Laboratories, LLC   SDG: 1305125

Client: SAIC (S732)   Project: Lincoln NE ANG

Matrix: Solid   Laboratory ID: 1305125-15   File ID: 0512515.D

Sampled: 05/08/13 10:20   Prepared: 05/21/13 18:30   Analyzed: 05/29/13 21:58

Solids: 79.56   Preparation: EXT 3546   Dilution: 1

Batch: 3E20013   Sequence: 3E15019   Calibration: 2272005   Instrument: MS-BNA1

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
100-02-7	4-Nitrophenol		409	818	1630	U
88-75-5	2-Nitrophenol		102	205	409	U
86-30-6	N-Nitrosodiphenylamine		102	205	409	U
621-64-7	N-Nitroso-di-n-propylamine		102	205	409	UX
87-86-5	Pentachlorophenol		409	818	1630	U
108-95-2	Phenol		102	205	409	U
95-94-3	1,2,4,5-Tetrachlorobenzene		102	205	409	U
58-90-2	2,3,4,6-Tetrachlorophenol		102	205	409	U
88-06-2	2,4,6-Trichlorophenol		102	205	409	U
95-95-4	2,4,5-Trichlorophenol		102	205	409	U

Total Target Analytes Reported: 50

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	4089	2621	64.1	45 - 105	
2-Fluorophenol	8178	5336	65.3	35 - 105	
Nitrobenzene-d5	4089	2415	59.1	35 - 100	
Phenol-d6	8178	5539	67.7	40 - 100	
Terphenyl-d14	4089	3209	78.5	30 - 125	
2,4,6-Tribromophenol	8178	6157	75.3	35 - 125	

ANALYSIS DATA SHEET

LNC-015-DS-SB1-02

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Solid	Laboratory ID:	1305125-15	File ID:	0512515R.D
Sampled:	05/08/13 10:20	Prepared:	05/21/13 18:30	Analyzed:	05/30/13 09:08
Solids:	79.56	Preparation:	EXT_3546	Dilution:	1

Batch: 3E20013 Sequence: 3E15034 Calibration: 3122001 Instrument: MS-BNA4

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q	
83-32-9	Acenaphthene	**29.3**	2.05	4.09	8.18		=
208-96-8	Acenaphthylene	**21.7**	2.05	4.09	8.18		=
120-12-7	Anthracene	**26.1**	2.05	4.09	8.18		=
56-55-3	Benzo(a)anthracene	**23.3** •	2.05	4.09	8.18		=
50-32-8	Benzo(a)pyrene	**4.79**	2.05	4.09	8.18	J	J
205-99-2	Benzo(b)fluoranthene	**4.44**	2.05	4.09	8.18	J	J
191-24-2	Benzo(g,h,i)perylene	**6.21**	2.05	4.09	8.18	J	J
207-08-9	Benzo(k)fluoranthene	**3.08** •	2.05	4.09	8.18	J	J
123-91-1	1,4-Dioxane		10.2	20.5	40.9	U	U
218-01-9	Chrysene	**22.6** •	2.05	4.09	8.18	Q	J COS,Ab
53-70-3	Dibenz(a,h)anthracene		2.05	4.09	8.18	U	U
206-44-0	Fluoranthene	**18.4**	2.05	4.09	8.18		=
86-73-7	Fluorene		2.05	4.09	8.18	U	U
193-39-5	Indeno(1,2,3-cd)pyrene	**2.26** •	2.05	4.09	8.18	J	J
91-57-6	2-Methylnaphthalene	**1820**	2.05	4.09	8.18		=
91-20-3	Naphthalene	**94.3**	2.05	4.09	8.18		=
85-01-8	Phenanthrene	**94.3**	2.05	4.09	8.18		=
129-00-0	Pyrene	**41.1**	2.05	4.09	8.18		=

Total Target Analytes Reported: 18

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	4089	3044	74.4	45 - 105	
Terphenyl-d14	4089	3382	82.7	30 - 125	
2,4,6-Tribromophenol	8178	7036	86.0	35 - 125	

JW
09/04/2013

ANALYSIS DATA SHEET

LNC-015-DS-SB1-02

Laboratory: Empirical Laboratories, LLC   SDG: 1305125

Client: SAIC (S732)   Project: Lincoln NE ANG

Matrix: Solid   Laboratory ID: 1305125-15   File ID: 026F2601.D

Sampled: 05/08/13 10:20   Prepared: 05/20/13 12:19   Analyzed: 05/23/13 07:19

Solids: 79.56   Preparation: EXT 3546   Dilution: 1

Batch: 3E17023   Sequence: 3E14606   Calibration: 3143004   Instrument: GL-GCFID2

CAS NO.	COMPOUND	CONC. (mg/Kg dry)	DL	LOD	LOQ	Q
11-84-7	Diesel Range Organics (C10-C28)	**120**	8.02	8.02	15.9	

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	1.595	1.293	81.1	35 - 140	

ANALYSIS DATA SHEET

LNC-015-DS-SB1-02

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125		
Client:	SAIC (S732)			Project:	Lincoln NE ANG		
Matrix:	Solid	Laboratory ID:	1305125-15	File ID:	011F1101.D		
Sampled:	05/08/13 10:20	Prepared:	05/18/13 17:28	Analyzed:	05/19/13 00:32		
Solids:	79.56	Preparation:	8015GRO	Dilution:	1		
Batch:	3E18011	Sequence:	3E14307	Calibration:	3044001	Instrument:	GL-GCVOA2

CAS NO.	COMPOUND	CONC. (mg/Kg dry)	DL	LOD	LOQ	Q
8006-61-9	Gasoline Range Organics (C6-C10)	**19.3**	3.11	6.22	9.33	

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q
Bromofluorobenzene	3.111	3.167	102	50 - 150	X

ANALYSIS DATA SHEET

LNC-015-DS-SB1-02DUP

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125		
Client:	SAIC (S732)			Project:	Lincoln NE ANG		
Matrix:	Solid	Laboratory ID:	1305125-16	File ID:	0512516C.D		
Sampled:	05/08/13 10:20	Prepared:	05/20/13 00:00	Analyzed:	05/20/13 16:58		
Solids:	75.11	Preparation:	5035A	Dilution:	100		
Batch:	3E20008	Sequence:	3E14106	Calibration:	3140003	Instrument:	MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q	
67-64-1	Acetone		681	1360	2720	UX	U
71-43-2	Benzene		170	340	681	U	
74-97-5	Bromochloromethane		170	340	681	U	
75-27-4	Bromodichloromethane		170	340	681	U	
75-25-2	Bromoform		170	340	681	U	
74-83-9	Bromomethane		340	681	1360	U	
78-93-3	2-Butanone		340	681	1360	UX	
75-15-0	Carbon disulfide		170	340	681	U	
56-23-5	Carbon tetrachloride		170	340	681	U	
108-90-7	Chlorobenzene		170	340	681	U	
75-00-3	Chloroethane		340	681	1360	U	
67-66-3	Chloroform		170	340	681	U	
74-87-3	Chloromethane		340	681	1360	U	
110-82-7	Cyclohexane		170	340	681	U	
124-48-1	Dibromochloromethane		170	340	681	U	
96-12-8	1,2-Dibromo-3-chloropropane		340	681	1360	U	
106-93-4	1,2-Dibromoethane (EDB)		170	340	681	U	
95-50-1	1,2-Dichlorobenzene		170	340	681	U	
541-73-1	1,3-Dichlorobenzene		170	340	681	U	
106-46-7	1,4-Dichlorobenzene		170	340	681	U	
75-71-8	Dichlorodifluoromethane		340	681	1360	U	
75-34-3	1,1-Dichloroethane		170	340	681	U	
107-06-2	1,2-Dichloroethane		170	340	681	U	
75-35-4	1,1-Dichloroethene		170	340	681	U	
156-59-2	cis-1,2-Dichloroethene		170	340	681	U	
156-60-5	trans-1,2-Dichloroethene		170	340	681	U	
78-87-5	1,2-Dichloropropane		170	340	681	U	
10061-01-5	cis-1,3-Dichloropropene		170	340	681	U	
10061-02-6	trans-1,3-Dichloropropene		170	340	681	U	
100-41-4	Ethylbenzene	192	170	340	681	JD	J
591-78-6	2-Hexanone		340	681	1360	UXO	U
98-82-8	Isopropylbenzene		170	340	681	U	
75-09-2	Methylene chloride		340	681	1360	U	
79-20-9	Methyl Acetate		340	681	1360	U	
108-87-2	Methylcyclohexane	378	170	340	681	JD	J
108-10-1	4-Methyl-2-pentanone		340	681	1360	U	U
1634-04-4	Methyl t-Butyl Ether		170	340	681	U	
100-42-5	Styrene		170	340	681	U	
79-34-5	1,1,2,2-Tetrachloroethane		170	340	681	U	
127-18-4	Tetrachloroethene		170	340	681	U	

ANALYSIS DATA SHEET

LNC-015-DS-SB1-02DUP

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125		
Client:	SAIC (S732)			Project:	Lincoln NE ANG		
Matrix:	Solid	Laboratory ID:	1305125-16	File ID:	0512516C.D		
Sampled:	05/08/13 10:20	Prepared:	05/20/13 00:00	Analyzed:	05/20/13 16:58		
Solids:	75.11	Preparation:	5035A	Dilution:	100		
Batch:	3E20008	Sequence:	3E14106	Calibration:	3140003	Instrument:	MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q	
108-88-3	Toluene		170	340	681	U	U
87-61-6	1,2,3-Trichlorobenzene		170	340	681	U	
120-82-1	1,2,4-Trichlorobenzene		170	340	681	U	
79-00-5	1,1,2-Trichloroethane		170	340	681	U	
71-55-6	1,1,1-Trichloroethane		170	340	681	U	
79-01-6	Trichloroethene		170	340	681	U	
75-69-4	Trichlorofluoromethane		340	681	1360	U	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		340	681	1360	U	
75-01-4	Vinyl chloride		170	340	681	U	
108-38-3/106-42-	m,p-Xylene	**1510**	340	681	1360	D	"
95-47-6	o-Xylene	**551**	170	340	681	JD	J

Total Target Analytes Reported: 51

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
Bromofluorobenzene	40.84	41.86	102	85 - 120	
Dibromofluoromethane	40.84	42.30	104	80 - 125	
1,2-Dichloroethane-d4	40.84	42.35	104	75 - 140	
Toluene-d8	40.84	41.51	102	85 - 115	

ANALYSIS DATA SHEET

LNC-015-DS-SB1-02DUP

Laboratory:	Empirical Laboratories, LLC		SDG:	1305125	
Client:	SAIC (S732)		Project:	Lincoln NE ANG	
Matrix:	Solid	Laboratory ID: 1305125-16		File ID:	0512516.D
Sampled:	05/08/13 10:20	Prepared: 05/21/13 18:30		Analyzed:	05/29/13 22:26
Solids:	75.11	Preparation: EXT 3546		Dilution:	1
Batch:	3E20013	Sequence: 3E15019	Calibration:	2272005	Instrument: MS-BNA1

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q	
98-86-2	Acetophenone		106	212	423	UX	U
1912-24-9	Atrazine		106	212	423	UY UJ	COS
100-52-7	Benzaldehyde		106	212	423	U	U
92-52-4	1,1-Biphenyl		106	212	423	U	
101-55-3	4-Bromophenyl-phenylether		106	212	423	U	
85-68-7	Butylbenzylphthalate		106	212	423	U	
105-60-2	Caprolactam		106	212	423	U	
86-74-8	Carbazole		106	212	423	U	
59-50-7	4-Chloro-3-methylphenol		106	212	423	U	
106-47-8	4-Chloroaniline		106	212	423	U	
111-91-1	Bis(2-chloroethoxy)methane		106	212	423	U	
111-44-4	Bis(2-chloroethyl)ether		106	212	423	U	
108-60-1	2,2'-Oxybis-1-chloropropane		106	212	423	U	
91-58-7	2-Chloronaphthalene		106	212	423	U	
95-57-8	2-Chlorophenol		106	212	423	U	
7005-72-3	4-Chlorophenyl phenyl ether		106	212	423	U	
132-64-9	Dibenzofuran		106	212	423	U	
84-74-2	Di-n-butylphthalate		106	212	423	U	
91-94-1	3,3'-Dichlorobenzidine		106	212	423	U	
120-83-2	2,4-Dichlorophenol		106	212	423	U	
84-66-2	Diethylphthalate		106	212	423	U	
105-67-9	2,4-Dimethylphenol		423	847	1690	U	
131-11-3	Dimethyl phthalate		106	212	423	U	
534-52-1	4,6-Dinitro-2-methylphenol		1060	2120	4230	U	
51-28-5	2,4-Dinitrophenol		1060	2120	4230	U	
121-14-2	2,4-Dinitrotoluene		106	212	423	U	
606-20-2	2,6-Dinitrotoluene		106	212	423	U	
117-84-0	Di-n-octylphthalate		106	212	423	U	
117-81-7	Bis(2-ethylhexyl)phthalate		106	212	423	U	
118-74-1	Hexachlorobenzene		106	212	423	U	
87-68-3	Hexachlorobutadiene		106	212	423	U	
77-47-4	Hexachlorocyclopentadiene		106	212	423	U	
67-72-1	Hexachloroethane		106	212	423	UX	
78-59-1	Isophorone		106	212	423	U	
95-48-7	2-Methylphenol		106	212	423	U	
106-44-5	4-Methylphenol		106	212	423	U	
100-01-6	4-Nitroaniline		423	847	1690	U	
99-09-2	3-Nitroaniline		423	847	1690	U	
88-74-4	2-Nitroaniline		423	847	1690	U	
98-95-3	Nitrobenzene		106	212	423	U	

ANALYSIS DATA SHEET

LNC-015-DS-SB1-02DUP

Laboratory:	Empirical Laboratories, LLC		SDG:	1305125	
Client:	SAIC (S732)		Project:	Lincoln NE ANG	
Matrix:	Solid	Laboratory ID:	1305125-16	File ID:	0512516.D
Sampled:	05/08/13 10:20	Prepared:	05/21/13 18:30	Analyzed:	05/29/13 22:26
Solids:	75.11	Preparation:	EXT 3546	Dilution:	1

Batch: 3E20013 Sequence: 3E15019 Calibration: 2272005 Instrument: MS-BNA1

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
100-02-7	4-Nitrophenol		423	847	1690	U
88-75-5	2-Nitrophenol		106	212	423	U
86-30-6	N-Nitrosodiphenylamine		106	212	423	U
621-64-7	N-Nitroso-di-n-propylamine		106	212	423	UX
87-86-5	Pentachlorophenol		423	847	1690	U
108-95-2	Phenol		106	212	423	U
95-94-3	1,2,4,5-Tetrachlorobenzene		106	212	423	U
58-90-2	2,3,4,6-Tetrachlorophenol		106	212	423	U
88-06-2	2,4,6-Trichlorophenol		106	212	423	U
95-95-4	2,4,5-Trichlorophenol		106	212	423	U

U

Total Target Analytes Reported: 50

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	4232	3172	74.9	45 - 105	
2-Fluorophenol	8464	6621	78.2	35 - 105	
Nitrobenzene-d5	4232	3200	75.6	35 - 100	
Phenol-d6	8464	6973	82.4	40 - 100	
Terphenyl-d14	4232	3546	83.8	30 - 125	
2.4.6-Tribromophenol	8464	6879	81.3	35 - 125	

ANALYSIS DATA SHEET

LNC-015-DS-SB1-02DUP

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125		
Client:	SAIC (S732)			Project:	Lincoln NE ANG		
Matrix:	Solid	Laboratory ID:	1305125-16	File ID:	0512516.D		
Sampled:	05/08/13 10:20	Prepared:	05/21/13 18:30	Analyzed:	05/30/13 02:40		
Solids:	75.11	Preparation:	EXT_3546	Dilution:	1		
Batch:	3E20013	Sequence:	3E15018	Calibration:	3122001	Instrument:	MS-BNA4

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q	
83-32-9	Acenaphthene	**2.76**	2.12	4.23	8.47	J	J
208-96-8	Acenaphthylene		2.12	4.23	8.47	U	U
120-12-7	Anthracene		2.12	4.23	8.47	U	
56-55-3	Benzo(a)anthracene		2.12	4.23	8.47	U	
50-32-8	Benzo(a)pyrene		2.12	4.23	8.47	U	
205-99-2	Benzo(b)fluoranthene		2.12	4.23	8.47	U	
191-24-2	Benzo(g,h,i)perylene		2.12	4.23	8.47	U	
207-08-9	Benzo(k)fluoranthene		2.12	4.23	8.47	U	
123-91-1	1,4-Dioxane		10.6	21.2	42.3	U	
218-01-9	Chrysene		2.12	4.23	8.47	UQ	
53-70-3	Dibenz(a,h)anthracene		2.12	4.23	8.47	U	
206-44-0	Fluoranthene		2.12	4.23	8.47	U	
86-73-7	Fluorene		2.12	4.23	8.47	U	
193-39-5	Indeno(1,2,3-cd)pyrene		2.12	4.23	8.47	U	
91-57-6	2-Methylnaphthalene	**668**	2.12	4.23	8.47		=
91-20-3	Naphthalene	**154**	2.12	4.23	8.47		=
85-01-8	Phenanthrene	**3.32**	2.12	4.23	8.47	J	J
129-00-0	Pyrene		2.12	4.23	8.47	U	U

Total Target Analytes Reported: 18

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	4232	3664	86.6	45 - 105	
Terphenyl-d14	4232	3790	89.6	30 - 125	
2,4,6-Tribromophenol	8464	7915	93.5	35 - 125	

JW
09/04/2013

ANALYSIS DATA SHEET

LNC-015-DS-SB1-02DUP

Laboratory: Empirical Laboratories, LLC SDG: 1305125
Client: SAIC (S732) Project: Lincoln NE ANG
Matrix: Solid Laboratory ID: 1305125-16 File ID: 027F2701.D
Sampled: 05/08/13 10:20 Prepared: 05/20/13 12:19 Analyzed: 05/23/13 07:52
Solids: 75.11 Preparation: EXT 3546 Dilution: 1
Batch: 3E17023 Sequence: 3E14606 Calibration: 3143004 Instrument: GL-GCFID2

CAS NO.	COMPOUND	CONC. (mg/Kg dry)	DL	LOD	LOQ	Q
11-84-7	Diesel Range Organics (C10-C28)	9.48	8.53	8.53	16.9	J

J

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	1.698	1.394	82.1	35 - 140	

ANALYSIS DATA SHEET

LNC-015-DS-SB1-02DUP

Laboratory:	Empirical Laboratories, LLC	SDG:	1305125		
Client:	SAIC (S732)	Project:	Lincoln NE ANG		
Matrix:	Solid	Laboratory ID:	1305125-16	File ID:	012F1201.D
Sampled:	05/08/13 10:20	Prepared:	05/18/13 17:28	Analyzed:	05/19/13 01:12
Solids:	75.11	Preparation:	8015GRO	Dilution:	1
Batch:	3E18011	Sequence:	3E14307	Calibration:	3044001
Instrument:	GL-GCVOA2				

CAS NO.	COMPOUND	CONC. (mg/Kg dry)	DL	LOD	LOQ	Q
8006-61-9	Gasoline Range Organics (C6-C10)	13.7	3.40	6.81	10.2	

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q
Bromofluorobenzene	3.403	3.552	104	50 - 150	X

ANALYSIS DATA SHEET

LNC-015-RN-SB1-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Water	Laboratory ID:	1305125-12RE1	File ID:	0512512R.D
Sampled:	05/08/13 08:10	Prepared:	05/21/13 16:29	Analyzed:	05/21/13 16:29
Solids:		Preparation:	5030B	Dilution:	1

Batch: 3E21015 Sequence: 3E14209 Calibration: 3140001 Instrument: MS-VOA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q	
67-64-1	Acetone	**2.74**	2.50	5.00	10.0	J	J
71-43-2	Benzene		0.250	0.500	1.00	U	U
74-97-5	Bromochloromethane		0.250	0.500	1.00	U	
75-27-4	Bromodichloromethane		0.250	0.500	1.00	U	
75-25-2	Bromoform		0.250	0.500	1.00	U	
74-83-9	Bromomethane		0.500	1.00	2.00	U	
78-93-3	2-Butanone		2.50	5.00	10.0	UX	
75-15-0	Carbon disulfide		0.250	0.500	1.00	U	
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	U	
108-90-7	Chlorobenzene		0.250	0.500	1.00	U	
75-00-3	Chloroethane		0.500	1.00	2.00	U	
67-66-3	Chloroform		0.250	0.500	1.00	U	
74-87-3	Chloromethane		0.250	0.500	1.00	U	
110-82-7	Cyclohexane		0.250	0.500	1.00	U	
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U	
96-12-8	1,2-Dibromo-3-chloropropane		0.500	1.00	2.00	U	
106-93-4	1,2-Dibromoethane (EDB)		0.250	0.500	1.00	U	
95-50-1	1,2-Dichlorobenzene		0.250	0.500	1.00	U	
541-73-1	1,3-Dichlorobenzene		0.250	0.500	1.00	U	
106-46-7	1,4-Dichlorobenzene		0.250	0.500	1.00	U	
75-71-8	Dichlorodifluoromethane		0.500	1.00	2.00	U	
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U	
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U	
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U	
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U	
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U	
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U	
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U	
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U	
100-41-4	Ethylbenzene		0.250	0.500	1.00	U	
591-78-6	2-Hexanone		1.25	2.50	5.00	UX	
98-82-8	Isopropylbenzene		0.250	0.500	1.00	U	
75-09-2	Methylene chloride		0.500	1.00	2.00	U	
79-20-9	Methyl Acetate		0.500	1.00	2.00	U	
108-87-2	Methylcyclohexane		0.250	0.500	1.00	U	
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	UX	
1634-04-4	Methyl t-Butyl Ether		0.250	0.500	1.00	U	
100-42-5	Styrene		0.250	0.500	1.00	U	
79-34-5	1,1,2,2-Tetrachloroethane		0.250	0.500	1.00	U	
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U	

ANALYSIS DATA SHEET

LNC-015-RN-SB1-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Water	Laboratory ID:	1305125-12RE1	File ID:	0512512R.D
Sampled:	05/08/13 08:10	Prepared:	05/21/13 16:29	Analyzed:	05/21/13 16:29
Solids:		Preparation:	5030B	Dilution:	1

Batch: 3E21015 Sequence: 3E14209 Calibration: 3140001 Instrument: MS-VOA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
108-88-3	Toluene	**0.330**	0.250	0.500	1.00	J ~~U~~ for J
87-61-6	1,2,3-Trichlorobenzene		0.250	0.500	1.00	U U
120-82-1	1,2,4-Trichlorobenzene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	U
79-01-6	Trichloroethene		0.250	0.500	1.00	U
75-69-4	Trichlorofluoromethane		0.500	1.00	2.00	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		0.500	1.00	2.00	U
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
108-38-3/106-42-	m,p-Xylene		0.500	1.00	2.00	U
95-47-6	o-Xylene		0.250	0.500	1.00	U

Total Target Analytes Reported: 51

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	30.17	101	75 - 120	
Dibromofluoromethane	30.00	31.98	107	85 - 115	
1,2-Dichloroethane-d4	30.00	31.09	104	70 - 120	
Toluene-d8	30.00	29.76	99.2	85 - 120	

JW
06/25/2013

ANALYSIS DATA SHEET

LNC-015-RN-SB1-01

Laboratory:	Empirical Laboratories, LLC		SDG:	1305125	
Client:	SAIC (S732)		Project:	Lincoln NE ANG	
Matrix:	Water	Laboratory ID: 1305125-12	File ID:	0512512.D	
Sampled:	05/08/13 08:10	Prepared: 05/15/13 18:15	Analyzed:	05/20/13 11:16	
Solids:		Preparation: EXT 3510	Dilution:	1	
Batch:	3E15016	Sequence: 3E14505	Calibration:	2261001	Instrument: MS-BNA3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q	
98-86-2	Acetophenone		1.18	2.36	4.72	U	U
1912-24-9	Atrazine		1.18	2.36	4.72	UY	UJ COS
100-52-7	Benzaldehyde		1.18	2.36	4.72	U	U
92-52-4	1,1-Biphenyl		1.18	2.36	4.72	U	
101-55-3	4-Bromophenyl-phenylether		1.18	2.36	4.72	U	
85-68-7	Butylbenzylphthalate		1.18	2.36	4.72	U	
105-60-2	Caprolactam		1.18	2.36	4.72	U	
86-74-8	Carbazole		1.18	2.36	4.72	U	
59-50-7	4-Chloro-3-methylphenol		1.18	2.36	4.72	U	
106-47-8	4-Chloroaniline		1.18	2.36	4.72	U	
111-91-1	Bis(2-chloroethoxy)methane		1.18	2.36	4.72	U	
111-44-4	Bis(2-chloroethyl)ether		1.18	2.36	4.72	U	
108-60-1	2,2'-Oxybis-1-chloropropane		1.18	2.36	4.72	U	
91-58-7	2-Chloronaphthalene		1.18	2.36	4.72	U	
95-57-8	2-Chlorophenol		1.18	2.36	4.72	U	
7005-72-3	4-Chlorophenyl phenyl ether		1.18	2.36	4.72	U	
132-64-9	Dibenzofuran		1.18	2.36	4.72	U	
84-74-2	Di-n-butylphthalate		1.18	2.36	4.72	U	
91-94-1	3,3'-Dichlorobenzidine		1.18	2.36	4.72	U	
120-83-2	2,4-Dichlorophenol		1.18	2.36	4.72	U	
84-66-2	Diethylphthalate		1.18	2.36	4.72	U	
105-67-9	2,4-Dimethylphenol		4.72	9.43	18.9	U	
131-11-3	Dimethyl phthalate		1.18	2.36	4.72	U	
534-52-1	4,6-Dinitro-2-methylphenol		4.72	9.43	18.9	U	
51-28-5	2,4-Dinitrophenol		7.86	23.6	47.2	U	
121-14-2	2,4-Dinitrotoluene		1.18	2.36	4.72	U	
606-20-2	2,6-Dinitrotoluene		1.18	2.36	4.72	U	
117-84-0	Di-n-octylphthalate		1.18	2.36	4.72	U	
117-81-7	Bis(2-ethylhexyl)phthalate		1.18	2.36	4.72	U	
118-74-1	Hexachlorobenzene		1.18	2.36	4.72	U	
87-68-3	Hexachlorobutadiene		1.18	2.36	4.72	U	
77-47-4	Hexachlorocyclopentadiene		1.18	4.72	9.43	U	
67-72-1	Hexachloroethane		1.18	2.36	4.72	U	
78-59-1	Isophorone		1.18	2.36	4.72	U	
95-48-7	2-Methylphenol		1.18	2.36	4.72	U	
106-44-5	4-Methylphenol		1.18	2.36	4.72	U	
100-01-6	4-Nitroaniline		4.72	9.43	18.9	U	
99-09-2	3-Nitroaniline		4.72	9.43	18.9	U	
88-74-4	2-Nitroaniline		4.72	9.43	18.9	U	
98-95-3	Nitrobenzene		1.18	2.36	4.72	U	

ANALYSIS DATA SHEET

LNC-015-RN-SB1-01

Laboratory: Empirical Laboratories, LLC   SDG: 1305125

Client: SAIC (S732)   Project: Lincoln NE ANG

Matrix: Water   Laboratory ID: 1305125-12   File ID: 0512512.D

Sampled: 05/08/13 08:10   Prepared: 05/15/13 18:15   Analyzed: 05/20/13 11:16

Solids: Preparation: EXT 3510   Dilution: 1

Batch: 3E15016   Sequence: 3E14505   Calibration: 2261001   Instrument: MS-BNA3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
100-02-7	4-Nitrophenol		4.72	9.43	18.9	U
88-75-5	2-Nitrophenol		1.18	2.36	4.72	U
86-30-6	N-Nitrosodiphenylamine		1.18	2.36	4.72	U
621-64-7	N-Nitroso-di-n-propylamine		1.18	2.36	4.72	U
87-86-5	Pentachlorophenol		4.72	9.43	18.9	U
108-95-2	Phenol		1.18	2.36	4.72	U
95-94-3	1,2,4,5-Tetrachlorobenzene		1.18	2.36	4.72	U
58-90-2	2,3,4,6-Tetrachlorophenol		2.36	4.72	9.43	U
88-06-2	2,4,6-Trichlorophenol		1.18	2.36	4.72	U
95-95-4	2,4,5-Trichlorophenol		1.18	2.36	4.72	U

Total Target Analytes Reported: 50

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	47.17	30.29	64.2	50 - 110	
2-Fluorophenol	94.34	31.24	33.1	20 - 110	
Nitrobenzene-d5	47.17	29.81	63.2	40 - 110	
Phenol-d6	94.34	18.70	19.8	0 - 110	
Terphenyl-d14	47.17	40.29	85.4	50 - 135	
2,4,6-Tribromophenol	94.34	70.46	74.7	40 - 125	

ANALYSIS DATA SHEET

LNC-015-RN-SB1-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125		
Client:	SAIC (S732)			Project:	Lincoln NE ANG		
Matrix:	Water	Laboratory ID:	1305125-12	File ID:	0512512.D		
Sampled:	05/08/13 08:10	Prepared:	05/15/13 18:15	Analyzed:	06/15/13 20:14		
Solids:		Preparation:	EXT 3510	Dilution:	1		
Batch:	3E15016	Sequence:	3F16823	Calibration:	3122001	Instrument:	MS-BNA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q	
83-32-9	Acenaphthene		0.0472	0.0943	0.189	U	U
208-96-8	Acenaphthylene		0.0472	0.0943	0.189	U	
120-12-7	Anthracene		0.0472	0.0943	0.189	U	
56-55-3	Benzo(a)anthracene		0.0472	0.0943	0.189	U	
50-32-8	Benzo(a)pyrene		0.0472	0.0943	0.189	U	
205-99-2	Benzo(b)fluoranthene		0.0472	0.0943	0.189	U	
191-24-2	Benzo(g,h,i)perylene		0.0472	0.0943	0.189	U	
207-08-9	Benzo(k)fluoranthene		0.0472	0.0943	0.189	U	
123-91-1	1,4-Dioxane		0.118	0.236	0.472	U	
218-01-9	Chrysene		0.0472	0.0943	0.189	U	
53-70-3	Dibenz(a,h)anthracene		0.0472	0.0943	0.189	U	
206-44-0	Fluoranthene		0.0472	0.0943	0.189	U	
86-73-7	Fluorene		0.0472	0.0943	0.189	U	
193-39-5	Indeno(1,2,3-cd)pyrene		0.0472	0.0943	0.189	U	
91-57-6	2-Methylnaphthalene		0.0472	0.0943	0.189	U	
91-20-3	Naphthalene	**0.0787**	0.0472	0.0943	0.189	J U	FO2
85-01-8	Phenanthrene		0.0472	0.189	0.377	U	U
129-00-0	Pyrene		0.0472	0.0943	0.189	U	U

Total Target Analytes Reported: 18

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	47.17	30.78	65.3	50 - 110	
Terphenyl-d14	47.17	36.07	76.5	50 - 135	
2,4,6-Tribromophenol	94.34	74.97	79.5	40 - 125	

ANALYSIS DATA SHEET

LNC-015-RN-SB1-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Water	Laboratory ID:	1305125-12	File ID:	017F1701.D
Sampled:	05/08/13 08:10	Prepared:	05/14/13 19:02	Analyzed:	05/21/13 05:21
Solids:		Preparation:	EXT 3510	Dilution:	1

Batch: 3E14020 Sequence: 3E14605 Calibration: 3143004 Instrument: GL-GCFID2

CAS NO.	COMPOUND	CONC. (mg/L)	DL	LOD	LOQ	Q
11-84-7	Diesel Range Organics (C10-C28)		0.111	0.111	0.222	U

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/L)	CONC (mg/L)	% REC	QC LIMITS	Q
o-Terphenyl	0.02222	0.01838	82.7	30 - 140	

ANALYSIS DATA SHEET

LNC-015-RN-SB1-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Water	Laboratory ID:	1305125-12	File ID:	008F1201.D
Sampled:	05/08/13 08:10	Prepared:	05/16/13 17:32	Analyzed:	05/16/13 17:32
Solids:		Preparation:	8015GRO	Dilution:	1

Batch: 3E16005 Sequence: 3E14043 Calibration: 3044001 Instrument: GL-GCVOA2

CAS NO.	COMPOUND	CONC. (mg/L)	DL	LOD	LOQ	Q
8006-61-9	Gasoline Range Organics (C6-C10)		0.0500	0.100	0.150	U

U

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/L)	CONC (mg/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	0.05000	0.06453	129	50 - 150	

ANALYSIS DATA SHEET

LNC-015-DS-SB2-01

Laboratory: Empirical Laboratories, LLC SDG: 1305125

Client: SAIC (S732) Project: Lincoln NE ANG

Matrix: Solid Laboratory ID: 1305125-19 File ID: 0512519C.D

Sampled: 05/08/13 13:18 Prepared: 05/20/13 00:00 Analyzed: 05/20/13 17:27

Solids: 77.32 Preparation: 5035A Dilution: 100

Batch: 3E20008 Sequence: 3E14106 Calibration: 3140003 Instrument: MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q	
67-64-1	Acetone		645	1290	2580	UX	U
71-43-2	Benzene		161	323	645	U	
74-97-5	Bromochloromethane		161	323	645	U	
75-27-4	Bromodichloromethane		161	323	645	U	
75-25-2	Bromoform		161	323	645	U	
74-83-9	Bromomethane		323	645	1290	U	
78-93-3	2-Butanone		323	645	1290	UX	
75-15-0	Carbon disulfide		161	323	645	U	
56-23-5	Carbon tetrachloride		161	323	645	U	
108-90-7	Chlorobenzene		161	323	645	U	
75-00-3	Chloroethane		323	645	1290	U	
67-66-3	Chloroform		161	323	645	U	
74-87-3	Chloromethane		323	645	1290	U	
110-82-7	Cyclohexane	9670	161	323	645	D J	601
124-48-1	Dibromochloromethane		161	323	645	U	U
96-12-8	1,2-Dibromo-3-chloropropane		323	645	1290	U	
106-93-4	1,2-Dibromoethane (EDB)		161	323	645	U	
95-50-1	1,2-Dichlorobenzene		161	323	645	U	
541-73-1	1,3-Dichlorobenzene		161	323	645	U	
106-46-7	1,4-Dichlorobenzene		161	323	645	U	
75-71-8	Dichlorodifluoromethane		323	645	1290	U	
75-34-3	1,1-Dichloroethane		161	323	645	U	
107-06-2	1,2-Dichloroethane		161	323	645	U	
75-35-4	1,1-Dichloroethene		161	323	645	U	
156-59-2	cis-1,2-Dichloroethene		161	323	645	U	
156-60-5	trans-1,2-Dichloroethene		161	323	645	U	
78-87-5	1,2-Dichloropropane		161	323	645	U	
10061-01-5	cis-1,3-Dichloropropene		161	323	645	U	
10061-02-6	trans-1,3-Dichloropropene		161	323	645	U	
100-41-4	Ethylbenzene	4410	161	323	645	D J	601
591-78-6	2-Hexanone		323	645	1290	UXQ	U
98-82-8	Isopropylbenzene	3160	161	323	645	D J	601
75-09-2	Methylene chloride		323	645	1290	U	U
79-20-9	Methyl Acetate		323	645	1290	U	U
108-87-2	Methylcyclohexane	29800	161	323	645	D J	601
108-10-1	4-Methyl-2-pentanone		323	645	1290	U	U
1634-04-4	Methyl t-Butyl Ether		161	323	645	U	
100-42-5	Styrene		161	323	645	U	
79-34-5	1,1,2,2-Tetrachloroethane		161	323	645	U	
127-18-4	Tetrachloroethene		161	323	645	U	

ANALYSIS DATA SHEET

LNC-015-DS-SB2-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125		
Client:	SAIC (S732)			Project:	Lincoln NE ANG		
Matrix:	Solid	Laboratory ID:	1305125-19	File ID:	0512519C.D		
Sampled:	05/08/13 13:18	Prepared:	05/20/13 00:00	Analyzed:	05/20/13 17:27		
Solids:	77.32	Preparation:	5035A	Dilution:	100		
Batch:	3E20008	Sequence:	3E14106	Calibration:	3140003	Instrument:	MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q	
108-88-3	Toluene	**315**	161	323	645	JD J	G01
87-61-6	1,2,3-Trichlorobenzene		161	323	645	U	U
120-82-1	1,2,4-Trichlorobenzene		161	323	645	U	
79-00-5	1,1,2-Trichloroethane		161	323	645	U	
71-55-6	1,1,1-Trichloroethane		161	323	645	U	
79-01-6	Trichloroethene		161	323	645	U	
75-69-4	Trichlorofluoromethane		323	645	1290	U	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		323	645	1290	U	
75-01-4	Vinyl chloride		161	323	645	U	
108-38-3/106-42-	m,p-Xylene	**34100**	323	645	1290	D J	G01
95-47-6	o-Xylene	**10100**	161	323	645	D J	G01

Total Target Analytes Reported: 51

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
Bromofluorobenzene	38.72	46.83	121	85 - 120	*
Dibromofluoromethane	38.72	38.67	99.9	80 - 125	
1,2-Dichloroethane-d4	38.72	39.60	102	75 - 140	
Toluene-d8	38.72	39.90	103	85 - 115	

ANALYSIS DATA SHEET

LNC-015-DS-SB2-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Solid	Laboratory ID:	1305125-19	File ID:	0512519.D
Sampled:	05/08/13 13:18	Prepared:	05/21/13 18:30	Analyzed:	05/29/13 22:53
Solids:	77.32	Preparation:	EXT 3546	Dilution:	1
Batch:	3E20013	Sequence:	3E15019	Calibration:	2272005
Instrument:	MS-BNA1				

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q	
98-86-2	Acetophenone		105	211	420	UX	U
1912-24-9	Atrazine		105	211	420	UY	UJ COS
100-52-7	Benzaldehyde		105	211	420	U	U
92-52-4	1,1-Biphenyl		105	211	420	U	
101-55-3	4-Bromophenyl-phenylether		105	211	420	U	
85-68-7	Butylbenzylphthalate		105	211	420	U	
105-60-2	Caprolactam		105	211	420	U	
86-74-8	Carbazole		105	211	420	U	
59-50-7	4-Chloro-3-methylphenol		105	211	420	U	
106-47-8	4-Chloroaniline		105	211	420	U	
111-91-1	Bis(2-chloroethoxy)methane		105	211	420	U	
111-44-4	Bis(2-chloroethyl)ether		105	211	420	U	
108-60-1	2,2'-Oxybis-1-chloropropane		105	211	420	U	
91-58-7	2-Chloronaphthalene		105	211	420	U	
95-57-8	2-Chlorophenol		105	211	420	U	
7005-72-3	4-Chlorophenyl phenyl ether		105	211	420	U	
132-64-9	Dibenzofuran		105	211	420	U	
84-74-2	Di-n-butylphthalate		105	211	420	U	
91-94-1	3,3'-Dichlorobenzidine		105	211	420	U	
120-83-2	2,4-Dichlorophenol		105	211	420	U	
84-66-2	Diethylphthalate		105	211	420	U	
105-67-9	2,4-Dimethylphenol		420	841	1680	U	
131-11-3	Dimethyl phthalate		105	211	420	U	
534-52-1	4,6-Dinitro-2-methylphenol		1050	2110	4200	U	
51-28-5	2,4-Dinitrophenol		1050	2110	4200	U	
121-14-2	2,4-Dinitrotoluene		105	211	420	U	
606-20-2	2,6-Dinitrotoluene		105	211	420	U	
117-84-0	Di-n-octylphthalate	306	105	211	420	J	J
117-81-7	Bis(2-ethylhexyl)phthalate	770	105	211	420		=
118-74-1	Hexachlorobenzene		105	211	420	U	U
87-68-3	Hexachlorobutadiene		105	211	420	U	
77-47-4	Hexachlorocyclopentadiene		105	211	420	U	
67-72-1	Hexachloroethane		105	211	420	UX	
78-59-1	Isophorone		105	211	420	U	
95-48-7	2-Methylphenol		105	211	420	U	
106-44-5	4-Methylphenol		105	211	420	U	
100-01-6	4-Nitroaniline		420	841	1680	U	
99-09-2	3-Nitroaniline		420	841	1680	U	
88-74-4	2-Nitroaniline		420	841	1680	U	
98-95-3	Nitrobenzene		105	211	420	U	

ANALYSIS DATA SHEET

LNC-015-DS-SB2-01

Laboratory: Empirical Laboratories, LLC SDG: 1305125
Client: SAIC (S732) Project: Lincoln NE ANG
Matrix: Solid Laboratory ID: 1305125-19 File ID: 0512519.D
Sampled: 05/08/13 13:18 Prepared: 05/21/13 18:30 Analyzed: 05/29/13 22:53
Solids: 77.32 Preparation: EXT 3546 Dilution: 1
Batch: 3E20013 Sequence: 3E15019 Calibration: 2272005 Instrument: MS-BNA1

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
100-02-7	4-Nitrophenol		420	841	1680	U
88-75-5	2-Nitrophenol		105	211	420	U
86-30-6	N-Nitrosodiphenylamine		105	211	420	U
621-64-7	N-Nitroso-di-n-propylamine		105	211	420	UX
87-86-5	Pentachlorophenol		420	841	1680	U
108-95-2	Phenol		105	211	420	U
95-94-3	1,2,4,5-Tetrachlorobenzene		105	211	420	U
58-90-2	2,3,4,6-Tetrachlorophenol		105	211	420	U
88-06-2	2,4,6-Trichlorophenol		105	211	420	U
95-95-4	2,4,5-Trichlorophenol		105	211	420	U

U

Total Target Analytes Reported: 50

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	4202	2739	65.2	45 - 105	
2-Fluorophenol	8404	5855	69.7	35 - 105	
Nitrobenzene-d5	4202	3018	71.8	35 - 100	
Phenol-d6	8404	6097	72.6	40 - 100	
Terphenyl-d14	4202	3296	78.4	30 - 125	
2.4.6-Tribromophenol	8404	6446	76.7	35 - 125	

ANALYSIS DATA SHEET

LNC-015-DS-SB2-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Solid	Laboratory ID:	1305125-19	File ID:	0512519.D
Sampled:	05/08/13 13:18	Prepared:	05/21/13 18:30	Analyzed:	05/30/13 03:08
Solids:	77.32	Preparation:	EXT_3546	Dilution:	1
Batch:	3E20013	Sequence:	3E15018	Calibration:	3122001
Instrument:	MS-BNA4				

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q	
83-32-9	Acenaphthene	**8.21**	2.11	4.20	8.41	J	J
208-96-8	Acenaphthylene	**6.74**	2.11	4.20	8.41	J	
120-12-7	Anthracene	**6.42**	2.11	4.20	8.41	J	
56-55-3	Benzo(a)anthracene	**3.57** •	2.11	4.20	8.41	J	
50-32-8	Benzo(a)pyrene		2.11	4.20	8.41	U	u
205-99-2	Benzo(b)fluoranthene		2.11	4.20	8.41	U	
191-24-2	Benzo(g,h,i)perylene		2.11	4.20	8.41	U	
207-08-9	Benzo(k)fluoranthene		2.11	4.20	8.41	U	
123-91-1	1,4-Dioxane		10.5	21.1	42.0	U	
218-01-9	Chrysene	**2.75** •	2.11	4.20	8.41	JQ	J PQ ~~LOS~~ JW
53-70-3	Dibenz(a,h)anthracene		2.11	4.20	8.41	U	u
206-44-0	Fluoranthene	**3.64** •	2.11	4.20	8.41	J	J
86-73-7	Fluorene	**18.3**	2.11	4.20	8.41		=
193-39-5	Indeno(1,2,3-cd)pyrene		2.11	4.20	8.41	U	u
91-57-6	2-Methylnaphthalene	**228**	2.11	4.20	8.41		=
91-20-3	Naphthalene	**27.1**	2.11	4.20	8.41		=
85-01-8	Phenanthrene	**24.7**	2.11	4.20	8.41		=
129-00-0	Pyrene	**6.07**	2.11	4.20	8.41	J	J

Total Target Analytes Reported: 18

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	4202	3261	77.6	45 - 105	
Terphenyl-d14	4202	3539	84.2	30 - 125	
2,4,6-Tribromophenol	8404	7323	87.1	35 - 125	

JW
09/04/2013

ANALYSIS DATA SHEET

LNC-015-DS-SB2-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125		
Client:	SAIC (S732)			Project:	Lincoln NE ANG		
Matrix:	Solid	Laboratory ID:	1305125-19	File ID:	028F2801.D		
Sampled:	05/08/13 13:18	Prepared:	05/20/13 12:19	Analyzed:	05/23/13 08:26		
Solids:	77.32	Preparation:	EXT 3546	Dilution:	1		
Batch:	3E17023	Sequence:	3E14606	Calibration:	3143004	Instrument:	GL-GCFID2

CAS NO.	COMPOUND	CONC. (mg/Kg dry)	DL	LOD	LOQ	Q
11-84-7	Diesel Range Organics (C10-C28)	115	8.27	8.27	16.4	

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	1.646	2.255	137	35 - 140	

JV 06/25/2013

ANALYSIS DATA SHEET

LNC-015-DS-SB2-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125		
Client:	SAIC (S732)			Project:	Lincoln NE ANG		
Matrix:	Solid	Laboratory ID:	1305125-19RE1	File ID:	007F0701.D		
Sampled:	05/08/13 13:18	Prepared:	05/22/13 11:48	Analyzed:	05/22/13 16:14		
Solids:	77.32	Preparation:	8015GRO	Dilution:	10		
Batch:	3E22019	Sequence:	3E14701	Calibration:	3044001	Instrument:	GL-GCVOA2

CAS NO.	COMPOUND	CONC. (mg/Kg dry)	DL	LOD	LOQ	Q
8006-61-9	Gasoline Range Organics (C6-C10)	**810**	32.3	64.5	96.8	D J A01, G02

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q
Bromofluorobenzene	3.227	6.529	202	50 - 150	*X

ANALYSIS DATA SHEET

LNC-015-DP-SB2-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125		
Client:	SAIC (S732)			Project:	Lincoln NE ANG		
Matrix:	Water	Laboratory ID:	1305125-21	File ID:	0512521.D		
Sampled:	05/08/13 14:10	Prepared:	05/21/13 18:50	Analyzed:	05/21/13 18:50		
Solids:		Preparation:	5030B	Dilution:	1		
Batch:	3E21015	Sequence:	3E14209	Calibration:	3140001	Instrument:	MS-VOA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q	
67-64-1	Acetone	**5.37**	2.50	5.00	10.0	J	J
71-43-2	Benzene	**1.55**	0.250	0.500	1.00		=
74-97-5	Bromochloromethane		0.250	0.500	1.00	U	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	U	
75-25-2	Bromoform		0.250	0.500	1.00	U	
74-83-9	Bromomethane		0.500	1.00	2.00	U	
78-93-3	2-Butanone		2.50	5.00	10.0	UX	
75-15-0	Carbon disulfide		0.250	0.500	1.00	U	
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	U	
108-90-7	Chlorobenzene		0.250	0.500	1.00	U	
75-00-3	Chloroethane		0.500	1.00	2.00	U	
67-66-3	Chloroform		0.250	0.500	1.00	U	
74-87-3	Chloromethane		0.250	0.500	1.00	U	
110-82-7	Cyclohexane	**12.2**	0.250	0.500	1.00		=
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U	U
96-12-8	1,2-Dibromo-3-chloropropane		0.500	1.00	2.00	U	
106-93-4	1,2-Dibromoethane (EDB)		0.250	0.500	1.00	U	
95-50-1	1,2-Dichlorobenzene		0.250	0.500	1.00	U	
541-73-1	1,3-Dichlorobenzene		0.250	0.500	1.00	U	
106-46-7	1,4-Dichlorobenzene		0.250	0.500	1.00	U	
75-71-8	Dichlorodifluoromethane		0.500	1.00	2.00	U	
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U	
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U	
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U	
156-59-2	cis-1,2-Dichloroethene	**0.340**	0.250	0.500	1.00	J	J
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U	
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U	
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U	
100-41-4	Ethylbenzene	**10.2**	0.250	0.500	1.00		=
591-78-6	2-Hexanone		1.25	2.50	5.00	UX	U
98-82-8	Isopropylbenzene	**3.79**	0.250	0.500	1.00		=
75-09-2	Methylene chloride		0.500	1.00	2.00	U	U
79-20-9	Methyl Acetate		0.500	1.00	2.00	U	U
108-87-2	Methylcyclohexane	**21.8**	0.250	0.500	1.00		=
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	UX	U
1634-04-4	Methyl t-Butyl Ether		0.250	0.500	1.00	U	
100-42-5	Styrene		0.250	0.500	1.00	U	
79-34-5	1,1,2,2-Tetrachloroethane		0.250	0.500	1.00	U	
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U	

ANALYSIS DATA SHEET

LNC-015-DP-SB2-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125		
Client:	SAIC (S732)			Project:	Lincoln NE ANG		
Matrix:	Water	Laboratory ID:	1305125-21	File ID:	0512521.D		
Sampled:	05/08/13 14:10	Prepared:	05/21/13 18:50	Analyzed:	05/21/13 18:50		
Solids:		Preparation:	5030B	Dilution:	1		
Batch:	3E21015	Sequence:	3E14209	Calibration:	3140001	Instrument:	MS-VOA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q	
108-88-3	Toluene	**2.07**	0.250	0.500	1.00	U	F02
87-61-6	1,2,3-Trichlorobenzene		0.250	0.500	1.00	U	U
120-82-1	1,2,4-Trichlorobenzene		0.250	0.500	1.00	U	
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U	
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	U	
79-01-6	Trichloroethene		0.250	0.500	1.00	U	
75-69-4	Trichlorofluoromethane		0.500	1.00	2.00	U	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		0.500	1.00	2.00	U	
75-01-4	Vinyl chloride		0.250	0.500	1.00	U	
108-38-3/106-42-	m,p-Xylene	**75.3**	0.500	1.00	2.00		
95-47-6	o-Xylene	**24.6**	0.250	0.500	1.00		

Total Target Analytes Reported: 51

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	31.80	106	75 - 120	
Dibromofluoromethane	30.00	32.47	108	85 - 115	
1,2-Dichloroethane-d4	30.00	30.90	103	70 - 120	
Toluene-d8	30.00	29.68	98.9	85 - 120	

ANALYSIS DATA SHEET

LNC-015-DP-SB2-01

Laboratory: Empirical Laboratories, LLC SDG: 1305125

Client: SAIC (S732) Project: Lincoln NE ANG

Matrix: Water Laboratory ID: 1305125-21 File ID: 0512521.D

Sampled: 05/08/13 14:10 Prepared: 05/15/13 18:15 Analyzed: 05/20/13 12:40

Solids: Preparation: EXT 3510 Dilution: 1

Batch: 3E15016 Sequence: 3E14505 Calibration: 2261001 Instrument: MS-BNA3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q	
98-86-2	Acetophenone		1.18	2.36	4.72	U	U
1912-24-9	Atrazine		1.18	2.36	4.72	UY	UJ COS
100-52-7	Benzaldehyde		1.18	2.36	4.72	U	U
92-52-4	1,1-Biphenyl		1.18	2.36	4.72	U	
101-55-3	4-Bromophenyl-phenylether		1.18	2.36	4.72	U	
85-68-7	Butylbenzylphthalate		1.18	2.36	4.72	U	
105-60-2	Caprolactam		1.18	2.36	4.72	U	
86-74-8	Carbazole		1.18	2.36	4.72	U	
59-50-7	4-Chloro-3-methylphenol		1.18	2.36	4.72	U	
106-47-8	4-Chloroaniline		1.18	2.36	4.72	U	
111-91-1	Bis(2-chloroethoxy)methane		1.18	2.36	4.72	U	
111-44-4	Bis(2-chloroethyl)ether		1.18	2.36	4.72	U	
108-60-1	2,2'-Oxybis-1-chloropropane		1.18	2.36	4.72	U	
91-58-7	2-Chloronaphthalene		1.18	2.36	4.72	U	
95-57-8	2-Chlorophenol		1.18	2.36	4.72	U	
7005-72-3	4-Chlorophenyl phenyl ether		1.18	2.36	4.72	U	
132-64-9	Dibenzofuran		1.18	2.36	4.72	U	
84-74-2	Di-n-butylphthalate		1.18	2.36	4.72	U	
91-94-1	3,3'-Dichlorobenzidine		1.18	2.36	4.72	U	
120-83-2	2,4-Dichlorophenol		1.18	2.36	4.72	U	
84-66-2	Diethylphthalate		1.18	2.36	4.72	U	
105-67-9	2,4-Dimethylphenol		4.72	9.43	18.9	U	
131-11-3	Dimethyl phthalate		1.18	2.36	4.72	U	
534-52-1	4,6-Dinitro-2-methylphenol		4.72	9.43	18.9	U	
51-28-5	2,4-Dinitrophenol		7.86	23.6	47.2	U	
121-14-2	2,4-Dinitrotoluene		1.18	2.36	4.72	U	
606-20-2	2,6-Dinitrotoluene		1.18	2.36	4.72	U	
117-84-0	Di-n-octylphthalate		1.18	2.36	4.72	U	
117-81-7	Bis(2-ethylhexyl)phthalate		1.18	2.36	4.72	U	
118-74-1	Hexachlorobenzene		1.18	2.36	4.72	U	
87-68-3	Hexachlorobutadiene		1.18	2.36	4.72	U	
77-47-4	Hexachlorocyclopentadiene		1.18	4.72	9.43	U	
67-72-1	Hexachloroethane		1.18	2.36	4.72	U	
78-59-1	Isophorone		1.18	2.36	4.72	U	
95-48-7	2-Methylphenol		1.18	2.36	4.72	U	
106-44-5	4-Methylphenol		1.18	2.36	4.72	U	
100-01-6	4-Nitroaniline		4.72	9.43	18.9	U	
99-09-2	3-Nitroaniline		4.72	9.43	18.9	U	
88-74-4	2-Nitroaniline		4.72	9.43	18.9	U	
98-95-3	Nitrobenzene		1.18	2.36	4.72	U	

ANALYSIS DATA SHEET

LNC-015-DP-SB2-01

Laboratory:	Empirical Laboratories, LLC		SDG:	1305125	
Client:	SAIC (S732)		Project:	Lincoln NE ANG	
Matrix:	Water	Laboratory ID: 1305125-21	File ID:	0512521.D	
Sampled:	05/08/13 14:10	Prepared: 05/15/13 18:15	Analyzed:	05/20/13 12:40	
Solids:		Preparation: EXT 3510	Dilution:	1	
Batch:	3E15016	Sequence: 3E14505	Calibration:	2261001	Instrument: MS-BNA3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
100-02-7	4-Nitrophenol		4.72	9.43	18.9	U
88-75-5	2-Nitrophenol		1.18	2.36	4.72	U
86-30-6	N-Nitrosodiphenylamine		1.18	2.36	4.72	U
621-64-7	N-Nitroso-di-n-propylamine		1.18	2.36	4.72	U
87-86-5	Pentachlorophenol		4.72	9.43	18.9	U
108-95-2	Phenol		1.18	2.36	4.72	U
95-94-3	1,2,4,5-Tetrachlorobenzene		1.18	2.36	4.72	U
58-90-2	2,3,4,6-Tetrachlorophenol		2.36	4.72	9.43	U
88-06-2	2,4,6-Trichlorophenol		1.18	2.36	4.72	U
95-95-4	2,4,5-Trichlorophenol		1.18	2.36	4.72	U

U

Total Target Analytes Reported: 50

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	47.17	35.69	75.7	50 - 110	
2-Fluorophenol	94.34	36.55	38.7	20 - 110	
Nitrobenzene-d5	47.17	35.62	75.5	40 - 110	
Phenol-d6	94.34	20.89	22.1	0 - 110	
Terphenyl-d14	47.17	32.06	68.0	50 - 135	
2,4,6-Tribromophenol	94.34	75.75	80.3	40 - 125	

ANALYSIS DATA SHEET

LNC-015-DP-SB2-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Water	Laboratory ID:	1305125-21	File ID:	0512521.D
Sampled:	05/08/13 14:10	Prepared:	05/15/13 18:15	Analyzed:	06/15/13 21:38
Solids:		Preparation:	EXT 3510	Dilution:	1
Batch:	3E15016	Sequence:	3F16823	Calibration:	3122001
Instrument:	MS-BNA4				

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q	
83-32-9	Acenaphthene		0.0472	0.0943	0.189	U	U
208-96-8	Acenaphthylene		0.0472	0.0943	0.189	U	
120-12-7	Anthracene		0.0472	0.0943	0.189	U	
56-55-3	Benzo(a)anthracene		0.0472	0.0943	0.189	U	
50-32-8	Benzo(a)pyrene		0.0472	0.0943	0.189	U	
205-99-2	Benzo(b)fluoranthene		0.0472	0.0943	0.189	U	
191-24-2	Benzo(g,h,i)perylene		0.0472	0.0943	0.189	U	
207-08-9	Benzo(k)fluoranthene		0.0472	0.0943	0.189	U	
123-91-1	1,4-Dioxane		0.118	0.236	0.472	U	
218-01-9	Chrysene		0.0472	0.0943	0.189	U	
53-70-3	Dibenz(a,h)anthracene		0.0472	0.0943	0.189	U	
206-44-0	Fluoranthene		0.0472	0.0943	0.189	U	
86-73-7	Fluorene		0.0472	0.0943	0.189	U	
193-39-5	Indeno(1,2,3-cd)pyrene		0.0472	0.0943	0.189	U	
91-57-6	2-Methylnaphthalene	**2.63**	0.0472	0.0943	0.189		=
91-20-3	Naphthalene	**2.08**	0.0472	0.0943	0.189		=
85-01-8	Phenanthrene		0.0472	0.189	0.377	U	U
129-00-0	Pyrene		0.0472	0.0943	0.189	U	U

Total Target Analytes Reported: 18

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	47.17	33.07	70.1	50 - 110	
Terphenyl-d14	47.17	26.93	57.1	50 - 135	
2,4,6-Tribromophenol	94.34	75.40	79.9	40 - 125	

ANALYSIS DATA SHEET

LNC-015-DP-SB2-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125		
Client:	SAIC (S732)			Project:	Lincoln NE ANG		
Matrix:	Water	Laboratory ID:	1305125-21	File ID:	020F2001.D		
Sampled:	05/08/13 14:10	Prepared:	05/14/13 19:02	Analyzed:	05/21/13 07:01		
Solids:		Preparation:	EXT 3510	Dilution:	1		
Batch:	3E14020	Sequence:	3E14605	Calibration:	3143004	Instrument:	GL-GCFID2

CAS NO.	COMPOUND	CONC. (mg/L)	DL	LOD	LOQ	Q
11-84-7	Diesel Range Organics (C10-C28)	**0.159**	0.0943	0.0943	0.189	J

J

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/L)	CONC (mg/L)	% REC	QC LIMITS	Q
o-Terphenyl	0.01887	0.006395	33.9	30 - 140	

ANALYSIS DATA SHEET

LNC-015-DP-SB2-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Water	Laboratory ID:	1305125-21	File ID:	011F1501.D
Sampled:	05/08/13 14:10	Prepared:	05/16/13 19:29	Analyzed:	05/16/13 19:29
Solids:		Preparation:	8015GRO	Dilution:	1

Batch: 3E16005 Sequence: 3E14043 Calibration: 3044001 Instrument: GL-GCVOA2

CAS NO.	COMPOUND	CONC. (mg/L)	DL	LOD	LOQ	Q
8006-61-9	Gasoline Range Organics (C6-C10)	0.499	0.0500	0.100	0.150	

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/L)	CONC (mg/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	0.05000	0.05551	111	50 - 150	

ANALYSIS DATA SHEET

LNC-015-DS-SB2-02

Laboratory: Empirical Laboratories, LLC   SDG: 1305125
Client: SAIC (S732)   Project: Lincoln NE ANG
Matrix: Solid   Laboratory ID: 1305125-20   File ID: 0512520C.D
Sampled: 05/08/13 13:22   Prepared: 05/20/13 00:00   Analyzed: 05/20/13 17:56
Solids: 80.84   Preparation: 5035A   Dilution: 100
Batch: 3E20008   Sequence: 3E14106   Calibration: 3140003   Instrument: MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q	
67-64-1	Acetone		678	1360	2710	UX	U
71-43-2	Benzene		170	339	678	U	
74-97-5	Bromochloromethane		170	339	678	U	
75-27-4	Bromodichloromethane		170	339	678	U	
75-25-2	Bromoform		170	339	678	U	
74-83-9	Bromomethane		339	678	1360	U	
78-93-3	2-Butanone		339	678	1360	UX	
75-15-0	Carbon disulfide		170	339	678	U	
56-23-5	Carbon tetrachloride		170	339	678	U	
108-90-7	Chlorobenzene		170	339	678	U	
75-00-3	Chloroethane		339	678	1360	U	
67-66-3	Chloroform		170	339	678	U	
74-87-3	Chloromethane		339	678	1360	U	
110-82-7	Cyclohexane	281	170	339	678	JD	J
124-48-1	Dibromochloromethane		170	339	678	U	U
96-12-8	1,2-Dibromo-3-chloropropane		339	678	1360	U	
106-93-4	1,2-Dibromoethane (EDB)		170	339	678	U	
95-50-1	1,2-Dichlorobenzene		170	339	678	U	
541-73-1	1,3-Dichlorobenzene		170	339	678	U	
106-46-7	1,4-Dichlorobenzene		170	339	678	U	
75-71-8	Dichlorodifluoromethane		339	678	1360	U	
75-34-3	1,1-Dichloroethane		170	339	678	U	
107-06-2	1,2-Dichloroethane		170	339	678	U	
75-35-4	1,1-Dichloroethene		170	339	678	U	
156-59-2	cis-1,2-Dichloroethene		170	339	678	U	
156-60-5	trans-1,2-Dichloroethene		170	339	678	U	
78-87-5	1,2-Dichloropropane		170	339	678	U	
10061-01-5	cis-1,3-Dichloropropene		170	339	678	U	
10061-02-6	trans-1,3-Dichloropropene		170	339	678	U	
100-41-4	Ethylbenzene	460	170	339	678	JD	J
591-78-6	2-Hexanone		339	678	1360	UXO	U
98-82-8	Isopropylbenzene		170	339	678	U	
75-09-2	Methylene chloride		339	678	1360	U	
79-20-9	Methyl Acetate		339	678	1360	U	
108-87-2	Methylcyclohexane	718	170	339	678	D	=
108-10-1	4-Methyl-2-pentanone		339	678	1360	U	U
1634-04-4	Methyl t-Butyl Ether		170	339	678	U	
100-42-5	Styrene		170	339	678	U	
79-34-5	1,1,2,2-Tetrachloroethane		170	339	678	U	
127-18-4	Tetrachloroethene		170	339	678	U	

ANALYSIS DATA SHEET

LNC-015-DS-SB2-02

Laboratory: Empirical Laboratories, LLC SDG: 1305125

Client: SAIC (S732) Project: Lincoln NE ANG

Matrix: Solid Laboratory ID: 1305125-20 File ID: 0512520C.D

Sampled: 05/08/13 13:22 Prepared: 05/20/13 00:00 Analyzed: 05/20/13 17:56

Solids: 80.84 Preparation: 5035A Dilution: 100

Batch: 3E20008 Sequence: 3E14106 Calibration: 3140003 Instrument: MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q	
108-88-3	Toluene	201	170	339	678	JD	J
87-61-6	1,2,3-Trichlorobenzene		170	339	678	U	U
120-82-1	1,2,4-Trichlorobenzene		170	339	678	U	
79-00-5	1,1,2-Trichloroethane		170	339	678	U	
71-55-6	1,1,1-Trichloroethane		170	339	678	U	
79-01-6	Trichloroethene		170	339	678	U	
75-69-4	Trichlorofluoromethane		339	678	1360	U	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		339	678	1360	U	
75-01-4	Vinyl chloride		170	339	678	U	
108-38-3/106-42-	m,p-Xylene	3730	339	678	1360	D	=
95-47-6	o-Xylene	1410	170	339	678	D	=

Total Target Analytes Reported: 51

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
Bromofluorobenzene	40.69	42.10	103	85 - 120	
Dibromofluoromethane	40.69	41.12	101	80 - 125	
1,2-Dichloroethane-d4	40.69	43.23	106	75 - 140	
Toluene-d8	40.69	40.51	99.6	85 - 115	

ANALYSIS DATA SHEET

LNC-015-DS-SB2-02

Laboratory:	Empirical Laboratories, LLC		SDG:	1305125	
Client:	SAIC (S732)		Project:	Lincoln NE ANG	
Matrix:	Solid	Laboratory ID: 1305125-20		File ID:	0512520.D
Sampled:	05/08/13 13:22	Prepared: 05/21/13 18:30		Analyzed:	05/30/13 00:35
Solids:	80.84	Preparation: EXT 3546		Dilution:	1
Batch:	3E20013	Sequence: 3E15026	Calibration:	2272005	Instrument: MS-BNA1

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q	
98-86-2	Acetophenone		98.8	198	395	U	U
1912-24-9	Atrazine		98.8	198	395	UY	UJ C05
100-52-7	Benzaldehyde		98.8	198	395	U	U
92-52-4	1,1-Biphenyl		98.8	198	395	U	
101-55-3	4-Bromophenyl-phenylether		98.8	198	395	U	
85-68-7	Butylbenzylphthalate		98.8	198	395	U	
105-60-2	Caprolactam		98.8	198	395	U	
86-74-8	Carbazole		98.8	198	395	U	
59-50-7	4-Chloro-3-methylphenol		98.8	198	395	U	
106-47-8	4-Chloroaniline		98.8	198	395	U	
111-91-1	Bis(2-chloroethoxy)methane		98.8	198	395	U	
111-44-4	Bis(2-chloroethyl)ether		98.8	198	395	U	
108-60-1	2,2'-Oxybis-1-chloropropane		98.8	198	395	U	
91-58-7	2-Chloronaphthalene		98.8	198	395	U	
95-57-8	2-Chlorophenol		98.8	198	395	U	
7005-72-3	4-Chlorophenyl phenyl ether		98.8	198	395	U	
132-64-9	Dibenzofuran		98.8	198	395	U	
84-74-2	Di-n-butylphthalate		98.8	198	395	U	
91-94-1	3,3'-Dichlorobenzidine		98.8	198	395	U	
120-83-2	2,4-Dichlorophenol		98.8	198	395	U	
84-66-2	Diethylphthalate		98.8	198	395	U	
105-67-9	2,4-Dimethylphenol		395	791	1580	U	
131-11-3	Dimethyl phthalate		98.8	198	395	U	
534-52-1	4,6-Dinitro-2-methylphenol		988	1980	3950	U	
51-28-5	2,4-Dinitrophenol		988	1980	3950	U	
121-14-2	2,4-Dinitrotoluene		98.8	198	395	U	
606-20-2	2,6-Dinitrotoluene		98.8	198	395	U	
117-84-0	Di-n-octylphthalate		98.8	198	395	U	
117-81-7	Bis(2-ethylhexyl)phthalate		98.8	198	395	U	
118-74-1	Hexachlorobenzene		98.8	198	395	U	
87-68-3	Hexachlorobutadiene		98.8	198	395	U	
77-47-4	Hexachlorocyclopentadiene		98.8	198	395	U	
67-72-1	Hexachloroethane		98.8	198	395	UX	
78-59-1	Isophorone		98.8	198	395	U	
95-48-7	2-Methylphenol		98.8	198	395	U	
106-44-5	4-Methylphenol		98.8	198	395	U	
100-01-6	4-Nitroaniline		395	791	1580	U	
99-09-2	3-Nitroaniline		395	791	1580	U	
88-74-4	2-Nitroaniline		395	791	1580	U	
98-95-3	Nitrobenzene		98.8	198	395	U	

ANALYSIS DATA SHEET

LNC-015-DS-SB2-02

Laboratory: Empirical Laboratories, LLC   SDG: 1305125

Client: SAIC (S732)   Project: Lincoln NE ANG

Matrix: Solid   Laboratory ID: 1305125-20   File ID: 0512520.D

Sampled: 05/08/13 13:22   Prepared: 05/21/13 18:30   Analyzed: 05/30/13 00:35

Solids: 80.84   Preparation: EXT 3546   Dilution: 1

Batch: 3E20013   Sequence: 3E15026   Calibration: 2272005   Instrument: MS-BNA1

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
100-02-7	4-Nitrophenol		395	791	1580	U
88-75-5	2-Nitrophenol		98.8	198	395	U
86-30-6	N-Nitrosodiphenylamine		98.8	198	395	U
621-64-7	N-Nitroso-di-n-propylamine		98.8	198	395	UX
87-86-5	Pentachlorophenol		395	791	1580	U
108-95-2	Phenol		98.8	198	395	U
95-94-3	1,2,4,5-Tetrachlorobenzene		98.8	198	395	U
58-90-2	2,3,4,6-Tetrachlorophenol		98.8	198	395	U
88-06-2	2,4,6-Trichlorophenol		98.8	198	395	U
95-95-4	2,4,5-Trichlorophenol		98.8	198	395	U

U

Total Target Analytes Reported: 50

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	3955	2908	73.5	45 - 105	
2-Fluorophenol	7909	5949	75.2	35 - 105	
Nitrobenzene-d5	3955	2740	69.3	35 - 100	
Phenol-d6	7909	6090	77.0	40 - 100	
Terphenyl-d14	3955	3165	80.0	30 - 125	
2,4,6-Tribromophenol	7909	6283	79.4	35 - 125	

ANALYSIS DATA SHEET

LNC-015-DS-SB2-02

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125		
Client:	SAIC (S732)			Project:	Lincoln NE ANG		
Matrix:	Solid	Laboratory ID:	1305125-20	File ID:	0512520.D		
Sampled:	05/08/13 13:22	Prepared:	05/21/13 18:30	Analyzed:	05/30/13 04:57		
Solids:	80.84	Preparation:	EXT_3546	Dilution:	1		
Batch:	3E20013	Sequence:	3E15034	Calibration:	3122001	Instrument:	MS-BNA4

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q	
83-32-9	Acenaphthene		1.98	3.95	7.91	U	U
208-96-8	Acenaphthylene		1.98	3.95	7.91	U	
120-12-7	Anthracene		1.98	3.95	7.91	U	
56-55-3	Benzo(a)anthracene	3.63	1.98	3.95	7.91	J	J
50-32-8	Benzo(a)pyrene	2.67	1.98	3.95	7.91	J	
205-99-2	Benzo(b)fluoranthene	3.00	1.98	3.95	7.91	J	
191-24-2	Benzo(g,h,i)perylene	2.13	1.98	3.95	7.91	J	
207-08-9	Benzo(k)fluoranthene	3.08	1.98	3.95	7.91	J	
123-91-1	1,4-Dioxane		9.88	19.8	39.5	U	U
218-01-9	Chrysene	4.96	1.98	3.95	7.91	JQ	J C05,P01
53-70-3	Dibenz(a,h)anthracene		1.98	3.95	7.91	U	U
206-44-0	Fluoranthene	7.06	1.98	3.95	7.91	J	J
86-73-7	Fluorene		1.98	3.95	7.91	U	U
193-39-5	Indeno(1,2,3-cd)pyrene	2.17	1.98	3.95	7.91	J	J
91-57-6	2-Methylnaphthalene	40.6	1.98	3.95	7.91		=
91-20-3	Naphthalene	86.1	1.98	3.95	7.91		=
85-01-8	Phenanthrene	4.86	1.98	3.95	7.91	J	J
129-00-0	Pyrene	5.52	1.98	3.95	7.91	J	J

Total Target Analytes Reported: 18

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	3955	3344	84.6	45 - 105	
Terphenyl-d14	3955	3496	88.4	30 - 125	
2,4,6-Tribromophenol	7909	7272	91.9	35 - 125	

09/04/2013

ANALYSIS DATA SHEET

LNC-015-DS-SB2-02

Laboratory: Empirical Laboratories, LLC SDG: 1305125

Client: SAIC (S732) Project: Lincoln NE ANG

Matrix: Solid Laboratory ID: 1305125-20 File ID: 029F2901.D

Sampled: 05/08/13 13:22 Prepared: 05/20/13 12:19 Analyzed: 05/23/13 08:59

Solids: 80.84 Preparation: EXT 3546 Dilution: 1

Batch: 3E17023 Sequence: 3E14606 Calibration: 3143004 Instrument: GL-GCFID2

CAS NO.	COMPOUND	CONC. (mg/Kg dry)	DL	LOD	LOQ	Q
11-84-7	**Diesel Range Organics** (C10-C28)	**17.1**	7.96	7.96	15.8	

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	1.585	1.414	89.2	35 - 140	

ANALYSIS DATA SHEET

LNC-015-DS-SB2-02

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Solid	Laboratory ID:	1305125-20RE1	File ID:	008F0801.D
Sampled:	05/08/13 13:22	Prepared:	05/22/13 11:48	Analyzed:	05/22/13 16:54
Solids:	80.84	Preparation:	8015GRO	Dilution:	1

Batch: 3E22019 Sequence: 3E14701 Calibration: 3044001 Instrument: GL-GCVOA2

CAS NO.	COMPOUND	CONC. (mg/Kg dry)	DL	LOD	LOQ	Q
8006-61-9	Gasoline Range Organics (C6-C10)	15.0	3.39	6.78	10.2	J Ab1

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q
Bromofluorobenzene	3.391	4.314	127	50 - 150	X

ANALYSIS DATA SHEET

LNC-016-DS-SB1-01

Laboratory: Empirical Laboratories, LLC
Client: SAIC (S732)
Matrix: Solid
Sampled: 05/07/13 11:32
% Solids: 81.36

SDG: 1305125
Project: Lincoln NE ANG
Laboratory ID: 1305125-05
Received: 05/11/13 08:30

CAS NO.	Analyte	Conc. (mg/Kg dry)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-92-1	Lead	14.4	0.186	0.372	0.372	2	D	SW6010B	3E29038	06/05/13 21:12

ANALYSIS DATA SHEET

LNC-016-DS-SB1-01DUP

Laboratory: Empirical Laboratories, LLC
Client: SAIC (S732)
Matrix: Solid
Sampled: 05/07/13 11:32
% Solids: 81.84

SDG: 1305125
Project: Lincoln NE ANG
Laboratory ID: 1305125-06
Received: 05/11/13 08:30

CAS NO.	Analyte	Conc. (mg/Kg dry)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-92-1	Lead	14.3	0.182	0.365	0.365	2	D	SW6010B	3E29038	06/05/13 21:16

ANALYSIS DATA SHEET

LNC-016-RN-SB1-01

Laboratory: Empirical Laboratories, LLC
Client: SAIC (S732)
Matrix: Water
Sampled: 05/07/13 08:55

SDG: 1305125
Project: Lincoln NE ANG
Laboratory ID: 1305125-03
Received: 05/11/13 08:30

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-92-1	Lead		0.375	0.750	0.750	1	U	SW6010B	3E28012	05/30/13 15:53

U

ANALYSIS DATA SHEET

LNC-016-DS-SB2-01

Laboratory: Empirical Laboratories, LLC
Client: SAIC (S732)
Matrix: Solid
Sampled: 05/07/13 11:40
% Solids: 81.14

SDG: 1305125
Project: Lincoln NE ANG
Laboratory ID: 1305125-07
Received: 05/11/13 08:30

CAS NO.	Analyte	Conc. (mg/Kg dry)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-92-1	Lead	11.7	0.0924	0.185	0.185	1		SW6010B	3E29038	06/05/13 21:21

ANALYSIS DATA SHEET

LNC-016-DS-SB3-01

Laboratory: Empirical Laboratories, LLC
Client: SAIC (S732)
Matrix: Solid
Sampled: 05/07/13 11:50
% Solids: 81.21

SDG: 1305125
Project: Lincoln NE ANG
Laboratory ID: 1305125-08
Received: 05/11/13 08:30

CAS NO.	Analyte	Conc. (mg/Kg dry)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-92-1	Lead	14.6	0.186	0.371	0.371	2	D	SW6010B	3E29038	06/05/13 21:43

ANALYSIS DATA SHEET

LNC-018-DS-SB1-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Solid	Laboratory ID:	1305125-29	File ID:	0512529A.D
Sampled:	05/09/13 10:10	Prepared:	05/20/13 00:00	Analyzed:	05/20/13 15:01
Solids:	80.37	Preparation:	5035A	Dilution:	1
Batch:	3E20008	Sequence:	3E14106	Calibration:	3140003
Instrument:	MS-VOA3				

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q	
67-64-1	Acetone	13.0	6.65	13.3	26.6	R XJ Ø	C05, F12F0
71-43-2	Benzene		1.66	3.32	6.65	U	U
74-97-5	Bromochloromethane		1.66	3.32	6.65	U	
75-27-4	Bromodichloromethane		1.66	3.32	6.65	U	
75-25-2	Bromoform		1.66	3.32	6.65	U	
74-83-9	Bromomethane		3.32	6.65	13.3	U	
78-93-3	2-Butanone		3.32	6.65	13.3	UX	
75-15-0	Carbon disulfide		1.66	3.32	6.65	U	
56-23-5	Carbon tetrachloride		1.66	3.32	6.65	U	
108-90-7	Chlorobenzene		1.66	3.32	6.65	U	
75-00-3	Chloroethane		3.32	6.65	13.3	U	
67-66-3	Chloroform		1.66	3.32	6.65	U	
74-87-3	Chloromethane		3.32	6.65	13.3	U	
110-82-7	Cyclohexane		1.66	3.32	6.65	U	
124-48-1	Dibromochloromethane		1.66	3.32	6.65	U	
96-12-8	1,2-Dibromo-3-chloropropane		3.32	6.65	13.3	U	
106-93-4	1,2-Dibromoethane (EDB)		1.66	3.32	6.65	U	
95-50-1	1,2-Dichlorobenzene		1.66	3.32	6.65	U	
541-73-1	1,3-Dichlorobenzene		1.66	3.32	6.65	U	
106-46-7	1,4-Dichlorobenzene		1.66	3.32	6.65	U	
75-71-8	Dichlorodifluoromethane		3.32	6.65	13.3	U	
75-34-3	1,1-Dichloroethane		1.66	3.32	6.65	U	
107-06-2	1,2-Dichloroethane		1.66	3.32	6.65	U	
75-35-4	1,1-Dichloroethene		1.66	3.32	6.65	U	
156-59-2	cis-1,2-Dichloroethene		1.66	3.32	6.65	U	
156-60-5	trans-1,2-Dichloroethene		1.66	3.32	6.65	U	
78-87-5	1,2-Dichloropropane		1.66	3.32	6.65	U	
10061-01-5	cis-1,3-Dichloropropene		1.66	3.32	6.65	U	
10061-02-6	trans-1,3-Dichloropropene		1.66	3.32	6.65	U	
100-41-4	Ethylbenzene		1.66	3.32	6.65	U	
591-78-6	2-Hexanone		3.32	6.65	13.3	UXO	
98-82-8	Isopropylbenzene		1.66	3.32	6.65	U	
75-09-2	Methylene chloride	315	3.32	6.65	13.3		ZR F12
79-20-9	Methyl Acetate		3.32	6.65	13.3	U	U
108-87-2	Methylcyclohexane		1.66	3.32	6.65	U	
108-10-1	4-Methyl-2-pentanone		3.32	6.65	13.3	U	
1634-04-4	Methyl t-Butyl Ether		1.66	3.32	6.65	U	
100-42-5	Styrene		1.66	3.32	6.65	U	
79-34-5	1,1,2,2-Tetrachloroethane		1.66	3.32	6.65	U	
127-18-4	Tetrachloroethene		1.66	3.32	6.65	U	

ANALYSIS DATA SHEET

LNC-018-DS-SB1-01

Laboratory: Empirical Laboratories, LLC SDG: 1305125
Client: SAIC (S732) Project: Lincoln NE ANG
Matrix: Solid Laboratory ID: 1305125-29 File ID: 0512529A.D
Sampled: 05/09/13 10:10 Prepared: 05/20/13 00:00 Analyzed: 05/20/13 15:01
Solids: 80.37 Preparation: 5035A Dilution: 1
Batch: 3E20008 Sequence: 3E14106 Calibration: 3140003 Instrument: MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
108-88-3	Toluene		1.66	3.32	6.65	U
87-61-6	1,2,3-Trichlorobenzene		1.66	3.32	6.65	U
120-82-1	1,2,4-Trichlorobenzene		1.66	3.32	6.65	U
79-00-5	1,1,2-Trichloroethane		1.66	3.32	6.65	U
71-55-6	1,1,1-Trichloroethane		1.66	3.32	6.65	U
79-01-6	Trichloroethene		1.66	3.32	6.65	U
75-69-4	Trichlorofluoromethane		3.32	6.65	13.3	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		3.32	6.65	13.3	U
75-01-4	Vinyl chloride		1.66	3.32	6.65	U
108-38-3/106-42-	m,p-Xylene		3.32	6.65	13.3	U
95-47-6	o-Xylene		1.66	3.32	6.65	U

U

Total Target Analytes Reported: 51

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
Bromofluorobenzene	39.88	41.34	104	85 - 120	
Dibromofluoromethane	39.88	41.38	104	80 - 125	
1,2-Dichloroethane-d4	39.88	45.54	114	75 - 140	
Toluene-d8	39.88	40.93	103	85 - 115	

ANALYSIS DATA SHEET

LNC-018-DS-SB1-01

Laboratory: Empirical Laboratories, LLC SDG: 1305125

Client: SAIC (S732) Project: Lincoln NE ANG

Matrix: Solid Laboratory ID: 1305125-29 File ID: 0512529.D

Sampled: 05/09/13 10:10 Prepared: 05/21/13 14:15 Analyzed: 06/02/13 07:42

Solids: 80.37 Preparation: EXT 3546 Dilution: 1

Batch: 3E20014 Sequence: 3F15519 Calibration: 2272005 Instrument: MS-BNA1

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
98-86-2	Acetophenone		97.4	195	389	UX U
1912-24-9	Atrazine		97.4	195	389	U U
100-52-7	Benzaldehyde		97.4	195	389	UY UJ COS
92-52-4	1,1-Biphenyl		97.4	195	389	U U
101-55-3	4-Bromophenyl-phenylether		97.4	195	389	U
85-68-7	Butylbenzylphthalate		97.4	195	389	U
105-60-2	Caprolactam		97.4	195	389	U
86-74-8	Carbazole		97.4	195	389	U
59-50-7	4-Chloro-3-methylphenol		97.4	195	389	U
106-47-8	4-Chloroaniline		97.4	195	389	U
111-91-1	Bis(2-chloroethoxy)methane		97.4	195	389	U
111-44-4	Bis(2-chloroethyl)ether		97.4	195	389	U
108-60-1	2,2'-Oxybis-1-chloropropane		97.4	195	389	U
91-58-7	2-Chloronaphthalene		97.4	195	389	U
95-57-8	2-Chlorophenol		97.4	195	389	U
7005-72-3	4-Chlorophenyl phenyl ether		97.4	195	389	U
132-64-9	Dibenzofuran		97.4	195	389	U
84-74-2	Di-n-butylphthalate		97.4	195	389	U
91-94-1	3,3'-Dichlorobenzidine		97.4	195	389	U
120-83-2	2,4-Dichlorophenol		97.4	195	389	U
84-66-2	Diethylphthalate		97.4	195	389	U
105-67-9	2,4-Dimethylphenol		389	780	1560	U
131-11-3	Dimethyl phthalate		97.4	195	389	U
534-52-1	4,6-Dinitro-2-methylphenol		974	1950	3890	U
51-28-5	2,4-Dinitrophenol		974	1950	3890	U
121-14-2	2,4-Dinitrotoluene		97.4	195	389	U
606-20-2	2,6-Dinitrotoluene		97.4	195	389	U
117-84-0	Di-n-octylphthalate		97.4	195	389	U
117-81-7	Bis(2-ethylhexyl)phthalate		97.4	195	389	U
118-74-1	Hexachlorobenzene		97.4	195	389	U
87-68-3	Hexachlorobutadiene		97.4	195	389	U
77-47-4	Hexachlorocyclopentadiene		97.4	195	389	U
67-72-1	Hexachloroethane		97.4	195	389	UX
78-59-1	Isophorone		97.4	195	389	U
95-48-7	2-Methylphenol		97.4	195	389	U
106-44-5	4-Methylphenol		97.4	195	389	U
100-01-6	4-Nitroaniline		389	780	1560	U
99-09-2	3-Nitroaniline		389	780	1560	U
88-74-4	2-Nitroaniline		389	780	1560	U
98-95-3	Nitrobenzene		97.4	195	389	U

ANALYSIS DATA SHEET

LNC-018-DS-SB1-01

Laboratory: Empirical Laboratories, LLC SDG: 1305125

Client: SAIC (S732) Project: Lincoln NE ANG

Matrix: Solid Laboratory ID: 1305125-29 File ID: 0512529.D

Sampled: 05/09/13 10:10 Prepared: 05/21/13 14:15 Analyzed: 06/02/13 07:42

Solids: 80.37 Preparation: EXT 3546 Dilution: 1

Batch: 3E20014 Sequence: 3F15519 Calibration: 2272005 Instrument: MS-BNA1

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
100-02-7	4-Nitrophenol		389	780	1560	U
88-75-5	2-Nitrophenol		97.4	195	389	U
86-30-6	N-Nitrosodiphenylamine		97.4	195	389	U
621-64-7	N-Nitroso-di-n-propylamine		97.4	195	389	U
87-86-5	Pentachlorophenol		389	780	1560	U
108-95-2	Phenol		97.4	195	389	U
95-94-3	1,2,4,5-Tetrachlorobenzene		97.4	195	389	U
58-90-2	2,3,4,6-Tetrachlorophenol		97.4	195	389	U
88-06-2	2,4,6-Trichlorophenol		97.4	195	389	U
95-95-4	2,4,5-Trichlorophenol		97.4	195	389	U

Total Target Analytes Reported: 50

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	3898	2628	67.4	45 - 105	
2-Fluorophenol	7796	5688	73.0	35 - 105	
Nitrobenzene-d5	3898	2769	71.0	35 - 100	
Phenol-d6	7796	5924	76.0	40 - 100	
Terphenyl-d14	3898	2951	75.7	30 - 125	
2,4,6-Tribromophenol	7796	5617	72.0	35 - 125	

ANALYSIS DATA SHEET

LNC-018-DS-SB1-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Solid	Laboratory ID:	1305125-29	File ID:	0512529.D
Sampled:	05/09/13 10:10	Prepared:	05/21/13 14:15	Analyzed:	06/16/13 01:22
Solids:	80.37	Preparation:	EXT 3546	Dilution:	1
Batch:	3E20014	Sequence:	3F16823	Calibration:	3122001
Instrument:	MS-BNA4				

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
83-32-9	Acenaphthene		1.95	3.89	7.80	U
208-96-8	Acenaphthylene		1.95	3.89	7.80	U
120-12-7	Anthracene		1.95	3.89	7.80	U
56-55-3	Benzo(a)anthracene		1.95	3.89	7.80	U
50-32-8	Benzo(a)pyrene		1.95	3.89	7.80	U
205-99-2	Benzo(b)fluoranthene		1.95	3.89	7.80	U
191-24-2	Benzo(g,h,i)perylene		1.95	3.89	7.80	U
207-08-9	Benzo(k)fluoranthene		1.95	3.89	7.80	U
123-91-1	1,4-Dioxane		9.74	19.5	38.9	U
218-01-9	Chrysene		1.95	3.89	7.80	U
53-70-3	Dibenz(a,h)anthracene		1.95	3.89	7.80	U
206-44-0	Fluoranthene		1.95	3.89	7.80	U
86-73-7	Fluorene		1.95	3.89	7.80	U
193-39-5	Indeno(1,2,3-cd)pyrene		1.95	3.89	7.80	U
91-57-6	2-Methylnaphthalene		1.95	3.89	7.80	U
91-20-3	Naphthalene		1.95	3.89	7.80	U
85-01-8	Phenanthrene		1.95	3.89	7.80	U
129-00-0	Pyrene		1.95	3.89	7.80	U

U

Total Target Analytes Reported: 18

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	3898	3209	82.3	45 - 105	
Terphenyl-d14	3898	3346	85.8	30 - 125	
2,4,6-Tribromophenol	7796	7395	94.8	35 - 125	X

ANALYSIS DATA SHEET

LNC-018-DS-SB1-01

Laboratory: Empirical Laboratories, LLC
SDG: 1305125
Client: SAIC (S732)
Project: Lincoln NE ANG
Matrix: Solid
Laboratory ID: 1305125-29
File ID: 039F3901.D
Sampled: 05/09/13 10:10
Prepared: 05/20/13 12:19
Analyzed: 05/23/13 14:33
Solids: 80.37
Preparation: EXT 3546
Dilution: 1
Batch: 3E17023
Sequence: 3E14606
Calibration: 3143004
Instrument: GL-GCFID2

CAS NO.	COMPOUND	CONC. (mg/Kg dry)	DL	LOD	LOQ	Q
11-84-7	Diesel Range Organics (C10-C28)		8.14	8.14	16.2	U

U

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	1.620	1.550	95.7	35 - 140	

ANALYSIS DATA SHEET

LNC-018-DS-SB1-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125		
Client:	SAIC (S732)			Project:	Lincoln NE ANG		
Matrix:	Solid	Laboratory ID:	1305125-29	File ID:	024F2401.D		
Sampled:	05/09/13 10:10	Prepared:	05/18/13 17:28	Analyzed:	05/19/13 09:10		
Solids:	80.37	Preparation:	8015GRO	Dilution:	1		
Batch:	3E18011	Sequence:	3E14307	Calibration:	3044001	Instrument:	GL-GCVOA2

CAS NO.	COMPOUND	CONC. (mg/Kg dry)	DL	LOD	LOQ	Q
8006-61-9	Gasoline Range Organics (C6-C10)		3.07	6.14	9.20	U

U

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q
Bromofluorobenzene	3.068	3.816	124	50 - 150	X

ANALYSIS DATA SHEET

LNC-018-DP-SB1-01

Laboratory: Empirical Laboratories, LLC | SDG: 1305125
Client: SAIC (S732) | Project: Lincoln NE ANG
Matrix: Water | Laboratory ID: 1305125-36 | File ID: 0512536.D
Sampled: 05/09/13 14:35 | Prepared: 05/21/13 23:02 | Analyzed: 05/21/13 23:02
Solids: | Preparation: 5030B | Dilution: 1
Batch: 3E21015 | Sequence: 3E14209 | Calibration: 3140001 | Instrument: MS-VOA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone	9.95	2.50	5.00	10.0	J
71-43-2	Benzene		0.250	0.500	1.00	U
74-97-5	Bromochloromethane		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	U
75-25-2	Bromoform		0.250	0.500	1.00	U
74-83-9	Bromomethane		0.500	1.00	2.00	U
78-93-3	2-Butanone		2.50	5.00	10.0	UX
75-15-0	Carbon disulfide		0.250	0.500	1.00	U
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	U
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform		0.250	0.500	1.00	U
74-87-3	Chloromethane		0.250	0.500	1.00	U
110-82-7	Cyclohexane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U
96-12-8	1,2-Dibromo-3-chloropropane		0.500	1.00	2.00	U
106-93-4	1,2-Dibromoethane (EDB)		0.250	0.500	1.00	U
95-50-1	1,2-Dichlorobenzene		0.250	0.500	1.00	U
541-73-1	1,3-Dichlorobenzene		0.250	0.500	1.00	U
106-46-7	1,4-Dichlorobenzene		0.250	0.500	1.00	U
75-71-8	Dichlorodifluoromethane		0.500	1.00	2.00	U
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene		0.250	0.500	1.00	U
591-78-6	2-Hexanone		1.25	2.50	5.00	UX
98-82-8	Isopropylbenzene		0.250	0.500	1.00	U
75-09-2	Methylene chloride		0.500	1.00	2.00	U
79-20-9	Methyl Acetate		0.500	1.00	2.00	U
108-87-2	Methylcyclohexane		0.250	0.500	1.00	U
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	UX
1634-04-4	Methyl t-Butyl Ether		0.250	0.500	1.00	U
100-42-5	Styrene		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.250	0.500	1.00	U
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U

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ANALYSIS DATA SHEET

LNC-018-DP-SB1-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125		
Client:	SAIC (S732)			Project:	Lincoln NE ANG		
Matrix:	Water	Laboratory ID:	1305125-36	File ID:	0512536.D		
Sampled:	05/09/13 14:35	Prepared:	05/21/13 23:02	Analyzed:	05/21/13 23:02		
Solids:		Preparation:	5030B	Dilution:	1		
Batch:	3E21015	Sequence:	3E14209	Calibration:	3140001	Instrument:	MS-VOA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
108-88-3	Toluene		0.250	0.500	1.00	U
87-61-6	1,2,3-Trichlorobenzene		0.250	0.500	1.00	U
120-82-1	1,2,4-Trichlorobenzene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	U
79-01-6	Trichloroethene		0.250	0.500	1.00	U
75-69-4	Trichlorofluoromethane		0.500	1.00	2.00	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		0.500	1.00	2.00	U
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
108-38-3/106-42-	m,p-Xylene		0.500	1.00	2.00	U
95-47-6	o-Xylene		0.250	0.500	1.00	U

Total Target Analytes Reported: 51

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	31.25	104	75 - 120	
Dibromofluoromethane	30.00	32.65	109	85 - 115	
1,2-Dichloroethane-d4	30.00	30.19	101	70 - 120	
Toluene-d8	30.00	29.82	99.4	85 - 120	

ANALYSIS DATA SHEET

LNC-018-DP-SB1-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Water	Laboratory ID:	1305125-36	File ID:	0512536.D
Sampled:	05/09/13 14:35	Prepared:	05/16/13 12:08	Analyzed:	05/20/13 15:21
Solids:		Preparation:	EXT 3510	Dilution:	1

Batch: 3E16002 Sequence: 3E14804 Calibration: 2272005 Instrument: MS-BNA1

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q	
98-86-2	Acetophenone		1.25	2.50	5.00	UX U	
1912-24-9	Atrazine		1.25	2.50	5.00	UY UJ	C05
100-52-7	Benzaldehyde		1.25	2.50	5.00	U U	
92-52-4	1,1-Biphenyl		1.25	2.50	5.00	U	
101-55-3	4-Bromophenyl-phenylether		1.25	2.50	5.00	U	
85-68-7	Butylbenzylphthalate		1.25	2.50	5.00	U	
105-60-2	Caprolactam		1.25	2.50	5.00	U	
86-74-8	Carbazole		1.25	2.50	5.00	U	
59-50-7	4-Chloro-3-methylphenol		1.25	2.50	5.00	UX R	G03
106-47-8	4-Chloroaniline		1.25	2.50	5.00	U U	
111-91-1	Bis(2-chloroethoxy)methane		1.25	2.50	5.00	U	
111-44-4	Bis(2-chloroethyl)ether		1.25	2.50	5.00	U	
108-60-1	2,2'-Oxybis-1-chloropropane		1.25	2.50	5.00	U	
91-58-7	2-Chloronaphthalene		1.25	2.50	5.00	U	
95-57-8	2-Chlorophenol		1.25	2.50	5.00	U R	G03
7005-72-3	4-Chlorophenyl phenyl ether		1.25	2.50	5.00	U U	
132-64-9	Dibenzofuran		1.25	2.50	5.00	U	
84-74-2	Di-n-butylphthalate		1.25	2.50	5.00	U	
91-94-1	3,3'-Dichlorobenzidine		1.25	2.50	5.00	U	
120-83-2	2,4-Dichlorophenol		1.25	2.50	5.00	U R	G03
84-66-2	Diethylphthalate		1.25	2.50	5.00	U U	
105-67-9	2,4-Dimethylphenol		5.00	10.0	20.0	U R	G03
131-11-3	Dimethyl phthalate		1.25	2.50	5.00	U U	
534-52-1	4,6-Dinitro-2-methylphenol		5.00	10.0	20.0	U R	G03
51-28-5	2,4-Dinitrophenol		8.33	25.0	50.0	U R	G03
121-14-2	2,4-Dinitrotoluene		1.25	2.50	5.00	U U	
606-20-2	2,6-Dinitrotoluene		1.25	2.50	5.00	U	
117-84-0	Di-n-octylphthalate		1.25	2.50	5.00	U	
117-81-7	Bis(2-ethylhexyl)phthalate		1.25	2.50	5.00	U	
118-74-1	Hexachlorobenzene		1.25	2.50	5.00	U	
87-68-3	Hexachlorobutadiene		1.25	2.50	5.00	U	
77-47-4	Hexachlorocyclopentadiene		1.25	5.00	10.0	U	
67-72-1	Hexachloroethane		1.25	2.50	5.00	UX	
78-59-1	Isophorone		1.25	2.50	5.00	U	
95-48-7	2-Methylphenol		1.25	2.50	5.00	U R	G03
106-44-5	4-Methylphenol		1.25	2.50	5.00	U R	G03
100-01-6	4-Nitroaniline		5.00	10.0	20.0	U U	
99-09-2	3-Nitroaniline		5.00	10.0	20.0	U	
88-74-4	2-Nitroaniline		5.00	10.0	20.0	UX	
98-95-3	Nitrobenzene		1.25	2.50	5.00	U	

ANALYSIS DATA SHEET

LNC-018-DP-SB1-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Water	Laboratory ID:	1305125-36	File ID:	0512536.D
Sampled:	05/09/13 14:35	Prepared:	05/16/13 12:08	Analyzed:	05/20/13 15:21
Solids:		Preparation:	EXT 3510	Dilution:	1
Batch:	3E16002	Sequence:	3E14804	Calibration:	2272005
Instrument:	MS-BNA1				

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q	
100-02-7	4-Nitrophenol		5.00	10.0	20.0	U R	G03
88-75-5	2-Nitrophenol		1.25	2.50	5.00	U R	G03
86-30-6	N-Nitrosodiphenylamine		1.25	2.50	5.00	U U	
621-64-7	N-Nitroso-di-n-propylamine		1.25	2.50	5.00	UX U	
87-86-5	Pentachlorophenol		5.00	10.0	20.0	U R	G03
108-95-2	Phenol		1.25	2.50	5.00	U R	G03
95-94-3	1,2,4,5-Tetrachlorobenzene		1.25	2.50	5.00	U U	
58-90-2	2,3,4,6-Tetrachlorophenol		2.50	5.00	10.0	U R	G03
88-06-2	2,4,6-Trichlorophenol		1.25	2.50	5.00	U R	G03
95-95-4	2,4,5-Trichlorophenol		1.25	2.50	5.00	U R	G03

Total Target Analytes Reported: 50

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	100.0	60.73	60.7	50 - 110	
2-Fluorophenol	200.0	1.491	0.746	20 - 110	*
Nitrobenzene-d5	100.0	65.30	65.3	40 - 110	
Phenol-d6	200.0	3.806	1.90	0 - 110	
Terphenyl-d14	100.0	44.92	44.9	50 - 135	*
2,4,6-Tribromophenol	200.0	4.459	2.23	40 - 125	*

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06/26/2013

ANALYSIS DATA SHEET

LNC-018-DP-SB1-01

Laboratory:	Empirical Laboratories, LLC		SDG:	1305125	
Client:	SAIC (S732)		Project:	Lincoln NE ANG	
Matrix:	Water	Laboratory ID:	1305125-36	File ID:	0512536.D
Sampled:	05/09/13 14:35	Prepared:	05/16/13 12:08	Analyzed:	06/05/13 05:47
Solids:		Preparation:	EXT 3510	Dilution:	1
Batch:	3E16002	Sequence:	3F15611	Calibration:	3122001
Instrument:	MS-BNA4				

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
83-32-9	Acenaphthene		0.0500	0.100	0.200	U U
208-96-8	Acenaphthylene		0.0500	0.100	0.200	U U
120-12-7	Anthracene		0.0500	0.100	0.200	U U
56-55-3	Benzo(a)anthracene	0.0841	0.0500	0.100	0.200	J J
50-32-8	Benzo(a)pyrene	0.0648	0.0500	0.100	0.200	J J
205-99-2	Benzo(b)fluoranthene	0.0739	0.0500	0.100	0.200	J J
191-24-2	Benzo(g,h,i)perylene		0.0500	0.100	0.200	U U
207-08-9	Benzo(k)fluoranthene	0.0812	0.0500	0.100	0.200	J J
123-91-1	1,4-Dioxane		0.125	0.250	0.500	U U
218-01-9	Chrysene	0.116	0.0500	0.100	0.200	J J
53-70-3	Dibenz(a,h)anthracene		0.0500	0.100	0.200	U U
206-44-0	Fluoranthene	0.245	0.0500	0.100	0.200	=
86-73-7	Fluorene		0.0500	0.100	0.200	U U
193-39-5	Indeno(1,2,3-cd)pyrene	0.0611	0.0500	0.100	0.200	J J
91-57-6	2-Methylnaphthalene		0.0500	0.100	0.200	U U
91-20-3	Naphthalene		0.0500	0.100	0.200	U U
85-01-8	Phenanthrene	0.179	0.0500	0.200	0.400	J J
129-00-0	Pyrene	0.189	0.0500	0.100	0.200	J J

Total Target Analytes Reported: 18

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	100.0	63.75	63.7	50 - 110	
Terphenyl-d14	100.0	43.30	43.3	50 - 135	*
2,4,6-Tribromophenol	200.0	5.750	2.88	40 - 125	*

ANALYSIS DATA SHEET

LNC-018-DP-SB1-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125		
Client:	SAIC (S732)			Project:	Lincoln NE ANG		
Matrix:	Water	Laboratory ID:	1305125-36	File ID:	043F4301.D		
Sampled:	05/09/13 14:35	Prepared:	05/16/13 17:00	Analyzed:	05/21/13 19:53		
Solids:		Preparation:	EXT_3510	Dilution:	1		
Batch:	3E16035	Sequence:	3E14605	Calibration:	3143004	Instrument:	GL-GCFID2

CAS NO.	COMPOUND	CONC. (mg/L)	DL	LOD	LOQ	Q
11-84-7	Diesel Range Organics (C10-C28)		0.100	0.100	0.200	U UJ

A01

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/L)	CONC (mg/L)	% REC	QC LIMITS	Q
o-Terphenyl	0.02000	0.01388	69.4	30 - 140	

ANALYSIS DATA SHEET

LNC-018-DP-SB1-01

Laboratory: Empirical Laboratories, LLC SDG: 1305125

Client: SAIC (S732) Project: Lincoln NE ANG

Matrix: Water Laboratory ID: 1305125-36 File ID: 014F1801.D

Sampled: 05/09/13 14:35 Prepared: 05/16/13 21:26 Analyzed: 05/16/13 21:26

Solids: Preparation: 8015GRO Dilution: 1

Batch: 3E16005 Sequence: 3E14043 Calibration: 3044001 Instrument: GL-GCVOA2

CAS NO.	COMPOUND	CONC. (mg/L)	DL	LOD	LOQ	Q
8006-61-9	Gasoline Range Organics (C6-C10)		0.0500	0.100	0.150	U

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Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/L)	CONC (mg/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	0.05000	0.06532	131	50 - 150	

ANALYSIS DATA SHEET

LNC-018-DS-SB1-02

Laboratory:	Empirical Laboratories, LLC		SDG:	1305125	
Client:	SAIC (S732)		Project:	Lincoln NE ANG	
Matrix:	Solid	Laboratory ID: 1305125-30	File ID:	0512530A.D	
Sampled:	05/09/13 10:30	Prepared: 05/20/13 00:00	Analyzed:	05/20/13 23:14	
Solids:	82.37	Preparation: 5035A	Dilution:	1	
Batch:	3E20017	Sequence: 3E14116	Calibration:	3140003	Instrument: MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q	
67-64-1	Acetone		5.88	11.8	23.5	U	U
71-43-2	Benzene		1.47	2.94	5.88	U	
74-97-5	Bromochloromethane		1.47	2.94	5.88	U	
75-27-4	Bromodichloromethane		1.47	2.94	5.88	U	
75-25-2	Bromoform		1.47	2.94	5.88	U	
74-83-9	Bromomethane		2.94	5.88	11.8	U	
78-93-3	2-Butanone		2.94	5.88	11.8	U	
75-15-0	Carbon disulfide		1.47	2.94	5.88	U	
56-23-5	Carbon tetrachloride		1.47	2.94	5.88	U	
108-90-7	Chlorobenzene		1.47	2.94	5.88	U	
75-00-3	Chloroethane		2.94	5.88	11.8	U	
67-66-3	Chloroform		1.47	2.94	5.88	U	
74-87-3	Chloromethane		2.94	5.88	11.8	U	
110-82-7	Cyclohexane		1.47	2.94	5.88	U	
124-48-1	Dibromochloromethane		1.47	2.94	5.88	U	
96-12-8	1,2-Dibromo-3-chloropropane		2.94	5.88	11.8	U	
106-93-4	1,2-Dibromoethane (EDB)		1.47	2.94	5.88	U	
95-50-1	1,2-Dichlorobenzene		1.47	2.94	5.88	U	
541-73-1	1,3-Dichlorobenzene		1.47	2.94	5.88	U	
106-46-7	1,4-Dichlorobenzene		1.47	2.94	5.88	U	
75-71-8	Dichlorodifluoromethane		2.94	5.88	11.8	UY	UJ C05
75-34-3	1,1-Dichloroethane		1.47	2.94	5.88	U	U
107-06-2	1,2-Dichloroethane		1.47	2.94	5.88	U	
75-35-4	1,1-Dichloroethene		1.47	2.94	5.88	U	
156-59-2	cis-1,2-Dichloroethene		1.47	2.94	5.88	U	
156-60-5	trans-1,2-Dichloroethene		1.47	2.94	5.88	U	
78-87-5	1,2-Dichloropropane		1.47	2.94	5.88	U	
10061-01-5	cis-1,3-Dichloropropene		1.47	2.94	5.88	U	
10061-02-6	trans-1,3-Dichloropropene		1.47	2.94	5.88	U	
100-41-4	Ethylbenzene		1.47	2.94	5.88	U	
591-78-6	2-Hexanone		2.94	5.88	11.8	U	
98-82-8	Isopropylbenzene		1.47	2.94	5.88	U	
75-09-2	Methylene chloride	219	2.94	5.88	11.8		Z R F12
79-20-9	Methyl Acetate		2.94	5.88	11.8	U	U
108-87-2	Methylcyclohexane		1.47	2.94	5.88	U	
108-10-1	4-Methyl-2-pentanone		2.94	5.88	11.8	U	
1634-04-4	Methyl t-Butyl Ether		1.47	2.94	5.88	U	
100-42-5	Styrene		1.47	2.94	5.88	U	
79-34-5	1,1,2,2-Tetrachloroethane		1.47	2.94	5.88	U	
127-18-4	Tetrachloroethene		1.47	2.94	5.88	U	

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ANALYSIS DATA SHEET

LNC-018-DS-SB1-02

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Solid	Laboratory ID:	1305125-30	File ID:	0512530A.D
Sampled:	05/09/13 10:30	Prepared:	05/20/13 00:00	Analyzed:	05/20/13 23:14
Solids:	82.37	Preparation:	5035A	Dilution:	1
Batch:	3E20017	Sequence:	3E14116	Calibration:	3140003
Instrument:	MS-VOA3				

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q	
108-88-3	Toluene		1.47	2.94	5.88	U	U
87-61-6	1,2,3-Trichlorobenzene		1.47	2.94	5.88	U	
120-82-1	1,2,4-Trichlorobenzene		1.47	2.94	5.88	U	
79-00-5	1,1,2-Trichloroethane		1.47	2.94	5.88	U	
71-55-6	1,1,1-Trichloroethane		1.47	2.94	5.88	U	
79-01-6	Trichloroethene		1.47	2.94	5.88	U	
75-69-4	Trichlorofluoromethane		2.94	5.88	11.8	U	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		2.94	5.88	11.8	U	
75-01-4	Vinyl chloride		1.47	2.94	5.88	UY UJ	COS
108-38-3/106-42-	m,p-Xylene		2.94	5.88	11.8	U	U
95-47-6	o-Xylene		1.47	2.94	5.88	U	U

Total Target Analytes Reported: 51

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
Bromofluorobenzene	35.29	34.56	97.9	85 - 120	
Dibromofluoromethane	35.29	38.27	108	80 - 125	
1,2-Dichloroethane-d4	35.29	40.16	114	75 - 140	
Toluene-d8	35.29	36.40	103	85 - 115	

ANALYSIS DATA SHEET

LNC-018-DS-SB1-02

Laboratory:	Empirical Laboratories, LLC		SDG:	1305125	
Client:	SAIC (S732)		Project:	Lincoln NE ANG	
Matrix:	Solid	Laboratory ID: 1305125-30	File ID:	0512530.D	
Sampled:	05/09/13 10:30	Prepared: 05/21/13 14:15	Analyzed:	06/02/13 08:10	
Solids:	82.37	Preparation: EXT 3546	Dilution:	1	
Batch:	3E20014	Sequence: 3F15519	Calibration:	2272005	Instrument: MS-BNA1

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q	
98-86-2	Acetophenone		95.5	191	382	UX	U
1912-24-9	Atrazine		95.5	191	382	U	U
100-52-7	Benzaldehyde		95.5	191	382	UY UJ	C05
92-52-4	1,1-Biphenyl		95.5	191	382	U	U
101-55-3	4-Bromophenyl-phenylether		95.5	191	382	U	
85-68-7	Butylbenzylphthalate		95.5	191	382	U	
105-60-2	Caprolactam		95.5	191	382	U	
86-74-8	Carbazole		95.5	191	382	U	
59-50-7	4-Chloro-3-methylphenol		95.5	191	382	U	
106-47-8	4-Chloroaniline		95.5	191	382	U	
111-91-1	Bis(2-chloroethoxy)methane		95.5	191	382	U	
111-44-4	Bis(2-chloroethyl)ether		95.5	191	382	U	
108-60-1	2,2'-Oxybis-1-chloropropane		95.5	191	382	U	
91-58-7	2-Chloronaphthalene		95.5	191	382	U	
95-57-8	2-Chlorophenol		95.5	191	382	U	
7005-72-3	4-Chlorophenyl phenyl ether		95.5	191	382	U	
132-64-9	Dibenzofuran		95.5	191	382	U	
84-74-2	Di-n-butylphthalate		95.5	191	382	U	
91-94-1	3,3'-Dichlorobenzidine		95.5	191	382	U	
120-83-2	2,4-Dichlorophenol		95.5	191	382	U	
84-66-2	Diethylphthalate		95.5	191	382	U	
105-67-9	2,4-Dimethylphenol		382	764	1520	U	
131-11-3	Dimethyl phthalate		95.5	191	382	U	
534-52-1	4,6-Dinitro-2-methylphenol		955	1910	3820	U	
51-28-5	2,4-Dinitrophenol		955	1910	3820	U	
121-14-2	2,4-Dinitrotoluene		95.5	191	382	U	
606-20-2	2,6-Dinitrotoluene		95.5	191	382	U	
117-84-0	Di-n-octylphthalate		95.5	191	382	U	
117-81-7	Bis(2-ethylhexyl)phthalate		95.5	191	382	U	
118-74-1	Hexachlorobenzene		95.5	191	382	U	
87-68-3	Hexachlorobutadiene		95.5	191	382	U	
77-47-4	Hexachlorocyclopentadiene		95.5	191	382	U	
67-72-1	Hexachloroethane		95.5	191	382	UX	
78-59-1	Isophorone		95.5	191	382	U	
95-48-7	2-Methylphenol		95.5	191	382	U	
106-44-5	4-Methylphenol		95.5	191	382	U	
100-01-6	4-Nitroaniline		382	764	1520	U	
99-09-2	3-Nitroaniline		382	764	1520	U	
88-74-4	2-Nitroaniline		382	764	1520	U	
98-95-3	Nitrobenzene		95.5	191	382	U	

ANALYSIS DATA SHEET

LNC-018-DS-SB1-02

Laboratory:	Empirical Laboratories, LLC		SDG:	1305125	
Client:	SAIC (S732)		Project:	Lincoln NE ANG	
Matrix:	Solid	Laboratory ID:	1305125-30	File ID:	0512530.D
Sampled:	05/09/13 10:30	Prepared:	05/21/13 14:15	Analyzed:	06/02/13 08:10
Solids:	82.37	Preparation:	EXT 3546	Dilution:	1
Batch:	3E20014	Sequence: 3F15519	Calibration: 2272005	Instrument:	MS-BNA1

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
100-02-7	4-Nitrophenol		382	764	1520	U
88-75-5	2-Nitrophenol		95.5	191	382	U
86-30-6	N-Nitrosodiphenylamine		95.5	191	382	U
621-64-7	N-Nitroso-di-n-propylamine		95.5	191	382	U
87-86-5	Pentachlorophenol		382	764	1520	U
108-95-2	Phenol		95.5	191	382	U
95-94-3	1,2,4,5-Tetrachlorobenzene		95.5	191	382	U
58-90-2	2,3,4,6-Tetrachlorophenol		95.5	191	382	U
88-06-2	2,4,6-Trichlorophenol		95.5	191	382	U
95-95-4	2,4,5-Trichlorophenol		95.5	191	382	U

Total Target Analytes Reported: 50

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	3820	2333	61.1	45 - 105	
2-Fluorophenol	7641	4946	64.7	35 - 105	
Nitrobenzene-d5	3820	2459	64.4	35 - 100	
Phenol-d6	7641	4986	65.3	40 - 100	
Terphenyl-d14	3820	2629	68.8	30 - 125	
2,4,6-Tribromophenol	7641	4903	64.2	35 - 125	

ANALYSIS DATA SHEET

LNC-018-DS-SB1-02

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Solid	Laboratory ID:	1305125-30	File ID:	0512530.D
Sampled:	05/09/13 10:30	Prepared:	05/21/13 14:15	Analyzed:	06/16/13 01:50
Solids:	82.37	Preparation:	EXT 3546	Dilution:	1

Batch: 3E20014 Sequence: 3F16823 Calibration: 3122001 Instrument: MS-BNA4

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
83-32-9	Acenaphthene		1.91	3.82	7.64	U
208-96-8	Acenaphthylene		1.91	3.82	7.64	U
120-12-7	Anthracene		1.91	3.82	7.64	U
56-55-3	Benzo(a)anthracene		1.91	3.82	7.64	U
50-32-8	Benzo(a)pyrene		1.91	3.82	7.64	U
205-99-2	Benzo(b)fluoranthene		1.91	3.82	7.64	U
191-24-2	Benzo(g,h,i)perylene		1.91	3.82	7.64	U
207-08-9	Benzo(k)fluoranthene		1.91	3.82	7.64	U
123-91-1	1,4-Dioxane		9.55	19.1	38.2	U
218-01-9	Chrysene		1.91	3.82	7.64	U
53-70-3	Dibenz(a,h)anthracene		1.91	3.82	7.64	U
206-44-0	Fluoranthene		1.91	3.82	7.64	U
86-73-7	Fluorene		1.91	3.82	7.64	U
193-39-5	Indeno(1,2,3-cd)pyrene		1.91	3.82	7.64	U
91-57-6	2-Methylnaphthalene		1.91	3.82	7.64	U
91-20-3	Naphthalene		1.91	3.82	7.64	U
85-01-8	Phenanthrene		1.91	3.82	7.64	U
129-00-0	Pyrene		1.91	3.82	7.64	U

U

Total Target Analytes Reported: 18

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	3820	2832	74.1	45 - 105	
Terphenyl-d14	3820	3025	79.2	30 - 125	
2,4,6-Tribromophenol	7641	6210	81.3	35 - 125	X

ANALYSIS DATA SHEET

LNC-018-DS-SB1-02

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Solid	Laboratory ID:	1305125-30	File ID:	040F4001.D
Sampled:	05/09/13 10:30	Prepared:	05/20/13 12:19	Analyzed:	05/23/13 15:07
Solids:	82.37	Preparation:	EXT 3546	Dilution:	1

Batch:	3E17023	Sequence:	3E14606	Calibration:	3143004	Instrument:	GL-GCFID2

CAS NO.	COMPOUND	CONC. (mg/Kg dry)	DL	LOD	LOQ	Q
11-84-7	Diesel Range Organics (C10-C28)		8.04	8.04	16.0	U

U

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	1.600	1.496	93.5	35 - 140	

ANALYSIS DATA SHEET

LNC-018-DS-SB1-02

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125		
Client:	SAIC (S732)			Project:	Lincoln NE ANG		
Matrix:	Solid	Laboratory ID:	1305125-30	File ID:	025F2501.D		
Sampled:	05/09/13 10:30	Prepared:	05/18/13 17:28	Analyzed:	05/19/13 09:51		
Solids:	82.37	Preparation:	8015GRO	Dilution:	1		
Batch:	3E18011	Sequence:	3E14307	Calibration:	3044001	Instrument:	GL-GCVOA2

CAS NO.	COMPOUND	CONC. (mg/Kg dry)	DL	LOD	LOQ	Q	
8006-61-9	Gasoline Range Organics (C6-C10)		3.10	6.19	9.29	U	U

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q
Bromofluorobenzene	3.097	4.448	144	50 - 150	X

ANALYSIS DATA SHEET

LNC-018-DS-SB2-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Solid	Laboratory ID:	1305125-31	File ID:	0512531A.D
Sampled:	05/09/13 11:25	Prepared:	05/20/13 00:00	Analyzed:	05/20/13 23:43
Solids:	77.70	Preparation:	5035A	Dilution:	1
Batch:	3E20017	Sequence:	3E14116	Calibration:	3140003
Instrument:	MS-VOA3				

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q	
67-64-1	Acetone		6.63	13.3	26.5	U	U
71-43-2	Benzene		1.66	3.32	6.63	U	
74-97-5	Bromochloromethane		1.66	3.32	6.63	U	
75-27-4	Bromodichloromethane		1.66	3.32	6.63	U	
75-25-2	Bromoform		1.66	3.32	6.63	U	
74-83-9	Bromomethane		3.32	6.63	13.3	U	
78-93-3	2-Butanone		3.32	6.63	13.3	U	
75-15-0	Carbon disulfide		1.66	3.32	6.63	U	
56-23-5	Carbon tetrachloride		1.66	3.32	6.63	U	
108-90-7	Chlorobenzene		1.66	3.32	6.63	U	
75-00-3	Chloroethane		3.32	6.63	13.3	U	
67-66-3	Chloroform		1.66	3.32	6.63	U	
74-87-3	Chloromethane		3.32	6.63	13.3	U	
110-82-7	Cyclohexane		1.66	3.32	6.63	U	
124-48-1	Dibromochloromethane		1.66	3.32	6.63	U	
96-12-8	1,2-Dibromo-3-chloropropane		3.32	6.63	13.3	U	
106-93-4	1,2-Dibromoethane (EDB)		1.66	3.32	6.63	U	
95-50-1	1,2-Dichlorobenzene		1.66	3.32	6.63	U	
541-73-1	1,3-Dichlorobenzene		1.66	3.32	6.63	U	
106-46-7	1,4-Dichlorobenzene		1.66	3.32	6.63	U	
75-71-8	Dichlorodifluoromethane		3.32	6.63	13.3	UY UJ	C05
75-34-3	1,1-Dichloroethane		1.66	3.32	6.63	U	U
107-06-2	1,2-Dichloroethane		1.66	3.32	6.63	U	
75-35-4	1,1-Dichloroethene		1.66	3.32	6.63	U	
156-59-2	cis-1,2-Dichloroethene		1.66	3.32	6.63	U	
156-60-5	trans-1,2-Dichloroethene		1.66	3.32	6.63	U	
78-87-5	1,2-Dichloropropane		1.66	3.32	6.63	U	
10061-01-5	cis-1,3-Dichloropropene		1.66	3.32	6.63	U	
10061-02-6	trans-1,3-Dichloropropene		1.66	3.32	6.63	U	
100-41-4	Ethylbenzene		1.66	3.32	6.63	U	
591-78-6	2-Hexanone		3.32	6.63	13.3	U	
98-82-8	Isopropylbenzene		1.66	3.32	6.63	U	
75-09-2	Methylene chloride	34.3	3.32	6.63	13.3		ZR F12
79-20-9	Methyl Acetate		3.32	6.63	13.3	U	U
108-87-2	Methylcyclohexane		1.66	3.32	6.63	U	
108-10-1	4-Methyl-2-pentanone		3.32	6.63	13.3	U	
1634-04-4	Methyl t-Butyl Ether		1.66	3.32	6.63	U	
100-42-5	Styrene		1.66	3.32	6.63	U	
79-34-5	1,1,2,2-Tetrachloroethane		1.66	3.32	6.63	U	
127-18-4	Tetrachloroethene		1.66	3.32	6.63	U	

06/25/2013

ANALYSIS DATA SHEET

LNC-018-DS-SB2-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Solid	Laboratory ID:	1305125-31	File ID:	0512531A.D
Sampled:	05/09/13 11:25	Prepared:	05/20/13 00:00	Analyzed:	05/20/13 23:43
Solids:	77.70	Preparation:	5035A	Dilution:	1
Batch:	3E20017	Sequence:	3E14116	Calibration:	3140003
Instrument:	MS-VOA3				

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q	
108-88-3	Toluene		1.66	3.32	6.63	U	U
87-61-6	1,2,3-Trichlorobenzene		1.66	3.32	6.63	U	
120-82-1	1,2,4-Trichlorobenzene		1.66	3.32	6.63	U	
79-00-5	1,1,2-Trichloroethane		1.66	3.32	6.63	U	
71-55-6	1,1,1-Trichloroethane		1.66	3.32	6.63	U	
79-01-6	Trichloroethene		1.66	3.32	6.63	U	
75-69-4	Trichlorofluoromethane		3.32	6.63	13.3	U	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		3.32	6.63	13.3	U	
75-01-4	Vinyl chloride		1.66	3.32	6.63	UY	UJ C05
108-38-3/106-42-	m,p-Xylene		3.32	6.63	13.3	U	U
95-47-6	o-Xylene		1.66	3.32	6.63	U	U

Total Target Analytes Reported: 51

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
Bromofluorobenzene	39.80	40.49	102	85 - 120	
Dibromofluoromethane	39.80	42.36	106	80 - 125	
1,2-Dichloroethane-d4	39.80	44.54	112	75 - 140	
Toluene-d8	39.80	41.20	104	85 - 115	

ANALYSIS DATA SHEET

LNC-018-DS-SB2-01

Laboratory:	Empirical Laboratories, LLC		SDG:	1305125	
Client:	SAIC (S732)		Project:	Lincoln NE ANG	
Matrix:	Solid	Laboratory ID: 1305125-31	File ID:	0512531.D	
Sampled:	05/09/13 11:25	Prepared: 05/21/13 14:15	Analyzed:	06/02/13 08:37	
Solids:	77.70	Preparation: EXT_3546	Dilution:	1	
Batch:	3E20014	Sequence: 3F15519	Calibration:	2272005	Instrument: MS-BNA1

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
98-86-2	Acetophenone		102	205	409	UX
1912-24-9	Atrazine		102	205	409	U
100-52-7	Benzaldehyde		102	205	409	UY UJ COS
92-52-4	1,1-Biphenyl		102	205	409	U
101-55-3	4-Bromophenyl-phenylether		102	205	409	U
85-68-7	Butylbenzylphthalate		102	205	409	U
105-60-2	Caprolactam		102	205	409	U
86-74-8	Carbazole		102	205	409	U
59-50-7	4-Chloro-3-methylphenol		102	205	409	U
106-47-8	4-Chloroaniline		102	205	409	U
111-91-1	Bis(2-chloroethoxy)methane		102	205	409	U
111-44-4	Bis(2-chloroethyl)ether		102	205	409	U
108-60-1	2,2'-Oxybis-1-chloropropane		102	205	409	U
91-58-7	2-Chloronaphthalene		102	205	409	U
95-57-8	2-Chlorophenol		102	205	409	U
7005-72-3	4-Chlorophenyl phenyl ether		102	205	409	U
132-64-9	Dibenzofuran		102	205	409	U
84-74-2	Di-n-butylphthalate		102	205	409	U
91-94-1	3,3'-Dichlorobenzidine		102	205	409	U
120-83-2	2,4-Dichlorophenol		102	205	409	U
84-66-2	Diethylphthalate		102	205	409	U
105-67-9	2,4-Dimethylphenol		409	819	1630	U
131-11-3	Dimethyl phthalate		102	205	409	U
534-52-1	4,6-Dinitro-2-methylphenol		1020	2050	4090	U
51-28-5	2,4-Dinitrophenol		1020	2050	4090	U
121-14-2	2,4-Dinitrotoluene		102	205	409	U
606-20-2	2,6-Dinitrotoluene		102	205	409	U
117-84-0	Di-n-octylphthalate		102	205	409	U
117-81-7	Bis(2-ethylhexyl)phthalate		102	205	409	U
118-74-1	Hexachlorobenzene		102	205	409	U
87-68-3	Hexachlorobutadiene		102	205	409	U
77-47-4	Hexachlorocyclopentadiene		102	205	409	U
67-72-1	Hexachloroethane		102	205	409	UX
78-59-1	Isophorone		102	205	409	U
95-48-7	2-Methylphenol		102	205	409	U
106-44-5	4-Methylphenol		102	205	409	U
100-01-6	4-Nitroaniline		409	819	1630	U
99-09-2	3-Nitroaniline		409	819	1630	U
88-74-4	2-Nitroaniline		409	819	1630	U
98-95-3	Nitrobenzene		102	205	409	U

ANALYSIS DATA SHEET

LNC-018-DS-SB2-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Solid	Laboratory ID:	1305125-31	File ID:	0512531.D
Sampled:	05/09/13 11:25	Prepared:	05/21/13 14:15	Analyzed:	06/02/13 08:37
Solids:	77.70	Preparation:	EXT 3546	Dilution:	1

Batch: 3E20014 Sequence: 3F15519 Calibration: 2272005 Instrument: MS-BNA1

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
100-02-7	4-Nitrophenol		409	819	1630	U
88-75-5	2-Nitrophenol		102	205	409	U
86-30-6	N-Nitrosodiphenylamine		102	205	409	U
621-64-7	N-Nitroso-di-n-propylamine		102	205	409	U
87-86-5	Pentachlorophenol		409	819	1630	U
108-95-2	Phenol		102	205	409	U
95-94-3	1,2,4,5-Tetrachlorobenzene		102	205	409	U
58-90-2	2,3,4,6-Tetrachlorophenol		102	205	409	U
88-06-2	2,4,6-Trichlorophenol		102	205	409	U
95-95-4	2,4,5-Trichlorophenol		102	205	409	U

Total Target Analytes Reported: 50

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	4091	2672	65.3	45 - 105	
2-Fluorophenol	8182	5527	67.6	35 - 105	
Nitrobenzene-d5	4091	2596	63.5	35 - 100	
Phenol-d6	8182	5768	70.5	40 - 100	
Terphenyl-d14	4091	2968	72.6	30 - 125	
2,4,6-Tribromophenol	8182	5712	69.8	35 - 125	

ANALYSIS DATA SHEET

LNC-018-DS-SB2-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Solid	Laboratory ID:	1305125-31	File ID:	0512531.D
Sampled:	05/09/13 11:25	Prepared:	05/21/13 14:15	Analyzed:	06/16/13 02:18
Solids:	77.70	Preparation:	EXT 3546	Dilution:	1
Batch:	3E20014	Sequence:	3F16823	Calibration:	3122001
Instrument:	MS-BNA4				

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
83-32-9	Acenaphthene		2.05	4.09	8.19	U
208-96-8	Acenaphthylene		2.05	4.09	8.19	U
120-12-7	Anthracene		2.05	4.09	8.19	U
56-55-3	Benzo(a)anthracene		2.05	4.09	8.19	U
50-32-8	Benzo(a)pyrene		2.05	4.09	8.19	U
205-99-2	Benzo(b)fluoranthene		2.05	4.09	8.19	U
191-24-2	Benzo(g,h,i)perylene		2.05	4.09	8.19	U
207-08-9	Benzo(k)fluoranthene		2.05	4.09	8.19	U
123-91-1	1,4-Dioxane		10.2	20.5	40.9	U
218-01-9	Chrysene		2.05	4.09	8.19	U
53-70-3	Dibenz(a,h)anthracene		2.05	4.09	8.19	U
206-44-0	Fluoranthene		2.05	4.09	8.19	U
86-73-7	Fluorene		2.05	4.09	8.19	U
193-39-5	Indeno(1,2,3-cd)pyrene		2.05	4.09	8.19	U
91-57-6	2-Methylnaphthalene		2.05	4.09	8.19	U
91-20-3	Naphthalene		2.05	4.09	8.19	U
85-01-8	Phenanthrene		2.05	4.09	8.19	U
129-00-0	Pyrene		2.05	4.09	8.19	U

U

Total Target Analytes Reported: 18

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	4091	3324	81.2	45 - 105	
Terphenyl-d14	4091	3608	88.2	30 - 125	
2,4,6-Tribromophenol	8182	7760	94.8	35 - 125	X

ANALYSIS DATA SHEET

LNC-018-DS-SB2-01

Laboratory: Empirical Laboratories, LLC   SDG: 1305125
Client: SAIC (S732)   Project: Lincoln NE ANG
Matrix: Solid   Laboratory ID: 1305125-31   File ID: 041F4101.D
Sampled: 05/09/13 11:25   Prepared: 05/20/13 12:19   Analyzed: 05/23/13 15:40
Solids: 77.70   Preparation: EXT 3546   Dilution: 1
Batch: 3E17023   Sequence: 3E14606   Calibration: 3143004   Instrument: GL-GCFID2

CAS NO.	COMPOUND	CONC. (mg/Kg dry)	DL	LOD	LOQ	Q
11-84-7	Diesel Range Organics (C10-C28)		8.20	8.20	16.3	U

U

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	1.632	1.499	91.8	35 - 140	

ANALYSIS DATA SHEET

LNC-018-DS-SB2-01

Laboratory:	Empirical Laboratories, LLC		SDG:	1305125	
Client:	SAIC (S732)		Project:	Lincoln NE ANG	
Matrix:	Solid	Laboratory ID:	1305125-31	File ID:	026F2601.D
Sampled:	05/09/13 11:25	Prepared:	05/18/13 17:28	Analyzed:	05/19/13 10:32
Solids:	77.70	Preparation:	8015GRO	Dilution:	1

Batch: 3E18011 Sequence: 3E14307 Calibration: 3044001 Instrument: GL-GCVOA2

CAS NO.	COMPOUND	CONC. (mg/Kg dry)	DL	LOD	LOQ	Q
8006-61-9	Gasoline Range Organics (C6-C10)		3.30	6.61	9.91	U

U

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q
Bromofluorobenzene	3.303	4.290	130	50 - 150	X

ANALYSIS DATA SHEET

LNC-018-DP-SB2-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Water	Laboratory ID:	1305125-38	File ID:	0512538.D
Sampled:	05/09/13 15:55	Prepared:	05/22/13 00:00	Analyzed:	05/22/13 13:38
Solids:		Preparation:	5030B	Dilution:	1

Batch: 3E22012 Sequence: 3E14301 Calibration: 3140001 Instrument: MS-VOA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q	
67-64-1	Acetone	**3.12**	2.50	5.00	10.0	J	J
71-43-2	Benzene		0.250	0.500	1.00	U	U
74-97-5	Bromochloromethane		0.250	0.500	1.00	U	
75-27-4	Bromodichloromethane		0.250	0.500	1.00	U	
75-25-2	Bromoform		0.250	0.500	1.00	U	
74-83-9	Bromomethane		0.500	1.00	2.00	U	
78-93-3	2-Butanone		2.50	5.00	10.0	U	
75-15-0	Carbon disulfide	**5.88**	0.250	0.500	1.00		=
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	UX	U
108-90-7	Chlorobenzene		0.250	0.500	1.00	U	
75-00-3	Chloroethane		0.500	1.00	2.00	U	
67-66-3	Chloroform		0.250	0.500	1.00	U	
74-87-3	Chloromethane		0.250	0.500	1.00	UY	(UJ COS
110-82-7	Cyclohexane	**0.570**	0.250	0.500	1.00	J	J
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U	U
96-12-8	1,2-Dibromo-3-chloropropane		0.500	1.00	2.00	U	
106-93-4	1,2-Dibromoethane (EDB)		0.250	0.500	1.00	U	
95-50-1	1,2-Dichlorobenzene		0.250	0.500	1.00	U	
541-73-1	1,3-Dichlorobenzene		0.250	0.500	1.00	U	
106-46-7	1,4-Dichlorobenzene		0.250	0.500	1.00	U	
75-71-8	Dichlorodifluoromethane		0.500	1.00	2.00	U	
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U	
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U	
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U	
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U	
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U	
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U	
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U	
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U	
100-41-4	Ethylbenzene	**42.3**	0.250	0.500	1.00		=
591-78-6	2-Hexanone		1.25	2.50	5.00	U	U
98-82-8	Isopropylbenzene	**13.0**	0.250	0.500	1.00		=
75-09-2	Methylene chloride		0.500	1.00	2.00	U	U
79-20-9	Methyl Acetate		0.500	1.00	2.00	U	
108-87-2	Methylcyclohexane		0.250	0.500	1.00	U	
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	U	
1634-04-4	Methyl t-Butyl Ether		0.250	0.500	1.00	U	
100-42-5	Styrene		0.250	0.500	1.00	U	
79-34-5	1,1,2,2-Tetrachloroethane		0.250	0.500	1.00	U	
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U	

ANALYSIS DATA SHEET

LNC-018-DP-SB2-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125		
Client:	SAIC (S732)			Project:	Lincoln NE ANG		
Matrix:	Water	Laboratory ID:	1305125-38	File ID:	0512538.D		
Sampled:	05/09/13 15:55	Prepared:	05/22/13 00:00	Analyzed:	05/22/13 13:38		
Solids:		Preparation:	5030B	Dilution:	1		
Batch:	3E22012	Sequence:	3E14301	Calibration:	3140001	Instrument:	MS-VOA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q	
108-88-3	Toluene		0.250	0.500	1.00	U	U
87-61-6	1,2,3-Trichlorobenzene		0.250	0.500	1.00	U	
120-82-1	1,2,4-Trichlorobenzene		0.250	0.500	1.00	U	
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U	
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	U	
79-01-6	Trichloroethene		0.250	0.500	1.00	U	
75-69-4	Trichlorofluoromethane		0.500	1.00	2.00	U	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		0.500	1.00	2.00	U	
75-01-4	Vinyl chloride		0.250	0.500	1.00	U	
108-38-3/106-42-	m,p-Xylene	**15.0**	0.500	1.00	2.00		=
95-47-6	o-Xylene		0.250	0.500	1.00	U	U

Total Target Analytes Reported: 51

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	31.97	107	75 - 120	
Dibromofluoromethane	30.00	32.86	110	85 - 115	
1,2-Dichloroethane-d4	30.00	30.38	101	70 - 120	
Toluene-d8	30.00	29.29	97.6	85 - 120	

ANALYSIS DATA SHEET

LNC-018-DP-SB2-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Water	Laboratory ID:	1305125-38	File ID:	0512538.D
Sampled:	05/09/13 15:55	Prepared:	05/16/13 12:08	Analyzed:	05/20/13 16:16
Solids:		Preparation:	EXT 3510	Dilution:	1
Batch:	3E16002	Sequence:	3E14804	Calibration:	2272005
Instrument:	MS-BNA1				

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
98-86-2	Acetophenone		1.25	2.50	5.00	UX U
1912-24-9	Atrazine		1.25	2.50	5.00	UY UJ 05
100-52-7	Benzaldehyde		1.25	2.50	5.00	U U
92-52-4	1,1-Biphenyl		1.25	2.50	5.00	U
101-55-3	4-Bromophenyl-phenylether		1.25	2.50	5.00	U
85-68-7	Butylbenzylphthalate		1.25	2.50	5.00	U
105-60-2	Caprolactam		1.25	2.50	5.00	U
86-74-8	Carbazole		1.25	2.50	5.00	U
59-50-7	4-Chloro-3-methylphenol		1.25	2.50	5.00	UX
106-47-8	4-Chloroaniline		1.25	2.50	5.00	U
111-91-1	Bis(2-chloroethoxy)methane		1.25	2.50	5.00	U
111-44-4	Bis(2-chloroethyl)ether		1.25	2.50	5.00	U
108-60-1	2,2'-Oxybis-1-chloropropane		1.25	2.50	5.00	U
91-58-7	2-Chloronaphthalene		1.25	2.50	5.00	U
95-57-8	2-Chlorophenol		1.25	2.50	5.00	U
7005-72-3	4-Chlorophenyl phenyl ether		1.25	2.50	5.00	U
132-64-9	Dibenzofuran		1.25	2.50	5.00	U
84-74-2	Di-n-butylphthalate		1.25	2.50	5.00	U
91-94-1	3,3'-Dichlorobenzidine		1.25	2.50	5.00	U
120-83-2	2,4-Dichlorophenol		1.25	2.50	5.00	U
84-66-2	Diethylphthalate		1.25	2.50	5.00	U
105-67-9	2,4-Dimethylphenol		5.00	10.0	20.0	U
131-11-3	Dimethyl phthalate		1.25	2.50	5.00	U
534-52-1	4,6-Dinitro-2-methylphenol		5.00	10.0	20.0	U
51-28-5	2,4-Dinitrophenol		8.33	25.0	50.0	U
121-14-2	2,4-Dinitrotoluene		1.25	2.50	5.00	U
606-20-2	2,6-Dinitrotoluene		1.25	2.50	5.00	U
117-84-0	Di-n-octylphthalate		1.25	2.50	5.00	U
117-81-7	Bis(2-ethylhexyl)phthalate		1.25	2.50	5.00	U
118-74-1	Hexachlorobenzene		1.25	2.50	5.00	U
87-68-3	Hexachlorobutadiene		1.25	2.50	5.00	U
77-47-4	Hexachlorocyclopentadiene		1.25	5.00	10.0	U
67-72-1	Hexachloroethane		1.25	2.50	5.00	UX
78-59-1	Isophorone		1.25	2.50	5.00	U
95-48-7	2-Methylphenol		1.25	2.50	5.00	U
106-44-5	4-Methylphenol		1.25	2.50	5.00	U
100-01-6	4-Nitroaniline		5.00	10.0	20.0	U
99-09-2	3-Nitroaniline		5.00	10.0	20.0	U
88-74-4	2-Nitroaniline		5.00	10.0	20.0	UX
98-95-3	Nitrobenzene		1.25	2.50	5.00	U

ANALYSIS DATA SHEET

LNC-018-DP-SB2-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Water	Laboratory ID:	1305125-38	File ID:	0512538.D
Sampled:	05/09/13 15:55	Prepared:	05/16/13 12:08	Analyzed:	05/20/13 16:16
Solids:		Preparation:	EXT 3510	Dilution:	1

Batch: 3E16002 Sequence: 3E14804 Calibration: 2272005 Instrument: MS-BNA1

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
100-02-7	4-Nitrophenol		5.00	10.0	20.0	U
88-75-5	2-Nitrophenol		1.25	2.50	5.00	U
86-30-6	N-Nitrosodiphenylamine		1.25	2.50	5.00	U
621-64-7	N-Nitroso-di-n-propylamine		1.25	2.50	5.00	UX
87-86-5	Pentachlorophenol		5.00	10.0	20.0	U
108-95-2	Phenol		1.25	2.50	5.00	U
95-94-3	1,2,4,5-Tetrachlorobenzene		1.25	2.50	5.00	U
58-90-2	2,3,4,6-Tetrachlorophenol		2.50	5.00	10.0	U
88-06-2	2,4,6-Trichlorophenol		1.25	2.50	5.00	U
95-95-4	2,4,5-Trichlorophenol		1.25	2.50	5.00	U

U

Total Target Analytes Reported: 50

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	100.0	63.95	64.0	50 - 110	
2-Fluorophenol	200.0	62.58	31.3	20 - 110	
Nitrobenzene-d5	100.0	72.45	72.4	40 - 110	
Phenol-d6	200.0	39.05	19.5	0 - 110	
Terphenyl-d14	100.0	58.19	58.2	50 - 135	
2,4,6-Tribromophenol	200.0	155.0	77.5	40 - 125	

ANALYSIS DATA SHEET

LNC-018-DP-SB2-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125		
Client:	SAIC (S732)			Project:	Lincoln NE ANG		
Matrix:	Water	Laboratory ID:	1305125-38	File ID:	0512538.D		
Sampled:	05/09/13 15:55	Prepared:	05/16/13 12:08	Analyzed:	06/05/13 06:40		
Solids:		Preparation:	EXT 3510	Dilution:	1		
Batch:	3E16002	Sequence:	3F15611	Calibration:	3122001	Instrument:	MS-BNA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q	
83-32-9	Acenaphthene	0.0758	0.0500	0.100	0.200	J	J
208-96-8	Acenaphthylene		0.0500	0.100	0.200	U	U
120-12-7	Anthracene		0.0500	0.100	0.200	U	
56-55-3	Benzo(a)anthracene		0.0500	0.100	0.200	U	
50-32-8	Benzo(a)pyrene		0.0500	0.100	0.200	U	
205-99-2	Benzo(b)fluoranthene		0.0500	0.100	0.200	U	
191-24-2	Benzo(g,h,i)perylene		0.0500	0.100	0.200	U	
207-08-9	Benzo(k)fluoranthene		0.0500	0.100	0.200	U	
123-91-1	1,4-Dioxane		0.125	0.250	0.500	U	
218-01-9	Chrysene		0.0500	0.100	0.200	U	
53-70-3	Dibenz(a,h)anthracene		0.0500	0.100	0.200	U	
206-44-0	Fluoranthene	0.0516	0.0500	0.100	0.200	J	J
86-73-7	Fluorene	0.0544	0.0500	0.100	0.200	J	J
193-39-5	Indeno(1,2,3-cd)pyrene		0.0500	0.100	0.200	U	U
91-57-6	2-Methylnaphthalene	1.89	0.0500	0.100	0.200		=
91-20-3	Naphthalene	8.88	0.0500	0.100	0.200		=
85-01-8	Phenanthrene	0.0990	0.0500	0.200	0.400	J	J
129-00-0	Pyrene		0.0500	0.100	0.200	U	U

Total Target Analytes Reported: 18

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	100.0	70.34	70.3	50 - 110	
Terphenyl-d14	100.0	58.23	58.2	50 - 135	
2,4,6-Tribromophenol	200.0	169.1	84.5	40 - 125	

ANALYSIS DATA SHEET

LNC-018-DP-SB2-01

Laboratory:	Empirical Laboratories, LLC	SDG:	1305125		
Client:	SAIC (S732)	Project:	Lincoln NE ANG		
Matrix:	Water	Laboratory ID:	1305125-38	File ID:	045F4501.D
Sampled:	05/09/13 15:55	Prepared:	05/16/13 17:00	Analyzed:	05/21/13 20:59
Solids:		Preparation:	EXT 3510	Dilution:	1

Batch: 3E16035 Sequence: 3E14605 Calibration: 3143004 Instrument: GL-GCFID2

CAS NO.	COMPOUND	CONC. (mg/L)	DL	LOD	LOQ	Q
11-84-7	Diesel Range Organics (C10-C28)	**0.657**	0.100	0.100	0.200	

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/L)	CONC (mg/L)	% REC	QC LIMITS	Q
o-Terphenyl	0.02000	0.01530	76.5	30 - 140	

ANALYSIS DATA SHEET

LNC-018-DP-SB2-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Water	Laboratory ID:	1305125-38RE1	File ID:	007F0701.D
Sampled:	05/09/13 15:55	Prepared:	05/20/13 00:28	Analyzed:	05/20/13 00:28
Solids:		Preparation:	8015GRO	Dilution:	1

Batch: 3E19001 Sequence: 3E14310 Calibration: 3044001 Instrument: GL-GCVOA2

CAS NO.	COMPOUND	CONC. (mg/L)	DL	LOD	LOQ	Q
8006-61-9	Gasoline Range Organics (C6-C10)	**0.363**	0.0500	0.100	0.150	

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/L)	CONC (mg/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	0.05000	0.06359	127	50 - 150	X

ANALYSIS DATA SHEET

LNC-018-DS-SB2-02

Laboratory: Empirical Laboratories, LLC — SDG: 1305125
Client: SAIC (S732) — Project: Lincoln NE ANG
Matrix: Solid — Laboratory ID: 1305125-32 — File ID: 0512532A.D
Sampled: 05/09/13 11:52 — Prepared: 05/20/13 00:00 — Analyzed: 05/21/13 00:12
Solids: 80.14 — Preparation: 5035A — Dilution: 1
Batch: 3E20017 — Sequence: 3E14116 — Calibration: 3140003 — Instrument: MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q	
67-64-1	Acetone	40.4	6.68	13.4	26.7		≠R F12
71-43-2	Benzene		1.67	3.34	6.68	U	U
74-97-5	Bromochloromethane		1.67	3.34	6.68	U	
75-27-4	Bromodichloromethane		1.67	3.34	6.68	U	
75-25-2	Bromoform		1.67	3.34	6.68	U	
74-83-9	Bromomethane		3.34	6.68	13.4	U	
78-93-3	2-Butanone	5.34	3.34	6.68	13.4	J	J
75-15-0	Carbon disulfide		1.67	3.34	6.68	U	U
56-23-5	Carbon tetrachloride		1.67	3.34	6.68	U	
108-90-7	Chlorobenzene		1.67	3.34	6.68	U	
75-00-3	Chloroethane		3.34	6.68	13.4	U	
67-66-3	Chloroform		1.67	3.34	6.68	U	
74-87-3	Chloromethane		3.34	6.68	13.4	U	
110-82-7	Cyclohexane		1.67	3.34	6.68	U	
124-48-1	Dibromochloromethane		1.67	3.34	6.68	U	
96-12-8	1,2-Dibromo-3-chloropropane		3.34	6.68	13.4	U	
106-93-4	1,2-Dibromoethane (EDB)		1.67	3.34	6.68	U	
95-50-1	1,2-Dichlorobenzene		1.67	3.34	6.68	U	
541-73-1	1,3-Dichlorobenzene		1.67	3.34	6.68	U	
106-46-7	1,4-Dichlorobenzene		1.67	3.34	6.68	U	
75-71-8	Dichlorodifluoromethane		3.34	6.68	13.4	UY	UJ C05
75-34-3	1,1-Dichloroethane		1.67	3.34	6.68	U	U
107-06-2	1,2-Dichloroethane		1.67	3.34	6.68	U	
75-35-4	1,1-Dichloroethene		1.67	3.34	6.68	U	
156-59-2	cis-1,2-Dichloroethene		1.67	3.34	6.68	U	
156-60-5	trans-1,2-Dichloroethene		1.67	3.34	6.68	U	
78-87-5	1,2-Dichloropropane		1.67	3.34	6.68	U	
10061-01-5	cis-1,3-Dichloropropene		1.67	3.34	6.68	U	
10061-02-6	trans-1,3-Dichloropropene		1.67	3.34	6.68	U	
100-41-4	Ethylbenzene		1.67	3.34	6.68	U	
591-78-6	2-Hexanone		3.34	6.68	13.4	U	
98-82-8	Isopropylbenzene		1.67	3.34	6.68	U	
75-09-2	Methylene chloride	324	3.34	6.68	13.4		≠R F12
79-20-9	Methyl Acetate		3.34	6.68	13.4	U	U
108-87-2	Methylcyclohexane		1.67	3.34	6.68	U	
108-10-1	4-Methyl-2-pentanone		3.34	6.68	13.4	U	
1634-04-4	Methyl t-Butyl Ether		1.67	3.34	6.68	U	
100-42-5	Styrene		1.67	3.34	6.68	U	
79-34-5	1,1,2,2-Tetrachloroethane		1.67	3.34	6.68	U	
127-18-4	Tetrachloroethene		1.67	3.34	6.68	U	

06/25/2013

ANALYSIS DATA SHEET

LNC-018-DS-SB2-02

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125		
Client:	SAIC (S732)			Project:	Lincoln NE ANG		
Matrix:	Solid	Laboratory ID:	1305125-32	File ID:	0512532A.D		
Sampled:	05/09/13 11:52	Prepared:	05/20/13 00:00	Analyzed:	05/21/13 00:12		
Solids:	80.14	Preparation:	5035A	Dilution:	1		
Batch:	3E20017	Sequence:	3E14116	Calibration:	3140003	Instrument:	MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q	
108-88-3	Toluene		1.67	3.34	6.68	U	U
87-61-6	1,2,3-Trichlorobenzene		1.67	3.34	6.68	U	
120-82-1	1,2,4-Trichlorobenzene		1.67	3.34	6.68	U	
79-00-5	1,1,2-Trichloroethane		1.67	3.34	6.68	U	
71-55-6	1,1,1-Trichloroethane		1.67	3.34	6.68	U	
79-01-6	Trichloroethene		1.67	3.34	6.68	U	
75-69-4	Trichlorofluoromethane		3.34	6.68	13.4	U	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		3.34	6.68	13.4	U	
75-01-4	Vinyl chloride		1.67	3.34	6.68	UY	UJ C05
108-38-3/106-42-	m,p-Xylene		3.34	6.68	13.4	U	U
95-47-6	o-Xylene		1.67	3.34	6.68	U	U

Total Target Analytes Reported: 51

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
Bromofluorobenzene	40.08	42.78	107	85 - 120	
Dibromofluoromethane	40.08	41.85	104	80 - 125	
1,2-Dichloroethane-d4	40.08	44.79	112	75 - 140	
Toluene-d8	40.08	40.85	102	85 - 115	

ANALYSIS DATA SHEET

LNC-018-DS-SB2-02

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Solid	Laboratory ID:	1305125-32	File ID:	0512532.D
Sampled:	05/09/13 11:52	Prepared:	05/21/13 14:15	Analyzed:	06/02/13 09:04
Solids:	80.14	Preparation:	EXT 3546	Dilution:	1
Batch:	3E20014	Sequence:	3F15519	Calibration:	2272005
Instrument:	MS-BNA1				

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q	
98-86-2	Acetophenone		99.1	199	396	UX	U
1912-24-9	Atrazine		99.1	199	396	U	U
100-52-7	Benzaldehyde		99.1	199	396	UY UJ	C05
92-52-4	1,1-Biphenyl		99.1	199	396	U	U
101-55-3	4-Bromophenyl-phenylether		99.1	199	396	U	
85-68-7	Butylbenzylphthalate		99.1	199	396	U	
105-60-2	Caprolactam		99.1	199	396	U	
86-74-8	Carbazole		99.1	199	396	U	
59-50-7	4-Chloro-3-methylphenol		99.1	199	396	U	
106-47-8	4-Chloroaniline		99.1	199	396	U	
111-91-1	Bis(2-chloroethoxy)methane		99.1	199	396	U	
111-44-4	Bis(2-chloroethyl)ether		99.1	199	396	U	
108-60-1	2,2'-Oxybis-1-chloropropane		99.1	199	396	U	
91-58-7	2-Chloronaphthalene		99.1	199	396	U	
95-57-8	2-Chlorophenol		99.1	199	396	U	
7005-72-3	4-Chlorophenyl phenyl ether		99.1	199	396	U	
132-64-9	Dibenzofuran		99.1	199	396	U	
84-74-2	Di-n-butylphthalate		99.1	199	396	U	
91-94-1	3,3'-Dichlorobenzidine		99.1	199	396	U	
120-83-2	2,4-Dichlorophenol		99.1	199	396	U	
84-66-2	Diethylphthalate		99.1	199	396	U	
105-67-9	2,4-Dimethylphenol		396	793	1580	U	
131-11-3	Dimethyl phthalate		99.1	199	396	U	
534-52-1	4,6-Dinitro-2-methylphenol		991	1990	3960	U	
51-28-5	2,4-Dinitrophenol		991	1990	3960	U	
121-14-2	2,4-Dinitrotoluene		99.1	199	396	U	
606-20-2	2,6-Dinitrotoluene		99.1	199	396	U	
117-84-0	Di-n-octylphthalate		99.1	199	396	U	
117-81-7	Bis(2-ethylhexyl)phthalate		99.1	199	396	U	
118-74-1	Hexachlorobenzene		99.1	199	396	U	
87-68-3	Hexachlorobutadiene		99.1	199	396	U	
77-47-4	Hexachlorocyclopentadiene		99.1	199	396	U	
67-72-1	Hexachloroethane		99.1	199	396	UX	
78-59-1	Isophorone		99.1	199	396	U	
95-48-7	2-Methylphenol		99.1	199	396	U	
106-44-5	4-Methylphenol		99.1	199	396	U	
100-01-6	4-Nitroaniline		396	793	1580	U	
99-09-2	3-Nitroaniline		396	793	1580	U	
88-74-4	2-Nitroaniline		396	793	1580	U	
98-95-3	Nitrobenzene		99.1	199	396	U	

ANALYSIS DATA SHEET

LNC-018-DS-SB2-02

Laboratory: Empirical Laboratories, LLC SDG: 1305125

Client: SAIC (S732) Project: Lincoln NE ANG

Matrix: Solid Laboratory ID: 1305125-32 File ID: 0512532.D

Sampled: 05/09/13 11:52 Prepared: 05/21/13 14:15 Analyzed: 06/02/13 09:04

Solids: 80.14 Preparation: EXT 3546 Dilution: 1

Batch: 3E20014 Sequence: 3F15519 Calibration: 2272005 Instrument: MS-BNA1

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
100-02-7	4-Nitrophenol		396	793	1580	U
88-75-5	2-Nitrophenol		99.1	199	396	U
86-30-6	N-Nitrosodiphenylamine		99.1	199	396	U
621-64-7	N-Nitroso-di-n-propylamine		99.1	199	396	U
87-86-5	Pentachlorophenol		396	793	1580	U
108-95-2	Phenol		99.1	199	396	U
95-94-3	1,2,4,5-Tetrachlorobenzene		99.1	199	396	U
58-90-2	2,3,4,6-Tetrachlorophenol		99.1	199	396	U
88-06-2	2,4,6-Trichlorophenol		99.1	199	396	U
95-95-4	2,4,5-Trichlorophenol		99.1	199	396	U

Total Target Analytes Reported: 50

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	3964	2330	58.8	45 - 105	
2-Fluorophenol	7927	4841	61.1	35 - 105	
Nitrobenzene-d5	3964	2440	61.6	35 - 100	
Phenol-d6	7927	5060	63.8	40 - 100	
Terphenyl-d14	3964	2624	66.2	30 - 125	
2,4,6-Tribromophenol	7927	5091	64.2	35 - 125	

ANALYSIS DATA SHEET

LNC-018-DS-SB2-02

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125		
Client:	SAIC (S732)			Project:	Lincoln NE ANG		
Matrix:	Solid	Laboratory ID:	1305125-32	File ID:	0512532.D		
Sampled:	05/09/13 11:52	Prepared:	05/21/13 14:15	Analyzed:	06/16/13 02:46		
Solids:	80.14	Preparation:	EXT 3546	Dilution:	1		
Batch:	3E20014	Sequence:	3F16823	Calibration:	3122001	Instrument:	MS-BNA4

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
83-32-9	Acenaphthene		1.99	3.96	7.93	U
208-96-8	Acenaphthylene		1.99	3.96	7.93	U
120-12-7	Anthracene		1.99	3.96	7.93	U
56-55-3	Benzo(a)anthracene		1.99	3.96	7.93	U
50-32-8	Benzo(a)pyrene		1.99	3.96	7.93	U
205-99-2	Benzo(b)fluoranthene		1.99	3.96	7.93	U
191-24-2	Benzo(g,h,i)perylene		1.99	3.96	7.93	U
207-08-9	Benzo(k)fluoranthene		1.99	3.96	7.93	U
123-91-1	1,4-Dioxane		9.91	19.9	39.6	U
218-01-9	Chrysene		1.99	3.96	7.93	U
53-70-3	Dibenz(a,h)anthracene		1.99	3.96	7.93	U
206-44-0	Fluoranthene		1.99	3.96	7.93	U
86-73-7	Fluorene		1.99	3.96	7.93	U
193-39-5	Indeno(1,2,3-cd)pyrene		1.99	3.96	7.93	U
91-57-6	2-Methylnaphthalene		1.99	3.96	7.93	U
91-20-3	Naphthalene		1.99	3.96	7.93	U
85-01-8	Phenanthrene		1.99	3.96	7.93	U
129-00-0	Pyrene		1.99	3.96	7.93	U

U

Total Target Analytes Reported: 18

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	3964	2831	71.4	45 - 105	
Terphenyl-d14	3964	2991	75.5	30 - 125	
2,4,6-Tribromophenol	7927	6754	85.2	35 - 125	X

ANALYSIS DATA SHEET

LNC-018-DS-SB2-02

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125		
Client:	SAIC (S732)			Project:	Lincoln NE ANG		
Matrix:	Solid	Laboratory ID:	1305125-32	File ID:	042F4201.D		
Sampled:	05/09/13 11:52	Prepared:	05/20/13 12:19	Analyzed:	05/23/13 16:13		
Solids:	80.14	Preparation:	EXT 3546	Dilution:	1		
Batch:	3E17023	Sequence:	3E14606	Calibration:	3143004	Instrument:	GL-GCFID2

CAS NO.	COMPOUND	CONC. (mg/Kg dry)	DL	LOD	LOQ	Q
11-84-7	Diesel Range Organics (C10-C28)		8.07	8.07	16.0	U

U

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	1.607	1.442	89.8	35 - 140	

ANALYSIS DATA SHEET

LNC-018-DS-SB2-02

Laboratory:	Empirical Laboratories, LLC		SDG:	1305125	
Client:	SAIC (S732)		Project:	Lincoln NE ANG	
Matrix:	Solid	Laboratory ID:	1305125-32	File ID:	027F2701.D
Sampled:	05/09/13 11:52	Prepared:	05/18/13 17:28	Analyzed:	05/19/13 11:14
Solids:	80.14	Preparation:	8015GRO	Dilution:	1

Batch: 3E18011 Sequence: 3E14307 Calibration: 3044001 Instrument: GL-GCVOA2

CAS NO.	COMPOUND	CONC. (mg/Kg dry)	DL	LOD	LOQ	Q
8006-61-9	Gasoline Range Organics (C6-C10)		3.03	6.06	9.09	U

U

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q
Bromofluorobenzene	3.029	4.000	132	50 - 150	X

ANALYSIS DATA SHEET

LNC-018-DS-SB3-01

Laboratory: Empirical Laboratories, LLC   SDG: 1305125
Client: SAIC (S732)   Project: Lincoln NE ANG
Matrix: Solid   Laboratory ID: 1305125-33   File ID: 0512533A.D
Sampled: 05/09/13 12:45   Prepared: 05/20/13 00:00   Analyzed: 05/21/13 00:41
Solids: 79.68   Preparation: 5035A   Dilution: 1
Batch: 3E20017   Sequence: 3E14116   Calibration: 3140003   Instrument: MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q	
67-64-1	Acetone		6.84	13.7	27.3	U	U
71-43-2	Benzene		1.71	3.42	6.84	U	
74-97-5	Bromochloromethane		1.71	3.42	6.84	U	
75-27-4	Bromodichloromethane		1.71	3.42	6.84	U	
75-25-2	Bromoform		1.71	3.42	6.84	U	
74-83-9	Bromomethane		3.42	6.84	13.7	U	
78-93-3	2-Butanone		3.42	6.84	13.7	U	
75-15-0	Carbon disulfide		1.71	3.42	6.84	U	
56-23-5	Carbon tetrachloride		1.71	3.42	6.84	U	
108-90-7	Chlorobenzene		1.71	3.42	6.84	U	
75-00-3	Chloroethane		3.42	6.84	13.7	U	
67-66-3	Chloroform		1.71	3.42	6.84	U	
74-87-3	Chloromethane		3.42	6.84	13.7	U	
110-82-7	Cyclohexane		1.71	3.42	6.84	U	
124-48-1	Dibromochloromethane		1.71	3.42	6.84	U	
96-12-8	1,2-Dibromo-3-chloropropane		3.42	6.84	13.7	U	
106-93-4	1,2-Dibromoethane (EDB)		1.71	3.42	6.84	U	
95-50-1	1,2-Dichlorobenzene		1.71	3.42	6.84	U	
541-73-1	1,3-Dichlorobenzene		1.71	3.42	6.84	U	
106-46-7	1,4-Dichlorobenzene		1.71	3.42	6.84	U	
75-71-8	Dichlorodifluoromethane		3.42	6.84	13.7	UY UJ	C05
75-34-3	1,1-Dichloroethane		1.71	3.42	6.84	U	U
107-06-2	1,2-Dichloroethane		1.71	3.42	6.84	U	
75-35-4	1,1-Dichloroethene		1.71	3.42	6.84	U	
156-59-2	cis-1,2-Dichloroethene		1.71	3.42	6.84	U	
156-60-5	trans-1,2-Dichloroethene		1.71	3.42	6.84	U	
78-87-5	1,2-Dichloropropane		1.71	3.42	6.84	U	
10061-01-5	cis-1,3-Dichloropropene		1.71	3.42	6.84	U	
10061-02-6	trans-1,3-Dichloropropene		1.71	3.42	6.84	U	
100-41-4	Ethylbenzene		1.71	3.42	6.84	U	
591-78-6	2-Hexanone		3.42	6.84	13.7	U	
98-82-8	Isopropylbenzene		1.71	3.42	6.84	U	
75-09-2	Methylene chloride	245	3.42	6.84	13.7		≠ R F12
79-20-9	Methyl Acetate		3.42	6.84	13.7	U	U
108-87-2	Methylcyclohexane		1.71	3.42	6.84	U	
108-10-1	4-Methyl-2-pentanone		3.42	6.84	13.7	U	
1634-04-4	Methyl t-Butyl Ether		1.71	3.42	6.84	U	
100-42-5	Styrene		1.71	3.42	6.84	U	
79-34-5	1,1,2,2-Tetrachloroethane		1.71	3.42	6.84	U	
127-18-4	Tetrachloroethene		1.71	3.42	6.84	U	

JW 06/25/2013

ANALYSIS DATA SHEET

LNC-018-DS-SB3-01

Laboratory: Empirical Laboratories, LLC SDG: 1305125
Client: SAIC (S732) Project: Lincoln NE ANG
Matrix: Solid Laboratory ID: 1305125-33 File ID: 0512533A.D
Sampled: 05/09/13 12:45 Prepared: 05/20/13 00:00 Analyzed: 05/21/13 00:41
Solids: 79.68 Preparation: 5035A Dilution: 1
Batch: 3E20017 Sequence: 3E14116 Calibration: 3140003 Instrument: MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q	
108-88-3	Toluene		1.71	3.42	6.84	U	U
87-61-6	1,2,3-Trichlorobenzene		1.71	3.42	6.84	U	
120-82-1	1,2,4-Trichlorobenzene		1.71	3.42	6.84	U	
79-00-5	1,1,2-Trichloroethane		1.71	3.42	6.84	U	
71-55-6	1,1,1-Trichloroethane		1.71	3.42	6.84	U	
79-01-6	Trichloroethene		1.71	3.42	6.84	U	
75-69-4	Trichlorofluoromethane		3.42	6.84	13.7	U	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		3.42	6.84	13.7	U	
75-01-4	Vinyl chloride		1.71	3.42	6.84	UY UJ	C05
108-38-3/106-42-	m,p-Xylene		3.42	6.84	13.7	U	U
95-47-6	o-Xylene		1.71	3.42	6.84	U	U

Total Target Analytes Reported: 51

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
Bromofluorobenzene	41.01	39.30	95.8	85 - 120	
Dibromofluoromethane	41.01	44.59	109	80 - 125	
1,2-Dichloroethane-d4	41.01	45.33	111	75 - 140	
Toluene-d8	41.01	41.94	102	85 - 115	

ANALYSIS DATA SHEET

LNC-018-DS-SB3-01

Laboratory: Empirical Laboratories, LLC   SDG: 1305125
Client: SAIC (S732)   Project: Lincoln NE ANG
Matrix: Solid   Laboratory ID: 1305125-33   File ID: 0512533.D
Sampled: 05/09/13 12:45   Prepared: 05/21/13 14:15   Analyzed: 06/03/13 13:46
Solids: 79.68   Preparation: EXT 3546   Dilution: 1
Batch: 3E20014   Sequence: 3F15517   Calibration: 2272005   Instrument: MS-BNA1

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
98-86-2	Acetophenone		99.0	198	396	UX
1912-24-9	Atrazine		99.0	198	396	U
100-52-7	Benzaldehyde		99.0	198	396	U
92-52-4	1,1-Biphenyl		99.0	198	396	U
101-55-3	4-Bromophenyl-phenylether		99.0	198	396	U
85-68-7	Butylbenzylphthalate		99.0	198	396	U
105-60-2	Caprolactam		99.0	198	396	U
86-74-8	Carbazole		99.0	198	396	U
59-50-7	4-Chloro-3-methylphenol		99.0	198	396	U
106-47-8	4-Chloroaniline		99.0	198	396	U
111-91-1	Bis(2-chloroethoxy)methane		99.0	198	396	U
111-44-4	Bis(2-chloroethyl)ether		99.0	198	396	U
108-60-1	2,2'-Oxybis-1-chloropropane		99.0	198	396	U
91-58-7	2-Chloronaphthalene		99.0	198	396	U
95-57-8	2-Chlorophenol		99.0	198	396	U
7005-72-3	4-Chlorophenyl phenyl ether		99.0	198	396	U
132-64-9	Dibenzofuran		99.0	198	396	U
84-74-2	Di-n-butylphthalate		99.0	198	396	U
91-94-1	3,3'-Dichlorobenzidine		99.0	198	396	U
120-83-2	2,4-Dichlorophenol		99.0	198	396	U
84-66-2	Diethylphthalate		99.0	198	396	U
105-67-9	2,4-Dimethylphenol		396	793	1580	U
131-11-3	Dimethyl phthalate		99.0	198	396	U
534-52-1	4,6-Dinitro-2-methylphenol		990	1980	3960	U
51-28-5	2,4-Dinitrophenol		990	1980	3960	U
121-14-2	2,4-Dinitrotoluene		99.0	198	396	U
606-20-2	2,6-Dinitrotoluene		99.0	198	396	U
117-84-0	Di-n-octylphthalate		99.0	198	396	U
117-81-7	Bis(2-ethylhexyl)phthalate		99.0	198	396	U
118-74-1	Hexachlorobenzene		99.0	198	396	U
87-68-3	Hexachlorobutadiene		99.0	198	396	U
77-47-4	Hexachlorocyclopentadiene		99.0	198	396	U
67-72-1	Hexachloroethane		99.0	198	396	U
78-59-1	Isophorone		99.0	198	396	U
95-48-7	2-Methylphenol		99.0	198	396	U
106-44-5	4-Methylphenol		99.0	198	396	U
100-01-6	4-Nitroaniline		396	793	1580	U
99-09-2	3-Nitroaniline		396	793	1580	U
88-74-4	2-Nitroaniline		396	793	1580	U
98-95-3	Nitrobenzene		99.0	198	396	U

ANALYSIS DATA SHEET

LNC-018-DS-SB3-01

Laboratory: Empirical Laboratories, LLC   SDG: 1305125
Client: SAIC (S732)   Project: Lincoln NE ANG
Matrix: Solid   Laboratory ID: 1305125-33   File ID: 0512533.D
Sampled: 05/09/13 12:45   Prepared: 05/21/13 14:15   Analyzed: 06/03/13 13:46
Solids: 79.68   Preparation: EXT 3546   Dilution: 1
Batch: 3E20014   Sequence: 3F15517   Calibration: 2272005   Instrument: MS-BNA1

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
100-02-7	4-Nitrophenol		396	793	1580	U
88-75-5	2-Nitrophenol		99.0	198	396	U
86-30-6	N-Nitrosodiphenylamine		99.0	198	396	U
621-64-7	N-Nitroso-di-n-propylamine		99.0	198	396	U
87-86-5	Pentachlorophenol		396	793	1580	U
108-95-2	Phenol		99.0	198	396	U
95-94-3	1,2,4,5-Tetrachlorobenzene		99.0	198	396	U
58-90-2	2,3,4,6-Tetrachlorophenol		99.0	198	396	U
88-06-2	2,4,6-Trichlorophenol		99.0	198	396	U
95-95-4	2,4,5-Trichlorophenol		99.0	198	396	U

U

Total Target Analytes Reported: 50

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	3961	2500	63.1	45 - 105	
2-Fluorophenol	7923	5093	64.3	35 - 105	
Nitrobenzene-d5	3961	2422	61.1	35 - 100	
Phenol-d6	7923	5099	64.4	40 - 100	
Terphenyl-d14	3961	2508	63.3	30 - 125	
2,4,6-Tribromophenol	7923	4409	55.7	35 - 125	

ANALYSIS DATA SHEET

LNC-018-DS-SB3-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Solid	Laboratory ID:	1305125-33	File ID:	0512533.D
Sampled:	05/09/13 12:45	Prepared:	05/21/13 14:15	Analyzed:	06/16/13 03:14
Solids:	79.68	Preparation:	EXT 3546	Dilution:	1
Batch:	3E20014	Sequence:	3F16823	Calibration:	3122001

Instrument: MS-BNA4

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
83-32-9	Acenaphthene		1.98	3.96	7.93	U
208-96-8	Acenaphthylene		1.98	3.96	7.93	U
120-12-7	Anthracene		1.98	3.96	7.93	U
56-55-3	Benzo(a)anthracene		1.98	3.96	7.93	U
50-32-8	Benzo(a)pyrene		1.98	3.96	7.93	U
205-99-2	Benzo(b)fluoranthene		1.98	3.96	7.93	U
191-24-2	Benzo(g,h,i)perylene		1.98	3.96	7.93	U
207-08-9	Benzo(k)fluoranthene		1.98	3.96	7.93	U
123-91-1	1,4-Dioxane		9.90	19.8	39.6	U
218-01-9	Chrysene		1.98	3.96	7.93	U
53-70-3	Dibenz(a,h)anthracene		1.98	3.96	7.93	U
206-44-0	Fluoranthene		1.98	3.96	7.93	U
86-73-7	Fluorene		1.98	3.96	7.93	U
193-39-5	Indeno(1,2,3-cd)pyrene		1.98	3.96	7.93	U
91-57-6	2-Methylnaphthalene		1.98	3.96	7.93	U
91-20-3	Naphthalene		1.98	3.96	7.93	U
85-01-8	Phenanthrene		1.98	3.96	7.93	U
129-00-0	Pyrene		1.98	3.96	7.93	U

U

Total Target Analytes Reported: 18

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	3961	2838	71.6	45 - 105	
Terphenyl-d14	3961	2891	73.0	30 - 125	
2,4,6-Tribromophenol	7923	6226	78.6	35 - 125	X

ANALYSIS DATA SHEET

LNC-018-DS-SB3-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Solid	Laboratory ID:	1305125-33	File ID:	043F4301.D
Sampled:	05/09/13 12:45	Prepared:	05/20/13 12:19	Analyzed:	05/23/13 16:46
Solids:	79.68	Preparation:	EXT 3546	Dilution:	1

Batch: 3E17023 Sequence: 3E14606 Calibration: 3143004 Instrument: GL-GCFID2

CAS NO.	COMPOUND	CONC. (mg/Kg dry)	DL	LOD	LOQ	Q
11-84-7	Diesel Range Organics (C10-C28)		8.13	8.13	16.1	U

U

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	1.617	1.491	92.2	35 - 140	

ANALYSIS DATA SHEET

LNC-018-DS-SB3-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Solid	Laboratory ID:	1305125-33	File ID:	028F2801.D
Sampled:	05/09/13 12:45	Prepared:	05/18/13 17:28	Analyzed:	05/19/13 11:54
Solids:	79.68	Preparation:	8015GRO	Dilution:	1

Batch: 3E18011 Sequence: 3E14307 Calibration: 3044001 Instrument: GL-GCVOA2

CAS NO.	COMPOUND	CONC. (mg/Kg dry)	DL	LOD	LOQ	Q
8006-61-9	Gasoline Range Organics (C6-C10)		3.28	6.56	9.85	U

U

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q
Bromofluorobenzene	3.282	4.459	136	50 - 150	X

ANALYSIS DATA SHEET

LNC-018-DP-SB3-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125		
Client:	SAIC (S732)			Project:	Lincoln NE ANG		
Matrix:	Water	Laboratory ID:	1305125-37	File ID:	0512537.D		
Sampled:	05/09/13 14:40	Prepared:	05/21/13 23:30	Analyzed:	05/21/13 23:30		
Solids:		Preparation:	5030B	Dilution:	1		
Batch:	3E21015	Sequence:	3E14209	Calibration:	3140001	Instrument:	MS-VOA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q	
67-64-1	Acetone	**4.30**	2.50	5.00	10.0	J	J
71-43-2	Benzene		0.250	0.500	1.00	U	U
74-97-5	Bromochloromethane		0.250	0.500	1.00	U	
75-27-4	Bromodichloromethane		0.250	0.500	1.00	U	
75-25-2	Bromoform		0.250	0.500	1.00	U	
74-83-9	Bromomethane		0.500	1.00	2.00	U	
78-93-3	2-Butanone		2.50	5.00	10.0	UX	
75-15-0	Carbon disulfide	**3.00**	0.250	0.500	1.00		=
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	U	U
108-90-7	Chlorobenzene		0.250	0.500	1.00	U	
75-00-3	Chloroethane		0.500	1.00	2.00	U	
67-66-3	Chloroform		0.250	0.500	1.00	U	
74-87-3	Chloromethane		0.250	0.500	1.00	U	
110-82-7	Cyclohexane		0.250	0.500	1.00	U	
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U	
96-12-8	1,2-Dibromo-3-chloropropane		0.500	1.00	2.00	U	
106-93-4	1,2-Dibromoethane (EDB)		0.250	0.500	1.00	U	
95-50-1	1,2-Dichlorobenzene		0.250	0.500	1.00	U	
541-73-1	1,3-Dichlorobenzene		0.250	0.500	1.00	U	
106-46-7	1,4-Dichlorobenzene		0.250	0.500	1.00	U	
75-71-8	Dichlorodifluoromethane		0.500	1.00	2.00	U	
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U	
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U	
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U	
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U	
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U	
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U	
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U	
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U	
100-41-4	Ethylbenzene	**2.37**	0.250	0.500	1.00		=
591-78-6	2-Hexanone		1.25	2.50	5.00	UX	UJ
98-82-8	Isopropylbenzene	**0.840**	0.250	0.500	1.00	J	J
75-09-2	Methylene chloride		0.500	1.00	2.00	U	U
79-20-9	Methyl Acetate		0.500	1.00	2.00	U	
108-87-2	Methylcyclohexane		0.250	0.500	1.00	U	
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	UX	
1634-04-4	Methyl t-Butyl Ether		0.250	0.500	1.00	U	
100-42-5	Styrene		0.250	0.500	1.00	U	
79-34-5	1,1,2,2-Tetrachloroethane		0.250	0.500	1.00	U	
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U	

ANALYSIS DATA SHEET

LNC-018-DP-SB3-01

Laboratory: Empirical Laboratories, LLC — SDG: 1305125
Client: SAIC (S732) — Project: Lincoln NE ANG
Matrix: Water — Laboratory ID: 1305125-37 — File ID: 0512537.D
Sampled: 05/09/13 14:40 — Prepared: 05/21/13 23:30 — Analyzed: 05/21/13 23:30
Solids: — Preparation: 5030B — Dilution: 1
Batch: 3E21015 — Sequence: 3E14209 — Calibration: 3140001 — Instrument: MS-VOA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q	
108-88-3	Toluene		0.250	0.500	1.00	U	U
87-61-6	1,2,3-Trichlorobenzene		0.250	0.500	1.00	U	
120-82-1	1,2,4-Trichlorobenzene		0.250	0.500	1.00	U	
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U	
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	U	
79-01-6	Trichloroethene		0.250	0.500	1.00	U	
75-69-4	Trichlorofluoromethane		0.500	1.00	2.00	U	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		0.500	1.00	2.00	U	
75-01-4	Vinyl chloride		0.250	0.500	1.00	U	
108-38-3/106-42-	m,p-Xylene	0.810	0.500	1.00	2.00	J	J
95-47-6	o-Xylene		0.250	0.500	1.00	U	U

Total Target Analytes Reported: 51

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	31.11	104	75 - 120	
Dibromofluoromethane	30.00	33.55	112	85 - 115	
1,2-Dichloroethane-d4	30.00	29.89	99.6	70 - 120	
Toluene-d8	30.00	29.67	98.9	85 - 120	

ANALYSIS DATA SHEET

LNC-018-DP-SB3-01

Laboratory:	Empirical Laboratories, LLC		SDG:	1305125	
Client:	SAIC (S732)		Project:	Lincoln NE ANG	
Matrix:	Water	Laboratory ID:	1305125-37	File ID:	0512537.D
Sampled:	05/09/13 14:40	Prepared:	05/16/13 12:08	Analyzed:	05/20/13 15:48
Solids:		Preparation:	EXT_3510	Dilution:	1
Batch:	3E16002	Sequence: 3E14804	Calibration: 2272005	Instrument:	MS-BNA1

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q	
98-86-2	Acetophenone		1.25	2.50	5.00	UX	U
1912-24-9	Atrazine		1.25	2.50	5.00	UY	UJ COS
100-52-7	Benzaldehyde		1.25	2.50	5.00	U	U
92-52-4	1,1-Biphenyl		1.25	2.50	5.00	U	
101-55-3	4-Bromophenyl-phenylether		1.25	2.50	5.00	U	
85-68-7	Butylbenzylphthalate		1.25	2.50	5.00	U	
105-60-2	Caprolactam		1.25	2.50	5.00	U	
86-74-8	Carbazole		1.25	2.50	5.00	U	
59-50-7	4-Chloro-3-methylphenol		1.25	2.50	5.00	UX	
106-47-8	4-Chloroaniline		1.25	2.50	5.00	U	
111-91-1	Bis(2-chloroethoxy)methane		1.25	2.50	5.00	U	
111-44-4	Bis(2-chloroethyl)ether		1.25	2.50	5.00	U	
108-60-1	2,2'-Oxybis-1-chloropropane		1.25	2.50	5.00	U	
91-58-7	2-Chloronaphthalene		1.25	2.50	5.00	U	
95-57-8	2-Chlorophenol		1.25	2.50	5.00	U	
7005-72-3	4-Chlorophenyl phenyl ether		1.25	2.50	5.00	U	
132-64-9	Dibenzofuran		1.25	2.50	5.00	U	
84-74-2	Di-n-butylphthalate		1.25	2.50	5.00	U	
91-94-1	3,3'-Dichlorobenzidine		1.25	2.50	5.00	U	
120-83-2	2,4-Dichlorophenol		1.25	2.50	5.00	U	
84-66-2	Diethylphthalate		1.25	2.50	5.00	U	
105-67-9	2,4-Dimethylphenol		5.00	10.0	20.0	U	
131-11-3	Dimethyl phthalate		1.25	2.50	5.00	U	
534-52-1	4,6-Dinitro-2-methylphenol		5.00	10.0	20.0	U	
51-28-5	2,4-Dinitrophenol		8.33	25.0	50.0	U	
121-14-2	2,4-Dinitrotoluene		1.25	2.50	5.00	U	
606-20-2	2,6-Dinitrotoluene		1.25	2.50	5.00	U	
117-84-0	Di-n-octylphthalate		1.25	2.50	5.00	U	
117-81-7	Bis(2-ethylhexyl)phthalate		1.25	2.50	5.00	U	
118-74-1	Hexachlorobenzene		1.25	2.50	5.00	U	
87-68-3	Hexachlorobutadiene		1.25	2.50	5.00	U	
77-47-4	Hexachlorocyclopentadiene		1.25	5.00	10.0	U	
67-72-1	Hexachloroethane		1.25	2.50	5.00	UX	
78-59-1	Isophorone		1.25	2.50	5.00	U	
95-48-7	2-Methylphenol		1.25	2.50	5.00	U	
106-44-5	4-Methylphenol		1.25	2.50	5.00	U	
100-01-6	4-Nitroaniline		5.00	10.0	20.0	U	
99-09-2	3-Nitroaniline		5.00	10.0	20.0	U	
88-74-4	2-Nitroaniline		5.00	10.0	20.0	UX	
98-95-3	Nitrobenzene		1.25	2.50	5.00	U	

ANALYSIS DATA SHEET

LNC-018-DP-SB3-01

Laboratory: Empirical Laboratories, LLC SDG: 1305125

Client: SAIC (S732) Project: Lincoln NE ANG

Matrix: Water Laboratory ID: 1305125-37 File ID: 0512537.D

Sampled: 05/09/13 14:40 Prepared: 05/16/13 12:08 Analyzed: 05/20/13 15:48

Solids: Preparation: EXT 3510 Dilution: 1

Batch: 3E16002 Sequence: 3E14804 Calibration: 2272005 Instrument: MS-BNA1

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
100-02-7	4-Nitrophenol		5.00	10.0	20.0	U
88-75-5	2-Nitrophenol		1.25	2.50	5.00	U
86-30-6	N-Nitrosodiphenylamine		1.25	2.50	5.00	U
621-64-7	N-Nitroso-di-n-propylamine		1.25	2.50	5.00	UX
87-86-5	Pentachlorophenol		5.00	10.0	20.0	U
108-95-2	Phenol		1.25	2.50	5.00	U
95-94-3	1,2,4,5-Tetrachlorobenzene		1.25	2.50	5.00	U
58-90-2	2,3,4,6-Tetrachlorophenol		2.50	5.00	10.0	U
88-06-2	2,4,6-Trichlorophenol		1.25	2.50	5.00	U
95-95-4	2,4,5-Trichlorophenol		1.25	2.50	5.00	U

U

Total Target Analytes Reported: 50

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	100.0	64.54	64.5	50 - 110	
2-Fluorophenol	200.0	53.11	26.6	20 - 110	
Nitrobenzene-d5	100.0	71.78	71.8	40 - 110	
Phenol-d6	200.0	38.89	19.4	0 - 110	
Terphenyl-d14	100.0	60.08	60.1	50 - 135	
2,4,6-Tribromophenol	200.0	117.8	58.9	40 - 125	

ANALYSIS DATA SHEET

LNC-018-DP-SB3-01

Laboratory:	Empirical Laboratories, LLC		SDG:	1305125	
Client:	SAIC (S732)		Project:	Lincoln NE ANG	
Matrix:	Water	Laboratory ID:	1305125-37	File ID:	0512537.D
Sampled:	05/09/13 14:40	Prepared:	05/16/13 12:08	Analyzed:	06/05/13 06:13
Solids:		Preparation:	EXT 3510	Dilution:	1

Batch: 3E16002 Sequence: 3F15611 Calibration: 3122001 Instrument: MS-BNA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q	
83-32-9	Acenaphthene	**0.0512**	0.0500	0.100	0.200	J	J
208-96-8	Acenaphthylene		0.0500	0.100	0.200	U	U
120-12-7	Anthracene		0.0500	0.100	0.200	U	
56-55-3	Benzo(a)anthracene		0.0500	0.100	0.200	U	
50-32-8	Benzo(a)pyrene		0.0500	0.100	0.200	U	
205-99-2	Benzo(b)fluoranthene		0.0500	0.100	0.200	U	
191-24-2	Benzo(g,h,i)perylene		0.0500	0.100	0.200	U	
207-08-9	Benzo(k)fluoranthene		0.0500	0.100	0.200	U	
123-91-1	1,4-Dioxane		0.125	0.250	0.500	U	
218-01-9	Chrysene		0.0500	0.100	0.200	U	
53-70-3	Dibenz(a,h)anthracene		0.0500	0.100	0.200	U	
206-44-0	Fluoranthene	**0.0698**	0.0500	0.100	0.200	J	J
86-73-7	Fluorene	**0.0563**	0.0500	0.100	0.200	J	J
193-39-5	Indeno(1,2,3-cd)pyrene		0.0500	0.100	0.200	U	U
91-57-6	2-Methylnaphthalene	**1.44**	0.0500	0.100	0.200		=
91-20-3	Naphthalene	**10.0**	0.0500	0.100	0.200		=
85-01-8	Phenanthrene	**0.119**	0.0500	0.200	0.400	J	J
129-00-0	Pyrene	**0.0720**	0.0500	0.100	0.200	J	J

Total Target Analytes Reported: 18

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	100.0	65.49	65.5	50 - 110	
Terphenyl-d14	100.0	56.33	56.3	50 - 135	
2,4,6-Tribromophenol	200.0	117.8	58.9	40 - 125	

ANALYSIS DATA SHEET

LNC-018-DP-SB3-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Water	Laboratory ID:	1305125-37	File ID:	044F4401.D
Sampled:	05/09/13 14:40	Prepared:	05/16/13 17:00	Analyzed:	05/21/13 20:26
Solids:		Preparation:	EXT 3510	Dilution:	1

Batch: 3E16035 Sequence: 3E14605 Calibration: 3143004 Instrument: GL-GCFID2

CAS NO.	COMPOUND	CONC. (mg/L)	DL	LOD	LOQ	Q
11-84-7	Diesel Range Organics (C10-C28)	**0.211**	0.100	0.100	0.200	J

A01

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/L)	CONC (mg/L)	% REC	QC LIMITS	Q
o-Terphenyl	0.02000	0.01073	53.7	30 - 140	

ANALYSIS DATA SHEET

LNC-018-DP-SB3-01

Laboratory: Empirical Laboratories, LLC SDG: 1305125
Client: SAIC (S732) Project: Lincoln NE ANG
Matrix: Water Laboratory ID: 1305125-37 File ID: 015F1901.D
Sampled: 05/09/13 14:40 Prepared: 05/16/13 22:05 Analyzed: 05/16/13 22:05
Solids: Preparation: 8015GRO Dilution: 1
Batch: 3E16005 Sequence: 3E14043 Calibration: 3044001 Instrument: GL-GCVOA2

CAS NO.	COMPOUND	CONC. (mg/L)	DL	LOD	LOQ	Q
8006-61-9	Gasoline Range Organics (C6-C10)		0.0500	0.100	0.150	U

U

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/L)	CONC (mg/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	0.05000	0.06438	129	50 - 150	

ANALYSIS DATA SHEET

LNC-018-DS-SB3-02

Laboratory: Empirical Laboratories, LLC SDG: 1305125
Client: SAIC (S732) Project: Lincoln NE ANG
Matrix: Solid Laboratory ID: 1305125-34 File ID: 0512534A.D
Sampled: 05/09/13 13:00 Prepared: 05/20/13 00:00 Analyzed: 05/21/13 01:10
Solids: 80.54 Preparation: 5035A Dilution: 1
Batch: 3E20017 Sequence: 3E14116 Calibration: 3140003 Instrument: MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q	
67-64-1	Acetone	33.3	5.83	11.7	23.3		R F12
71-43-2	Benzene		1.46	2.92	5.83	U	U
74-97-5	Bromochloromethane		1.46	2.92	5.83	U	
75-27-4	Bromodichloromethane		1.46	2.92	5.83	U	
75-25-2	Bromoform		1.46	2.92	5.83	U	
74-83-9	Bromomethane		2.92	5.83	11.7	U	
78-93-3	2-Butanone		2.92	5.83	11.7	U	
75-15-0	Carbon disulfide		1.46	2.92	5.83	U	
56-23-5	Carbon tetrachloride		1.46	2.92	5.83	U	
108-90-7	Chlorobenzene		1.46	2.92	5.83	U	
75-00-3	Chloroethane		2.92	5.83	11.7	U	
67-66-3	Chloroform		1.46	2.92	5.83	U	
74-87-3	Chloromethane		2.92	5.83	11.7	U	
110-82-7	Cyclohexane		1.46	2.92	5.83	U	
124-48-1	Dibromochloromethane		1.46	2.92	5.83	U	
96-12-8	1,2-Dibromo-3-chloropropane		2.92	5.83	11.7	U	
106-93-4	1,2-Dibromoethane (EDB)		1.46	2.92	5.83	U	
95-50-1	1,2-Dichlorobenzene		1.46	2.92	5.83	U	
541-73-1	1,3-Dichlorobenzene		1.46	2.92	5.83	U	
106-46-7	1,4-Dichlorobenzene		1.46	2.92	5.83	U	
75-71-8	Dichlorodifluoromethane		2.92	5.83	11.7	UY UJ	C05
75-34-3	1,1-Dichloroethane		1.46	2.92	5.83	U	U
107-06-2	1,2-Dichloroethane		1.46	2.92	5.83	U	
75-35-4	1,1-Dichloroethene		1.46	2.92	5.83	U	
156-59-2	cis-1,2-Dichloroethene		1.46	2.92	5.83	U	
156-60-5	trans-1,2-Dichloroethene		1.46	2.92	5.83	U	
78-87-5	1,2-Dichloropropane		1.46	2.92	5.83	U	
10061-01-5	cis-1,3-Dichloropropene		1.46	2.92	5.83	U	
10061-02-6	trans-1,3-Dichloropropene		1.46	2.92	5.83	U	
100-41-4	Ethylbenzene		1.46	2.92	5.83	U	
591-78-6	2-Hexanone		2.92	5.83	11.7	U	
98-82-8	Isopropylbenzene		1.46	2.92	5.83	U	
75-09-2	Methylene chloride	206	2.92	5.83	11.7		R F12
79-20-9	Methyl Acetate		2.92	5.83	11.7	U	U
108-87-2	Methylcyclohexane		1.46	2.92	5.83	U	
108-10-1	4-Methyl-2-pentanone		2.92	5.83	11.7	U	
1634-04-4	Methyl t-Butyl Ether		1.46	2.92	5.83	U	
100-42-5	Styrene		1.46	2.92	5.83	U	
79-34-5	1,1,2,2-Tetrachloroethane		1.46	2.92	5.83	U	
127-18-4	Tetrachloroethene		1.46	2.92	5.83	U	

JW 06/25/2013

ANALYSIS DATA SHEET

LNC-018-DS-SB3-02

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125		
Client:	SAIC (S732)			Project:	Lincoln NE ANG		
Matrix:	Solid	Laboratory ID:	1305125-34	File ID:	0512534A.D		
Sampled:	05/09/13 13:00	Prepared:	05/20/13 00:00	Analyzed:	05/21/13 01:10		
Solids:	80.54	Preparation:	5035A	Dilution:	1		
Batch:	3E20017	Sequence:	3E14116	Calibration:	3140003	Instrument:	MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q	
108-88-3	Toluene		1.46	2.92	5.83	U	U
87-61-6	1,2,3-Trichlorobenzene		1.46	2.92	5.83	U	
120-82-1	1,2,4-Trichlorobenzene		1.46	2.92	5.83	U	
79-00-5	1,1,2-Trichloroethane		1.46	2.92	5.83	U	
71-55-6	1,1,1-Trichloroethane		1.46	2.92	5.83	U	
79-01-6	Trichloroethene		1.46	2.92	5.83	U	
75-69-4	Trichlorofluoromethane		2.92	5.83	11.7	U	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		2.92	5.83	11.7	U	
75-01-4	Vinyl chloride		1.46	2.92	5.83	UY UJ	605
108-38-3/106-42-	m,p-Xylene		2.92	5.83	11.7	U	U
95-47-6	o-Xylene		1.46	2.92	5.83	U	U

Total Target Analytes Reported: 51

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
Bromofluorobenzene	35.01	34.47	98.5	85 - 120	
Dibromofluoromethane	35.01	37.02	106	80 - 125	
1,2-Dichloroethane-d4	35.01	36.69	105	75 - 140	
Toluene-d8	35.01	35.25	101	85 - 115	

ANALYSIS DATA SHEET

LNC-018-DS-SB3-02

Laboratory: Empirical Laboratories, LLC SDG: 1305125
Client: SAIC (S732) Project: Lincoln NE ANG
Matrix: Solid Laboratory ID: 1305125-34 File ID: 0512534.D
Sampled: 05/09/13 13:00 Prepared: 05/21/13 14:15 Analyzed: 06/03/13 14:14
Solids: 80.54 Preparation: EXT 3546 Dilution: 1
Batch: 3E20014 Sequence: 3F15517 Calibration: 2272005 Instrument: MS-BNA1

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
98-86-2	Acetophenone		100	201	401	UX
1912-24-9	Atrazine		100	201	401	U
100-52-7	Benzaldehyde		100	201	401	U
92-52-4	1,1-Biphenyl		100	201	401	U
101-55-3	4-Bromophenyl-phenylether		100	201	401	U
85-68-7	Butylbenzylphthalate		100	201	401	U
105-60-2	Caprolactam		100	201	401	U
86-74-8	Carbazole		100	201	401	U
59-50-7	4-Chloro-3-methylphenol		100	201	401	U
106-47-8	4-Chloroaniline		100	201	401	U
111-91-1	Bis(2-chloroethoxy)methane		100	201	401	U
111-44-4	Bis(2-chloroethyl)ether		100	201	401	U
108-60-1	2,2'-Oxybis-1-chloropropane		100	201	401	U
91-58-7	2-Chloronaphthalene		100	201	401	U
95-57-8	2-Chlorophenol		100	201	401	U
7005-72-3	4-Chlorophenyl phenyl ether		100	201	401	U
132-64-9	Dibenzofuran		100	201	401	U
84-74-2	Di-n-butylphthalate		100	201	401	U
91-94-1	3,3'-Dichlorobenzidine		100	201	401	U
120-83-2	2,4-Dichlorophenol		100	201	401	U
84-66-2	Diethylphthalate		100	201	401	U
105-67-9	2,4-Dimethylphenol		401	803	1600	U
131-11-3	Dimethyl phthalate		100	201	401	U
534-52-1	4,6-Dinitro-2-methylphenol		1000	2010	4010	U
51-28-5	2,4-Dinitrophenol		1000	2010	4010	U
121-14-2	2,4-Dinitrotoluene		100	201	401	U
606-20-2	2,6-Dinitrotoluene		100	201	401	U
117-84-0	Di-n-octylphthalate		100	201	401	U
117-81-7	Bis(2-ethylhexyl)phthalate		100	201	401	U
118-74-1	Hexachlorobenzene		100	201	401	U
87-68-3	Hexachlorobutadiene		100	201	401	U
77-47-4	Hexachlorocyclopentadiene		100	201	401	U
67-72-1	Hexachloroethane		100	201	401	U
78-59-1	Isophorone		100	201	401	U
95-48-7	2-Methylphenol		100	201	401	U
106-44-5	4-Methylphenol		100	201	401	U
100-01-6	4-Nitroaniline		401	803	1600	U
99-09-2	3-Nitroaniline		401	803	1600	U
88-74-4	2-Nitroaniline		401	803	1600	U
98-95-3	Nitrobenzene		100	201	401	U

U

1305125

ANALYSIS DATA SHEET

LNC-018-DS-SB3-02

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Solid	Laboratory ID:	1305125-34	File ID:	0512534.D
Sampled:	05/09/13 13:00	Prepared:	05/21/13 14:15	Analyzed:	06/03/13 14:14
Solids:	80.54	Preparation:	EXT 3546	Dilution:	1

Batch: 3E20014 Sequence: 3F15517 Calibration: 2272005 Instrument: MS-BNA1

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
100-02-7	4-Nitrophenol		401	803	1600	U
88-75-5	2-Nitrophenol		100	201	401	U
86-30-6	N-Nitrosodiphenylamine		100	201	401	U
621-64-7	N-Nitroso-di-n-propylamine		100	201	401	U
87-86-5	Pentachlorophenol		401	803	1600	U
108-95-2	Phenol		100	201	401	U
95-94-3	1,2,4,5-Tetrachlorobenzene		100	201	401	U
58-90-2	2,3,4,6-Tetrachlorophenol		100	201	401	U
88-06-2	2,4,6-Trichlorophenol		100	201	401	U
95-95-4	2,4,5-Trichlorophenol		100	201	401	U

Total Target Analytes Reported: 50

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	4013	2343	58.4	45 - 105	
2-Fluorophenol	8026	5214	65.0	35 - 105	
Nitrobenzene-d5	4013	2601	64.8	35 - 100	
Phenol-d6	8026	5258	65.5	40 - 100	
Terphenyl-d14	4013	2559	63.8	30 - 125	
2,4,6-Tribromophenol	8026	4378	54.5	35 - 125	

ANALYSIS DATA SHEET

LNC-018-DS-SB3-02

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Solid	Laboratory ID:	1305125-34	File ID:	0512534.D
Sampled:	05/09/13 13:00	Prepared:	05/21/13 14:15	Analyzed:	06/16/13 03:43
Solids:	80.54	Preparation:	EXT 3546	Dilution:	1

Batch: 3E20014 Sequence: 3F16823 Calibration: 3122001 Instrument: MS-BNA4

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
83-32-9	Acenaphthene		2.01	4.01	8.03	U
208-96-8	Acenaphthylene		2.01	4.01	8.03	U
120-12-7	Anthracene		2.01	4.01	8.03	U
56-55-3	Benzo(a)anthracene		2.01	4.01	8.03	U
50-32-8	Benzo(a)pyrene		2.01	4.01	8.03	U
205-99-2	Benzo(b)fluoranthene		2.01	4.01	8.03	U
191-24-2	Benzo(g,h,i)perylene		2.01	4.01	8.03	U
207-08-9	Benzo(k)fluoranthene		2.01	4.01	8.03	U
123-91-1	1,4-Dioxane		10.0	20.1	40.1	U
218-01-9	Chrysene		2.01	4.01	8.03	U
53-70-3	Dibenz(a,h)anthracene		2.01	4.01	8.03	U
206-44-0	Fluoranthene		2.01	4.01	8.03	U
86-73-7	Fluorene		2.01	4.01	8.03	U
193-39-5	Indeno(1,2,3-cd)pyrene		2.01	4.01	8.03	U
91-57-6	2-Methylnaphthalene		2.01	4.01	8.03	U
91-20-3	Naphthalene		2.01	4.01	8.03	U
85-01-8	Phenanthrene		2.01	4.01	8.03	U
129-00-0	Pyrene		2.01	4.01	8.03	U

Total Target Analytes Reported: 18

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	4013	2831	70.5	45 - 105	
Terphenyl-d14	4013	2912	72.6	30 - 125	
2,4,6-Tribromophenol	8026	6051	75.4	35 - 125	X

ANALYSIS DATA SHEET

LNC-018-DS-SB3-02

Laboratory: Empirical Laboratories, LLC   SDG: 1305125
Client: SAIC (S732)   Project: Lincoln NE ANG
Matrix: Solid   Laboratory ID: 1305125-34   File ID: 013F1301.D
Sampled: 05/09/13 13:00   Prepared: 05/22/13 11:45   Analyzed: 05/24/13 00:59
Solids: 80.54   Preparation: EXT 3546   Dilution: 1
Batch: 3E21011   Sequence: 3E14910   Calibration: 3143004   Instrument: GL-GCFID2

CAS NO.	COMPOUND	CONC. (mg/Kg dry)	DL	LOD	LOQ	Q
11-84-7	Diesel Range Organics (C10-C28)		8.01	8.01	15.9	U

U

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	1.595	1.479	92.7	35 - 140	

ANALYSIS DATA SHEET

LNC-018-DS-SB3-02

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Solid	Laboratory ID:	1305125-34	File ID:	006F0601.D
Sampled:	05/09/13 13:00	Prepared:	05/21/13 09:31	Analyzed:	05/21/13 13:48
Solids:	80.54	Preparation:	8015GRO	Dilution:	1

Batch: 3E21020 Sequence: 3E14312 Calibration: 3044001 Instrument: GL-GCVOA2

CAS NO.	COMPOUND	CONC. (mg/Kg dry)	DL	LOD	LOQ	Q
8006-61-9	Gasoline Range Organics (C6-C10)		2.90	5.79	8.69	U

U

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q
Bromofluorobenzene	2.895	3.718	128	50 - 150	

ANALYSIS DATA SHEET

LNC-019-DS-SB1-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Solid	Laboratory ID:	1305125-22	File ID:	0512522A.D
Sampled:	05/08/13 15:07	Prepared:	05/20/13 00:00	Analyzed:	05/20/13 12:08
Solids:	80.70	Preparation:	5035A	Dilution:	1

Batch: 3E20008 Sequence: 3E14106 Calibration: 3140003 Instrument: MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
67-64-1	Acetone	42.6	6.39	12.8	25.5	R X ~~J~~ COS, FI2
71-43-2	Benzene		1.60	3.19	6.39	U U
74-97-5	Bromochloromethane		1.60	3.19	6.39	U
75-27-4	Bromodichloromethane		1.60	3.19	6.39	U
75-25-2	Bromoform		1.60	3.19	6.39	U
74-83-9	Bromomethane		3.19	6.39	12.8	U
78-93-3	2-Butanone		3.19	6.39	12.8	UX
75-15-0	Carbon disulfide		1.60	3.19	6.39	U
56-23-5	Carbon tetrachloride		1.60	3.19	6.39	U
108-90-7	Chlorobenzene		1.60	3.19	6.39	U
75-00-3	Chloroethane		3.19	6.39	12.8	U
67-66-3	Chloroform		1.60	3.19	6.39	U
74-87-3	Chloromethane		3.19	6.39	12.8	U
110-82-7	Cyclohexane		1.60	3.19	6.39	U
124-48-1	Dibromochloromethane		1.60	3.19	6.39	U
96-12-8	1,2-Dibromo-3-chloropropane		3.19	6.39	12.8	U
106-93-4	1,2-Dibromoethane (EDB)		1.60	3.19	6.39	U
95-50-1	1,2-Dichlorobenzene		1.60	3.19	6.39	U
541-73-1	1,3-Dichlorobenzene		1.60	3.19	6.39	U
106-46-7	1,4-Dichlorobenzene		1.60	3.19	6.39	U
75-71-8	Dichlorodifluoromethane		3.19	6.39	12.8	U
75-34-3	1,1-Dichloroethane		1.60	3.19	6.39	U
107-06-2	1,2-Dichloroethane		1.60	3.19	6.39	U
75-35-4	1,1-Dichloroethene		1.60	3.19	6.39	U
156-59-2	cis-1,2-Dichloroethene		1.60	3.19	6.39	U
156-60-5	trans-1,2-Dichloroethene		1.60	3.19	6.39	U
78-87-5	1,2-Dichloropropane		1.60	3.19	6.39	U
10061-01-5	cis-1,3-Dichloropropene		1.60	3.19	6.39	U
10061-02-6	trans-1,3-Dichloropropene		1.60	3.19	6.39	U
100-41-4	Ethylbenzene		1.60	3.19	6.39	U
591-78-6	2-Hexanone		3.19	6.39	12.8	UXQ
98-82-8	Isopropylbenzene		1.60	3.19	6.39	U
75-09-2	Methylene chloride	122	3.19	6.39	12.8	~~J~~R FI2
79-20-9	Methyl Acetate		3.19	6.39	12.8	U U
108-87-2	Methylcyclohexane		1.60	3.19	6.39	U
108-10-1	4-Methyl-2-pentanone		3.19	6.39	12.8	U
1634-04-4	Methyl t-Butyl Ether		1.60	3.19	6.39	U
100-42-5	Styrene		1.60	3.19	6.39	U
79-34-5	1,1,2,2-Tetrachloroethane		1.60	3.19	6.39	U
127-18-4	Tetrachloroethene		1.60	3.19	6.39	U

JN 06/25/2013

ANALYSIS DATA SHEET

LNC-019-DS-SB1-01

Laboratory:	Empirical Laboratories, LLC		SDG:	1305125	
Client:	SAIC (S732)		Project:	Lincoln NE ANG	
Matrix:	Solid	Laboratory ID: 1305125-22	File ID:	0512522A.D	
Sampled:	05/08/13 15:07	Prepared: 05/20/13 00:00	Analyzed:	05/20/13 12:08	
Solids:	80.70	Preparation: 5035A	Dilution:	1	
Batch:	3E20008	Sequence: 3E14106	Calibration:	3140003	Instrument: MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
108-88-3	Toluene		1.60	3.19	6.39	U
87-61-6	1,2,3-Trichlorobenzene		1.60	3.19	6.39	U
120-82-1	1,2,4-Trichlorobenzene		1.60	3.19	6.39	U
79-00-5	1,1,2-Trichloroethane		1.60	3.19	6.39	U
71-55-6	1,1,1-Trichloroethane		1.60	3.19	6.39	U
79-01-6	Trichloroethene		1.60	3.19	6.39	U
75-69-4	Trichlorofluoromethane		3.19	6.39	12.8	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		3.19	6.39	12.8	U
75-01-4	Vinyl chloride		1.60	3.19	6.39	U
108-38-3/106-42-	m,p-Xylene		3.19	6.39	12.8	U
95-47-6	o-Xylene		1.60	3.19	6.39	U

U

Total Target Analytes Reported: 51

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
Bromofluorobenzene	38.32	40.05	104	85 - 120	
Dibromofluoromethane	38.32	39.91	104	80 - 125	
1,2-Dichloroethane-d4	38.32	44.60	116	75 - 140	
Toluene-d8	38.32	38.02	99.2	85 - 115	

ANALYSIS DATA SHEET

LNC-019-DS-SB1-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Solid	Laboratory ID:	1305125-22	File ID:	0512522.D
Sampled:	05/08/13 15:07	Prepared:	05/21/13 18:30	Analyzed:	05/30/13 01:02
Solids:	80.70	Preparation:	EXT 3546	Dilution:	1
Batch:	3E20013	Sequence:	3E15026	Calibration:	2272005
Instrument:	MS-BNA1				

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
98-86-2	Acetophenone		99.6	200	398	U U
1912-24-9	Atrazine		99.6	200	398	UY UJ COS
100-52-7	Benzaldehyde		99.6	200	398	U U
92-52-4	1,1-Biphenyl		99.6	200	398	U
101-55-3	4-Bromophenyl-phenylether		99.6	200	398	U
85-68-7	Butylbenzylphthalate		99.6	200	398	U
105-60-2	Caprolactam		99.6	200	398	U
86-74-8	Carbazole		99.6	200	398	U
59-50-7	4-Chloro-3-methylphenol		99.6	200	398	U
106-47-8	4-Chloroaniline		99.6	200	398	U
111-91-1	Bis(2-chloroethoxy)methane		99.6	200	398	U
111-44-4	Bis(2-chloroethyl)ether		99.6	200	398	U
108-60-1	2,2'-Oxybis-1-chloropropane		99.6	200	398	U
91-58-7	2-Chloronaphthalene		99.6	200	398	U
95-57-8	2-Chlorophenol		99.6	200	398	U
7005-72-3	4-Chlorophenyl phenyl ether		99.6	200	398	U
132-64-9	Dibenzofuran		99.6	200	398	U
84-74-2	Di-n-butylphthalate		99.6	200	398	U
91-94-1	3,3'-Dichlorobenzidine		99.6	200	398	U
120-83-2	2,4-Dichlorophenol		99.6	200	398	U
84-66-2	Diethylphthalate		99.6	200	398	U
105-67-9	2,4-Dimethylphenol		398	798	1590	U
131-11-3	Dimethyl phthalate		99.6	200	398	U
534-52-1	4,6-Dinitro-2-methylphenol		996	2000	3980	U
51-28-5	2,4-Dinitrophenol		996	2000	3980	U
121-14-2	2,4-Dinitrotoluene		99.6	200	398	U
606-20-2	2,6-Dinitrotoluene		99.6	200	398	U
117-84-0	Di-n-octylphthalate		99.6	200	398	U
117-81-7	Bis(2-ethylhexyl)phthalate		99.6	200	398	U
118-74-1	Hexachlorobenzene		99.6	200	398	U
87-68-3	Hexachlorobutadiene		99.6	200	398	U
77-47-4	Hexachlorocyclopentadiene		99.6	200	398	U
67-72-1	Hexachloroethane		99.6	200	398	UX
78-59-1	Isophorone		99.6	200	398	U
95-48-7	2-Methylphenol		99.6	200	398	U
106-44-5	4-Methylphenol		99.6	200	398	U
100-01-6	4-Nitroaniline		398	798	1590	U
99-09-2	3-Nitroaniline		398	798	1590	U
88-74-4	2-Nitroaniline		398	798	1590	U
98-95-3	Nitrobenzene		99.6	200	398	U

ANALYSIS DATA SHEET

LNC-019-DS-SB1-01

Laboratory:	Empirical Laboratories, LLC		SDG:	1305125	
Client:	SAIC (S732)		Project:	Lincoln NE ANG	
Matrix:	Solid	Laboratory ID: 1305125-22	File ID:	0512522.D	
Sampled:	05/08/13 15:07	Prepared: 05/21/13 18:30	Analyzed:	05/30/13 01:02	
Solids:	80.70	Preparation: EXT 3546	Dilution:	1	
Batch:	3E20013	Sequence: 3E15026	Calibration:	2272005	Instrument: MS-BNA1

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
100-02-7	4-Nitrophenol		398	798	1590	U
88-75-5	2-Nitrophenol		99.6	200	398	U
86-30-6	N-Nitrosodiphenylamine		99.6	200	398	U
621-64-7	N-Nitroso-di-n-propylamine		99.6	200	398	UX
87-86-5	Pentachlorophenol		398	798	1590	U
108-95-2	Phenol		99.6	200	398	U
95-94-3	1,2,4,5-Tetrachlorobenzene		99.6	200	398	U
58-90-2	2,3,4,6-Tetrachlorophenol		99.6	200	398	U
88-06-2	2,4,6-Trichlorophenol		99.6	200	398	U
95-95-4	2,4,5-Trichlorophenol		99.6	200	398	U

Total Target Analytes Reported: 50

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	3987	2698	67.7	45 - 105	
2-Fluorophenol	7974	5989	75.1	35 - 105	
Nitrobenzene-d5	3987	2730	68.5	35 - 100	
Phenol-d6	7974	6205	77.8	40 - 100	
Terphenyl-d14	3987	3108	78.0	30 - 125	
2,4,6-Tribromophenol	7974	5830	73.1	35 - 125	

ANALYSIS DATA SHEET

LNC-019-DS-SB1-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Solid	Laboratory ID:	1305125-22	File ID:	0512522.D
Sampled:	05/08/13 15:07	Prepared:	05/21/13 18:30	Analyzed:	05/30/13 05:24
Solids:	80.70	Preparation:	EXT 3546	Dilution:	1
Batch:	3E20013	Sequence:	3E15034	Calibration:	3122001
Instrument:	MS-BNA4				

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
83-32-9	Acenaphthene		2.00	3.98	7.98	U
208-96-8	Acenaphthylene		2.00	3.98	7.98	U
120-12-7	Anthracene		2.00	3.98	7.98	U
56-55-3	Benzo(a)anthracene		2.00	3.98	7.98	U
50-32-8	Benzo(a)pyrene		2.00	3.98	7.98	U
205-99-2	Benzo(b)fluoranthene		2.00	3.98	7.98	U
191-24-2	Benzo(g,h,i)perylene		2.00	3.98	7.98	U
207-08-9	Benzo(k)fluoranthene		2.00	3.98	7.98	U
123-91-1	1,4-Dioxane		9.96	20.0	39.8	U
218-01-9	Chrysene		2.00	3.98	7.98	UXQ
53-70-3	Dibenz(a,h)anthracene		2.00	3.98	7.98	U
206-44-0	Fluoranthene		2.00	3.98	7.98	U
86-73-7	Fluorene		2.00	3.98	7.98	U
193-39-5	Indeno(1,2,3-cd)pyrene		2.00	3.98	7.98	U
91-57-6	2-Methylnaphthalene		2.00	3.98	7.98	U
91-20-3	Naphthalene		2.00	3.98	7.98	U
85-01-8	Phenanthrene		2.00	3.98	7.98	U
129-00-0	Pyrene		2.00	3.98	7.98	U

Total Target Analytes Reported: 18

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	3987	3585	89.9	45 - 105	
Terphenyl-d14	3987	3725	93.4	30 - 125	
2,4,6-Tribromophenol	7974	7795	97.8	35 - 125	

ANALYSIS DATA SHEET

LNC-019-DS-SB1-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125		
Client:	SAIC (S732)			Project:	Lincoln NE ANG		
Matrix:	Solid	Laboratory ID:	1305125-22	File ID:	030F3001.D		
Sampled:	05/08/13 15:07	Prepared:	05/20/13 12:19	Analyzed:	05/23/13 09:32		
Solids:	80.70	Preparation:	EXT 3546	Dilution:	1		
Batch:	3E17023	Sequence:	3E14606	Calibration:	3143004	Instrument:	GL-GCFID2

CAS NO.	COMPOUND	CONC. (mg/Kg dry)	DL	LOD	LOQ	Q
11-84-7	Diesel Range Organics (C10-C28)		7.97	7.97	15.8	U

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	1.586	1.325	83.6	35 - 140	

ANALYSIS DATA SHEET

LNC-019-DS-SB1-01

Laboratory: Empirical Laboratories, LLC SDG: 1305125

Client: SAIC (S732) Project: Lincoln NE ANG

Matrix: Solid Laboratory ID: 1305125-22 File ID: 015F1501.D

Sampled: 05/08/13 15:07 Prepared: 05/18/13 17:28 Analyzed: 05/19/13 03:13

Solids: 80.70 Preparation: 8015GRO Dilution: 1

Batch: 3E18011 Sequence: 3E14307 Calibration: 3044001 Instrument: GL-GCVOA2

CAS NO.	COMPOUND	CONC. (mg/Kg dry)	DL	LOD	LOQ	Q
8006-61-9	Gasoline Range Organics (C6-C10)	4.08	3.61	7.22	10.8	J

J

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q
Bromofluorobenzene	3.611	4.543	126	50 - 150	X

ANALYSIS DATA SHEET

LNC-019-DP-SB1-01

Laboratory:	Empirical Laboratories, LLC		SDG:	1305125	
Client:	SAIC (S732)		Project:	Lincoln NE ANG	
Matrix:	Water	Laboratory ID:	1305125-24	File ID:	0512524.D
Sampled:	05/08/13 16:25	Prepared:	05/21/13 19:18	Analyzed:	05/21/13 19:18
Solids:		Preparation:	5030B	Dilution:	1
Batch:	3E21015	Sequence:	3E14209	Calibration: 3140001	Instrument: MS-VOA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q	
67-64-1	Acetone	4.36	2.50	5.00	10.0	J	J
71-43-2	Benzene		0.250	0.500	1.00	U	U
74-97-5	Bromochloromethane		0.250	0.500	1.00	U	
75-27-4	Bromodichloromethane		0.250	0.500	1.00	U	
75-25-2	Bromoform		0.250	0.500	1.00	U	
74-83-9	Bromomethane		0.500	1.00	2.00	U	
78-93-3	2-Butanone		2.50	5.00	10.0	UX	
75-15-0	Carbon disulfide	0.400	0.250	0.500	1.00	J	J
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	U	U
108-90-7	Chlorobenzene		0.250	0.500	1.00	U	
75-00-3	Chloroethane		0.500	1.00	2.00	U	
67-66-3	Chloroform		0.250	0.500	1.00	U	
74-87-3	Chloromethane	0.440	0.250	0.500	1.00	J	J
110-82-7	Cyclohexane		0.250	0.500	1.00	U	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U	
96-12-8	1,2-Dibromo-3-chloropropane		0.500	1.00	2.00	U	
106-93-4	1,2-Dibromoethane (EDB)		0.250	0.500	1.00	U	
95-50-1	1,2-Dichlorobenzene		0.250	0.500	1.00	U	
541-73-1	1,3-Dichlorobenzene		0.250	0.500	1.00	U	
106-46-7	1,4-Dichlorobenzene		0.250	0.500	1.00	U	
75-71-8	Dichlorodifluoromethane		0.500	1.00	2.00	U	
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U	
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U	
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U	
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U	
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U	
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U	
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U	
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U	
100-41-4	Ethylbenzene		0.250	0.500	1.00	U	
591-78-6	2-Hexanone		1.25	2.50	5.00	UX	
98-82-8	Isopropylbenzene		0.250	0.500	1.00	U	
75-09-2	Methylene chloride		0.500	1.00	2.00	U	
79-20-9	Methyl Acetate		0.500	1.00	2.00	U	
108-87-2	Methylcyclohexane		0.250	0.500	1.00	U	
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	UX	
1634-04-4	Methyl t-Butyl Ether		0.250	0.500	1.00	U	
100-42-5	Styrene		0.250	0.500	1.00	U	
79-34-5	1,1,2,2-Tetrachloroethane		0.250	0.500	1.00	U	
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U	

ANALYSIS DATA SHEET

LNC-019-DP-SB1-01

Laboratory:	Empirical Laboratories, LLC		SDG:	1305125	
Client:	SAIC (S732)		Project:	Lincoln NE ANG	
Matrix:	Water	Laboratory ID: 1305125-24	File ID:	0512524.D	
Sampled:	05/08/13 16:25	Prepared: 05/21/13 19:18	Analyzed:	05/21/13 19:18	
Solids:		Preparation: 5030B	Dilution:	1	
Batch:	3E21015	Sequence: 3E14209	Calibration:	3140001	Instrument: MS-VOA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
108-88-3	Toluene		0.250	0.500	1.00	U
87-61-6	1,2,3-Trichlorobenzene		0.250	0.500	1.00	U
120-82-1	1,2,4-Trichlorobenzene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	U
79-01-6	Trichloroethene		0.250	0.500	1.00	U
75-69-4	Trichlorofluoromethane		0.500	1.00	2.00	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		0.500	1.00	2.00	U
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
108-38-3/106-42-	m,p-Xylene		0.500	1.00	2.00	U
95-47-6	o-Xylene		0.250	0.500	1.00	U

Total Target Analytes Reported: 51

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	32.55	108	75 - 120	
Dibromofluoromethane	30.00	32.15	107	85 - 115	
1,2-Dichloroethane-d4	30.00	32.01	107	70 - 120	
Toluene-d8	30.00	30.83	103	85 - 120	

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ANALYSIS DATA SHEET

LNC-019-DP-SB1-01

Laboratory: Empirical Laboratories, LLC SDG: 1305125
Client: SAIC (S732) Project: Lincoln NE ANG
Matrix: Water Laboratory ID: 1305125-24 File ID: 0512524.D
Sampled: 05/08/13 16:25 Prepared: 05/15/13 18:15 Analyzed: 05/20/13 13:07
Solids: Preparation: EXT 3510 Dilution: 1
Batch: 3E15016 Sequence: 3E14505 Calibration: 2261001 Instrument: MS-BNA3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q	
98-86-2	Acetophenone		1.25	2.50	5.00	U	U
1912-24-9	Atrazine		1.25	2.50	5.00	~~U~~ UJ	C05
100-52-7	Benzaldehyde		1.25	2.50	5.00	U	U
92-52-4	1,1-Biphenyl		1.25	2.50	5.00	U	
101-55-3	4-Bromophenyl-phenylether		1.25	2.50	5.00	U	
85-68-7	Butylbenzylphthalate		1.25	2.50	5.00	U	
105-60-2	Caprolactam		1.25	2.50	5.00	U	
86-74-8	Carbazole		1.25	2.50	5.00	U	
59-50-7	4-Chloro-3-methylphenol		1.25	2.50	5.00	U	
106-47-8	4-Chloroaniline		1.25	2.50	5.00	U	
111-91-1	Bis(2-chloroethoxy)methane		1.25	2.50	5.00	U	
111-44-4	Bis(2-chloroethyl)ether		1.25	2.50	5.00	U	
108-60-1	2,2'-Oxybis-1-chloropropane		1.25	2.50	5.00	U	
91-58-7	2-Chloronaphthalene		1.25	2.50	5.00	U	
95-57-8	2-Chlorophenol		1.25	2.50	5.00	U	
7005-72-3	4-Chlorophenyl phenyl ether		1.25	2.50	5.00	U	
132-64-9	Dibenzofuran		1.25	2.50	5.00	U	
84-74-2	Di-n-butylphthalate		1.25	2.50	5.00	U	
91-94-1	3,3'-Dichlorobenzidine		1.25	2.50	5.00	U	
120-83-2	2,4-Dichlorophenol		1.25	2.50	5.00	U	
84-66-2	Diethylphthalate		1.25	2.50	5.00	U	
105-67-9	2,4-Dimethylphenol		5.00	10.0	20.0	U	
131-11-3	Dimethyl phthalate		1.25	2.50	5.00	U	
534-52-1	4,6-Dinitro-2-methylphenol		5.00	10.0	20.0	U	
51-28-5	2,4-Dinitrophenol		8.33	25.0	50.0	U	
121-14-2	2,4-Dinitrotoluene		1.25	2.50	5.00	U	
606-20-2	2,6-Dinitrotoluene		1.25	2.50	5.00	U	
117-84-0	Di-n-octylphthalate		1.25	2.50	5.00	U	
117-81-7	Bis(2-ethylhexyl)phthalate		1.25	2.50	5.00	U	
118-74-1	Hexachlorobenzene		1.25	2.50	5.00	U	
87-68-3	Hexachlorobutadiene		1.25	2.50	5.00	U	
77-47-4	Hexachlorocyclopentadiene		1.25	5.00	10.0	U	
67-72-1	Hexachloroethane		1.25	2.50	5.00	U	
78-59-1	Isophorone		1.25	2.50	5.00	U	
95-48-7	2-Methylphenol		1.25	2.50	5.00	U	
106-44-5	4-Methylphenol		1.25	2.50	5.00	U	
100-01-6	4-Nitroaniline		5.00	10.0	20.0	U	
99-09-2	3-Nitroaniline		5.00	10.0	20.0	U	
88-74-4	2-Nitroaniline		5.00	10.0	20.0	U	
98-95-3	Nitrobenzene		1.25	2.50	5.00	U	U

ANALYSIS DATA SHEET

LNC-019-DP-SB1-01

Laboratory:	Empirical Laboratories, LLC		SDG:	1305125	
Client:	SAIC (S732)		Project:	Lincoln NE ANG	
Matrix:	Water	Laboratory ID: 1305125-24	File ID:	0512524.D	
Sampled:	05/08/13 16:25	Prepared: 05/15/13 18:15	Analyzed:	05/20/13 13:07	
Solids:		Preparation: EXT 3510	Dilution:	1	
Batch:	3E15016	Sequence: 3E14505	Calibration:	2261001	Instrument: MS-BNA3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
100-02-7	4-Nitrophenol		5.00	10.0	20.0	U
88-75-5	2-Nitrophenol		1.25	2.50	5.00	U
86-30-6	N-Nitrosodiphenylamine		1.25	2.50	5.00	U
621-64-7	N-Nitroso-di-n-propylamine		1.25	2.50	5.00	U
87-86-5	Pentachlorophenol		5.00	10.0	20.0	U
108-95-2	Phenol		1.25	2.50	5.00	U
95-94-3	1,2,4,5-Tetrachlorobenzene		1.25	2.50	5.00	U
58-90-2	2,3,4,6-Tetrachlorophenol		2.50	5.00	10.0	U
88-06-2	2,4,6-Trichlorophenol		1.25	2.50	5.00	U
95-95-4	2,4,5-Trichlorophenol		1.25	2.50	5.00	U

Total Target Analytes Reported: 50

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	50.00	24.72	49.4	50 - 110	*
2-Fluorophenol	100.0	35.22	35.2	20 - 110	
Nitrobenzene-d5	50.00	23.83	47.7	40 - 110	
Phenol-d6	100.0	27.63	27.6	0 - 110	
Terphenyl-d14	50.00	31.18	62.4	50 - 135	
2,4,6-Tribromophenol	100.0	49.42	49.4	40 - 125	

ANALYSIS DATA SHEET

LNC-019-DP-SB1-01

Laboratory: Empirical Laboratories, LLC SDG: 1305125

Client: SAIC (S732) Project: Lincoln NE ANG

Matrix: Water Laboratory ID: 1305125-24 File ID: 0512524.D

Sampled: 05/08/13 16:25 Prepared: 05/15/13 18:15 Analyzed: 06/15/13 22:05

Solids: Preparation: EXT 3510 Dilution: 1

Batch: 3E15016 Sequence: 3F16823 Calibration: 3122001 Instrument: MS-BNA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q	
83-32-9	Acenaphthene		0.0500	0.100	0.200	U	U
208-96-8	Acenaphthylene		0.0500	0.100	0.200	U	
120-12-7	Anthracene		0.0500	0.100	0.200	U	
56-55-3	Benzo(a)anthracene		0.0500	0.100	0.200	U	
50-32-8	Benzo(a)pyrene		0.0500	0.100	0.200	U	
205-99-2	Benzo(b)fluoranthene		0.0500	0.100	0.200	U	
191-24-2	Benzo(g,h,i)perylene		0.0500	0.100	0.200	U	
207-08-9	Benzo(k)fluoranthene		0.0500	0.100	0.200	U	
123-91-1	1,4-Dioxane		0.125	0.250	0.500	U	
218-01-9	Chrysene		0.0500	0.100	0.200	U	
53-70-3	Dibenz(a,h)anthracene		0.0500	0.100	0.200	U	
206-44-0	Fluoranthene		0.0500	0.100	0.200	U	
86-73-7	Fluorene		0.0500	0.100	0.200	U	
193-39-5	Indeno(1,2,3-cd)pyrene		0.0500	0.100	0.200	U	
91-57-6	2-Methylnaphthalene		0.0500	0.100	0.200	U	
91-20-3	Naphthalene		0.0500	0.100	0.200	U	
85-01-8	Phenanthrene	0.0574	0.0500	0.200	0.400	J	J
129-00-0	Pyrene		0.0500	0.100	0.200	U	U

Total Target Analytes Reported: 18

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	50.00	25.57	51.1	50 - 110	
Terphenyl-d14	50.00	28.90	57.8	50 - 135	
2,4,6-Tribromophenol	100.0	52.99	53.0	40 - 125	

ANALYSIS DATA SHEET

LNC-019-DP-SB1-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125		
Client:	SAIC (S732)			Project:	Lincoln NE ANG		
Matrix:	Water	Laboratory ID:	1305125-24	File ID:	021F2101.D		
Sampled:	05/08/13 16:25	Prepared:	05/14/13 19:02	Analyzed:	05/21/13 07:34		
Solids:		Preparation:	EXT_3510	Dilution:	1		
Batch:	3E14020	Sequence:	3E14605	Calibration:	3143004	Instrument:	GL-GCFID2

CAS NO.	COMPOUND	CONC. (mg/L)	DL	LOD	LOQ	Q
11-84-7	Diesel Range Organics (C10-C28)		0.100	0.100	0.200	U

U

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/L)	CONC (mg/L)	% REC	QC LIMITS	Q
o-Terphenyl	0.04000	0.02436	60.9	30 - 140	

ANALYSIS DATA SHEET

LNC-019-DP-SB1-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Water	Laboratory ID:	1305125-24	File ID:	012F1601.D
Sampled:	05/08/13 16:25	Prepared:	05/16/13 20:08	Analyzed:	05/16/13 20:08
Solids:		Preparation:	8015GRO	Dilution:	1

Batch: 3E16005 Sequence: 3E14043 Calibration: 3044001 Instrument: GL-GCVOA2

CAS NO.	COMPOUND	CONC. (mg/L)	DL	LOD	LOQ	Q
8006-61-9	Gasoline Range Organics (C6-C10)		0.0500	0.100	0.150	U

U

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/L)	CONC (mg/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	0.05000	0.06925	138	50 - 150	

ANALYSIS DATA SHEET

LNC-019-DS-SB1-02

Laboratory: Empirical Laboratories, LLC SDG: 1305125

Client: SAIC (S732) Project: Lincoln NE ANG

Matrix: Solid Laboratory ID: 1305125-23 File ID: 0512523A.D

Sampled: 05/08/13 15:13 Prepared: 05/20/13 00:00 Analyzed: 05/20/13 12:37

Solids: 79.04 Preparation: 5035A Dilution: 1

Batch: 3E20008 Sequence: 3E14106 Calibration: 3140003 Instrument: MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q	
67-64-1	Acetone		7.43	14.9	29.7	UX	U
71-43-2	Benzene		1.86	3.71	7.43	U	
74-97-5	Bromochloromethane		1.86	3.71	7.43	U	
75-27-4	Bromodichloromethane		1.86	3.71	7.43	U	
75-25-2	Bromoform		1.86	3.71	7.43	U	
74-83-9	Bromomethane		3.71	7.43	14.9	U	
78-93-3	2-Butanone		3.71	7.43	14.9	UX	
75-15-0	Carbon disulfide		1.86	3.71	7.43	U	
56-23-5	Carbon tetrachloride		1.86	3.71	7.43	U	
108-90-7	Chlorobenzene		1.86	3.71	7.43	U	
75-00-3	Chloroethane		3.71	7.43	14.9	U	
67-66-3	Chloroform		1.86	3.71	7.43	U	
74-87-3	Chloromethane		3.71	7.43	14.9	U	
110-82-7	Cyclohexane		1.86	3.71	7.43	U	
124-48-1	Dibromochloromethane		1.86	3.71	7.43	U	
96-12-8	1,2-Dibromo-3-chloropropane		3.71	7.43	14.9	U	
106-93-4	1,2-Dibromoethane (EDB)		1.86	3.71	7.43	U	
95-50-1	1,2-Dichlorobenzene		1.86	3.71	7.43	U	
541-73-1	1,3-Dichlorobenzene		1.86	3.71	7.43	U	
106-46-7	1,4-Dichlorobenzene		1.86	3.71	7.43	U	
75-71-8	Dichlorodifluoromethane		3.71	7.43	14.9	U	
75-34-3	1,1-Dichloroethane		1.86	3.71	7.43	U	
107-06-2	1,2-Dichloroethane		1.86	3.71	7.43	U	
75-35-4	1,1-Dichloroethene		1.86	3.71	7.43	U	
156-59-2	cis-1,2-Dichloroethene		1.86	3.71	7.43	U	
156-60-5	trans-1,2-Dichloroethene		1.86	3.71	7.43	U	
78-87-5	1,2-Dichloropropane		1.86	3.71	7.43	U	
10061-01-5	cis-1,3-Dichloropropene		1.86	3.71	7.43	U	
10061-02-6	trans-1,3-Dichloropropene		1.86	3.71	7.43	U	
100-41-4	Ethylbenzene		1.86	3.71	7.43	U	
591-78-6	2-Hexanone		3.71	7.43	14.9	UXO	
98-82-8	Isopropylbenzene		1.86	3.71	7.43	U	
75-09-2	Methylene chloride	152	3.71	7.43	14.9		Z R,F12
79-20-9	Methyl Acetate		3.71	7.43	14.9	U	U
108-87-2	Methylcyclohexane		1.86	3.71	7.43	U	
108-10-1	4-Methyl-2-pentanone		3.71	7.43	14.9	U	
1634-04-4	Methyl t-Butyl Ether		1.86	3.71	7.43	U	
100-42-5	Styrene		1.86	3.71	7.43	U	
79-34-5	1,1,2,2-Tetrachloroethane		1.86	3.71	7.43	U	
127-18-4	Tetrachloroethene		1.86	3.71	7.43	U	

1305125

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ANALYSIS DATA SHEET

LNC-019-DS-SB1-02

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Solid	Laboratory ID:	1305125-23	File ID:	0512523A.D
Sampled:	05/08/13 15:13	Prepared:	05/20/13 00:00	Analyzed:	05/20/13 12:37
Solids:	79.04	Preparation:	5035A	Dilution:	1

Batch: 3E20008 Sequence: 3E14106 Calibration: 3140003 Instrument: MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
108-88-3	Toluene		1.86	3.71	7.43	U
87-61-6	1,2,3-Trichlorobenzene		1.86	3.71	7.43	U
120-82-1	1,2,4-Trichlorobenzene		1.86	3.71	7.43	U
79-00-5	1,1,2-Trichloroethane		1.86	3.71	7.43	U
71-55-6	1,1,1-Trichloroethane		1.86	3.71	7.43	U
79-01-6	Trichloroethene		1.86	3.71	7.43	U
75-69-4	Trichlorofluoromethane		3.71	7.43	14.9	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		3.71	7.43	14.9	U
75-01-4	Vinyl chloride		1.86	3.71	7.43	U
108-38-3/106-42-	m,p-Xylene		3.71	7.43	14.9	U
95-47-6	o-Xylene		1.86	3.71	7.43	U

U

Total Target Analytes Reported: 51

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
Bromofluorobenzene	44.55	44.03	98.8	85 - 120	
Dibromofluoromethane	44.55	48.25	108	80 - 125	
1,2-Dichloroethane-d4	44.55	51.03	115	75 - 140	
Toluene-d8	44.55	44.82	101	85 - 115	

ANALYSIS DATA SHEET

LNC-019-DS-SB1-02

Laboratory:	Empirical Laboratories, LLC		SDG:	1305125	
Client:	SAIC (S732)		Project:	Lincoln NE ANG	
Matrix:	Solid	Laboratory ID: 1305125-23	File ID:	0512523.D	
Sampled:	05/08/13 15:13	Prepared: 05/21/13 18:30	Analyzed:	05/30/13 01:30	
Solids:	79.04	Preparation: EXT_3546	Dilution:	1	
Batch:	3E20013	Sequence: 3E15026	Calibration:	2272005	Instrument: MS-BNA1

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
98-86-2	Acetophenone		102	205	409	U
1912-24-9	Atrazine		102	205	409	UY UJ C05
100-52-7	Benzaldehyde		102	205	409	U
92-52-4	1,1-Biphenyl		102	205	409	U
101-55-3	4-Bromophenyl-phenylether		102	205	409	U
85-68-7	Butylbenzylphthalate		102	205	409	U
105-60-2	Caprolactam		102	205	409	U
86-74-8	Carbazole		102	205	409	U
59-50-7	4-Chloro-3-methylphenol		102	205	409	U
106-47-8	4-Chloroaniline		102	205	409	U
111-91-1	Bis(2-chloroethoxy)methane		102	205	409	U
111-44-4	Bis(2-chloroethyl)ether		102	205	409	U
108-60-1	2,2'-Oxybis-1-chloropropane		102	205	409	U
91-58-7	2-Chloronaphthalene		102	205	409	U
95-57-8	2-Chlorophenol		102	205	409	U
7005-72-3	4-Chlorophenyl phenyl ether		102	205	409	U
132-64-9	Dibenzofuran		102	205	409	U
84-74-2	Di-n-butylphthalate		102	205	409	U
91-94-1	3,3'-Dichlorobenzidine		102	205	409	U
120-83-2	2,4-Dichlorophenol		102	205	409	U
84-66-2	Diethylphthalate		102	205	409	U
105-67-9	2,4-Dimethylphenol		409	818	1630	U
131-11-3	Dimethyl phthalate		102	205	409	U
534-52-1	4,6-Dinitro-2-methylphenol		1020	2050	4090	U
51-28-5	2,4-Dinitrophenol		1020	2050	4090	U
121-14-2	2,4-Dinitrotoluene		102	205	409	U
606-20-2	2,6-Dinitrotoluene		102	205	409	U
117-84-0	Di-n-octylphthalate		102	205	409	U
117-81-7	Bis(2-ethylhexyl)phthalate		102	205	409	U
118-74-1	Hexachlorobenzene		102	205	409	U
87-68-3	Hexachlorobutadiene		102	205	409	U
77-47-4	Hexachlorocyclopentadiene		102	205	409	U
67-72-1	Hexachloroethane		102	205	409	UX
78-59-1	Isophorone		102	205	409	U
95-48-7	2-Methylphenol		102	205	409	U
106-44-5	4-Methylphenol		102	205	409	U
100-01-6	4-Nitroaniline		409	818	1630	U
99-09-2	3-Nitroaniline		409	818	1630	U
88-74-4	2-Nitroaniline		409	818	1630	U
98-95-3	Nitrobenzene		102	205	409	U

U
U
U

ANALYSIS DATA SHEET

LNC-019-DS-SB1-02

Laboratory: Empirical Laboratories, LLC SDG: 1305125

Client: SAIC (S732) Project: Lincoln NE ANG

Matrix: Solid Laboratory ID: 1305125-23 File ID: 0512523.D

Sampled: 05/08/13 15:13 Prepared: 05/21/13 18:30 Analyzed: 05/30/13 01:30

Solids: 79.04 Preparation: EXT 3546 Dilution: 1

Batch: 3E20013 Sequence: 3E15026 Calibration: 2272005 Instrument: MS-BNA1

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
100-02-7	4-Nitrophenol		409	818	1630	U
88-75-5	2-Nitrophenol		102	205	409	U
86-30-6	N-Nitrosodiphenylamine		102	205	409	U
621-64-7	N-Nitroso-di-n-propylamine		102	205	409	UX
87-86-5	Pentachlorophenol		409	818	1630	U
108-95-2	Phenol		102	205	409	U
95-94-3	1,2,4,5-Tetrachlorobenzene		102	205	409	U
58-90-2	2,3,4,6-Tetrachlorophenol		102	205	409	U
88-06-2	2,4,6-Trichlorophenol		102	205	409	U
95-95-4	2,4,5-Trichlorophenol		102	205	409	U

Total Target Analytes Reported: 50

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	4089	2694	65.9	45 - 105	
2-Fluorophenol	8179	5763	70.5	35 - 105	
Nitrobenzene-d5	4089	2862	70.0	35 - 100	
Phenol-d6	8179	6167	75.4	40 - 100	
Terphenyl-d14	4089	3257	79.7	30 - 125	
2,4,6-Tribromophenol	8179	6025	73.7	35 - 125	

ANALYSIS DATA SHEET

LNC-019-DS-SB1-02

Laboratory:	Empirical Laboratories, LLC		SDG:	1305125	
Client:	SAIC (S732)		Project:	Lincoln NE ANG	
Matrix:	Solid	Laboratory ID: 1305125-23		File ID:	0512523.D
Sampled:	05/08/13 15:13	Prepared: 05/21/13 18:30		Analyzed:	05/30/13 05:50
Solids:	79.04	Preparation: EXT 3546		Dilution:	1
Batch:	3E20013	Sequence: 3E15034	Calibration: 3122001	Instrument:	MS-BNA4

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
83-32-9	Acenaphthene		2.05	4.09	8.18	U
208-96-8	Acenaphthylene		2.05	4.09	8.18	U
120-12-7	Anthracene		2.05	4.09	8.18	U
56-55-3	Benzo(a)anthracene		2.05	4.09	8.18	U
50-32-8	Benzo(a)pyrene		2.05	4.09	8.18	U
205-99-2	Benzo(b)fluoranthene		2.05	4.09	8.18	U
191-24-2	Benzo(g,h,i)perylene		2.05	4.09	8.18	U
207-08-9	Benzo(k)fluoranthene		2.05	4.09	8.18	U
123-91-1	1,4-Dioxane		10.2	20.5	40.9	U
218-01-9	Chrysene		2.05	4.09	8.18	UXQ
53-70-3	Dibenz(a,h)anthracene		2.05	4.09	8.18	U
206-44-0	Fluoranthene		2.05	4.09	8.18	U
86-73-7	Fluorene		2.05	4.09	8.18	U
193-39-5	Indeno(1,2,3-cd)pyrene		2.05	4.09	8.18	U
91-57-6	2-Methylnaphthalene		2.05	4.09	8.18	U
91-20-3	Naphthalene		2.05	4.09	8.18	U
85-01-8	Phenanthrene		2.05	4.09	8.18	U
129-00-0	Pyrene		2.05	4.09	8.18	U

U

Total Target Analytes Reported: 18

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	4089	3384	82.7	45 - 105	
Terphenyl-d14	4089	3616	88.4	30 - 125	
2,4,6-Tribromophenol	8179	7488	91.6	35 - 125	

ANALYSIS DATA SHEET

LNC-019-DS-SB1-02

Laboratory: Empirical Laboratories, LLC   SDG: 1305125

Client: SAIC (S732)   Project: Lincoln NE ANG

Matrix: Solid   Laboratory ID: 1305125-23   File ID: 032F3201.D

Sampled: 05/08/13 15:13   Prepared: 05/20/13 12:19   Analyzed: 05/23/13 10:39

Solids: 79.04   Preparation: EXT 3546   Dilution: 1

Batch: 3E17023   Sequence: 3E14606   Calibration: 3143004   Instrument: GL-GCFID2

CAS NO.	COMPOUND	CONC. (mg/Kg dry)	DL	LOD	LOQ	Q
11-84-7	Diesel Range Organics (C10-C28)		8.02	8.02	15.9	U

U

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	1.596	1.448	90.7	35 - 140	

ANALYSIS DATA SHEET

LNC-019-DS-SB1-02

Laboratory: Empirical Laboratories, LLC   SDG: 1305125

Client: SAIC (S732)   Project: Lincoln NE ANG

Matrix: Solid   Laboratory ID: 1305125-23   File ID: 017F1701.D

Sampled: 05/08/13 15:13   Prepared: 05/18/13 17:28   Analyzed: 05/19/13 04:33

Solids: 79.04   Preparation: 8015GRO   Dilution: 1

Batch: 3E18011   Sequence: 3E14307   Calibration: 3044001   Instrument: GL-GCVOA2

CAS NO.	COMPOUND	CONC. (mg/Kg dry)	DL	LOD	LOQ	Q
8006-61-9	Gasoline Range Organics (C6-C10)		3.61	7.22	10.8	U

U

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q
Bromofluorobenzene	3.611	4.332	120	50 - 150	X

ANALYSIS DATA SHEET

LNC-019-DS-SB2-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125		
Client:	SAIC (S732)			Project:	Lincoln NE ANG		
Matrix:	Solid	Laboratory ID:	1305125-25	File ID:	0512525A.D		
Sampled:	05/09/13 07:54	Prepared:	05/20/13 00:00	Analyzed:	05/20/13 13:06		
Solids:	76.68	Preparation:	5035A	Dilution:	1		
Batch:	3E20008	Sequence:	3E14106	Calibration:	3140003	Instrument:	MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
67-64-1	Acetone		6.55	13.1	26.2	UX
71-43-2	Benzene		1.64	3.27	6.55	U
74-97-5	Bromochloromethane		1.64	3.27	6.55	U
75-27-4	Bromodichloromethane		1.64	3.27	6.55	U
75-25-2	Bromoform		1.64	3.27	6.55	U
74-83-9	Bromomethane		3.27	6.55	13.1	U
78-93-3	2-Butanone		3.27	6.55	13.1	UX
75-15-0	Carbon disulfide		1.64	3.27	6.55	U
56-23-5	Carbon tetrachloride		1.64	3.27	6.55	U
108-90-7	Chlorobenzene		1.64	3.27	6.55	U
75-00-3	Chloroethane		3.27	6.55	13.1	U
67-66-3	Chloroform		1.64	3.27	6.55	U
74-87-3	Chloromethane		3.27	6.55	13.1	U
110-82-7	Cyclohexane		1.64	3.27	6.55	U
124-48-1	Dibromochloromethane		1.64	3.27	6.55	U
96-12-8	1,2-Dibromo-3-chloropropane		3.27	6.55	13.1	U
106-93-4	1,2-Dibromoethane (EDB)		1.64	3.27	6.55	U
95-50-1	1,2-Dichlorobenzene		1.64	3.27	6.55	U
541-73-1	1,3-Dichlorobenzene		1.64	3.27	6.55	U
106-46-7	1,4-Dichlorobenzene		1.64	3.27	6.55	U
75-71-8	Dichlorodifluoromethane		3.27	6.55	13.1	U
75-34-3	1,1-Dichloroethane		1.64	3.27	6.55	U
107-06-2	1,2-Dichloroethane		1.64	3.27	6.55	U
75-35-4	1,1-Dichloroethene		1.64	3.27	6.55	U
156-59-2	cis-1,2-Dichloroethene		1.64	3.27	6.55	U
156-60-5	trans-1,2-Dichloroethene		1.64	3.27	6.55	U
78-87-5	1,2-Dichloropropane		1.64	3.27	6.55	U
10061-01-5	cis-1,3-Dichloropropene		1.64	3.27	6.55	U
10061-02-6	trans-1,3-Dichloropropene		1.64	3.27	6.55	U
100-41-4	Ethylbenzene		1.64	3.27	6.55	U
591-78-6	2-Hexanone		3.27	6.55	13.1	UXQ
98-82-8	Isopropylbenzene		1.64	3.27	6.55	U
75-09-2	Methylene chloride		3.27	6.55	13.1	U
79-20-9	Methyl Acetate		3.27	6.55	13.1	U
108-87-2	Methylcyclohexane		1.64	3.27	6.55	U
108-10-1	4-Methyl-2-pentanone		3.27	6.55	13.1	U
1634-04-4	Methyl t-Butyl Ether		1.64	3.27	6.55	U
100-42-5	Styrene		1.64	3.27	6.55	U
79-34-5	1,1,2,2-Tetrachloroethane		1.64	3.27	6.55	U
127-18-4	Tetrachloroethene		1.64	3.27	6.55	U

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ANALYSIS DATA SHEET

LNC-019-DS-SB2-01

Laboratory: Empirical Laboratories, LLC SDG: 1305125

Client: SAIC (S732) Project: Lincoln NE ANG

Matrix: Solid Laboratory ID: 1305125-25 File ID: 0512525A.D

Sampled: 05/09/13 07:54 Prepared: 05/20/13 00:00 Analyzed: 05/20/13 13:06

Solids: 76.68 Preparation: 5035A Dilution: 1

Batch: 3E20008 Sequence: 3E14106 Calibration: 3140003 Instrument: MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
108-88-3	Toluene		1.64	3.27	6.55	U
87-61-6	1,2,3-Trichlorobenzene		1.64	3.27	6.55	U
120-82-1	1,2,4-Trichlorobenzene		1.64	3.27	6.55	U
79-00-5	1,1,2-Trichloroethane		1.64	3.27	6.55	U
71-55-6	1,1,1-Trichloroethane		1.64	3.27	6.55	U
79-01-6	Trichloroethene		1.64	3.27	6.55	U
75-69-4	Trichlorofluoromethane		3.27	6.55	13.1	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		3.27	6.55	13.1	U
75-01-4	Vinyl chloride		1.64	3.27	6.55	U
108-38-3/106-42-	m,p-Xylene		3.27	6.55	13.1	U
95-47-6	o-Xylene		1.64	3.27	6.55	U

Total Target Analytes Reported: 51

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
Bromofluorobenzene	39.28	38.90	99.0	85 - 120	
Dibromofluoromethane	39.28	42.25	108	80 - 125	
1,2-Dichloroethane-d4	39.28	43.22	110	75 - 140	
Toluene-d8	39.28	39.95	102	85 - 115	

ANALYSIS DATA SHEET

LNC-019-DS-SB2-01

Laboratory: Empirical Laboratories, LLC SDG: 1305125

Client: SAIC (S732) Project: Lincoln NE ANG

Matrix: Solid Laboratory ID: 1305125-25 File ID: 0512525.D

Sampled: 05/09/13 07:54 Prepared: 05/21/13 14:15 Analyzed: 06/02/13 05:54

Solids: 76.68 Preparation: EXT 3546 Dilution: 1

Batch: 3E20014 Sequence: 3F15519 Calibration: 2272005 Instrument: MS-BNA1

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q	
98-86-2	Acetophenone		107	215	428	UX	U
1912-24-9	Atrazine		107	215	428	U	U
100-52-7	Benzaldehyde		107	215	428	UY	UJ C05
92-52-4	1,1-Biphenyl		107	215	428	U	U
101-55-3	4-Bromophenyl-phenylether		107	215	428	U	
85-68-7	Butylbenzylphthalate		107	215	428	U	
105-60-2	Caprolactam		107	215	428	U	
86-74-8	Carbazole		107	215	428	U	
59-50-7	4-Chloro-3-methylphenol		107	215	428	U	
106-47-8	4-Chloroaniline		107	215	428	U	
111-91-1	Bis(2-chloroethoxy)methane		107	215	428	U	
111-44-4	Bis(2-chloroethyl)ether		107	215	428	U	
108-60-1	2,2'-Oxybis-1-chloropropane		107	215	428	U	
91-58-7	2-Chloronaphthalene		107	215	428	U	
95-57-8	2-Chlorophenol		107	215	428	U	
7005-72-3	4-Chlorophenyl phenyl ether		107	215	428	U	
132-64-9	Dibenzofuran		107	215	428	U	
84-74-2	Di-n-butylphthalate		107	215	428	U	
91-94-1	3,3'-Dichlorobenzidine		107	215	428	U	
120-83-2	2,4-Dichlorophenol		107	215	428	U	
84-66-2	Diethylphthalate		107	215	428	U	
105-67-9	2,4-Dimethylphenol		428	857	1710	U	
131-11-3	Dimethyl phthalate		107	215	428	U	
534-52-1	4,6-Dinitro-2-methylphenol		1070	2150	4280	U	
51-28-5	2,4-Dinitrophenol		1070	2150	4280	U	
121-14-2	2,4-Dinitrotoluene		107	215	428	U	
606-20-2	2,6-Dinitrotoluene		107	215	428	U	
117-84-0	Di-n-octylphthalate		107	215	428	U	
117-81-7	Bis(2-ethylhexyl)phthalate		107	215	428	U	
118-74-1	Hexachlorobenzene		107	215	428	U	
87-68-3	Hexachlorobutadiene		107	215	428	U	
77-47-4	Hexachlorocyclopentadiene		107	215	428	U	
67-72-1	Hexachloroethane		107	215	428	UX	
78-59-1	Isophorone		107	215	428	U	
95-48-7	2-Methylphenol		107	215	428	U	
106-44-5	4-Methylphenol		107	215	428	U	
100-01-6	4-Nitroaniline		428	857	1710	U	
99-09-2	3-Nitroaniline		428	857	1710	U	
88-74-4	2-Nitroaniline		428	857	1710	U	
98-95-3	Nitrobenzene		107	215	428	U	

ANALYSIS DATA SHEET

LNC-019-DS-SB2-01

Laboratory: Empirical Laboratories, LLC SDG: 1305125
Client: SAIC (S732) Project: Lincoln NE ANG
Matrix: Solid Laboratory ID: 1305125-25 File ID: 0512525.D
Sampled: 05/09/13 07:54 Prepared: 05/21/13 14:15 Analyzed: 06/02/13 05:54
Solids: 76.68 Preparation: EXT 3546 Dilution: 1
Batch: 3E20014 Sequence: 3F15519 Calibration: 2272005 Instrument: MS-BNA1

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
100-02-7	4-Nitrophenol		428	857	1710	U
88-75-5	2-Nitrophenol		107	215	428	U
86-30-6	N-Nitrosodiphenylamine		107	215	428	U
621-64-7	N-Nitroso-di-n-propylamine		107	215	428	U
87-86-5	Pentachlorophenol		428	857	1710	U
108-95-2	Phenol		107	215	428	U
95-94-3	1,2,4,5-Tetrachlorobenzene		107	215	428	U
58-90-2	2,3,4,6-Tetrachlorophenol		107	215	428	U
88-06-2	2,4,6-Trichlorophenol		107	215	428	U
95-95-4	2,4,5-Trichlorophenol		107	215	428	U

Total Target Analytes Reported: 50

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	4281	2693	62.9	45 - 105	
2-Fluorophenol	8563	5638	65.8	35 - 105	
Nitrobenzene-d5	4281	2729	63.7	35 - 100	
Phenol-d6	8563	5859	68.4	40 - 100	
Terphenyl-d14	4281	3090	72.2	30 - 125	
2,4,6-Tribromophenol	8563	5410	63.2	35 - 125	

ANALYSIS DATA SHEET

LNC-019-DS-SB2-01

Laboratory: Empirical Laboratories, LLC SDG: 1305125
Client: SAIC (S732) Project: Lincoln NE ANG
Matrix: Solid Laboratory ID: 1305125-25 File ID: 0512525.D
Sampled: 05/09/13 07:54 Prepared: 05/21/13 14:15 Analyzed: 06/15/13 22:34
Solids: 76.68 Preparation: EXT 3546 Dilution: 1
Batch: 3E20014 Sequence: 3F16823 Calibration: 3122001 Instrument: MS-BNA4

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
83-32-9	Acenaphthene		2.15	4.28	8.57	U
208-96-8	Acenaphthylene		2.15	4.28	8.57	U
120-12-7	Anthracene		2.15	4.28	8.57	U
56-55-3	Benzo(a)anthracene		2.15	4.28	8.57	U
50-32-8	Benzo(a)pyrene		2.15	4.28	8.57	U
205-99-2	Benzo(b)fluoranthene		2.15	4.28	8.57	U
191-24-2	Benzo(g,h,i)perylene		2.15	4.28	8.57	U
207-08-9	Benzo(k)fluoranthene		2.15	4.28	8.57	U
123-91-1	1,4-Dioxane		10.7	21.5	42.8	U
218-01-9	Chrysene		2.15	4.28	8.57	U
53-70-3	Dibenz(a,h)anthracene		2.15	4.28	8.57	U
206-44-0	Fluoranthene		2.15	4.28	8.57	U
86-73-7	Fluorene		2.15	4.28	8.57	U
193-39-5	Indeno(1,2,3-cd)pyrene		2.15	4.28	8.57	U
91-57-6	2-Methylnaphthalene		2.15	4.28	8.57	U
91-20-3	Naphthalene		2.15	4.28	8.57	U
85-01-8	Phenanthrene		2.15	4.28	8.57	U
129-00-0	Pyrene		2.15	4.28	8.57	U

U

Total Target Analytes Reported: 18

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	4281	3195	74.6	45 - 105	
Terphenyl-d14	4281	3339	78.0	30 - 125	
2,4,6-Tribromophenol	8563	7202	84.1	35 - 125	X

ANALYSIS DATA SHEET

LNC-019-DS-SB2-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Solid	Laboratory ID:	1305125-25	File ID:	033F3301.D
Sampled:	05/09/13 07:54	Prepared:	05/20/13 12:19	Analyzed:	05/23/13 11:13
Solids:	76.68	Preparation:	EXT 3546	Dilution:	1

Batch: 3E17023 Sequence: 3E14606 Calibration: 3143004 Instrument: GL-GCFID2

CAS NO.	COMPOUND	CONC. (mg/Kg dry)	DL	LOD	LOQ	Q
11-84-7	Diesel Range Organics (C10-C28)		8.24	8.24	16.4	U U

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	1.640	1.407	85.8	35 - 140	

ANALYSIS DATA SHEET

LNC-019-DS-SB2-01

Laboratory: Empirical Laboratories, LLC   SDG: 1305125

Client: SAIC (S732)   Project: Lincoln NE ANG

Matrix: Solid   Laboratory ID: 1305125-25   File ID: 018F1801.D

Sampled: 05/09/13 07:54   Prepared: 05/18/13 17:28   Analyzed: 05/19/13 05:12

Solids: 76.68   Preparation: 8015GRO   Dilution: 1

Batch: 3E18011   Sequence: 3E14307   Calibration: 3044001   Instrument: GL-GCVOA2

CAS NO.	COMPOUND	CONC. (mg/Kg dry)	DL	LOD	LOQ	Q
8006-61-9	Gasoline Range Organics (C6-C10)		3.48	6.97	10.4	U

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Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q
Bromofluorobenzene	3.483	4.411	127	50 - 150	X

ANALYSIS DATA SHEET

LNC-019-DP-SB2-01

Laboratory: Empirical Laboratories, LLC SDG: 1305125
Client: SAIC (S732) Project: Lincoln NE ANG
Matrix: Water Laboratory ID: 1305125-35 File ID: 0512535.D
Sampled: 05/09/13 13:40 Prepared: 05/21/13 22:34 Analyzed: 05/21/13 22:34
Solids: Preparation: 5030B Dilution: 1
Batch: 3E21015 Sequence: 3E14209 Calibration: 3140001 Instrument: MS-VOA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone	4.00	2.50	5.00	10.0	J
71-43-2	Benzene		0.250	0.500	1.00	U
74-97-5	Bromochloromethane		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	U
75-25-2	Bromoform		0.250	0.500	1.00	U
74-83-9	Bromomethane		0.500	1.00	2.00	U
78-93-3	2-Butanone		2.50	5.00	10.0	UX
75-15-0	Carbon disulfide	0.270	0.250	0.500	1.00	J
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	U
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform		0.250	0.500	1.00	U
74-87-3	Chloromethane		0.250	0.500	1.00	U
110-82-7	Cyclohexane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U
96-12-8	1,2-Dibromo-3-chloropropane		0.500	1.00	2.00	U
106-93-4	1,2-Dibromoethane (EDB)		0.250	0.500	1.00	U
95-50-1	1,2-Dichlorobenzene		0.250	0.500	1.00	U
541-73-1	1,3-Dichlorobenzene		0.250	0.500	1.00	U
106-46-7	1,4-Dichlorobenzene		0.250	0.500	1.00	U
75-71-8	Dichlorodifluoromethane		0.500	1.00	2.00	U
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene		0.250	0.500	1.00	U
591-78-6	2-Hexanone		1.25	2.50	5.00	UX
98-82-8	Isopropylbenzene		0.250	0.500	1.00	U
75-09-2	Methylene chloride		0.500	1.00	2.00	U
79-20-9	Methyl Acetate		0.500	1.00	2.00	U
108-87-2	Methylcyclohexane		0.250	0.500	1.00	U
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	UX
1634-04-4	Methyl t-Butyl Ether		0.250	0.500	1.00	U
100-42-5	Styrene		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.250	0.500	1.00	U
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U

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ANALYSIS DATA SHEET

LNC-019-DP-SB2-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Water	Laboratory ID:	1305125-35	File ID:	0512535.D
Sampled:	05/09/13 13:40	Prepared:	05/21/13 22:34	Analyzed:	05/21/13 22:34
Solids:		Preparation:	5030B	Dilution:	1
Batch:	3E21015	Sequence:	3E14209	Calibration:	3140001
Instrument:	MS-VOA4				

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
108-88-3	Toluene		0.250	0.500	1.00	U
87-61-6	1,2,3-Trichlorobenzene		0.250	0.500	1.00	U
120-82-1	1,2,4-Trichlorobenzene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	U
79-01-6	Trichloroethene		0.250	0.500	1.00	U
75-69-4	Trichlorofluoromethane		0.500	1.00	2.00	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		0.500	1.00	2.00	U
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
108-38-3/106-42-	m,p-Xylene		0.500	1.00	2.00	U
95-47-6	o-Xylene		0.250	0.500	1.00	U

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Total Target Analytes Reported: 51

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	31.58	105	75 - 120	
Dibromofluoromethane	30.00	33.06	110	85 - 115	
1,2-Dichloroethane-d4	30.00	30.84	103	70 - 120	
Toluene-d8	30.00	29.22	97.4	85 - 120	

ANALYSIS DATA SHEET

LNC-019-DP-SB2-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Water	Laboratory ID:	1305125-35	File ID:	0512535.D
Sampled:	05/09/13 13:40	Prepared:	05/16/13 12:08	Analyzed:	05/20/13 14:54
Solids:		Preparation:	EXT 3510	Dilution:	1
Batch:	3E16002	Sequence:	3E14804	Calibration:	2272005
Instrument:	MS-BNA1				

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
98-86-2	Acetophenone		1.16	2.31	4.63	UX
1912-24-9	Atrazine		1.16	2.31	4.63	UY UJ COS
100-52-7	Benzaldehyde		1.16	2.31	4.63	U
92-52-4	1,1-Biphenyl		1.16	2.31	4.63	U
101-55-3	4-Bromophenyl-phenylether		1.16	2.31	4.63	U
85-68-7	Butylbenzylphthalate		1.16	2.31	4.63	U
105-60-2	Caprolactam		1.16	2.31	4.63	U
86-74-8	Carbazole		1.16	2.31	4.63	U
59-50-7	4-Chloro-3-methylphenol		1.16	2.31	4.63	UX
106-47-8	4-Chloroaniline		1.16	2.31	4.63	U
111-91-1	Bis(2-chloroethoxy)methane		1.16	2.31	4.63	U
111-44-4	Bis(2-chloroethyl)ether		1.16	2.31	4.63	U
108-60-1	2,2'-Oxybis-1-chloropropane		1.16	2.31	4.63	U
91-58-7	2-Chloronaphthalene		1.16	2.31	4.63	U
95-57-8	2-Chlorophenol		1.16	2.31	4.63	U
7005-72-3	4-Chlorophenyl phenyl ether		1.16	2.31	4.63	U
132-64-9	Dibenzofuran		1.16	2.31	4.63	U
84-74-2	Di-n-butylphthalate		1.16	2.31	4.63	U
91-94-1	3,3'-Dichlorobenzidine		1.16	2.31	4.63	U
120-83-2	2,4-Dichlorophenol		1.16	2.31	4.63	U
84-66-2	Diethylphthalate		1.16	2.31	4.63	U
105-67-9	2,4-Dimethylphenol		4.63	9.26	18.5	U
131-11-3	Dimethyl phthalate		1.16	2.31	4.63	U
534-52-1	4,6-Dinitro-2-methylphenol		4.63	9.26	18.5	U
51-28-5	2,4-Dinitrophenol		7.71	23.1	46.3	U
121-14-2	2,4-Dinitrotoluene		1.16	2.31	4.63	U
606-20-2	2,6-Dinitrotoluene		1.16	2.31	4.63	U
117-84-0	Di-n-octylphthalate		1.16	2.31	4.63	U
117-81-7	Bis(2-ethylhexyl)phthalate		1.16	2.31	4.63	U
118-74-1	Hexachlorobenzene		1.16	2.31	4.63	U
87-68-3	Hexachlorobutadiene		1.16	2.31	4.63	U
77-47-4	Hexachlorocyclopentadiene		1.16	4.63	9.26	U
67-72-1	Hexachloroethane		1.16	2.31	4.63	UX
78-59-1	Isophorone		1.16	2.31	4.63	U
95-48-7	2-Methylphenol		1.16	2.31	4.63	U
106-44-5	4-Methylphenol		1.16	2.31	4.63	U
100-01-6	4-Nitroaniline		4.63	9.26	18.5	U
99-09-2	3-Nitroaniline		4.63	9.26	18.5	U
88-74-4	2-Nitroaniline		4.63	9.26	18.5	UX
98-95-3	Nitrobenzene		1.16	2.31	4.63	U

ANALYSIS DATA SHEET

LNC-019-DP-SB2-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125		
Client:	SAIC (S732)			Project:	Lincoln NE ANG		
Matrix:	Water	Laboratory ID:	1305125-35	File ID:	0512535.D		
Sampled:	05/09/13 13:40	Prepared:	05/16/13 12:08	Analyzed:	05/20/13 14:54		
Solids:		Preparation:	EXT 3510	Dilution:	1		
Batch:	3E16002	Sequence:	3E14804	Calibration:	2272005	Instrument:	MS-BNA1

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
100-02-7	4-Nitrophenol		4.63	9.26	18.5	U
88-75-5	2-Nitrophenol		1.16	2.31	4.63	U
86-30-6	N-Nitrosodiphenylamine		1.16	2.31	4.63	U
621-64-7	N-Nitroso-di-n-propylamine		1.16	2.31	4.63	UX
87-86-5	Pentachlorophenol		4.63	9.26	18.5	U
108-95-2	Phenol		1.16	2.31	4.63	U
95-94-3	1,2,4,5-Tetrachlorobenzene		1.16	2.31	4.63	U
58-90-2	2,3,4,6-Tetrachlorophenol		2.31	4.63	9.26	U
88-06-2	2,4,6-Trichlorophenol		1.16	2.31	4.63	U
95-95-4	2,4,5-Trichlorophenol		1.16	2.31	4.63	U

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Total Target Analytes Reported: 50

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	46.30	32.34	69.9	50 - 110	
2-Fluorophenol	92.59	23.15	25.0	20 - 110	
Nitrobenzene-d5	46.30	41.03	88.6	40 - 110	
Phenol-d6	92.59	13.81	14.9	0 - 110	
Terphenyl-d14	46.30	18.67	40.3	50 - 135	*
2,4,6-Tribromophenol	92.59	60.05	64.9	40 - 125	

ANALYSIS DATA SHEET

LNC-019-DP-SB2-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125		
Client:	SAIC (S732)			Project:	Lincoln NE ANG		
Matrix:	Water	Laboratory ID:	1305125-35	File ID:	0512535.D		
Sampled:	05/09/13 13:40	Prepared:	05/16/13 12:08	Analyzed:	06/05/13 05:20		
Solids:		Preparation:	EXT 3510	Dilution:	1		
Batch:	3E16002	Sequence:	3F15611	Calibration:	3122001	Instrument:	MS-BNA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q	
83-32-9	Acenaphthene		0.0463	0.0926	0.185	U	U
208-96-8	Acenaphthylene		0.0463	0.0926	0.185	U	
120-12-7	Anthracene		0.0463	0.0926	0.185	U	
56-55-3	Benzo(a)anthracene		0.0463	0.0926	0.185	U	
50-32-8	Benzo(a)pyrene		0.0463	0.0926	0.185	U	
205-99-2	Benzo(b)fluoranthene	**0.0577**	0.0463	0.0926	0.185	J	J
191-24-2	Benzo(g,h,i)perylene		0.0463	0.0926	0.185	U	U
207-08-9	Benzo(k)fluoranthene		0.0463	0.0926	0.185	U	
123-91-1	1,4-Dioxane		0.116	0.231	0.463	U	
218-01-9	Chrysene	**0.0649**	0.0463	0.0926	0.185	J	J
53-70-3	Dibenz(a,h)anthracene		0.0463	0.0926	0.185	U	U
206-44-0	Fluoranthene	**0.108**	0.0463	0.0926	0.185	J	J
86-73-7	Fluorene		0.0463	0.0926	0.185	U	U
193-39-5	Indeno(1,2,3-cd)pyrene		0.0463	0.0926	0.185	U	
91-57-6	2-Methylnaphthalene		0.0463	0.0926	0.185	U	
91-20-3	Naphthalene		0.0463	0.0926	0.185	U	
85-01-8	Phenanthrene	**0.0940**	0.0463	0.185	0.370	J	J
129-00-0	Pyrene	**0.108**	0.0463	0.0926	0.185	J	J

Total Target Analytes Reported: 18

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	46.30	33.71	72.8	50 - 110	
Terphenyl-d14	46.30	18.62	40.2	50 - 135	*
2,4,6-Tribromophenol	92.59	61.33	66.2	40 - 125	

ANALYSIS DATA SHEET

LNC-019-DP-SB2-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Water	Laboratory ID:	1305125-35	File ID:	042F4201.D
Sampled:	05/09/13 13:40	Prepared:	05/16/13 17:00	Analyzed:	05/21/13 19:20
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3E16035 Sequence: 3E14605 Calibration: 3143004 Instrument: GL-GCFID2

CAS NO.	COMPOUND	CONC. (mg/L)	DL	LOD	LOQ	Q
11-84-7	Diesel Range Organics (C10-C28)		0.0962	0.0962	0.192	U UJ Ad

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/L)	CONC (mg/L)	% REC	QC LIMITS	Q
o-Terphenyl	0.01923	0.007324	38.1	30 - 140	

ANALYSIS DATA SHEET

LNC-019-DP-SB2-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125		
Client:	SAIC (S732)			Project:	Lincoln NE ANG		
Matrix:	Water	Laboratory ID:	1305125-35	File ID:	013F1701.D		
Sampled:	05/09/13 13:40	Prepared:	05/16/13 20:47	Analyzed:	05/16/13 20:47		
Solids:		Preparation:	8015GRO	Dilution:	1		
Batch:	3E16005	Sequence:	3E14043	Calibration:	3044001	Instrument:	GL-GCVOA2

CAS NO.	COMPOUND	CONC. (mg/L)	DL	LOD	LOQ	Q
8006-61-9	Gasoline Range Organics (C6-C10)		0.0500	0.100	0.150	U

U

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/L)	CONC (mg/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	0.05000	0.06951	139	50 - 150	

ANALYSIS DATA SHEET

LNC-019-DS-SB2-02

Laboratory:	Empirical Laboratories, LLC		SDG:	1305125	
Client:	SAIC (S732)		Project:	Lincoln NE ANG	
Matrix:	Solid	Laboratory ID: 1305125-26	File ID:	0512526A.D	
Sampled:	05/09/13 07:58	Prepared: 05/20/13 00:00	Analyzed:	05/20/13 13:35	
Solids:	77.91	Preparation: 5035A	Dilution:	1	
Batch:	3E20008	Sequence: 3E14106	Calibration:	3140003	Instrument: MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
67-64-1	Acetone		6.84	13.7	27.4	UX
71-43-2	Benzene		1.71	3.42	6.84	U
74-97-5	Bromochloromethane		1.71	3.42	6.84	U
75-27-4	Bromodichloromethane		1.71	3.42	6.84	U
75-25-2	Bromoform		1.71	3.42	6.84	U
74-83-9	Bromomethane		3.42	6.84	13.7	U
78-93-3	2-Butanone		3.42	6.84	13.7	UX
75-15-0	Carbon disulfide		1.71	3.42	6.84	U
56-23-5	Carbon tetrachloride		1.71	3.42	6.84	U
108-90-7	Chlorobenzene		1.71	3.42	6.84	U
75-00-3	Chloroethane		3.42	6.84	13.7	U
67-66-3	Chloroform		1.71	3.42	6.84	U
74-87-3	Chloromethane		3.42	6.84	13.7	U
110-82-7	Cyclohexane		1.71	3.42	6.84	U
124-48-1	Dibromochloromethane		1.71	3.42	6.84	U
96-12-8	1,2-Dibromo-3-chloropropane		3.42	6.84	13.7	U
106-93-4	1,2-Dibromoethane (EDB)		1.71	3.42	6.84	U
95-50-1	1,2-Dichlorobenzene		1.71	3.42	6.84	U
541-73-1	1,3-Dichlorobenzene		1.71	3.42	6.84	U
106-46-7	1,4-Dichlorobenzene		1.71	3.42	6.84	U
75-71-8	Dichlorodifluoromethane		3.42	6.84	13.7	U
75-34-3	1,1-Dichloroethane		1.71	3.42	6.84	U
107-06-2	1,2-Dichloroethane		1.71	3.42	6.84	U
75-35-4	1,1-Dichloroethene		1.71	3.42	6.84	U
156-59-2	cis-1,2-Dichloroethene		1.71	3.42	6.84	U
156-60-5	trans-1,2-Dichloroethene		1.71	3.42	6.84	U
78-87-5	1,2-Dichloropropane		1.71	3.42	6.84	U
10061-01-5	cis-1,3-Dichloropropene		1.71	3.42	6.84	U
10061-02-6	trans-1,3-Dichloropropene		1.71	3.42	6.84	U
100-41-4	Ethylbenzene		1.71	3.42	6.84	U
591-78-6	2-Hexanone		3.42	6.84	13.7	UXO
98-82-8	Isopropylbenzene		1.71	3.42	6.84	U
75-09-2	Methylene chloride	302	3.42	6.84	13.7	
79-20-9	Methyl Acetate		3.42	6.84	13.7	U
108-87-2	Methylcyclohexane		1.71	3.42	6.84	U
108-10-1	4-Methyl-2-pentanone		3.42	6.84	13.7	U
1634-04-4	Methyl t-Butyl Ether		1.71	3.42	6.84	U
100-42-5	Styrene		1.71	3.42	6.84	U
79-34-5	1,1,2,2-Tetrachloroethane		1.71	3.42	6.84	U
127-18-4	Tetrachloroethene		1.71	3.42	6.84	U

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ANALYSIS DATA SHEET

LNC-019-DS-SB2-02

Laboratory: Empirical Laboratories, LLC SDG: 1305125

Client: SAIC (S732) Project: Lincoln NE ANG

Matrix: Solid Laboratory ID: 1305125-26 File ID: 0512526A.D

Sampled: 05/09/13 07:58 Prepared: 05/20/13 00:00 Analyzed: 05/20/13 13:35

Solids: 77.91 Preparation: 5035A Dilution: 1

Batch: 3E20008 Sequence: 3E14106 Calibration: 3140003 Instrument: MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
108-88-3	Toluene		1.71	3.42	6.84	U
87-61-6	1,2,3-Trichlorobenzene		1.71	3.42	6.84	U
120-82-1	1,2,4-Trichlorobenzene		1.71	3.42	6.84	U
79-00-5	1,1,2-Trichloroethane		1.71	3.42	6.84	U
71-55-6	1,1,1-Trichloroethane		1.71	3.42	6.84	U
79-01-6	Trichloroethene		1.71	3.42	6.84	U
75-69-4	Trichlorofluoromethane		3.42	6.84	13.7	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		3.42	6.84	13.7	U
75-01-4	Vinyl chloride		1.71	3.42	6.84	U
108-38-3/106-42-	m,p-Xylene		3.42	6.84	13.7	U
95-47-6	o-Xylene		1.71	3.42	6.84	U

Total Target Analytes Reported: 51

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
Bromofluorobenzene	41.05	41.40	101	85 - 120	
Dibromofluoromethane	41.05	43.65	106	80 - 125	
1,2-Dichloroethane-d4	41.05	43.68	106	75 - 140	
Toluene-d8	41.05	41.07	100	85 - 115	

ANALYSIS DATA SHEET

LNC-019-DS-SB2-02

Laboratory: Empirical Laboratories, LLC   SDG: 1305125

Client: SAIC (S732)   Project: Lincoln NE ANG

Matrix: Solid   Laboratory ID: 1305125-26   File ID: 0512526.D

Sampled: 05/09/13 07:58   Prepared: 05/21/13 14:15   Analyzed: 06/02/13 06:21

Solids: 77.91   Preparation: EXT 3546   Dilution: 1

Batch: 3E20014   Sequence: 3F15519   Calibration: 2272005   Instrument: MS-BNA1

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q	
98-86-2	Acetophenone		102	205	408	UX	U
1912-24-9	Atrazine		102	205	408	U	U
100-52-7	Benzaldehyde		102	205	408	UY UJ	C05
92-52-4	1,1-Biphenyl		102	205	408	U	U
101-55-3	4-Bromophenyl-phenylether		102	205	408	U	
85-68-7	Butylbenzylphthalate		102	205	408	U	
105-60-2	Caprolactam		102	205	408	U	
86-74-8	Carbazole		102	205	408	U	
59-50-7	4-Chloro-3-methylphenol		102	205	408	U	
106-47-8	4-Chloroaniline		102	205	408	U	
111-91-1	Bis(2-chloroethoxy)methane		102	205	408	U	
111-44-4	Bis(2-chloroethyl)ether		102	205	408	U	
108-60-1	2,2'-Oxybis-1-chloropropane		102	205	408	U	
91-58-7	2-Chloronaphthalene		102	205	408	U	
95-57-8	2-Chlorophenol		102	205	408	U	
7005-72-3	4-Chlorophenyl phenyl ether		102	205	408	U	
132-64-9	Dibenzofuran		102	205	408	U	
84-74-2	Di-n-butylphthalate		102	205	408	U	
91-94-1	3,3'-Dichlorobenzidine		102	205	408	U	
120-83-2	2,4-Dichlorophenol		102	205	408	U	
84-66-2	Diethylphthalate		102	205	408	U	
105-67-9	2,4-Dimethylphenol		408	818	1630	U	
131-11-3	Dimethyl phthalate		102	205	408	U	
534-52-1	4,6-Dinitro-2-methylphenol		1020	2050	4080	U	
51-28-5	2,4-Dinitrophenol		1020	2050	4080	U	
121-14-2	2,4-Dinitrotoluene		102	205	408	U	
606-20-2	2,6-Dinitrotoluene		102	205	408	U	
117-84-0	Di-n-octylphthalate		102	205	408	U	
117-81-7	Bis(2-ethylhexyl)phthalate		102	205	408	U	
118-74-1	Hexachlorobenzene		102	205	408	U	
87-68-3	Hexachlorobutadiene		102	205	408	U	
77-47-4	Hexachlorocyclopentadiene		102	205	408	U	
67-72-1	Hexachloroethane		102	205	408	UX	
78-59-1	Isophorone		102	205	408	U	
95-48-7	2-Methylphenol		102	205	408	U	
106-44-5	4-Methylphenol		102	205	408	U	
100-01-6	4-Nitroaniline		408	818	1630	U	
99-09-2	3-Nitroaniline		408	818	1630	U	
88-74-4	2-Nitroaniline		408	818	1630	U	
98-95-3	Nitrobenzene		102	205	408	U	

ANALYSIS DATA SHEET

LNC-019-DS-SB2-02

Laboratory: Empirical Laboratories, LLC   SDG: 1305125

Client: SAIC (S732)   Project: Lincoln NE ANG

Matrix: Solid   Laboratory ID: 1305125-26   File ID: 0512526.D

Sampled: 05/09/13 07:58   Prepared: 05/21/13 14:15   Analyzed: 06/02/13 06:21

Solids: 77.91   Preparation: EXT 3546   Dilution: 1

Batch: 3E20014   Sequence: 3F15519   Calibration: 2272005   Instrument: MS-BNA1

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
100-02-7	4-Nitrophenol		408	818	1630	U
88-75-5	2-Nitrophenol		102	205	408	U
86-30-6	N-Nitrosodiphenylamine		102	205	408	U
621-64-7	N-Nitroso-di-n-propylamine		102	205	408	U
87-86-5	Pentachlorophenol		408	818	1630	U
108-95-2	Phenol		102	205	408	U
95-94-3	1,2,4,5-Tetrachlorobenzene		102	205	408	U
58-90-2	2,3,4,6-Tetrachlorophenol		102	205	408	U
88-06-2	2,4,6-Trichlorophenol		102	205	408	U
95-95-4	2,4,5-Trichlorophenol		102	205	408	U

Total Target Analytes Reported: 50

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	8176	5281	64.6	45 - 105	
2-Fluorophenol	16350	11710	71.6	35 - 105	
Nitrobenzene-d5	8176	5610	68.6	35 - 100	
Phenol-d6	16350	11670	71.4	40 - 100	
Terphenyl-d14	8176	5868	71.8	30 - 125	
2,4,6-Tribromophenol	16350	10460	64.0	35 - 125	

ANALYSIS DATA SHEET

LNC-019-DS-SB2-02

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125		
Client:	SAIC (S732)			Project:	Lincoln NE ANG		
Matrix:	Solid	Laboratory ID:	1305125-26	File ID:	0512526.D		
Sampled:	05/09/13 07:58	Prepared:	05/21/13 14:15	Analyzed:	06/15/13 23:02		
Solids:	77.91	Preparation:	EXT_3546	Dilution:	1		
Batch:	3E20014	Sequence:	3F16823	Calibration:	3122001	Instrument:	MS-BNA4

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
83-32-9	Acenaphthene		2.05	4.08	8.18	U
208-96-8	Acenaphthylene		2.05	4.08	8.18	U
120-12-7	Anthracene		2.05	4.08	8.18	U
56-55-3	Benzo(a)anthracene		2.05	4.08	8.18	U
50-32-8	Benzo(a)pyrene		2.05	4.08	8.18	U
205-99-2	Benzo(b)fluoranthene		2.05	4.08	8.18	U
191-24-2	Benzo(g,h,i)perylene		2.05	4.08	8.18	U
207-08-9	Benzo(k)fluoranthene		2.05	4.08	8.18	U
123-91-1	1,4-Dioxane		10.2	20.5	40.8	U
218-01-9	Chrysene		2.05	4.08	8.18	U
53-70-3	Dibenz(a,h)anthracene		2.05	4.08	8.18	U
206-44-0	Fluoranthene		2.05	4.08	8.18	U
86-73-7	Fluorene		2.05	4.08	8.18	U
193-39-5	Indeno(1,2,3-cd)pyrene		2.05	4.08	8.18	U
91-57-6	2-Methylnaphthalene		2.05	4.08	8.18	U
91-20-3	Naphthalene		2.05	4.08	8.18	U
85-01-8	Phenanthrene		2.05	4.08	8.18	U
129-00-0	Pyrene		2.05	4.08	8.18	U

U

Total Target Analytes Reported: 18

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	8176	6720	82.2	45 - 105	
Terphenyl-d14	8176	7046	86.2	30 - 125	
2,4,6-Tribromophenol	16350	15060	92.1	35 - 125	X

ANALYSIS DATA SHEET

LNC-019-DS-SB2-02

Laboratory: Empirical Laboratories, LLC   SDG: 1305125

Client: SAIC (S732)   Project: Lincoln NE ANG

Matrix: Solid   Laboratory ID: 1305125-26   File ID: 034F3401.D

Sampled: 05/09/13 07:58   Prepared: 05/20/13 12:19   Analyzed: 05/23/13 11:46

Solids: 77.91   Preparation: EXT 3546   Dilution: 1

Batch: 3E17023   Sequence: 3E14606   Calibration: 3143004   Instrument: GL-GCFID2

CAS NO.	COMPOUND	CONC. (mg/Kg dry)	DL	LOD	LOQ	Q
11-84-7	Diesel Range Organics (C10-C28)		8.45	8.45	16.8	U

U

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	1.681	1.347	80.1	35 - 140	

ANALYSIS DATA SHEET

LNC-019-DS-SB2-02

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Solid	Laboratory ID:	1305125-26	File ID:	019F1901.D
Sampled:	05/09/13 07:58	Prepared:	05/18/13 17:28	Analyzed:	05/19/13 05:51
Solids:	77.91	Preparation:	8015GRO	Dilution:	1

Batch: 3E18011 Sequence: 3E14307 Calibration: 3044001 Instrument: GL-GCVOA2

CAS NO.	COMPOUND	CONC. (mg/Kg dry)	DL	LOD	LOQ	Q
8006-61-9	Gasoline Range Organics (C6-C10)		3.41	6.83	10.2	U

U

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q
Bromofluorobenzene	3.414	4.083	120	50 - 150	X

ANALYSIS DATA SHEET

LNC-019-DS-SB3-01

Laboratory: Empirical Laboratories, LLC SDG: 1305125

Client: SAIC (S732) Project: Lincoln NE ANG

Matrix: Solid Laboratory ID: 1305125-27 File ID: 0512527A.D

Sampled: 05/09/13 08:45 Prepared: 05/20/13 00:00 Analyzed: 05/20/13 14:04

Solids: 83.50 Preparation: 5035A Dilution: 1

Batch: 3E20008 Sequence: 3E14106 Calibration: 3140003 Instrument: MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q	
67-64-1	Acetone	177	6.19	12.4	24.7	R NX ~~J~~	G01,C05,F12
71-43-2	Benzene		1.55	3.09	6.19	U	U H02
74-97-5	Bromochloromethane		1.55	3.09	6.19	U	U
75-27-4	Bromodichloromethane		1.55	3.09	6.19	NU UJ	H02
75-25-2	Bromoform		1.55	3.09	6.19	NU UJ	H02
74-83-9	Bromomethane		3.09	6.19	12.4	U	U
78-93-3	2-Butanone	45.4	3.09	6.19	12.4	X J	G01, C05
75-15-0	Carbon disulfide	1.73	1.55	3.09	6.19	J J	G01
56-23-5	Carbon tetrachloride		1.55	3.09	6.19	U	U
108-90-7	Chlorobenzene		1.55	3.09	6.19	NU UJ	H02
75-00-3	Chloroethane		3.09	6.19	12.4	U	U
67-66-3	Chloroform		1.55	3.09	6.19	U	
74-87-3	Chloromethane		3.09	6.19	12.4	U	
110-82-7	Cyclohexane		1.55	3.09	6.19	U	
124-48-1	Dibromochloromethane		1.55	3.09	6.19	NU UJ	H02
96-12-8	1,2-Dibromo-3-chloropropane		3.09	6.19	12.4	NU UJ	H02
106-93-4	1,2-Dibromoethane (EDB)		1.55	3.09	6.19	NU UJ	H02
95-50-1	1,2-Dichlorobenzene		1.55	3.09	6.19	NU UJ	H02
541-73-1	1,3-Dichlorobenzene		1.55	3.09	6.19	NU UJ	H02
106-46-7	1,4-Dichlorobenzene		1.55	3.09	6.19	NU UJ	H02
75-71-8	Dichlorodifluoromethane		3.09	6.19	12.4	U	U
75-34-3	1,1-Dichloroethane		1.55	3.09	6.19	U	
107-06-2	1,2-Dichloroethane		1.55	3.09	6.19	U	
75-35-4	1,1-Dichloroethene		1.55	3.09	6.19	U	
156-59-2	cis-1,2-Dichloroethene		1.55	3.09	6.19	U	
156-60-5	trans-1,2-Dichloroethene		1.55	3.09	6.19	U	
78-87-5	1,2-Dichloropropane		1.55	3.09	6.19	U	
10061-01-5	cis-1,3-Dichloropropene		1.55	3.09	6.19	U	
10061-02-6	trans-1,3-Dichloropropene		1.55	3.09	6.19	NU UJ	H02
100-41-4	Ethylbenzene		1.55	3.09	6.19	NU UJ	H02
591-78-6	2-Hexanone		3.09	6.19	12.4	UXO	U
98-82-8	Isopropylbenzene		1.55	3.09	6.19	NU UJ	H02
75-09-2	Methylene chloride	490	3.09	6.19	12.4	R N ~~J~~	G01, H02, F12
79-20-9	Methyl Acetate		3.09	6.19	12.4	U	U
108-87-2	Methylcyclohexane		1.55	3.09	6.19	U	
108-10-1	4-Methyl-2-pentanone		3.09	6.19	12.4	U	
1634-04-4	Methyl t-Butyl Ether		1.55	3.09	6.19	U	
100-42-5	Styrene		1.55	3.09	6.19	NU UJ	H02
79-34-5	1,1,2,2-Tetrachloroethane		1.55	3.09	6.19	U	U
127-18-4	Tetrachloroethene		1.55	3.09	6.19	U	U

ANALYSIS DATA SHEET

LNC-019-DS-SB3-01

Laboratory: Empirical Laboratories, LLC   SDG: 1305125

Client: SAIC (S732)   Project: Lincoln NE ANG

Matrix: Solid   Laboratory ID: 1305125-27   File ID: 0512527A.D

Sampled: 05/09/13 08:45   Prepared: 05/20/13 00:00   Analyzed: 05/20/13 14:04

Solids: 83.50   Preparation: 5035A   Dilution: 1

Batch: 3E20008   Sequence: 3E14106   Calibration: 3140003   Instrument: MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q	
108-88-3	Toluene		1.55	3.09	6.19	NU UJ	Hb2
87-61-6	1,2,3-Trichlorobenzene		1.55	3.09	6.19	NU UJ	Hb2
120-82-1	1,2,4-Trichlorobenzene		1.55	3.09	6.19	NU UJ	Hb2
79-00-5	1,1,2-Trichloroethane		1.55	3.09	6.19	U	U
71-55-6	1,1,1-Trichloroethane		1.55	3.09	6.19	U	U
79-01-6	Trichloroethene		1.55	3.09	6.19	NU UJ	Hb2
75-69-4	Trichlorofluoromethane		3.09	6.19	12.4	U	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		3.09	6.19	12.4	U	U
75-01-4	Vinyl chloride		1.55	3.09	6.19	U	U
108-38-3/106-42-	m,p-Xylene		3.09	6.19	12.4	NU UJ	Hb2
95-47-6	o-Xylene		1.55	3.09	6.19	NU UJ	Hb2

Total Target Analytes Reported: 51

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
Bromofluorobenzene	37.12	42.70	115	85 - 120	
Dibromofluoromethane	37.12	46.85	126	80 - 125	*
1,2-Dichloroethane-d4	37.12	45.88	124	75 - 140	
Toluene-d8	37.12	36.11	97.3	85 - 115	

ANALYSIS DATA SHEET

LNC-019-DS-SB3-01

Laboratory: Empirical Laboratories, LLC   SDG: 1305125

Client: SAIC (S732)   Project: Lincoln NE ANG

Matrix: Solid   Laboratory ID: 1305125-27   File ID: 0512527.D

Sampled: 05/09/13 08:45   Prepared: 05/21/13 14:15   Analyzed: 06/03/13 13:19

Solids: 83.50   Preparation: EXT_3546   Dilution: 1

Batch: 3E20014   Sequence: 3F15517   Calibration: 2272005   Instrument: MS-BNA1

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
98-86-2	Acetophenone		97.9	196	392	UX
1912-24-9	Atrazine		97.9	196	392	U
100-52-7	Benzaldehyde		97.9	196	392	U
92-52-4	1,1-Biphenyl		97.9	196	392	U
101-55-3	4-Bromophenyl-phenylether		97.9	196	392	U
85-68-7	Butylbenzylphthalate		97.9	196	392	U
105-60-2	Caprolactam		97.9	196	392	U
86-74-8	Carbazole		97.9	196	392	U
59-50-7	4-Chloro-3-methylphenol		97.9	196	392	U
106-47-8	4-Chloroaniline		97.9	196	392	U
111-91-1	Bis(2-chloroethoxy)methane		97.9	196	392	U
111-44-4	Bis(2-chloroethyl)ether		97.9	196	392	U
108-60-1	2,2'-Oxybis-1-chloropropane		97.9	196	392	U
91-58-7	2-Chloronaphthalene		97.9	196	392	U
95-57-8	2-Chlorophenol		97.9	196	392	U
7005-72-3	4-Chlorophenyl phenyl ether		97.9	196	392	U
132-64-9	Dibenzofuran		97.9	196	392	U
84-74-2	Di-n-butylphthalate		97.9	196	392	U
91-94-1	3,3'-Dichlorobenzidine		97.9	196	392	U
120-83-2	2,4-Dichlorophenol		97.9	196	392	U
84-66-2	Diethylphthalate		97.9	196	392	U
105-67-9	2,4-Dimethylphenol		392	784	1560	U
131-11-3	Dimethyl phthalate		97.9	196	392	U
534-52-1	4,6-Dinitro-2-methylphenol		979	1960	3920	U
51-28-5	2,4-Dinitrophenol		979	1960	3920	NU
121-14-2	2,4-Dinitrotoluene		97.9	196	392	U
606-20-2	2,6-Dinitrotoluene		97.9	196	392	U
117-84-0	Di-n-octylphthalate		97.9	196	392	U
117-81-7	Bis(2-ethylhexyl)phthalate		97.9	196	392	U
118-74-1	Hexachlorobenzene		97.9	196	392	U
87-68-3	Hexachlorobutadiene		97.9	196	392	U
77-47-4	Hexachlorocyclopentadiene		97.9	196	392	NU
67-72-1	Hexachloroethane		97.9	196	392	U
78-59-1	Isophorone		97.9	196	392	U
95-48-7	2-Methylphenol		97.9	196	392	U
106-44-5	4-Methylphenol		97.9	196	392	U
100-01-6	4-Nitroaniline		392	784	1560	U
99-09-2	3-Nitroaniline		392	784	1560	U
88-74-4	2-Nitroaniline		392	784	1560	U
98-95-3	Nitrobenzene		97.9	196	392	U

ANALYSIS DATA SHEET

LNC-019-DS-SB3-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125		
Client:	SAIC (S732)			Project:	Lincoln NE ANG		
Matrix:	Solid	Laboratory ID:	1305125-27	File ID:	0512527.D		
Sampled:	05/09/13 08:45	Prepared:	05/21/13 14:15	Analyzed:	06/03/13 13:19		
Solids:	83.50	Preparation:	EXT 3546	Dilution:	1		
Batch:	3E20014	Sequence:	3F15517	Calibration:	2272005	Instrument:	MS-BNA1

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
100-02-7	4-Nitrophenol		392	784	1560	U
88-75-5	2-Nitrophenol		97.9	196	392	U
86-30-6	N-Nitrosodiphenylamine		97.9	196	392	U
621-64-7	N-Nitroso-di-n-propylamine		97.9	196	392	U
87-86-5	Pentachlorophenol		392	784	1560	U
108-95-2	Phenol		97.9	196	392	U
95-94-3	1,2,4,5-Tetrachlorobenzene		97.9	196	392	U
58-90-2	2,3,4,6-Tetrachlorophenol		97.9	196	392	U
88-06-2	2,4,6-Trichlorophenol		97.9	196	392	U
95-95-4	2,4,5-Trichlorophenol		97.9	196	392	U

Total Target Analytes Reported: 50

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	3919	2926	74.7	45 - 105	
2-Fluorophenol	7838	6410	81.8	35 - 105	
Nitrobenzene-d5	3919	4683	120	35 - 100	*
Phenol-d6	7838	6490	82.8	40 - 100	
Terphenyl-d14	3919	3126	79.8	30 - 125	
2,4,6-Tribromophenol	7838	6251	79.8	35 - 125	

ANALYSIS DATA SHEET

LNC-019-DS-SB3-01

Laboratory: Empirical Laboratories, LLC SDG: 1305125

Client: SAIC (S732) Project: Lincoln NE ANG

Matrix: Solid Laboratory ID: 1305125-27 File ID: 0512527.D

Sampled: 05/09/13 08:45 Prepared: 05/21/13 14:15 Analyzed: 06/15/13 23:30

Solids: 83.50 Preparation: EXT_3546 Dilution: 1

Batch: 3E20014 Sequence: 3F16823 Calibration: 3122001 Instrument: MS-BNA4

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q	
83-32-9	Acenaphthene		1.96	3.92	7.84	U	U
208-96-8	Acenaphthylene		1.96	3.92	7.84	U	
120-12-7	Anthracene		1.96	3.92	7.84	U	
56-55-3	Benzo(a)anthracene		1.96	3.92	7.84	U	
50-32-8	Benzo(a)pyrene		1.96	3.92	7.84	U	
205-99-2	Benzo(b)fluoranthene		1.96	3.92	7.84	U	
191-24-2	Benzo(g,h,i)perylene		1.96	3.92	7.84	U	
207-08-9	Benzo(k)fluoranthene		1.96	3.92	7.84	U	
123-91-1	1,4-Dioxane		9.79	19.6	39.2	U	
218-01-9	Chrysene		1.96	3.92	7.84	U	
53-70-3	Dibenz(a,h)anthracene		1.96	3.92	7.84	U	
206-44-0	Fluoranthene	**2.25** •	1.96	3.92	7.84	J	J
86-73-7	Fluorene		1.96	3.92	7.84	U	U
193-39-5	Indeno(1,2,3-cd)pyrene		1.96	3.92	7.84	U	
91-57-6	2-Methylnaphthalene		1.96	3.92	7.84	U	
91-20-3	Naphthalene		1.96	3.92	7.84	U	
85-01-8	Phenanthrene	**2.77** •	1.96	3.92	7.84	J	J
129-00-0	Pyrene		1.96	3.92	7.84	U	U

Total Target Analytes Reported: 18

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	3919	3505	89.4	45 - 105	
Terphenyl-d14	3919	3648	93.1	30 - 125	

JW 09/04/2013

ANALYSIS DATA SHEET

LNC-019-DS-SB3-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125		
Client:	SAIC (S732)			Project:	Lincoln NE ANG		
Matrix:	Solid	Laboratory ID:	1305125-27	File ID:	035F3501.D		
Sampled:	05/09/13 08:45	Prepared:	05/20/13 12:19	Analyzed:	05/23/13 12:19		
Solids:	83.50	Preparation:	EXT 3546	Dilution:	1		
Batch:	3E17023	Sequence:	3E14606	Calibration:	3143004	Instrument:	GL-GCFID2

CAS NO.	COMPOUND	CONC. (mg/Kg dry)	DL	LOD	LOQ	Q
11-84-7	Diesel Range Organics (C10-C28)	**228**	7.68	7.68	15.2	N J HDZ

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	1.529	1.314	86.0	35 - 140	

ANALYSIS DATA SHEET

LNC-019-DS-SB3-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Solid	Laboratory ID:	1305125-27	File ID:	020F2001.D
Sampled:	05/09/13 08:45	Prepared:	05/18/13 17:28	Analyzed:	05/19/13 06:30
Solids:	83.50	Preparation:	8015GRO	Dilution:	1

Batch: 3E18011 Sequence: 3E14307 Calibration: 3044001 Instrument: GL-GCVOA2

CAS NO.	COMPOUND	CONC. (mg/Kg dry)	DL	LOD	LOQ	Q
8006-61-9	Gasoline Range Organics (C6-C10)	**65.2**	2.89	5.78	8.67	

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q
Bromofluorobenzene	2.890	2.950	102	50 - 150	X

ANALYSIS DATA SHEET

LNC-019-DP-SB3-01

Laboratory:	Empirical Laboratories, LLC		SDG:	1305125	
Client:	SAIC (S732)		Project:	Lincoln NE ANG	
Matrix:	Water	Laboratory ID: 1305125-39	File ID:	0512539.D	
Sampled:	05/09/13 16:13	Prepared: 05/22/13 00:00	Analyzed:	05/22/13 14:06	
Solids:		Preparation: 5030B	Dilution:	1	
Batch:	3E22012	Sequence: 3E14301	Calibration:	3140001	Instrument: MS-VOA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q	
67-64-1	Acetone		2.50	5.00	10.0	U	U
71-43-2	Benzene		0.250	0.500	1.00	U	
74-97-5	Bromochloromethane		0.250	0.500	1.00	U	
75-27-4	Bromodichloromethane		0.250	0.500	1.00	U	
75-25-2	Bromoform		0.250	0.500	1.00	U	
74-83-9	Bromomethane		0.500	1.00	2.00	U	
78-93-3	2-Butanone		2.50	5.00	10.0	U	
75-15-0	Carbon disulfide		0.250	0.500	1.00	U	
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	UX	
108-90-7	Chlorobenzene		0.250	0.500	1.00	U	
75-00-3	Chloroethane		0.500	1.00	2.00	U	
67-66-3	Chloroform		0.250	0.500	1.00	U	
74-87-3	Chloromethane		0.250	0.500	1.00	UY UJ	CO5
110-82-7	Cyclohexane		0.250	0.500	1.00	U	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U	
96-12-8	1,2-Dibromo-3-chloropropane		0.500	1.00	2.00	U	
106-93-4	1,2-Dibromoethane (EDB)		0.250	0.500	1.00	U	
95-50-1	1,2-Dichlorobenzene		0.250	0.500	1.00	U	
541-73-1	1,3-Dichlorobenzene		0.250	0.500	1.00	U	
106-46-7	1,4-Dichlorobenzene		0.250	0.500	1.00	U	
75-71-8	Dichlorodifluoromethane		0.500	1.00	2.00	U	
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U	
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U	
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U	
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U	
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U	
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U	
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U	
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U	
100-41-4	Ethylbenzene		0.250	0.500	1.00	U	
591-78-6	2-Hexanone		1.25	2.50	5.00	U	
98-82-8	Isopropylbenzene		0.250	0.500	1.00	U	
75-09-2	Methylene chloride		0.500	1.00	2.00	U	
79-20-9	Methyl Acetate		0.500	1.00	2.00	U	
108-87-2	Methylcyclohexane		0.250	0.500	1.00	U	
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	U	
1634-04-4	Methyl t-Butyl Ether		0.250	0.500	1.00	U	
100-42-5	Styrene		0.250	0.500	1.00	U	
79-34-5	1,1,2,2-Tetrachloroethane		0.250	0.500	1.00	U	
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U	

ANALYSIS DATA SHEET

LNC-019-DP-SB3-01

Laboratory:	Empirical Laboratories, LLC		SDG:	1305125	
Client:	SAIC (S732)		Project:	Lincoln NE ANG	
Matrix:	Water	Laboratory ID: 1305125-39	File ID:	0512539.D	
Sampled:	05/09/13 16:13	Prepared: 05/22/13 00:00	Analyzed:	05/22/13 14:06	
Solids:		Preparation: 5030B	Dilution:	1	
Batch:	3E22012	Sequence: 3E14301	Calibration:	3140001	Instrument: MS-VOA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
108-88-3	Toluene		0.250	0.500	1.00	U
87-61-6	1,2,3-Trichlorobenzene		0.250	0.500	1.00	U
120-82-1	1,2,4-Trichlorobenzene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	U
79-01-6	Trichloroethene		0.250	0.500	1.00	U
75-69-4	Trichlorofluoromethane		0.500	1.00	2.00	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		0.500	1.00	2.00	U
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
108-38-3/106-42-	m,p-Xylene		0.500	1.00	2.00	U
95-47-6	o-Xylene		0.250	0.500	1.00	U

Total Target Analytes Reported: 51

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	31.53	105	75 - 120	
Dibromofluoromethane	30.00	32.01	107	85 - 115	
1,2-Dichloroethane-d4	30.00	29.41	98.0	70 - 120	
Toluene-d8	30.00	30.73	102	85 - 120	

ANALYSIS DATA SHEET

LNC-019-DP-SB3-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Water	Laboratory ID:	1305125-39	File ID:	0512539.D
Sampled:	05/09/13 16:13	Prepared:	05/16/13 12:08	Analyzed:	05/20/13 16:43
Solids:		Preparation:	EXT 3510	Dilution:	1
Batch:	3E16002	Sequence: 3E14804	Calibration: 2272005	Instrument:	MS-BNA1

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
98-86-2	Acetophenone		1.16	2.31	4.63	UX U
1912-24-9	Atrazine		1.16	2.31	4.63	UY UJ C05
100-52-7	Benzaldehyde		1.16	2.31	4.63	U U
92-52-4	1,1-Biphenyl		1.16	2.31	4.63	U
101-55-3	4-Bromophenyl-phenylether		1.16	2.31	4.63	U
85-68-7	Butylbenzylphthalate		1.16	2.31	4.63	U
105-60-2	Caprolactam		1.16	2.31	4.63	U
86-74-8	Carbazole		1.16	2.31	4.63	U
59-50-7	4-Chloro-3-methylphenol		1.16	2.31	4.63	UX
106-47-8	4-Chloroaniline		1.16	2.31	4.63	U
111-91-1	Bis(2-chloroethoxy)methane		1.16	2.31	4.63	U
111-44-4	Bis(2-chloroethyl)ether		1.16	2.31	4.63	U
108-60-1	2,2'-Oxybis-1-chloropropane		1.16	2.31	4.63	U
91-58-7	2-Chloronaphthalene		1.16	2.31	4.63	U
95-57-8	2-Chlorophenol		1.16	2.31	4.63	U
7005-72-3	4-Chlorophenyl phenyl ether		1.16	2.31	4.63	U
132-64-9	Dibenzofuran		1.16	2.31	4.63	U
84-74-2	Di-n-butylphthalate		1.16	2.31	4.63	U
91-94-1	3,3'-Dichlorobenzidine		1.16	2.31	4.63	U
120-83-2	2,4-Dichlorophenol		1.16	2.31	4.63	U
84-66-2	Diethylphthalate		1.16	2.31	4.63	U
105-67-9	2,4-Dimethylphenol		4.63	9.26	18.5	U
131-11-3	Dimethyl phthalate		1.16	2.31	4.63	U
534-52-1	4,6-Dinitro-2-methylphenol		4.63	9.26	18.5	U
51-28-5	2,4-Dinitrophenol		7.71	23.1	46.3	U
121-14-2	2,4-Dinitrotoluene		1.16	2.31	4.63	U
606-20-2	2,6-Dinitrotoluene		1.16	2.31	4.63	U
117-84-0	Di-n-octylphthalate		1.16	2.31	4.63	U
117-81-7	Bis(2-ethylhexyl)phthalate		1.16	2.31	4.63	U
118-74-1	Hexachlorobenzene		1.16	2.31	4.63	U
87-68-3	Hexachlorobutadiene		1.16	2.31	4.63	U
77-47-4	Hexachlorocyclopentadiene		1.16	4.63	9.26	U
67-72-1	Hexachloroethane		1.16	2.31	4.63	UX
78-59-1	Isophorone		1.16	2.31	4.63	U
95-48-7	2-Methylphenol		1.16	2.31	4.63	U
106-44-5	4-Methylphenol		1.16	2.31	4.63	U
100-01-6	4-Nitroaniline		4.63	9.26	18.5	U
99-09-2	3-Nitroaniline		4.63	9.26	18.5	U
88-74-4	2-Nitroaniline		4.63	9.26	18.5	UX
98-95-3	Nitrobenzene		1.16	2.31	4.63	U

ANALYSIS DATA SHEET

LNC-019-DP-SB3-01

Laboratory: Empirical Laboratories, LLC   SDG: 1305125

Client: SAIC (S732)   Project: Lincoln NE ANG

Matrix: Water   Laboratory ID: 1305125-39   File ID: 0512539.D

Sampled: 05/09/13 16:13   Prepared: 05/16/13 12:08   Analyzed: 05/20/13 16:43

Solids: Preparation: EXT 3510   Dilution: 1

Batch: 3E16002   Sequence: 3E14804   Calibration: 2272005   Instrument: MS-BNA1

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
100-02-7	4-Nitrophenol		4.63	9.26	18.5	U
88-75-5	2-Nitrophenol		1.16	2.31	4.63	U
86-30-6	N-Nitrosodiphenylamine		1.16	2.31	4.63	U
621-64-7	N-Nitroso-di-n-propylamine		1.16	2.31	4.63	UX
87-86-5	Pentachlorophenol		4.63	9.26	18.5	U
108-95-2	Phenol		1.16	2.31	4.63	U
95-94-3	1,2,4,5-Tetrachlorobenzene		1.16	2.31	4.63	U
58-90-2	2,3,4,6-Tetrachlorophenol		2.31	4.63	9.26	U
88-06-2	2,4,6-Trichlorophenol		1.16	2.31	4.63	U
95-95-4	2,4,5-Trichlorophenol		1.16	2.31	4.63	U

U

Total Target Analytes Reported: 50

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	46.30	38.24	82.6	50 - 110	
2-Fluorophenol	92.59	19.04	20.6	20 - 110	
Nitrobenzene-d5	46.30	40.08	86.6	40 - 110	
Phenol-d6	92.59	14.53	15.7	0 - 110	
Terphenyl-d14	46.30	33.25	71.8	50 - 135	
2,4,6-Tribromophenol	92.59	64.64	69.8	40 - 125	

ANALYSIS DATA SHEET

LNC-019-DP-SB3-01

Laboratory: Empirical Laboratories, LLC — SDG: 1305125

Client: SAIC (S732) — Project: Lincoln NE ANG

Matrix: Water — Laboratory ID: 1305125-39 — File ID: 0512539.D

Sampled: 05/09/13 16:13 — Prepared: 05/16/13 12:08 — Analyzed: 06/05/13 07:06

Solids: — Preparation: EXT 3510 — Dilution: 1

Batch: 3E16002 — Sequence: 3F15611 — Calibration: 3122001 — Instrument: MS-BNA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q	
83-32-9	Acenaphthene	0.0653	0.0463	0.0926	0.185	J	J
208-96-8	Acenaphthylene		0.0463	0.0926	0.185	U	U
120-12-7	Anthracene	0.0600	0.0463	0.0926	0.185	J	J
56-55-3	Benzo(a)anthracene	0.185	0.0463	0.0926	0.185	J	J
50-32-8	Benzo(a)pyrene	0.151	0.0463	0.0926	0.185	J	J
205-99-2	Benzo(b)fluoranthene	0.147	0.0463	0.0926	0.185	J	J
191-24-2	Benzo(g,h,i)perylene	0.101	0.0463	0.0926	0.185	J	J
207-08-9	Benzo(k)fluoranthene	0.166	0.0463	0.0926	0.185	J	J
123-91-1	1,4-Dioxane		0.116	0.231	0.463	U	U
218-01-9	Chrysene	0.259	0.0463	0.0926	0.185		=
53-70-3	Dibenz(a,h)anthracene		0.0463	0.0926	0.185	U	U
206-44-0	Fluoranthene	0.548	0.0463	0.0926	0.185		=
86-73-7	Fluorene		0.0463	0.0926	0.185	U	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.102	0.0463	0.0926	0.185	J	J
91-57-6	2-Methylnaphthalene		0.0463	0.0926	0.185	U	U
91-20-3	Naphthalene		0.0463	0.0926	0.185	U	U
85-01-8	Phenanthrene	0.329	0.0463	0.185	0.370	J	J
129-00-0	Pyrene	0.468	0.0463	0.0926	0.185		=

Total Target Analytes Reported: 18

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	46.30	37.02	80.0	50 - 110	
Terphenyl-d14	46.30	29.73	64.2	50 - 135	
2,4,6-Tribromophenol	92.59	59.38	64.1	40 - 125	

ANALYSIS DATA SHEET

LNC-019-DP-SB3-01

Laboratory: Empirical Laboratories, LLC SDG: 1305125

Client: SAIC (S732) Project: Lincoln NE ANG

Matrix: Water Laboratory ID: 1305125-39 File ID: 046F4601.D

Sampled: 05/09/13 16:13 Prepared: 05/16/13 17:00 Analyzed: 05/21/13 21:33

Solids: Preparation: EXT 3510 Dilution: 1

Batch: 3E16035 Sequence: 3E14605 Calibration: 3143004 Instrument: GL-GCFID2

CAS NO.	COMPOUND	CONC. (mg/L)	DL	LOD	LOQ	Q
11-84-7	Diesel Range Organics (C10-C28)		0.0926	0.0926	0.185	U U

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/L)	CONC (mg/L)	% REC	QC LIMITS	Q
o-Terphenyl	0.01852	0.007523	40.6	30 - 140	

ANALYSIS DATA SHEET

LNC-019-DP-SB3-01

Laboratory: Empirical Laboratories, LLC | SDG: 1305125
Client: SAIC (S732) | Project: Lincoln NE ANG
Matrix: Water | Laboratory ID: 1305125-39 | File ID: 020F2401.D
Sampled: 05/09/13 16:13 | Prepared: 05/17/13 01:22 | Analyzed: 05/17/13 01:22
Solids: | Preparation: 8015GRO | Dilution: 1
Batch: 3E16005 | Sequence: 3E14043 | Calibration: 3044001 | Instrument: GL-GCVOA2

CAS NO.	COMPOUND	CONC. (mg/L)	DL	LOD	LOQ	Q
8006-61-9	Gasoline Range Organics (C6-C10)		0.0500	0.100	0.150	UX

U

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/L)	CONC (mg/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	0.05000	0.06367	127	50 - 150	

ANALYSIS DATA SHEET

LNC-019-DS-SB3-02

Laboratory:	Empirical Laboratories, LLC		SDG:	1305125	
Client:	SAIC (S732)		Project:	Lincoln NE ANG	
Matrix:	Solid	Laboratory ID: 1305125-28	File ID:	0512528A.D	
Sampled:	05/09/13 09:00	Prepared: 05/20/13 00:00	Analyzed:	05/20/13 14:33	
Solids:	76.32	Preparation: 5035A	Dilution:	1	
Batch:	3E20008	Sequence: 3E14106	Calibration:	3140003	Instrument: MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q	
67-64-1	Acetone		7.01	14.0	28.1	UX	U
71-43-2	Benzene		1.75	3.51	7.01	U	
74-97-5	Bromochloromethane		1.75	3.51	7.01	U	
75-27-4	Bromodichloromethane		1.75	3.51	7.01	U	
75-25-2	Bromoform		1.75	3.51	7.01	U	
74-83-9	Bromomethane		3.51	7.01	14.0	U	
78-93-3	2-Butanone		3.51	7.01	14.0	UX	
75-15-0	Carbon disulfide		1.75	3.51	7.01	U	
56-23-5	Carbon tetrachloride		1.75	3.51	7.01	U	
108-90-7	Chlorobenzene		1.75	3.51	7.01	U	
75-00-3	Chloroethane		3.51	7.01	14.0	U	
67-66-3	Chloroform		1.75	3.51	7.01	U	
74-87-3	Chloromethane		3.51	7.01	14.0	U	
110-82-7	Cyclohexane		1.75	3.51	7.01	U	
124-48-1	Dibromochloromethane		1.75	3.51	7.01	U	
96-12-8	1,2-Dibromo-3-chloropropane		3.51	7.01	14.0	U	
106-93-4	1,2-Dibromoethane (EDB)		1.75	3.51	7.01	U	
95-50-1	1,2-Dichlorobenzene		1.75	3.51	7.01	U	
541-73-1	1,3-Dichlorobenzene		1.75	3.51	7.01	U	
106-46-7	1,4-Dichlorobenzene		1.75	3.51	7.01	U	
75-71-8	Dichlorodifluoromethane		3.51	7.01	14.0	U	
75-34-3	1,1-Dichloroethane		1.75	3.51	7.01	U	
107-06-2	1,2-Dichloroethane		1.75	3.51	7.01	U	
75-35-4	1,1-Dichloroethene		1.75	3.51	7.01	U	
156-59-2	cis-1,2-Dichloroethene		1.75	3.51	7.01	U	
156-60-5	trans-1,2-Dichloroethene		1.75	3.51	7.01	U	
78-87-5	1,2-Dichloropropane		1.75	3.51	7.01	U	
10061-01-5	cis-1,3-Dichloropropene		1.75	3.51	7.01	U	
10061-02-6	trans-1,3-Dichloropropene		1.75	3.51	7.01	U	
100-41-4	Ethylbenzene		1.75	3.51	7.01	U	
591-78-6	2-Hexanone		3.51	7.01	14.0	UXO	
98-82-8	Isopropylbenzene		1.75	3.51	7.01	U	
75-09-2	Methylene chloride	218	3.51	7.01	14.0		R F12
79-20-9	Methyl Acetate		3.51	7.01	14.0	U	U
108-87-2	Methylcyclohexane		1.75	3.51	7.01	U	
108-10-1	4-Methyl-2-pentanone		3.51	7.01	14.0	U	
1634-04-4	Methyl t-Butyl Ether		1.75	3.51	7.01	U	
100-42-5	Styrene		1.75	3.51	7.01	U	
79-34-5	1,1,2,2-Tetrachloroethane		1.75	3.51	7.01	U	
127-18-4	Tetrachloroethene		1.75	3.51	7.01	U	

ANALYSIS DATA SHEET

LNC-019-DS-SB3-02

Laboratory:	Empirical Laboratories, LLC		SDG:	1305125	
Client:	SAIC (S732)		Project:	Lincoln NE ANG	
Matrix:	Solid	Laboratory ID:	1305125-28	File ID:	0512528A.D
Sampled:	05/09/13 09:00	Prepared:	05/20/13 00:00	Analyzed:	05/20/13 14:33
Solids:	76.32	Preparation:	5035A	Dilution:	1

Batch: 3E20008 Sequence: 3E14106 Calibration: 3140003 Instrument: MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
108-88-3	Toluene		1.75	3.51	7.01	U
87-61-6	1,2,3-Trichlorobenzene		1.75	3.51	7.01	U
120-82-1	1,2,4-Trichlorobenzene		1.75	3.51	7.01	U
79-00-5	1,1,2-Trichloroethane		1.75	3.51	7.01	U
71-55-6	1,1,1-Trichloroethane		1.75	3.51	7.01	U
79-01-6	Trichloroethene		1.75	3.51	7.01	U
75-69-4	Trichlorofluoromethane		3.51	7.01	14.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		3.51	7.01	14.0	U
75-01-4	Vinyl chloride		1.75	3.51	7.01	U
108-38-3/106-42-	m,p-Xylene		3.51	7.01	14.0	U
95-47-6	o-Xylene		1.75	3.51	7.01	U

U

Total Target Analytes Reported: 51

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
Bromofluorobenzene	42.09	42.77	102	85 - 120	
Dibromofluoromethane	42.09	46.62	111	80 - 125	
1,2-Dichloroethane-d4	42.09	48.03	114	75 - 140	
Toluene-d8	42.09	43.43	103	85 - 115	

ANALYSIS DATA SHEET

LNC-019-DS-SB3-02

Laboratory:	Empirical Laboratories, LLC		SDG:	1305125	
Client:	SAIC (S732)		Project:	Lincoln NE ANG	
Matrix:	Solid	Laboratory ID: 1305125-28	File ID:	0512528.D	
Sampled:	05/09/13 09:00	Prepared: 05/21/13 14:15	Analyzed:	06/02/13 07:15	
Solids:	76.32	Preparation: EXT 3546	Dilution:	1	
Batch:	3E20014	Sequence: 3F15519	Calibration:	2272005	Instrument: MS-BNA1

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q	
98-86-2	Acetophenone		104	208	415	UX	U
1912-24-9	Atrazine		104	208	415	U	U
100-52-7	Benzaldehyde		104	208	415	UY UJ	COS
92-52-4	1,1-Biphenyl		104	208	415	U	U
101-55-3	4-Bromophenyl-phenylether		104	208	415	U	
85-68-7	Butylbenzylphthalate		104	208	415	U	
105-60-2	Caprolactam		104	208	415	U	
86-74-8	Carbazole		104	208	415	U	
59-50-7	4-Chloro-3-methylphenol		104	208	415	U	
106-47-8	4-Chloroaniline		104	208	415	U	
111-91-1	Bis(2-chloroethoxy)methane		104	208	415	U	
111-44-4	Bis(2-chloroethyl)ether		104	208	415	U	
108-60-1	2,2'-Oxybis-1-chloropropane		104	208	415	U	
91-58-7	2-Chloronaphthalene		104	208	415	U	
95-57-8	2-Chlorophenol		104	208	415	U	
7005-72-3	4-Chlorophenyl phenyl ether		104	208	415	U	
132-64-9	Dibenzofuran		104	208	415	U	
84-74-2	Di-n-butylphthalate		104	208	415	U	
91-94-1	3,3'-Dichlorobenzidine		104	208	415	U	
120-83-2	2,4-Dichlorophenol		104	208	415	U	
84-66-2	Diethylphthalate		104	208	415	U	
105-67-9	2,4-Dimethylphenol		415	831	1660	U	
131-11-3	Dimethyl phthalate		104	208	415	U	
534-52-1	4,6-Dinitro-2-methylphenol		1040	2080	4150	U	
51-28-5	2,4-Dinitrophenol		1040	2080	4150	U	
121-14-2	2,4-Dinitrotoluene		104	208	415	U	
606-20-2	2,6-Dinitrotoluene		104	208	415	U	
117-84-0	Di-n-octylphthalate		104	208	415	U	
117-81-7	Bis(2-ethylhexyl)phthalate		104	208	415	U	
118-74-1	Hexachlorobenzene		104	208	415	U	
87-68-3	Hexachlorobutadiene		104	208	415	U	
77-47-4	Hexachlorocyclopentadiene		104	208	415	U	
67-72-1	Hexachloroethane		104	208	415	UX	
78-59-1	Isophorone		104	208	415	U	
95-48-7	2-Methylphenol		104	208	415	U	
106-44-5	4-Methylphenol		104	208	415	U	
100-01-6	4-Nitroaniline		415	831	1660	U	
99-09-2	3-Nitroaniline		415	831	1660	U	
88-74-4	2-Nitroaniline		415	831	1660	U	
98-95-3	Nitrobenzene		104	208	415	U	

ANALYSIS DATA SHEET

LNC-019-DS-SB3-02

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125
Client:	SAIC (S732)			Project:	Lincoln NE ANG
Matrix:	Solid	Laboratory ID:	1305125-28	File ID:	0512528.D
Sampled:	05/09/13 09:00	Prepared:	05/21/13 14:15	Analyzed:	06/02/13 07:15
Solids:	76.32	Preparation:	EXT 3546	Dilution:	1

Batch: 3E20014 Sequence: 3F15519 Calibration: 2272005 Instrument: MS-BNA1

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
100-02-7	4-Nitrophenol		415	831	1660	U
88-75-5	2-Nitrophenol		104	208	415	U
86-30-6	N-Nitrosodiphenylamine		104	208	415	U
621-64-7	N-Nitroso-di-n-propylamine		104	208	415	U
87-86-5	Pentachlorophenol		415	831	1660	U
108-95-2	Phenol		104	208	415	U
95-94-3	1,2,4,5-Tetrachlorobenzene		104	208	415	U
58-90-2	2,3,4,6-Tetrachlorophenol		104	208	415	U
88-06-2	2,4,6-Trichlorophenol		104	208	415	U
95-95-4	2,4,5-Trichlorophenol		104	208	415	U

Total Target Analytes Reported: 50

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	4152	3290	79.2	45 - 105	
2-Fluorophenol	8303	6678	80.4	35 - 105	
Nitrobenzene-d5	4152	3440	82.9	35 - 100	
Phenol-d6	8303	6885	82.9	40 - 100	
Terphenyl-d14	4152	3644	87.8	30 - 125	
2,4,6-Tribromophenol	8303	6604	79.5	35 - 125	

ANALYSIS DATA SHEET

LNC-019-DS-SB3-02

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125		
Client:	SAIC (S732)			Project:	Lincoln NE ANG		
Matrix:	Solid	Laboratory ID:	1305125-28	File ID:	0512528.D		
Sampled:	05/09/13 09:00	Prepared:	05/21/13 14:15	Analyzed:	06/16/13 00:54		
Solids:	76.32	Preparation:	EXT_3546	Dilution:	1		
Batch:	3E20014	Sequence:	3F16823	Calibration:	3122001	Instrument:	MS-BNA4

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q	
83-32-9	Acenaphthene		2.08	4.15	8.31	U	U
208-96-8	Acenaphthylene		2.08	4.15	8.31	U	
120-12-7	Anthracene		2.08	4.15	8.31	U	
56-55-3	Benzo(a)anthracene	2.67	2.08	4.15	8.31	J	J
50-32-8	Benzo(a)pyrene		2.08	4.15	8.31	U	u
205-99-2	Benzo(b)fluoranthene		2.08	4.15	8.31	U	
191-24-2	Benzo(g,h,i)perylene		2.08	4.15	8.31	U	
207-08-9	Benzo(k)fluoranthene		2.08	4.15	8.31	U	
123-91-1	1,4-Dioxane		10.4	20.8	41.5	U	
218-01-9	Chrysene		2.08	4.15	8.31	U	
53-70-3	Dibenz(a,h)anthracene		2.08	4.15	8.31	U	
206-44-0	Fluoranthene	2.29	2.08	4.15	8.31	J	J
86-73-7	Fluorene		2.08	4.15	8.31	U	U
193-39-5	Indeno(1,2,3-cd)pyrene		2.08	4.15	8.31	U	
91-57-6	2-Methylnaphthalene		2.08	4.15	8.31	U	
91-20-3	Naphthalene		2.08	4.15	8.31	U	
85-01-8	Phenanthrene	2.72	2.08	4.15	8.31	J	J
129-00-0	Pyrene		2.08	4.15	8.31	U	U

Total Target Analytes Reported: 18

SYSTEM MONITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	4152	3714	89.4	45 - 105	
Terphenyl-d14	4152	3943	95.0	30 - 125	

JW
09/04/2013

ANALYSIS DATA SHEET

LNC-019-DS-SB3-02

Laboratory: Empirical Laboratories, LLC SDG: 1305125

Client: SAIC (S732) Project: Lincoln NE ANG

Matrix: Solid Laboratory ID: 1305125-28 File ID: 038F3801.D

Sampled: 05/09/13 09:00 Prepared: 05/20/13 12:19 Analyzed: 05/23/13 14:00

Solids: 76.32 Preparation: EXT 3546 Dilution: 1

Batch: 3E17023 Sequence: 3E14606 Calibration: 3143004 Instrument: GL-GCFID2

CAS NO.	COMPOUND	CONC. (mg/Kg dry)	DL	LOD	LOQ	Q
11-84-7	Diesel Range Organics (C10-C28)		8.42	8.42	16.7	U

U

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	1.677	1.292	77.1	35 - 140	

ANALYSIS DATA SHEET

LNC-019-DS-SB3-02

Laboratory:	Empirical Laboratories, LLC		SDG:	1305125	
Client:	SAIC (S732)		Project:	Lincoln NE ANG	
Matrix:	Solid	Laboratory ID: 1305125-28		File ID:	023F2301.D
Sampled:	05/09/13 09:00	Prepared: 05/18/13 17:28		Analyzed:	05/19/13 08:29
Solids:	76.32	Preparation: 8015GRO		Dilution:	1
Batch:	3E18011	Sequence: 3E14307	Calibration: 3044001	Instrument:	GL-GCVOA2

CAS NO.	COMPOUND	CONC. (mg/Kg dry)	DL	LOD	LOQ	Q
8006-61-9	Gasoline Range Organics (C6-C10)		3.07	6.15	9.22	U

U

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q
Bromofluorobenzene	3.073	3.677	120	50 - 150	X

ANALYSIS DATA SHEET

LNC-FB-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125		
Client:	SAIC (S732)			Project:	Lincoln NE ANG		
Matrix:	Water	Laboratory ID:	1305125-04	File ID:	0512504.D		
Sampled:	05/07/13 09:00	Prepared:	05/18/13 12:26	Analyzed:	05/18/13 12:26		
Solids:		Preparation:	5030B	Dilution:	1		
Batch:	3E18005	Sequence:	3E14033	Calibration:	3127004	Instrument:	MS-VOA5

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone		2.50	5.00	10.0	U
71-43-2	Benzene		0.250	0.500	1.00	U
74-97-5	Bromochloromethane		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	U
75-25-2	Bromoform		0.250	0.500	1.00	U
74-83-9	Bromomethane		0.500	1.00	2.00	U
78-93-3	2-Butanone		2.50	5.00	10.0	U
75-15-0	Carbon disulfide		0.250	0.500	1.00	U
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	U
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	UX
67-66-3	Chloroform		0.250	0.500	1.00	U
74-87-3	Chloromethane		0.250	0.500	1.00	U
110-82-7	Cyclohexane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U
96-12-8	1,2-Dibromo-3-chloropropane		0.500	1.00	2.00	U
106-93-4	1,2-Dibromoethane (EDB)		0.250	0.500	1.00	U
95-50-1	1,2-Dichlorobenzene		0.250	0.500	1.00	U
541-73-1	1,3-Dichlorobenzene		0.250	0.500	1.00	U
106-46-7	1,4-Dichlorobenzene		0.250	0.500	1.00	U
75-71-8	Dichlorodifluoromethane		0.500	1.00	2.00	U
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene		0.250	0.500	1.00	U
591-78-6	2-Hexanone		1.25	2.50	5.00	U
98-82-8	Isopropylbenzene		0.250	0.500	1.00	U
75-09-2	Methylene chloride		0.500	1.00	2.00	U
79-20-9	Methyl Acetate		0.500	1.00	2.00	UX
108-87-2	Methylcyclohexane		0.250	0.500	1.00	U
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	U
1634-04-4	Methyl t-Butyl Ether		0.250	0.500	1.00	U
100-42-5	Styrene		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.250	0.500	1.00	U
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U

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ANALYSIS DATA SHEET

LNC-FB-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125		
Client:	SAIC (S732)			Project:	Lincoln NE ANG		
Matrix:	Water	Laboratory ID:	1305125-04	File ID:	0512504.D		
Sampled:	05/07/13 09:00	Prepared:	05/18/13 12:26	Analyzed:	05/18/13 12:26		
Solids:		Preparation:	5030B	Dilution:	1		
Batch:	3E18005	Sequence:	3E14033	Calibration:	3127004	Instrument:	MS-VOA5

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q	
108-88-3	Toluene	**0.280**	0.250	0.500	1.00	J	J
87-61-6	1,2,3-Trichlorobenzene		0.250	0.500	1.00	U	U
120-82-1	1,2,4-Trichlorobenzene		0.250	0.500	1.00	U	
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U	
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	U	
79-01-6	Trichloroethene		0.250	0.500	1.00	U	
75-69-4	Trichlorofluoromethane		0.500	1.00	2.00	U	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		0.500	1.00	2.00	U	
75-01-4	Vinyl chloride		0.250	0.500	1.00	UX	
108-38-3/106-42-	m,p-Xylene		0.500	1.00	2.00	U	
95-47-6	o-Xylene		0.250	0.500	1.00	U	

Total Target Analytes Reported: 51

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	27.34	91.1	75 - 120	
Dibromofluoromethane	30.00	29.89	99.6	85 - 115	
1,2-Dichloroethane-d4	30.00	29.25	97.5	70 - 120	
Toluene-d8	30.00	30.30	101	85 - 120	

ANALYSIS DATA SHEET

LNC-FB-01

Laboratory:	Empirical Laboratories, LLC		SDG:	1305125	
Client:	SAIC (S732)		Project:	Lincoln NE ANG	
Matrix:	Water	Laboratory ID: 1305125-04	File ID:	0512504.D	
Sampled:	05/07/13 09:00	Prepared: 05/13/13 12:35	Analyzed:	05/15/13 23:08	
Solids:		Preparation: EXT 3510	Dilution:	1	
Batch:	3E13311	Sequence: 3E14040	Calibration:	2261001	Instrument: MS-BNA3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
98-86-2	Acetophenone		1.19	2.38	4.76	U
1912-24-9	Atrazine		1.19	2.38	4.76	U
100-52-7	Benzaldehyde		1.19	2.38	4.76	U
92-52-4	1,1-Biphenyl		1.19	2.38	4.76	U
101-55-3	4-Bromophenyl-phenylether		1.19	2.38	4.76	U
85-68-7	Butylbenzylphthalate		1.19	2.38	4.76	U
105-60-2	Caprolactam		1.19	2.38	4.76	U
86-74-8	Carbazole		1.19	2.38	4.76	U
59-50-7	4-Chloro-3-methylphenol		1.19	2.38	4.76	U
106-47-8	4-Chloroaniline		1.19	2.38	4.76	U
111-91-1	Bis(2-chloroethoxy)methane		1.19	2.38	4.76	U
111-44-4	Bis(2-chloroethyl)ether		1.19	2.38	4.76	U
108-60-1	2,2'-Oxybis-1-chloropropane		1.19	2.38	4.76	U
91-58-7	2-Chloronaphthalene		1.19	2.38	4.76	U
95-57-8	2-Chlorophenol		1.19	2.38	4.76	U
7005-72-3	4-Chlorophenyl phenyl ether		1.19	2.38	4.76	U
132-64-9	Dibenzofuran		1.19	2.38	4.76	U
84-74-2	Di-n-butylphthalate		1.19	2.38	4.76	U
91-94-1	3,3'-Dichlorobenzidine		1.19	2.38	4.76	U
120-83-2	2,4-Dichlorophenol		1.19	2.38	4.76	U
84-66-2	Diethylphthalate		1.19	2.38	4.76	U
105-67-9	2,4-Dimethylphenol		4.76	9.52	19.0	U
131-11-3	Dimethyl phthalate		1.19	2.38	4.76	U
534-52-1	4,6-Dinitro-2-methylphenol		4.76	9.52	19.0	U
51-28-5	2,4-Dinitrophenol		7.93	23.8	47.6	U
121-14-2	2,4-Dinitrotoluene		1.19	2.38	4.76	U
606-20-2	2,6-Dinitrotoluene		1.19	2.38	4.76	U
117-84-0	Di-n-octylphthalate		1.19	2.38	4.76	U
117-81-7	Bis(2-ethylhexyl)phthalate		1.19	2.38	4.76	U
118-74-1	Hexachlorobenzene		1.19	2.38	4.76	U
87-68-3	Hexachlorobutadiene		1.19	2.38	4.76	U
77-47-4	Hexachlorocyclopentadiene		1.19	4.76	9.52	U
67-72-1	Hexachloroethane		1.19	2.38	4.76	U
78-59-1	Isophorone		1.19	2.38	4.76	U
95-48-7	2-Methylphenol		1.19	2.38	4.76	U
106-44-5	4-Methylphenol		1.19	2.38	4.76	U
100-01-6	4-Nitroaniline		4.76	9.52	19.0	U
99-09-2	3-Nitroaniline		4.76	9.52	19.0	U
88-74-4	2-Nitroaniline		4.76	9.52	19.0	U
98-95-3	Nitrobenzene		1.19	2.38	4.76	U

ANALYSIS DATA SHEET

LNC-FB-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125		
Client:	SAIC (S732)			Project:	Lincoln NE ANG		
Matrix:	Water	Laboratory ID:	1305125-04	File ID:	0512504.D		
Sampled:	05/07/13 09:00	Prepared:	05/13/13 12:35	Analyzed:	05/15/13 23:08		
Solids:		Preparation:	EXT 3510	Dilution:	1		
Batch:	3E13311	Sequence:	3E14040	Calibration:	2261001	Instrument:	MS-BNA3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
100-02-7	4-Nitrophenol		4.76	9.52	19.0	U
88-75-5	2-Nitrophenol		1.19	2.38	4.76	U
86-30-6	N-Nitrosodiphenylamine		1.19	2.38	4.76	U
621-64-7	N-Nitroso-di-n-propylamine		1.19	2.38	4.76	U
87-86-5	Pentachlorophenol		4.76	9.52	19.0	U
108-95-2	Phenol		1.19	2.38	4.76	U
95-94-3	1,2,4,5-Tetrachlorobenzene		1.19	2.38	4.76	U
58-90-2	2,3,4,6-Tetrachlorophenol		2.38	4.76	9.52	U
88-06-2	2,4,6-Trichlorophenol		1.19	2.38	4.76	U
95-95-4	2,4,5-Trichlorophenol		1.19	2.38	4.76	U

Total Target Analytes Reported: 50

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	47.62	40.93	86.0	50 - 110	
2-Fluorophenol	95.24	41.90	44.0	20 - 110	
Nitrobenzene-d5	47.62	40.86	85.8	40 - 110	
Phenol-d6	95.24	24.64	25.9	0 - 110	
Terphenyl-d14	47.62	43.11	90.5	50 - 135	
2,4,6-Tribromophenol	95.24	79.62	83.6	40 - 125	

ANALYSIS DATA SHEET

LNC-FB-01

Laboratory:	Empirical Laboratories, LLC		SDG:	1305125	
Client:	SAIC (S732)		Project:	Lincoln NE ANG	
Matrix:	Water	Laboratory ID:	1305125-04	File ID:	0512504.D
Sampled:	05/07/13 09:00	Prepared:	05/14/13 11:36	Analyzed:	06/04/13 01:09
Solids:		Preparation:	EXT 3510	Dilution:	1

Batch: 3E14008 Sequence: 3F15509 Calibration: 3122001 Instrument: MS-BNA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
83-32-9	Acenaphthene		0.0472	0.0943	0.189	U
208-96-8	Acenaphthylene		0.0472	0.0943	0.189	U
120-12-7	Anthracene		0.0472	0.0943	0.189	U
56-55-3	Benzo(a)anthracene		0.0472	0.0943	0.189	U
50-32-8	Benzo(a)pyrene		0.0472	0.0943	0.189	U
205-99-2	Benzo(b)fluoranthene		0.0472	0.0943	0.189	U
191-24-2	Benzo(g,h,i)perylene		0.0472	0.0943	0.189	U
207-08-9	Benzo(k)fluoranthene		0.0472	0.0943	0.189	U
123-91-1	1,4-Dioxane		0.118	0.236	0.472	U
218-01-9	Chrysene		0.0472	0.0943	0.189	U
53-70-3	Dibenz(a,h)anthracene		0.0472	0.0943	0.189	U
206-44-0	Fluoranthene		0.0472	0.0943	0.189	U
86-73-7	Fluorene		0.0472	0.0943	0.189	U
193-39-5	Indeno(1,2,3-cd)pyrene		0.0472	0.0943	0.189	U
91-57-6	2-Methylnaphthalene		0.0472	0.0943	0.189	U
91-20-3	Naphthalene	**0.0822**	0.0472	0.0943	0.189	J
85-01-8	Phenanthrene		0.0472	0.189	0.377	U
129-00-0	Pyrene		0.0472	0.0943	0.189	U

Total Target Analytes Reported: 18

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	47.17	34.92	74.0	50 - 110	
Terphenyl-d14	47.17	38.38	81.4	50 - 135	
2,4,6-Tribromophenol	94.34	81.39	86.3	40 - 125	X

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ANALYSIS DATA SHEET

LNC-FB-01

Laboratory:	Empirical Laboratories, LLC		SDG:	1305125	
Client:	SAIC (S732)		Project:	Lincoln NE ANG	
Matrix:	Water	Laboratory ID: 1305125-04		File ID:	015F1501.D
Sampled:	05/07/13 09:00	Prepared: 05/14/13 19:02		Analyzed:	05/21/13 04:15
Solids:		Preparation: EXT 3510		Dilution:	1
Batch:	3E14020	Sequence: 3E14605	Calibration: 3143004	Instrument:	GL-GCFID2

CAS NO.	COMPOUND	CONC. (mg/L)	DL	LOD	LOQ	Q
11-84-7	Diesel Range Organics (C10-C28)		0.0926	0.0926	0.185	U UJ Ao1

Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/L)	CONC (mg/L)	% REC	QC LIMITS	Q
o-Terphenyl	0.01852	0.01614	87.1	30 - 140	

ANALYSIS DATA SHEET

LNC-FB-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125		
Client:	SAIC (S732)			Project:	Lincoln NE ANG		
Matrix:	Water	Laboratory ID:	1305125-C4	File ID:	006F1001.D		
Sampled:	05/07/13 09:00	Prepared:	05/16/13 16:14	Analyzed:	05/16/13 16:14		
Solids:		Preparation:	8015GRO	Dilution:	1		
Batch:	3E16005	Sequence:	3E14043	Calibration:	3044001	Instrument:	GL-GCVOA2

CAS NO.	COMPOUND	CONC. (mg/L)	DL	LOD	LOQ	Q
8006-61-9	Gasoline Range Organics (C6-C10)		0.0500	0.100	0.150	U

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Total Target Analytes Reported: 1

SYSTEM MONITORING COMPOUND	ADDED (mg/L)	CONC (mg/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	0.05000	0.06781	136	50 - 150	

ANALYSIS DATA SHEET

LNC-FB-01

Laboratory: Empirical Laboratories, LLC
Client: SAIC (S732)
Matrix: Water
Sampled: 05/07/13 09:00

SDG: 1305125
Project: Lincoln NE ANG
Laboratory ID: 1305125-04
Received: 05/11/13 08:30

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-92-1	Lead		0.375	0.750	0.750	1	U	SW6010B	3E28012	05/30/13 15:57

ANALYSIS DATA SHEET

LNC-TB-01

Laboratory:	Empirical Laboratories, LLC		SDG:	1305125	
Client:	SAIC (S732)		Project:	Lincoln NE ANG	
Matrix:	Water	Laboratory ID: 1305125-02	File ID:	0512502.D	
Sampled:	05/06/13 15:45	Prepared: 05/18/13 02:28	Analyzed:	05/18/13 02:28	
Solids:		Preparation: 5030B	Dilution:	1	
Batch:	3E17016	Sequence: 3E13802	Calibration:	3127004	Instrument: MS-VOA5

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone		2.50	5.00	10.0	U
71-43-2	Benzene		0.250	0.500	1.00	U
74-97-5	Bromochloromethane		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	U
75-25-2	Bromoform		0.250	0.500	1.00	U
74-83-9	Bromomethane		0.500	1.00	2.00	UQ
78-93-3	2-Butanone		2.50	5.00	10.0	UX
75-15-0	Carbon disulfide		0.250	0.500	1.00	U
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	U
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	UX
67-66-3	Chloroform		0.250	0.500	1.00	U
74-87-3	Chloromethane		0.250	0.500	1.00	U
110-82-7	Cyclohexane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U
96-12-8	1,2-Dibromo-3-chloropropane		0.500	1.00	2.00	U
106-93-4	1,2-Dibromoethane (EDB)		0.250	0.500	1.00	U
95-50-1	1,2-Dichlorobenzene		0.250	0.500	1.00	U
541-73-1	1,3-Dichlorobenzene		0.250	0.500	1.00	U
106-46-7	1,4-Dichlorobenzene		0.250	0.500	1.00	U
75-71-8	Dichlorodifluoromethane		0.500	1.00	2.00	U
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene		0.250	0.500	1.00	U
591-78-6	2-Hexanone		1.25	2.50	5.00	U
98-82-8	Isopropylbenzene		0.250	0.500	1.00	U
75-09-2	Methylene chloride		0.500	1.00	2.00	U
79-20-9	Methyl Acetate		0.500	1.00	2.00	UX
108-87-2	Methylcyclohexane		0.250	0.500	1.00	U
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	UX
1634-04-4	Methyl t-Butyl Ether		0.250	0.500	1.00	U
100-42-5	Styrene		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.250	0.500	1.00	U
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U

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ANALYSIS DATA SHEET

LNC-TB-01

Laboratory:	Empirical Laboratories, LLC			SDG:	1305125		
Client:	SAIC (S732)			Project:	Lincoln NE ANG		
Matrix:	Water	Laboratory ID:	1305125-02	File ID:	0512502.D		
Sampled:	05/06/13 15:45	Prepared:	05/18/13 02:28	Analyzed:	05/18/13 02:28		
Solids:		Preparation:	5030B	Dilution:	1		
Batch:	3E17016	Sequence:	3E13802	Calibration:	3127004	Instrument:	MS-VOA5

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
108-88-3	Toluene		0.250	0.500	1.00	U
87-61-6	1,2,3-Trichlorobenzene		0.250	0.500	1.00	U
120-82-1	1,2,4-Trichlorobenzene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	U
79-01-6	Trichloroethene		0.250	0.500	1.00	U
75-69-4	Trichlorofluoromethane		0.500	1.00	2.00	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		0.500	1.00	2.00	U
75-01-4	Vinyl chloride		0.250	0.500	1.00	UX
108-38-3/106-42-	m,p-Xylene		0.500	1.00	2.00	U
95-47-6	o-Xylene		0.250	0.500	1.00	U

Total Target Analytes Reported: 51

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	27.67	92.2	75 - 120	
Dibromofluoromethane	30.00	29.52	98.4	85 - 115	
1,2-Dichloroethane-d4	30.00	30.81	103	70 - 120	
Toluene-d8	30.00	30.27	101	85 - 120	

APPENDIX D
GEOPHYSICAL REPORT

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June 28, 2013

Ms. Jill Kovalchik
Science Applications International Corporation
151 Lafayette Drive
Oak Ridge, TN 37831

Re: Historic Fuel Line Verification and UST Survey, Nebraska Air National Guard, 155th Air Refueling Wing, Lincoln, Nebraska, SAIC Project 2603200209/1000/100

Dear Jill:

Science Applications International Corporation (SAIC), Geophysical Services Division is pleased to present this letter report documenting the results of geophysical mapping services conducted to verify and/or locate underground storage tanks (USTs) and adjacent utilities prior to environmental sampling activities at the Nebraska Air National Guard (ANG). The UST/utility verification project was conducted at Aerospace Ground Equipment (AGE) Building 608. All fieldwork was completed the week of May 10, 2013.

SITE DESCRIPTION

The geophysical investigation was conducted in the grassy area at the northwest corner of AGE Building 608. A concrete pad and two drive-overs, presumably cleanouts, were present within the footprint of the survey area.

Building 608 – Former USTs (TU018)

Based on historic documents, area of concern (TU018), known as the Former Detergent and/or Waste Oil USTs at Building 608, includes former UST Tank #608-1, a 500-gal steel UST used to store waste oil from a nearby oil/water separator (OWS), and former UST Tank #608-2, a 2,000-gal fiberglass UST used to store "detergent." The two USTs were installed in 1975 and 1976, respectively. A memorandum dated November 6, 1995, indicates that at least one of the two tanks was removed in 1995, stating UST Tank #608-1 "has been backfilled. There was contamination." No mention is made of UST #608-2.

As of September 2012, ANG personnel were uncertain if UST #608-2 had been removed; the presence of subsurface piping in the grass west of Building 608 indicates that a tank may still be present. Geophysical surveying was performed at the Former Detergent and/or Waste Oil USTs at Building 608 (TU018) to determine whether UST #608-2 remains in place.

GEOPHYSICAL APPROACH

The primary objective of the geophysical survey effort was to acquire sufficient data to determine if UST #608-2 remains in place.

The geophysical survey was conducted within an approximately 50- by 100-ft grassed area adjacent to the northwest corner of Building 608 in three phases. In the first phase of the investigation, a multi-mode passive utility locator was used to verify the location of potential underground utilities, to the extent possible. In the second phase of the investigation, an EM61-MK2 metal detector survey was conducted along traverses spaced every 2.5 ft to represent complete coverage of the survey area. The collected data were integrated with differential global positioning system (DGPS) data to produce a geo-referenced data set. In the final phase of the investigation, ground penetrating radar (GPR) was deployed in areas where electromagnetic (EM) results were inconclusive due to interference from metallic cultural features. GPR surveys were conducted over the grassy area, with refined traverses over EM anomalies to determine if they exhibit parabolic-shaped GPR reflections consistent with an UST. This phased geophysical approach increased the likelihood of identifying any remnant USTs and/or associated piping, if present, within the limitations of current available geophysical technologies.

Prior to conducting the EM61 metal detector survey, SAIC performed quality control function checks in an area free of metal in accordance with SAIC Geophysical Procedure GP-002, *Surface Electromagnetic Survey*. Background instrument response was set to zero (i.e., instrument nulling). SAIC collected pre- and post-survey static tests to monitor instrument noise levels to ensure that the instrument was functioning properly and that there was minimal ambient EM interference. Static test data revealed instrument noise levels were +/- 2 mV, within the manufacturer's specification for instrument operation. Generally speaking, metallic underground piping was expected to exhibit an EM response in the 10s of mVs. Any USTs, if present, were anticipated to exhibit EM responses in 100s to 1,000s of mVs depending on burial depth.

GEOPHYSICAL SURVEY

In the first phase, SAIC utilized a radio detection cable avoidance tool (CAT3) line locator to screen the subsurface in two separate modes (radio search mode and 60-Hertz [Hz] mode) to accurately locate subsurface utilities. Radio search mode was used to screen the subsurface for very-low-frequency radio signals re-radiated by buried metallic pipes. The locations of an underground electric line and a gas line were verified with this method. Identified utilities were marked on the ground with highly reflective marking paint and subsequently mapped with DGPS.

In the second phase of the investigation, several metallic anomalies were identified, as indicated on Figure 1.

- Anomaly A was fairly symmetrical and exhibited an EM response greater than 4,000 mV. This feature corresponded to the location of an approximately 8- by 15-ft concrete pad, presumably covering the "existing" OWS, as stated by on-site ANG personnel.
- Anomalous area B coincided with the location of an approximately 10-in.-diameter metallic drive-over cover located in the lawn area. This area also exhibited an EM shadow around one or more air conditioner unit(s) located adjacent to the building.
- Anomaly C was attributed to a second metallic drive-over, approximately 10-in- diameter, located in the grass lawn.
- Anomaly D was located immediately adjacent to the building and was attributed to cultural interference (i.e., interference caused by man-made features in the local vicinity).
- Anomaly E coincides with a gas meter that is located adjacent to the building.

LEGEND

Verified Gas Line

Verified Electric

A Anomaly and Identifier

155th AIR REFUELING WING
NE AIR NATIONAL GUARD
LINCOLN, NEBRASKA

A.G.E BUILDING 608
EM61-MK2 METAL DETECTOR RESPONSE

SAIC®

job no. 2603200209/1000/100		
file no. NGB_Lincoln NE EM61MK2.SRF		
drawn J. Warren	date	figure no.
checked	date	1
approved	date	

- Anomaly F is located in the northeast corner of the survey area in the grass lawn. This feature exhibited an elevated EM response between 40 and 150 mV. This feature could not be attributed to any surface features.

- Anomaly G is a linear anomaly that appears to originate at the concrete vault (the location of Anomaly A), pass by the two metallic drive-overs (Anomalies B and C), and trend towards the AGE building. The origin of this feature could not be substantiated by EM methods alone.

- Anomaly H exhibited elevated EM responses over a broad area in a consistent pattern. These features were associated with reinforcement within the concrete apron. No other distinguishable features were identified; however, the EM response from concrete reinforcements could have masked other features at depth.

In the third phase, GPR methods were used to search for additional subsurface piping not yet identified. GPR was also used to interrogate EM Anomalies A, F, and G to further substantiate their origin.

- Several scans were conducted across Anomaly A. This feature exhibited planar GPR reflections, which appeared to be confined to the footprint of the concrete pad. These reflections were a result of the pad and an associated vault at depth.

- Multiple scans were also conducted across Anomaly F. While some scans revealed parabolic-shaped signatures, a UST could not be definitively substantiated at this location. Furthermore, the EM response was not significant enough to suggest a large metal mass at depth that was consistent with a small UST.

- Scans over Anomaly G revealed faint GPR reflections that appeared to further substantiate a feature at depth.

GEOPHYSICAL SURVEY LIMITATIONS

The geophysical investigation included standard and/or routinely accepted practices of the geophysical industry. SAIC utilized qualified personnel to reduce the risk of missing a subsurface feature due to the depth it is buried, the soil type and conditions, the feature materials, or other site-specific conditions that may mask the feature of interest. However, by its nature, no subsurface survey is 100% accurate, and SAIC cannot accept responsibility for inherent survey limitations or unforeseen, site-specific conditions.

In performing the work, SAIC utilized geophysical technologies and EM detection procedures currently in use in the industry and approved by ANG in the project work plan (SAIC 2013). SAIC accepts no responsibility or liability whatsoever for inherent geophysical technique limitations, survey limitations, or unforeseen site-specific conditions. Thus, SAIC cannot guarantee that all subsurface features or anomalies were detected; however, the services provided under this contract were performed within the parameters and scope communicated by ANG and reflected in the contract and with the corresponding degree of skill and judgment.

SUMMARY

In general, an approximately 50- by 100-ft grassed area adjacent to the northwest corner of Building 608 was surveyed for evidence of historic USTs and/or associated piping. A total of eight anomalous areas (A though H) and two utilities (electric and gas) were identified. Additionally, the grassy area was surveyed with GPR methods. Refined GPR surveys were also conducted over Anomalies A, F, and G.

Anomalies A and F exhibited planar GPR reflections. Anomaly A was associated with a concrete vault or tank at depth. This feature did not exhibit parabolic-shaped reflections consistent with a UST. Based on GPR, a vault, consistent with the "existing" OWS, appeared to be confined within the footprint of the concrete pad. Anomaly F exhibited a slightly elevated EM response. This feature was interrogated with GPR but did not reveal parabolic-shaped GPR reflections consistent with a UST. Anomaly G exhibited a linear EM trend consistent with a utility. GPR data exhibited faint reflections in this area substantiating a feature at depth.

In conclusion, a vault was identified in the area of a concrete pad. USTs could not be substantiated elsewhere within the footprint of the survey area.

SAIC, Geophysical Services Division appreciates this opportunity to support the ANG project team. We look forward to your favorable review of this letter report and successful completion of the site investigation. If you have any questions or require any further information, please feel free to contact the undersigned at your convenience.

Respectfully submitted,

SCIENCE APPLICATIONS INTERNATIONAL CORPORATION

Jeffrey J. Warren, P.G.
Geophysicist

JJW:
Attachments

REFERENCES

SAIC (Science Applications International Corporation) 2005. Geophysical Procedure GP-002, *Surface Electromagnetic Survey.*

SAIC 2005. Geophysical Procedure GP-007, *Field Mapping With Global Positioning Systems.*

SAIC 2013. *Work Plan for Preliminary Assessment/Site Investigation, Compliance Restoration Program, 155th Air Refueling Wing, Nebraska Air National Guard, Forbes Field, Lincoln, Nebraska*, Final, March.

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APPENDIX E
REMEDIAL ACTION COST ENGINEERING REQUIREMENTS WORKSHEETS

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ANG RI DQO WORKSHEET

Installation Name: Nebraska Air National Guard **Site ID** TU015

City: Lincoln **State:** NE

Site Name: Former Vehicle Service Pit in Building 608

Site Description: Former concrete pit was used to capture waste JP-4 in the service bay of the AGE. The pit was abandoned approx. 1995, when it was filled and capped with concrete. Reported dimensions are approximately 4 ft by 4 ft by 5-6 ft. Site dimensions below encompass TU015, TU018, and SA019 groundwater (co-mingled). Note that RI groundwater results (9 wells total) are expected to be used across all three AOCs.

Recommended for RI because: Multiple PAHs exceed screening criteria in soil; naphthalene exceeds screening criteria in groundwater.

Site Dimensions:

Acreage	0.4	Acres
Length	160	Feet
Width	100	Feet
Perimeter	520	Feet

Contaminants of Concern (check all that apply):

Acids/Caustics ____	
Asbestos ____	
Fuels ____	____ PCBs
SVOCs X	____ Pesticides
VOCs ____	____ Metals
Other* ____	____ Low Level Radioactive

*Please specify: ____

Impacted Media (check all that apply):

Surface Soil ____	____ Surface Water
Subsurface Soil X	____ Sediment
Groundwater X	____ Vadose Zone

Type of Aquifer (check one):

Confined ____	X Unconfined

Soil Type (check one):

Gravel/Gravel-Sand Mixture ____	____ Sand-Silt Mixture/Sand-Clay Mixture
Sand/Gravelly-Sand Mixture ____	X Silt/Silty-Clay Mixture
Other* ____	____

*Please specify: ____

<u>For the purposes of out year programmatic assumptions:</u>

Probable Remedial Investigation parameters:

Number of wells	3	____
Number of soil samples	12	____

Area of Contamination:

Soil

Soil Extent defined (yes or no)	No	
Soil: Approximate lateral extent	400	Sq. Feet
Depth to base of soil contamination:	12	Feet

Groundwater

GW Extent defined (yes or no)	No	
GW: Approximate lateral extent	16,000	Sq. Feet
Depth to base of GW contamination:	50	Feet
Depth to water table:	12	Feet
Depth to bedrock:	100	Feet

Site Remedial Action (check all that apply):

Dig and haul X	____ NTCRA
Bio-Augmentation ____	____ Pump and treat
Bio Remediation X	____ Cap
ISCO X	____ Phytoremediation
Other* ____	X LUC's

*Please specify: ____

ANG RI DQO WORKSHEET

Installation Name: **Nebraska Air National Guard** **Site ID** **TU018**

City: **Lincoln** **State:** **NE**

Site Name: **Former Detergent and/or Waste Oil USTs at Building 608**

Site Description: **Former tanks 608-1 (waste oil) and 608-2 (detergent) were located at the northwest corner of building 608. Site dimensions below encompass TU015, TU018, and SA019 groundwater (co-mingled). Note that RI groundwater results (9 wells total) are expected to be used across all three AOCs.**

Recommended for RI because: **PAHs remain above screening criteria in groundwater; NDEQ requested the area be included in the TU015 RI.**

Site Dimensions:

Acreage	0.4	Acres
Length	160	Feet
Width	100	Feet
Perimeter	520	Feet

Contaminants of Concern (check all that apply):

Acids/Caustics			
Asbestos			
Fuels			PCBs
SVOCs	X		Pesticides
VOCs			Metals
Other*			Low Level Radioactive

*Please specify: ____

Impacted Media (check all that apply):

Surface Soil			Surface Water
Subsurface Soil			Sediment
Groundwater	X		Vadose Zone

Type of Aquifer (check one):

Confined		X	Unconfined

Soil Type (check one):

Gravel/Gravel-Sand Mixture			Sand-Silt Mixture/Sand-Clay Mixture
Sand/Gravelly-Sand Mixture		X	Silt/Silty-Clay Mixture
Other*			

*Please specify: ____

For the purposes of out year programmatic assumptions:

Probable Remedial Investigation parameters:

Number of wells	3	
Number of soil samples	0	

Area of Contamination:

Soil

Soil Extent defined (yes or no)	n/a	
Soil: Approximate lateral extent		Sq. Feet
Depth to base of soil contamination:		Feet

Groundwater

GW Extent defined (yes or no)	No	
GW: Approximate lateral extent	16,000	Sq. Feet
Depth to base of GW contamination:	50	Feet
Depth to water table:	12	Feet
Depth to bedrock:	100	Feet

Site Remedial Action (check all that apply):

Dig and haul			NTCRA
Bio-Augmentation			Pump and treat
Bio Remediation	X		Cap
ISCO	X		Phytoremediation
Other*		X	LUC's

*Please specify: ____

ANG RI DQO WORKSHEET

Installation Name: Nebraska Air National Guard **Site ID** SA019

City: Lincoln **State:** NE

Site Name: Former Drop Tank Storage Area

Site Description: Area formerly used for drop tank storage, west of TU015 and TU018.
Site dimensions below encompass TU015, TU018, and SA019 groundwater (co-mingled).
Note that RI groundwater results (9 wells total) are expected to be used across all three AOCs.

Recommended for RI because: PAHs remain above screening criteria in groundwater; NDEQ requested the area be included in the TU015 RI.

Site Dimensions:

Acreage	0.4	Acres
Length	160	Feet
Width	100	Feet
Perimeter	520	Feet

Contaminants of Concern (check all that apply):

Acids/Caustics			
Asbestos			
Fuels			PCBs
SVOCs	X		Pesticides
VOCs			Metals
Other*			Low Level Radioactive

*Please specify:

Impacted Media (check all that apply):

Surface Soil			Surface Water
Subsurface Soil			Sediment
Groundwater	X		Vadose Zone

Type of Aquifer (check one):

Confined		X	Unconfined

Soil Type (check one):

Gravel/Gravel-Sand Mixture			Sand-Silt Mixture/Sand-Clay Mixture
Sand/Gravelly-Sand Mixture		X	Silt/Silty-Clay Mixture
Other*			

*Please specify:

For the purposes of out year programmatic assumptions:

Probable Remedial Investigation parameters:

Number of wells	3
Number of soil samples	0

Area of Contamination:

Soil

Soil Extent defined (yes or no)	n/a	
Soil: Approximate lateral extent		Sq. Feet
Depth to base of soil contamination:		Feet

Groundwater

GW Extent defined (yes or no)	No	
GW: Approximate lateral extent	16,000	Sq. Feet
Depth to base of GW contamination:	50	Feet
Depth to water table:	12	Feet
Depth to bedrock:	100	Feet

Site Remedial Action (check all that apply):

Dig and haul			NTCRA
Bio-Augmentation			Pump and treat
Bio Remediation	X		Cap
ISCO	X		Phytoremediation
Other*		X	LUC's

*Please specify:

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March 22, 2019

Mr. Winston Crow
NGB/A4OR
Sheppard Hall
3501 Fetchet Avenue
Joint Base Andrews, Maryland 20762-5157

REFERENCE: **Contract W9133L-14-D-0007, Delivery Order 0011, FY17 Phase III Regional Site Inspections for Perfluorinated Compounds at Multiple Air National Guard Installations**

SUBJECT: **Final Site Inspection Report for Lincoln ANGB**

Mr. Crow

Attached please find the above referenced document.

Should you have any questions, please contact me at 606.495.5149 or by email at vestm@leidos.com.

LEIDOS

Matthew B. Vest

Matthew B. Vest, PMP, PG
Project Manager

cc: Ms. Susan Klypchak – NGB-AQ-E Contracting Specialist
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Mr. Wade Gregson – Nebraska DEQ Project Manager
Ms. Connie Samson – Leidos Program Manager
Mr. Selvam Arunachalam – Leidos Deputy Project Manager
Ms. Nancy Wahlquist – Leidos Project Controller
Leidos Project File

FINAL

SITE INSPECTION REPORT FOR PERFLUOROOCTANE SULFONATE AND PERFLUOROOCTANOIC ACID AT LINCOLN AIR NATIONAL GUARD BASE LINCOLN, NEBRASKA

155th Air Refueling Wing
Lincoln Air National Guard Base
Lincoln, Nebraska

March 2019

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FINAL

SITE INSPECTION REPORT
FOR
PERFLUOROOCTANE SULFONATE AND PERFLUOROOCTANOIC ACID
AT
LINCONL AIR NATIONAL GUARD BASE
LINCOLN, NEBRASKA

155th Air Refueling Wing
Lincoln Air National Guard Base
Lincoln, Nebraska

March 2019

Contract Number W9133L-14-D-0007
Task Order Number 0011

Prepared for

Air National Guard
Restoration Branch
NGB/A4OR
3501 Fetchet Avenue
Joint Base Andrews, Maryland 20762

Prepared by

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11951 Freedom Drive
Reston, Virginia 20190

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CONTENTS

TABLES

FIGURES

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ACRONYMS

AFFF	Aqueous Film-Forming Foam
AMSL	Above Mean Sea level
ANG	Air National Guard
ANGB	Air National Guard Base
ARFF	Aircraft Rescue and Firefighting
ARW	Air Refueling Wing
BB&E	BB&E, Inc.
BGS	Below Ground Surface
COC	Chemical of Concern
COPC	Chemical of Potential Concern
DoD	U.S. Department of Defense
DQO	Data Quality Objective
EPA	U.S. Environmental Protection Agency
ERP	Environmental Restoration Program
FD	Fire Department
FSMH	Fuel Systems Maintenance Hangar
FSS	Fire Suppression System
FTA	Fire Training Area
HA	Health Advisory
HDPE	High-Density Polyethylene
HEF	High Expansion Foam
HQ	Hazard Quotient
IDW	Investigation-Derived Waste
mg/kg	Milligrams per Kilogram
MS	Matrix Spike
MSD	Matrix Spike Duplicate
µg/kg	Micrograms per Kilogram
µg/L	Micrograms per Liter
NDEQ	Nebraska Department of Environmental Quality
NFA	No Further Action
ng/L	Nanograms per Liter
OWS	Oil/Water Separator
PA	Preliminary Assessment
PFAS	Per- and Polyfluoroalkyl Substances
PFBS	Perfluorobutane Sulfonate
PFHpA	Perfluoroheptanoic Acid
PFHxS	Perfluorohexane Sulfonate
PFNA	Perfluorononanoic Acid
PFOA	Perfluorooctanoic Acid
PFOS	Perfluorooctane Sulfonate
PRL	Potential Release Location
QA	Quality Assurance
QC	Quality Control
QSM	Quality Systems Manual
RI	Remedial Investigation
RPD	Relative Percent Difference
RSL	Regional Screening Level
SI	Site Inspection

TestAmerica	TestAmerica Analytical Laboratories, Inc.
UCMR3	Third Unregulated Contaminant Monitoring Rule
UFP-QAPP	Uniform Federal Policy Quality Assurance Project Plan
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WP	Work Plan
WWTP	Wastewater Treatment Plant

EXECUTIVE SUMMARY

Leidos was contracted to conduct Phase III regional site inspections (SIs) for perfluorinated compounds at multiple Air National Guard Bases (ANGBs). This report documents SI activities conducted at 13 potential release locations (PRLs) at the 155th Air Refueling Wing (ARW) of the Nebraska Air National Guard (ANG) at Lincoln Airport, Lincoln, Nebraska. The primary objective of the SI was to determine the presence or absence of perfluorinated compounds, more specifically per- and polyfluoroalkyl substances (PFAS) on the U.S. Environmental Protection Agency (EPA) Third Unregulated Contaminant Monitoring Rule (UCMR3), including perfluorooctane sulfonate (PFOS), perfluorooctanoic acid (PFOA) perfluorobutane sulfonate (PFBS), perfluorononanoic acid (PFNA), perfluoroheptanoic acid (PFHpA), and perfluorohexane sulfonate (PFHxS), herein collectively referred to as PFOS/PFOA, at each PRL and based on the following findings:

- Determine if PFOS/PFOA-contaminated groundwater has reached the Installation boundary;
- Provide a defensible no further action (NFA) decision for qualifying PRLs; and
- Develop data quality objectives (DQOs) for additional investigation for PRLs not meeting the NFA criteria or an interim response action, if appropriate.

To meet the objectives, Leidos performed SIs at the following 13 PRLs:

- PRL 1: Aircraft Parking Ramp,
- PRL 2: Main Aircraft Maintenance Hangar – Building 600,
- PRL 3: Fuel Systems Maintenance Hangar (FSMH) – Building 2600,
- PRL 4: Current Fire Station – Building 2500,
- PRL 5: Former Fire Station – Former Building 606,
- PRL 7: Vehicle Maintenance – Building 636,
- PRL 8: Civil Engineering – Building 635,
- PRL 9: Retention Pond,
- PRL 10: Outfall 001,
- PRL 11: Outfall 002,
- PRL 12: Outfall 003,
- PRL 13: Outfall 004, and
- PRL 14: Outfall 005.

Based on recommendations from the May 2016 preliminary assessment (PA) that documented the site visit conducted by BB&E, Inc. (BB&E) soil, groundwater, sediment, and surface water samples were collected from 11 of the 13 PRLs recommended for sampling. Two of the PRLs recommended for sampling (PRL 10 and PRL 12) were not sampled because surface water/sediment was not available at Outfalls 001 and 003, respectively. Collected samples were analyzed for PFOS/PFOA compounds. The detected PFOS/PFOA concentrations were compared against screening criteria for PFOS, PFOA, and PFBS, including the EPA lifetime drinking water Health Advisory (HA) for PFOS and PFOA, the EPA Regional Screening Level (RSL) for PFBS in tap water, the calculated screening levels using the EPA screening level calculator for PFOS, PFOA, and PFBS in soil and sediment, as shown in Table ES-1. In the absence of established residential risk-based soil screening levels for PFOS and PFOA, the EPA RSL calculator was used to calculate estimated values assuming a hazard quotient (HQ) equal to 1.0.

Table ES-1. PFOS/PFOA SI Screening Criteria

Parameter	Chemical Abstract Service Number	EPA RSL for Tap Water[a] (ng/L)	EPA Health Advisory[b] (ng/L)	Calculated Residential Risk-based Soil Screening Level[c] (µg/kg)
PFOS	1763-23-1	NA	70.0[d]	1,260
PFOA	335-67-1	NA		1,260
PFBS	375-73-5	400,000[e]	NA	1,260,000

[a] EPA RSL for tap water, May 2018; Target HQ = 1.0.
[b] *Drinking Water Health Advisory for Perfluorooctane Sulfonate* (EPA 2016a) and *Drinking Water Health Advisory for Perfluorooctanoic Acid* (EPA 2016b).
[c] The calculated residential risk-based soil screening levels were determined using the EPA RSL calculator (https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search) at a target HQ = 1.0.
[d] When PFOA and PFOS are both present, the combined detected concentrations of the compounds are compared with the 70-ng/L health advisory value.
[e] PFBS analytical results for groundwater and surface water have been compared to the tap water screening levels.

µg/kg = Micrograms per kilogram.
EPA = U.S. Environmental Protection Agency.
HQ = Hazard quotient.
NA = Not available.
ng/L = Nanograms per liter.
PFBS = Perfluorobutane sulfonate.
PFOA = Perfluorooctanoic acid.
PFOS = Perfluorooctane sulfonate.
RSL = Regional screening level.
SI = Site inspection.

PFOS/PFOA compounds were detected in the soil, groundwater, sediment, and surface water above the laboratory detection limits. Samples from five monitoring wells (MW-LIN01-01, MW-LIN05-01, MW-LIN07-01, MW-LIN08-01, MW-LIN09-01) and three surface water samples (LIN11-SW1, LIN13-SW1, LIN14-SW1) indicate PFOS/PFOA concentrations exceeding the 70-ng/L EPA drinking water HA. PFOS/PFOA compounds are likely migrating offsite given their presence and magnitude at the hydraulically downgradient (south/southwest) Installation boundary. According to Base personnel, no drinking water wells are located at the Base. In addition, no wells are located within 1 mile of the Base (SAIC 2013). Potable water is supplied to the Base by the city of Lincoln's water supply system, which obtains its source water from the Platte River Valley, approximately 25 miles northeast of Lincoln.

Leidos recommends further investigations at all 13 PRLs. Additional investigations are recommended for soil and groundwater at PRLs 1 through 5 and 7 through 9, and surface water/sediment at PRLs 10 through 14. The recommendations are summarized in Table ES-2 and described briefly below:

- Further investigation is necessary to determine the nature and extent of PFOS/PFOA contamination due to detectable levels of PFOS/PFOA at the PRLs.
- Although PRLs 10 and 12 could not be sampled during the SI, these outfalls should be investigated in the future due to PFOS/PFOA concentrations detected in the PRLs contributing to surface water discharge at these outfalls.
- Develop an expanded conceptual site model that considers localized groundwater and surface water flow paths to select future sampling locations.

Table ES-2. SI Recommendation Summary Table

PRL No.	PRL Description	Constituents Above Screening Criteria	Sampling Recommendations and Objectives
1	Aircraft Parking Ramp	**None**	**Soil:** Although screening criteria were not exceeded, additional surface and subsurface soil samples are proposed to determine if an unidentified source exists, and if so, to determine the nature and extent in the vertical and horizontal directions given the potential for soil to groundwater migration. **Groundwater:** Determine the nature and extent both vertically and horizontally through the sampling of existing and additional new monitoring wells.
2	Main Aircraft Maintenance Hangar – Building 600	**Groundwater:** PFOS + PFOA	**Soil:** Although screening criteria were not exceeded, additional surface and subsurface soil samples are proposed to determine if an unidentified source exists, and if so, to determine the nature and extent in the vertical and horizontal directions given the potential for soil to groundwater migration. **Groundwater:** Determine the nature and extent both vertically and horizontally through the sampling of existing and additional new monitoring wells.
3	Fuel Systems Maintenance Hangar – Building 2600	**Groundwater:** PFOS + PFOA	**Soil:** Although screening criteria were not exceeded, additional surface and subsurface soil samples are proposed to determine if an unidentified source exists, and if so, to determine the nature and extent in the vertical and horizontal directions given the potential for soil to groundwater migration. **Groundwater:** Determine the nature and extent both vertically and horizontally through the sampling of existing and additional new monitoring wells.
4	Current Fire Station – Building 2500	**Groundwater:** PFOS + PFOA	**Soil:** Although screening criteria were not exceeded, additional surface and subsurface soil samples are proposed to determine if an unidentified source exists, and if so, to determine the nature and extent in the vertical and horizontal directions given the potential for soil to groundwater migration. **Groundwater:** Determine the nature and extent both vertically and horizontally through the sampling of existing and additional new monitoring wells.
5	Former Fire Station – Former Building 606	**Groundwater:** PFOS + PFOA	**Soil:** Although screening criteria were not exceeded, additional surface and subsurface soil samples are proposed to determine if an unidentified source exists, and if so, to determine the nature and extent in the vertical and horizontal directions given the potential for soil to groundwater migration. **Groundwater:** Determine the nature and extent both vertically and horizontally through the sampling of existing and additional new monitoring wells.
7	Vehicle Maintenance – Building 636	**Groundwater:** PFOS + PFOA	**Soil:** Although screening criteria were not exceeded, additional surface and subsurface soil samples are proposed to determine if an unidentified source exists, and if so, to determine the nature and extent in the vertical and horizontal directions given the potential for soil to groundwater migration. **Groundwater:** Determine the nature and extent both vertically and horizontally through the sampling of existing and additional new monitoring wells.
8	Civil Engineering – Building 635	**Groundwater:** PFOS + PFOA	**Soil:** Although screening criteria were not exceeded, additional surface and subsurface soil samples are proposed to determine if an unidentified source exists, and if so, to determine the nature and extent in the vertical and horizontal directions given the potential for soil to groundwater migration. **Groundwater:** Determine the nature and extent both vertically and horizontally through the sampling of existing and additional new monitoring wells.

Table ES-2. SI Recommendation Summary Table (continued)

PRL No.	PRL Description	Constituents Above Screening Criteria	Sampling Recommendations and Objectives
9	Retention Pond	**None**	**Soil:** Although screening criteria were not exceeded, additional surface and subsurface soil samples are proposed to determine if an unidentified source exists, and if so, to determine the nature and extent in the vertical and horizontal directions given the potential for soil to groundwater migration. **Groundwater:** Determine the nature and extent both vertically and horizontally through the sampling of existing and additional new monitoring wells.
10	Outfall 001	**No surface water/sediment available for sample collection**	**Surface Water and Sediment:** Determine PFOS/PFOA impact to surface water through upgradient sampling of surface water and sediment and evaluate potential downgradient impacts at locations off Base.
11	Outfall 002	**Surface Water:** PFOS + PFOA	**Surface Water and Sediment:** Determine PFOS/PFOA impact to surface water through additional upgradient sampling of surface water and sediment and evaluate potential downgradient impacts at locations off Base.
12	Outfall 003	**No surface water/sediment available for sample collection**	**Surface Water and Sediment:** Determine PFOS/PFOA impact to surface water through upgradient sampling of surface water and sediment and evaluate potential downgradient impacts at locations off Base.
13	Outfall 004	**Surface Water:** PFOS + PFOA	**Surface Water and Sediment:** Determine PFOS/PFOA impact to surface water through additional upgradient sampling of surface water and sediment and evaluate potential downgradient impacts at locations off Base.
14	Outfall 005	**Surface Water:** PFOS + PFOA	**Surface Water and Sediment:** Determine PFOS/PFOA impact to surface water through additional upgradient sampling of surface water and sediment and evaluate potential downgradient impacts at locations off Base.
General			**Soil:** Collect additional surface and subsurface soil samples to determine the nature and extent both vertically and horizontally of PFOS/PFOA contamination. Analyze for an expanded list of PFOS/PFOA compounds to evaluate for potential precursor compounds. **Groundwater:** (1) Collect additional groundwater samples in upgradient locations to quantify potential impacts from upgradient sources; and (2) collect additional groundwater samples off Base through the installation of a limited number of new monitoring wells to determine if PFAS concentrations beyond the Base boundary are present and are increasing or decreasing. **Surface Water/Sediment:** (1) Collect additional surface water and sediment samples in upgradient locations to quantify potential impacts from upgradient sources; and (2) collect additional surface water and sediment samples off Base to determine the nature and extent of PFAS beyond the Base boundary.

PFOA = Perfluorooctanoic acid.
PFOS = Perfluorooctane sulfonate.
PRL = Potential release location.
SI = Site inspection.

- Complete the delineation of nature and extent of PFAS as part of an Expanded SI or a remedial investigation (RI) that could consist of:
  - Additional soil and sediment sampling and analysis of an expanded list of PFAS constituents (in addition to the six UCMR3 constituents) to determine if significant source areas related to precursor substances are present. Precursor substances have been demonstrated to oxidize into PFOS and PFOA, and thus, could provide a lingering source of these compounds to soil and groundwater.
  - Implement an expanded groundwater sampling program (including analysis of an expanded list of PFAS constituents) to complete horizontal and vertical delineation of the PFOS/PFOA impacts. Further groundwater investigation at the Base boundary is recommended due to the presence of PFAS in groundwater above their respective screening criteria.
  - The installation and sampling of upgradient boundary monitoring wells and downgradient off-Base monitoring wells to better define the potential upgradient source of PFOS/PFOA as well as PFOS/PFOA concentrations that may have migrated off Base.
  - Conduct preliminary site-specific risk assessment calculations in order to identify chemicals of potential concern (COPCs) in every medium and establish preliminary remedial goals for screening purposes.

DQOs are proposed based on the results of the SI and are presented in Table ES-2. In general, additional samples are required at each PRL, in order to establish the nature and extent of PFOS/PFOA constituents for each applicable medium and determine if a complete receptor pathway exists. For soil, additional samples are proposed to determine if a source area exists, and if so, to determine the vertical and horizontal extent for both the vadose and saturated zones. Additional surface water and sediment samples should be collected at PRLs 10 through and 14 (including analysis of an expanded list of PFAS constituents) to further evaluate PFOS/PFOA concentrations in surface water and sediment.

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1.0 INTRODUCTION

Leidos has prepared this Site Inspection (SI) Report to satisfy the requirements of Task Order 0011 of National Guard Bureau Contract Number W9133L-14-D-0007. Under this Task Order, Leidos was contracted to conduct Phase III regional SIs for perfluorinated compounds at multiple Air National Guard Bases (ANGBs). This report documents SI activities conducted at 13 potential release locations (PRLs) at the 155th Air Refueling Wing (ARW) of the Nebraska Air National Guard (ANG) at Lincoln Airport, Lincoln, Nebraska, herein referred to as Lincoln ANGB, the Installation, or the Base (Figure 1). Note that all tables and figures are presented after Section 7. All field activities were conducted in accordance with the *Work Plan for Fiscal Year 2017 Phase III Regional Site Inspections for Perfluorooctane Sulfonate and Perfluorooctanoic Acid at Lincoln Air National Guard Base, Lincoln, Nebraska* (Leidos 2018).

1.1 PROJECT OBJECTIVES AND SCOPE

The primary objective of the SI was to determine the presence or absence of perfluorinated compounds, more specifically per- and polyfluoroalkyl substances (PFAS) on the U.S. Environmental Protection Agency (EPA) Third Unregulated Contaminant Monitoring Rule (UCMR3), including perfluorooctane sulfonate (PFOS), perfluorooctanoic acid (PFOA) perfluorobutane sulfonate (PFBS), perfluorononanoic acid (PFNA), perfluoroheptanoic acid (PFHpA), and perfluorohexane sulfonate (PFHxS), herein collectively referred to as PFOS/PFOA.

Surface and subsurface soil, groundwater (downgradient from the PRL), and surface water and sediment (if available) were sampled and analyzed to determine the presence or absence of PFOS/PFOA in environmental media at the PRLs identified during the 2016 preliminary assessment (PA) (BB&E 2016) and to:

- Determine if PFOS/PFOA-contaminated groundwater has reached the Installation boundary;
- Provide a defensible no further action (NFA) decision for qualifying PRLs; and
- Develop data quality objectives (DQOs) for additional investigation for PRLs not meeting the NFA criteria or an interim response action, if appropriate.

The scope of work consisted of three inter-related tasks: (1) prepare an SI Work Plan (WP), (2) conduct SI and data collection activities, and (3) evaluate data from the field effort and applicable historical information to present conclusions and recommendations in an SI Report.

All sampling was performed on ANG property, and only PRLs located on ANG property were included in the project scope. Sampling of drinking water sources (other than the on-Base potable water supply that was used for decontamination activities) was not included, and determination of nature and extent of any identified contamination was not within the scope of this SI.

Thirteen PRLs, as listed in Table 1 and depicted in Figure 2, were selected for SI activities based upon the PA and site visit conducted by BB&E Inc. (BB&E) in March 2016 and reported in the *Perfluorinated Compounds Preliminary Assessment Site Visit Report, 155th Air Refueling Wing, Nebraska Air National Guard, Lincoln Airport, Lincoln, Nebraska* (BB&E 2016). This SI Report briefly summarizes the PA, describes SI field activities, presents analytical results of environmental sampling, and provides recommendations for each PRL.

1.2 REGULATORY OVERVIEW AND SCREENING CRITERIA

In 2012, EPA published the UCMR3, which required public water supplies across the country to sample for a list of 30 unregulated contaminants, including 6 chemicals of concern (COCs) relevant to this SI (PFOS, PFOA, PFBS, PFNA, PFHpA, and PFHxS; i.e., PFOS/PFOA). Results of UCMR3-required sampling indicated detections of PFOS/PFOA at numerous locations, including several near U.S. Department of Defense (DoD) facilities. PFOS/PFOA detections at DoD facilities are often linked to the use of aqueous film-forming foam (AFFF), which may contain one or more of these chemicals. AFFF is a firefighting agent used to suppress fires involving petroleum hydrocarbons.

Detected concentrations of PFOS/PFOA in environmental samples collected during the Lincoln ANGB SI were compared against soil and water screening criteria for PFOS, PFOA, and PFBS, as described below and listed in Table 2.

The May 2018 EPA generic regional screening level (RSL) table lists a residential risk-based screening level for tap water for PFBS of 400 micrograms per liter (µg/L) (400,000 nanograms per liter [ng/L]; target hazard quotient = 1). Currently, no legally enforceable federal standards exist for PFOS/PFOA in water. However, under the Safe Drinking Water Act, EPA issued a series of Health Advisories (HAs) for PFOS/PFOA, including the most recent in May 2016. To provide Americans, including the most sensitive populations, with a margin of protection from a lifetime of exposure to PFOS/PFOA in drinking water, EPA established an HA level for PFOS and PFOA (combined) of 70 ng/L. The HA of 70 ng/L applies to PFOS and PFOA individually as well as combined. If an individual compound is detected >70 ng/L, the screening criteria is exceeded. However, if individual compounds are <70 ng/L but the sum of the compounds is >70 ng/L, the screening criteria is exceeded. For example, if PFOS = 50 ng/L and PFOA = 25 ng/L, the screening criteria is exceeded. Therefore, screening levels for groundwater and surface water are as follows:

- PFOS and PFOA = 70 ng/L; and
- PFBS = 400,000 ng/L.

No legally enforceable federal standards exist for PFOS/PFOA in soil or sediment. The May 2018 EPA generic RSL table (EPA 2018) lists a residential risk-based screening level for soil for PFBS of 1,300 milligrams per kilogram (mg/kg) (1,300,000 micrograms per kilogram [µg/kg]). Following the process utilized at other ANG Installations around the country, Leidos will use the calculated residential risk-based screening levels for soil determined using the EPA RSL calculator for PFOS, PFOA, and PFBS at a target HQ equal to 1.0. The calculated residential risk-based screening value for PFBS (1,260,000 µg/kg) is slightly more conservative than the value listed in the May 2018 EPA generic RSL table (1,300,000 µg/kg). Therefore, the more conservative calculated residential risk-based screening level will be used for comparison. The calculated residential risk-based screening levels for PFOS, PFOA, and PFBS are as follows:

- PFOS = 1,260 µg/kg;
- PFOA = 1,260 µg/kg; and
- PFBS = 1,260,000 µg/kg.

As of the preparation of this SI Report, no site-specific soil screening levels have been developed in Nebraska. Furthermore, no surface water or sediment screening criteria have been established by EPA or the Nebraska Department of Environmental Quality (NDEQ) at this time.

2.0 INSTALLATION DESCRIPTION

2.1 LOCATION

Lincoln ANGB is the home of the 155th ARW in Lincoln, Lancaster County, Nebraska. The Nebraska ANG 155th ARW is co-located with the Lincoln Airport (formerly Lincoln Municipal Airport) and is a joint use civil airport/military Base. The Lincoln Airport covers an area of close to 5,000 acres and is situated approximately 4 miles northwest of Lincoln, Nebraska. Nebraska ANG occupies approximately 166 acres within the primary Installation boundaries (TEC-Weston 2015). The Lincoln ANGB location is shown in Figure 1.

2.2 ORGANIZATION AND HISTORY

The Lincoln Army Airfield was originally established in 1942 as a combat crew processing center and Airplane Mechanics School during World War II, where it operated until 1946. During World War II, increased need for trained pilots required operations to shift to Florida where flight training could be continued beyond the short summer flying season in Nebraska. It was later reactivated in 1952 and renamed Lincoln Air Force Base, where it operated until 1986 when operational control was returned to the city of Lincoln. The southeastern portion of the airport was divided into thirds, with the U.S. Navy acquiring the northern two thirds in 1953 and the U.S. Air Force acquiring the southern third in 1954. The U.S. Navy operated a Naval Air Station from approximately 1954 to 1959 prior to being acquired by the U.S. Air Force. At this time, ANG operations moved north to the former U.S. Navy facilities, where they have remained. With the exception of several new structures, the general layout of the Installation has not changed significantly since 1966 (SAIC 2013). Today, Lincoln Airport is a joint use facility supporting the operations of the U.S. military and a variety of general aviation. The 155th ARW, the Nebraska ANG, the Nebraska Army National Guard, and the U.S. Navy Reserve also maintain a presence at the Base. The Nebraska ANG tarmac and Base facilities are closed to public aviation uses and are guarded at all times by a unit of the Air Force Security division. The 155th ARW currently flies and maintains the KC-135R aircraft (BB&E 2016).

DoD began investigations at military Bases under the Installation Restoration Program with the goal of identifying, evaluating, and remediating areas of contamination (the program is referred to as the Environmental Restoration Program [ERP]). These investigations included PAs, site investigations, removal action investigations, and remedial investigations (RIs). Prior to the BB&E 2016 PA, potential releases of PFOS/PFOA from use and storage of AFFF had not been evaluated at Lincoln ANGB.

Base operations that could have contributed to contamination of soil, groundwater, sediment, and surface water include fire training areas (FTAs) and non-FTAs. FTA PRLs are sites where AFFF was likely used for fire suppression during training activities. Based on the PA Report, no evidence exists that an FTA is or was located within the footprint of the Base's boundary (BB&E 2016). Non-FTA PRLs identified at Lincoln ANGB are sites where AFFF was stored, released, and/or likely to have been released, and include the Aircraft Parking Ramp (PRL 1), the main aircraft maintenance hangar at Building 600 (PRL 2), the FSMH at Building 2600 (PRL 3), the current fire station at Building 2500 (PRL 4), the former fire station at Building 606 (PRL 5), vehicle maintenance activities at Building 636 (PRL 7), vehicle maintenance activities at civil engineering Building 635 (PRL 8), AFFF releases to the retention pond (PRL 9), and the surface water runoff outfalls 001 through 005 (PRLs 10 through 14) (BB&E 2016).

When AFFF is released to the environment, PFOS/PFOA can migrate into soil and groundwater. The amount of PFOS/PFOA that migrates to groundwater depends on the type and amount of AFFF used, where it was used, the type of soil, and other factors. PFOS/PFOA may migrate readily from soil to groundwater. The primary exposure pathway for PFOS/PFOA is the ingestion of contaminated drinking water.

3.0 ENVIRONMENTAL SETTING

3.1 CLIMATE

Lincoln ANGB is located approximately 4 miles northwest of Lincoln, Nebraska. The climate in Lincoln is defined as humid continental and is characterized by four highly variable seasons. The average temperature of nearby Lincoln is 50.9°F, which is slightly higher than the Nebraska average temperature of 49.9°F and is lower than the national average temperature of 54.45°F. Annual rainfall amounts in Lincoln are 29.58 in. with 51.69 days of 0.1 in. of rain or more of precipitation. Snowfall is generally light with an average annual snowfall of 28 in. Average wind speed for the area is 19.2 miles per hour and is usually out of the south and southeast (USA.com 2017).

3.2 TOPOGRAPHY

Lincoln ANGB is situated on a generally flat topographical gradient with gently rolling hills and prairies. Lincoln ANGB has an average surface elevation of 1,167 ft above mean sea level (AMSL) with a slight gradient toward Salt Creek, which runs east of the Base (SAIC 2013).

3.3 GEOLOGY

The Lincoln area is situated on the eastern edge of the Great Plains. Bedrock in the Lincoln area is Cretaceous-aged sandstone and shale. The primary unit that is encountered in this area is the lower Cretaceous Dakota Group, which includes the Lakota Formation and Fuson shale. The Dakota Group, with a thickness averaging 350 to 400 ft, underlies most of Nebraska and extends into the northern Great Plains, eventually outcropping in the foothills of the Rocky Mountains, Laramie Range, and the Black Hills. Unconsolidated sediment of the Quaternary overlies the bedrock in Lancaster County, which can be characterized by two lithostratigraphic units. The upper unit is 10 to 22 ft of eolian silt and clay deposits, which overlay 15 ft of well-sorted fluvial sand and gravel that are thickest in paleostream channels in the underlying Cretaceous bedrock. The unconsolidated Quaternary deposits extend to a depth of 90 ft below ground surface (BGS) in some areas (SAIC 2013).

3.4 SOIL

According to the U.S. Department of Agriculture Soil Conservation Service, native soil (upper 5 ft) at Lincoln ANGB belongs to the Sharpsburg-Judson, Kennebec-Nodaway-Zook, or Crete-Sharpsburg Associations. The Kennebec-Nodaway-Zook soil is deep and nearly level to very gently sloping. It is found on the southern and western portions of Lincoln ANGB and is moderately well-drained to poorly drained silty soil. The Crete-Sharpsburg soil is found in the central and eastern portions of Lincoln ANGB and is characterized as deep, nearly level to gently sloping. This associate consists of moderately well-drained silty soil that formed on stream terraces. The Sharpsburg-Judson soil is classified as deep, nearly level to moderately steep, and moderately well-drained. This silty soil is found in the northeastern corner of Lincoln ANGB, where it formed in loess and colluvium on uplands and foot slopes (SAIC 2013). Soils identified during the Leidos SI typically consisted of silt and silty clay.

3.5 SURFACE WATER HYDROLOGY

Lincoln ANBG is located within the Salt Creek drainage area and is close to Old Oak Creek Channel, a semi-stagnant channel abandoned during runway construction when Oak Creek was rerouted. A secondary channel of the Old Oak Creek is present at the southern end of Lincoln ANGB and is significantly smaller. Both bodies of water drain to Oak Creek, which runs along the western, southern, and southeastern sides of the Lincoln Airport. Oak Creek is a highly channelized stream that converges with Salt Creek approximately 3 miles east of Lincoln ANGB (TEC-Weston 2015).

3.6 HYDROGEOLOGY

Groundwater occurs in two aquifers at Lincoln ANGB: a shallow unconfined aquifer and a deep confined aquifer. The unconfined aquifer is found within the unconsolidated sands and clayey soil formed during the Quaternary that extend to a depth of 90 ft BGS in some places. The shallow aquifer is generally encountered at approximately 12 ft BGS with a saturated thickness of approximately 40 ft and flows southwest toward Oak Creek. The unconfined and confined aquifers are separated by a thick silty clay layer (BB&E 2016).

The deep confined aquifer occurs within the Cretaceous Dakota Formation and serves as the principal aquifer in the area, although not the primary source of drinking water due to its variable quality and transmissivity. This formation is characterized by fine- to coarse-grained sandstone that is poorly consolidated with lenses of shale and mudrock. The aquifer begins at depths between 125 and 150 ft BGS and ranges in thickness from 0 to 350 ft. Regional flow is generally southwest to south, and average transmissivity is estimated at 4,000 gal per day but can be as high as 50,000 gal per day. No registered water wells are found within a 1-mile radius of Lincoln ANGB; however, several groundwater monitoring wells are located onsite. These wells are not used for potable water (SAIC 2013).

The groundwater information collected from monitoring wells during the Leidos SI field activities confirmed a south-southwest flow of shallow groundwater (Figure 2). Soil boring logs indicate shallow groundwater was encountered at depths ranging from 6 ft BGS in LIN07-SB1 to 20 ft BGS in LIN05-SB3. Groundwater levels collected before purging and sampling monitoring wells during the SI indicate the depth to shallow groundwater ranged from 9.44 ft BGS in MW-LIN08-01 to 13.88 ft BGS in MW-LIN02-01. Groundwater elevations were 1147.80 ft AMSL in MW-LIN07-01 and 1152.96 ft AMSL in MW-LIN04-01.

3.7 CRITICAL HABITATS AND ENDANGERED/THREATENED SPECIES

According to the U.S. Fish and Wildlife Service (USFWS), the following federally listed threatened, endangered, or proposed species are known to or are believed to occur in Lancaster County, Nebraska (USFWS 2017a):

- Insects:
  - Salt Creek tiger beetle (*Cincindela nevadica lincolniana*) – Endangered.
- Flowering plants:
  - Western prairie fringed orchid (*Platanthera praeclara*) – Threatened.
- Mammals:
  - Northern long-eared bat (*Myotis septentrionalis*) – Threatened.
- Birds:
  - Red knot (*Calidris canutus rufa*) – Threatened.

The potential for these species to occur in Lancaster County does not mean they are present at Lincoln ANGB.

The USFWS National Wetlands Inventory indicates the occurrence of a portion of an approximately 5.38-acre freshwater emergent wetland within the Lincoln site boundary (USFWS 2017b). However, the area is based on aerial images from 1981 and do not appear to be present within the current landscape. Evaluation of offsite wetlands along the surface water pathway should be discussed during the work plan development for a future PFAS investigation.

3.8 WATER WELLS

The PA Report (BB&E 2016) indicates that 167 water wells are within a 1-mile radius of the Base. The report shows that one well is listed in the U.S. Geological Survey (USGS) database and is owned by the USGS Nebraska Water Science Center. The remaining 166 wells are listed in the Nebraska state database and appear to be mostly monitoring well installations and abandonments. As confirmed by the Nebraska Department of Natural Resources, no wells are within a 1-mile radius of Lincoln ANGB, with the exception of on-Base monitoring wells associated with historical investigations (SAIC 2013). According to Base personnel, no drinking water wells are located at the Base. Potable water is supplied by the city of Lincoln's water supply system, which obtains its source water from the Platte River Valley approximately 25 miles northeast of Lincoln. NDEQ is working with the Lincoln/Lancaster County Health Department to identify and sample domestic-use wells in the area.

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4.0 PRELIMINARY ASSESSMENT

In 2016, BB&E conducted a PA to identify potential sites of historical environmental releases of PFOS/PFOA related to AFFF usage and storage at Lincoln ANGB (BB&E 2016). The PA evaluated a total of 14 PRLs and recommended 13 of these for further investigation under an SI (Table 1; see also Figure 2). At the time of the 2016 PA, no documentation was available showing that soil, groundwater, sediment, and surface water at Lincoln ANGB were previously tested for PFOS/PFOA; therefore, these compounds could be present in media at any of these PRLs.

BB&E researched the potential existence of any documented FTAs or any other use or release of AFFF. No former FTAs were identified within the footprint of the Lincoln ANGB site boundary. The PA concluded that 13 of the 14 non-FTAs identified at the Base may have utilized AFFF based on years of operation.

The PA site visit included onsite interviews with active and former personnel from the ANG Installation and other parties with relevant historical site knowledge. The sections below briefly describe the operational history and waste characteristics of the PRLs included in this SI, as presented in the PA Report (BB&E 2016). PRL numbers correspond to the area of concern designation used in the PA Report (BB&E 2016).

4.1 PRL 1: AIRCRAFT PARKING RAMP

The Aircraft Parking Ramp at the Base is located along the northwestern Base boundary and includes the area between the Fuels Hangar (Building 2600) and the Main Hangar (Building 600). The ramp is used for parking, fueling and de-fueling, de-icing, and minor maintenance of aircraft. The ramp is operated by the 155th ARW and used to store up to nine KC-135R aircraft. The concrete ramp is sloped to storm drains on the ramp. The majority of the Aircraft Parking Ramp is located in Drainage Basin 1; however, a small portion of the ramp is also located in drainage Basins 2, 4, and 5. Stormwater flow from Basin 1 passes through an oil/water separator (OWS) that was installed in the early 2000s before discharging to the Old Oak Creek Channel. Prior to the OWS, stormwater would have discharged directly to the Old Oak Creek Channel.

According to Base personnel, no crashes or mishaps of DOD aircraft have occurred at the Base that have used AFFF. AFFF has been used on airport property for civilian aircraft mishaps. According to the PA, Base personnel stated that in the event of a fuel spill, the spill would be washed down with water prior to the 1990s and absorbed with spill materials post 1990s (BB&E 2016).

4.2 PRL 2: MAIN AIRCRAFT MAINTENANCE HAGAR – BUILDING 600

The Main Aircraft Maintenance Hangar, known as Building 600, was built in 1956. An AFFF fire suppression system (FSS) was installed around 1997 during a renovation of the hangar. According to Base personnel, the AFFF was stored in a 2,000-gal tank located in a mechanical room within the hangar. The hangar's storm and sanitary piping was rerouted and an OWS was installed to the east of the hangar as part of the renovation. A diverter was installed to divert any releases from the hangar floor drains to the retention pond if the fire alarm system within the hangar was activated; otherwise, releases from the hangar floor drains would discharge to the OWS prior to discharge to the sanitary sewer. An additional diverter was in place to direct stormwater from the hangar to the Old Oak Creek Channel or to the retention pond. At the time of the PA site visit, all stormwater was directed to the retention pond. Prior to the hangar renovation, releases to the hangar floor drains were discharged to the storm sewer and eventually to Old Oak Creek Channel through Outfall 004 (BB&E 2016).

The underwing FSS was tested annually and the AFFF was pushed into the floor drains. The hangar had one known release of AFFF in the late-1990s from a false indication of the alarm system. Base personnel estimate that approximately 200 gal of 3% AFFF solution were released into the hangar. According to Base personnel, all of the foam entered the floor drains and was contained in the retention pond. No other known spills occurred at the Main Aircraft Maintenance Hangar (BBE& 2016).

The hangar was retrofitted with a high-expansion foam (HEF) system in approximately 2009. Base personnel believe that the AFFF removed from the FSS during the change to HEF was placed in the retention pond and sent to the city of Lincoln wastewater treatment plan (WWTP). No AFFF was present in the hangar during the PA site visit (BB&E 2016).

4.3 PRL 3: FUEL SYSTEMS MAINTENANCE HANGAR – BUILDING 2600

Building 2600, the FSMH, which is located in the northwestern portion of the Base, directly north of the Main Aircraft Maintenance Hangar, was built in 1994 with an underwing AFFF FSS. During the PA, AFFF was stored in a 2,000-gal tank located in a separate AFFF room within the hangar. The AFFF room has a man-made wood dike in front of the doors that lead to the apron as a result of previous AFFF leaks that have reached the ramp and storm sewer and discharged to Outfall 003. A sanitary drain is located in the center of the room. According to Base personnel, this drain is normally capped, but during the PA site visit, the cap was not in place. Floor drains within the main portion of the FSMH are routed to the retention pond (BB&E 2016).

The underwing FSS was tested annually until 2015 and the AFFF was pushed into the floor drains. The FSMH had a release of approximately 300 gal of 3% AFFF solution in 2015 when a pipe from the FSS burst near the hangar door. The majority of the AFFF solution flowed to the hangar floor drains and retention pond; however, some AFFF solution flowed onto the ramp and into a nearby storm drain, which discharged to Old Oak Creek Channel. In addition, at least three occurrences of AFFF spills were documented in spill reports with NDEQ. Base personnel stated that two of these releases occurred in the AFFF storage room and were the results of piping failures. In the October 1995 spill, 2,000 gal of AFFF were released. In the January 1996 spill, 1,300 gal of AFFF were released. AFFF entered the storm sewer and was seen in Old Oak Creek Channel following the releases. According to the spill report from the February 1997 event, less than 1 lb of AFFF was released to the storm sewer during testing of the FSS. NDEQ did not require any further action associated with these releases (BB&E 2016).

Stormwater from the FSMH drains to Basins 1 and 3. Runoff from the north, east, and southeast of the FSMH flows into the storm sewer system through surface drains and discharges to Old Oak Creek Channel at Outfall 003. Runoff from the southwestern side of the FSMH flows across the ramp area and enters the storm sewer system through surface inlets near the center of the north ramp. These surface inlets drain through an OWS to Old Oak Creek Channel and Outfall 001 (BB&E 2016).

4.4 PRL 4: CURRENT FIRE STATION – BUILDING 2500

The current Fire Station, Building 2500, was built in 1995. The Nebraska ANG Fire Department (FD) has served as the FD for the entire airport since 1995. The Current Fire Station houses AFFF in aircraft rescue and firefighting (ARFF) vehicles, which are stored within Building 2500. Historically, the Base had two P-4 vehicles, which carried 300 gal each of AFFF; one P-2 vehicle, which carried 500 gal of AFFF; one P-12 vehicle, one P-22 vehicle, and one Army truck, which each carried 50 gal of AFFF; and one foam trailer, which carried 1,000 gal of AFFF. At the time of the PA site visit, the following vehicles were located at the Base FD:

- One P1-9 vehicle, 300 gal;
- One P-22 vehicle, 50 gal;

- Two P-23 vehicles, each 500 gal; and
- One foam trailer, 1,500 gal.

In addition, the Base has ARFF vehicles that do not store AFFF. Vehicles are filled with AFFF and are also cleaned in or near the Fire Station. When a new vehicle comes in, the AFFF is drained from an old vehicle and transferred to the foam trailer or to the new vehicle if that vehicle has foam storage. Current ARFF vehicles are usually filled by dumping 5-gal buckets of AFFF into the vehicles; however, on occasion, transfer pumps on the vehicles or the trailer have been used to fill ARFF vehicles. Any minor spills or leaks of AFFF from ARFF vehicles would be allowed to dry in place. Large spills would have entered the building floor drains, which lead to an OWS prior to discharge to the sanitary sewer (BB&E 2016).

Nozzle testing has been conducted annually on the ramp to the west of the fire station or on the West Ramp, located on Airport Authority property. The current fire station is located in Basin 5. Stormwater from the fire station drains to Old Oak Creek Channel at Outfall 005 (BB&E 2016).

4.5 PRL 5: FORMER FIRE STATION – FORMER BUILDING 606

The Former Fire Station, Building 606, was built in 1973 and demolished in 2000. Currently, the area is covered with grass. It served as the fire station for the Base from 1978 to 1995. According to Base personnel, AFFF was stored in ARFF vehicles, which were stored within the former Fire Station, including a 1,000-gal foam trailer. Containers of AFFF were stored at Base Supply, Building 651. AFFF vehicles were filled with AFFF using 5-gal buckets that were filled from the foam trailer. Drawings of the sanitary and storm sewers from 1983 indicate that the former fire station had no internal building drains and no storm drains were within the immediate vicinity of the building. Any leaks or spills of AFFF would have likely been left to dissipate (BB&E 2016).

4.6 PRL 7: VEHICLE MAINTENANCE – BUILDING 636

Maintenance on the ARFF vehicles is conducted in a bay specifically for ARFF vehicles at Vehicle Maintenance, Building 636, which was built in 1999. In addition, the foam trailer is often stored here. Vehicle Maintenance personnel indicate that they have not discharged or emptied any AFFF from an ARFF vehicle during maintenance activities, and no major AFFF spills have occurred. When a small leak or drip occurred, personnel indicated they wiped up the AFFF with a rag and disposed of the rag in the waste bin (BB&E 2016).

All floor drains in the Vehicle Maintenance building go to a pit within the building. The pit is pumped out and sent to the sanitary sewer (BB&E 2016).

4.7 PRL 8: CIVIL ENGINEERING – BUILDING 635

Civil Engineering, Building 635, was built in 1959. From 1979 to 1999, the building served as both Civil Engineering and Vehicle Maintenance. Vehicle Maintenance moved to Building 636 when that building was constructed in 1999. The eastern end of Building 635 had a vehicle maintenance bay with a pit that discharged to a 4-in. sanitary sewer on the northern side of the building. The pit was relocated in 1999 during the remodel to another location in the building for the grounds equipment shop. According to Base personnel, no known spills of AFFF have occurred in the former Vehicle Maintenance facility (BB&E 2016).

4.8 PRL 9: RETENTION POND

A retention pond was built at the same time as the FSMH (1994) to collect any liquids that enter the hangar floor drains. In 1997, the floor drains in the Main Aircraft Maintenance Hangar were re-routed to the retention pond during the renovation of that hangar. In addition, the stormwater collection system for the hangars has a valve that allows stormwater to be diverted to the retention pond rather than going directly to Old Oak Creek Channel, a semi-stagnant channel flowing to Oak Creek that only has flow during periods of precipitation. According to Base personnel, stormwater is currently directed to the retention pond due to the amount of time it takes to switch the valve from Old Oak Creek Channel to the retention pond (BB&E 2016).

The retention pond has a rubber liner and a diverter valve that allows the pond to drain to either the sanitary or storm systems. The valve is usually closed; however, when water needs to be released from the pond or AFFF has entered the pond, the water is usually sent to the sanitary sewer. If a release of AFFF from a hangar occurs, Base personnel call the city of Lincoln WWTP to let them know they need to release foam to the WWTP. In the past, contaminated foam and foam from the Main Aircraft Maintenance Hangar are believed to have been placed in the pond and sent to the WWTP (BB&E 2016).

4.9 PRL 10: OUTFALL 001

Drainage Basin 1 encompasses the Aircraft Parking Ramp Area and the area southwest of the FSMH. Runoff from the southwestern side of the FSMH flows across the ramp area and enters the storm sewer system through surface inlets near the center of the north ramp. Stormwater runoff in this basin mainly flows by a system of underground pipes to the southern end of the basin at Outfall 001. Outfall 001 discharges at the upstream end of Old Oak Creek Channel. Stormwater flow from Basin 1 passes through an OWS before discharging to Old Oak Creek Channel (Cardno-TEC 2013).

4.10 PRL 11: OUTFALL 002

Drainage Basin 2 is located east of Basin 1 and encompasses a small area of the Ramp Area on the western and southwestern sides of the Main Hangar (Building 600). Stormwater runoff is mainly carried by underground pipes to Old Oak Creek Channel at the southern end of the property, immediately downstream from Outfall 001 (Cardno-TEC 2013).

4.11 PRL 12: OUTFALL 003

Drainage Basin 3 is located east of Basin 2. The former Fire Station is located in Basin 3. Stormwater runoff in this basin is mainly collected by two curb inlets north of the Retention Pond (PRL 9) and carried by underground pipes to Old Oak Creek Channel downstream from Outfall 2 (Cardno-TEC 2013).

4.12 PRL 13: OUTFALL 004

Drainage Basin 4 is located east of Basins 1, 2, and 3 and encompasses the entire Main Aircraft Maintenance Hangar (Building 600) and the ramp area north and south of the Main Hangar. Stormwater runoff in this basin is mainly carried by underground pipes to Old Creek Channel at the southern end of the basin (outfall 4) (Cardno-TEC 2013).

4.13 PRL 14: OUTFALL 005

Drainage Basin 5 is the largest basin, located east of Basins 2, 3, and 4 and west of Basin 6. The basin encompasses a portion of the FSMH (Building 2600); a small portion of the Ramp Area on the southern side of the FSMH; and the entire areas surrounding the Fire Station (Building 2500), Base Supply (Building 651), Civil Engineering (Building 635), and Vehicle Maintenance (Building 636). Stormwater runoff flows into the storm sewer system through surface drains and discharges to Old Oak Creek Channel at Outfall 5. Stormwater in this basin is carried by a system of underground pipes to the southern end of the basin at Outfall 5 (Cardno-TEC 2013).

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5.0 SITE INVESTIGATION FIELD PROGRAM

This section summarizes the SI field activities, including soil, groundwater, surface water, and sediment sampling, at Lincoln ANGB. Analytical results for each PRL are presented and identify the presence or absence of PFOS/PFOA and results for PFOS, PFOA, and PFBS that exceed the screening criteria shown in Table 2 and described in Section 1.2 of this SI Report.

SI field activities were conducted between July 16 and July 25, 2018. All sampling and analytical activities were conducted in accordance with the procedures specified in the Final SI WP (Leidos 2018), except as noted in Section 5.1.2. Boring logs and monitoring well construction logs are provided in Appendix A and groundwater sampling logs are provided in Appendix B. The groundwater monitoring well survey report is included in Appendix C. The data validation report is provided in Appendix D. The full data package is provided in Appendix E.

5.1 GENERAL APPROACH

5.1.1 Field Sampling

SI field activities included the following:

- Surface and subsurface soil sampling;
- Water level measurements from existing monitoring wells at Lincoln ANGB to confirm local groundwater flow direction;
- Sampling of existing monitoring wells at Lincoln ANGB and installation and sampling of groundwater from new monitoring wells located downgradient from the PRLs and/or at the Installation boundary;
- Sediment and surface water sampling (if available); and
- Global Positioning System survey of soil borings, sediment, and surface water locations (the horizontal location and elevation of all newly installed wells were surveyed by a professional licensed surveyor).

Soil, groundwater, sediment, and surface water sampling locations were based on known historical or potential releases and site conditions as observed during the PA. Table 3 summarizes the SI sampling activities at Lincoln ANGB. Figure 2 shows an overview of the Lincoln ANGB SI sample locations. Prior to intrusive activities, an underground utility locator marked and cleared all boring locations.

A total of 18 soil borings were installed. Borings were installed in areas of known or likely discharges/spills, grassy areas around doorways, just off the edge of hangar entrances, near the concrete apron, in the vicinity of the fire stations, and near the retention pond. The borings were drilled using a track-mounted direct-push drilling system to first water. Soil borings were logged for soil lithology. Boring logs are included in Appendix A. Two grab soil samples were collected from each boring—one from within the 0- to 2-ft BGS interval and one from within the 2-ft interval immediately above the water table.

All soil samples were screened by a photoionization detector as a health and safety precaution. Following collection of soil samples, boreholes not co-located with monitoring wells were abandoned by backfilling with bentonite. Holes were capped with either concrete or soil flush to surface.

Water level data from existing monitoring wells at Lincoln ANGB were used to confirm that the local groundwater flow direction is to the south-southwest, as documented in the historical reports. Groundwater samples were collected from one existing monitoring well and eight newly installed permanent monitoring wells. The new monitoring wells were developed and sampled following ANG guidance, as prescribed in the SI WP (Leidos 2018).

Sediment and surface water sampling locations were based on the presence of drainage ditches or stormwater outfalls. One sediment and one surface water sample (if available) were planned to be collected within the Installation boundary at Outfalls 001 through 005. Additional details on the field activities for each PRL are provided in Section 5.3.

5.1.2 Deviations from the Work Plan

The following minor deviations were observed during field activities:

- The SI WP indicated that surface water and sediment samples (if available) were to be collected from PRLs 10 and 12. At the time of the field event, no surface water flow was observed and the bottoms of the outfalls were lined with concrete riprap with no sediment or surface soil present; therefore, no media were available for sample collection. Soil and sediment samples will be collected from the vicinity of PRLs 10 and 12 during a future investigation.

5.1.3 Data Analysis

5.1.3.1 Laboratory

Environmental samples were submitted to TestAmerica Analytical Laboratories, Inc. (TestAmerica), in West Sacramento, California. TestAmerica is accredited under the DoD Environmental Laboratory Accreditation Program and maintains a National Environmental Laboratory Accreditation Program certification.

5.1.3.2 Screening criteria

Analytical data for three of the 2012 EPA UCMR3 COCs (PFOS, PFOA, and PFBS) were compared to appropriate HA or risk-based screening criteria (Section 1.2 and Table 2) to determine whether further investigation is required. No HA or RSL criteria currently exist for PFHpA, PFHxS, or PFNA.

5.1.3.3 Data validation

A Uniform Federal Policy Quality Assurance Project Plan (UFP-QAPP) was developed for this project as Appendix A of the SI WP (Leidos 2018). The UFP-QAPP was written to apply to all 15 Installations included in the scope of the Phase III SI contract. Specifics on the number and type of samples to be collected in characterizing the site, and the number and type of quality assurance/quality control (QA/QC) samples to be used to evaluate the quality of the data obtained, were included in the SI WP. Soil and sediment were collected in one 4-oz. high-density polyethylene (HDPE) container with HDPE cap. Groundwater and surface water samples were collected in two 250-mL HDPE containers with HDPE caps. The following samples were collected during the Lincoln ANGB SI sampling conducted in July 2018:

- Thirty-six soil samples,
- Three sediment samples,
- Nine groundwater samples,
- Three surface water samples,
- Four soil field duplicate samples,
- One groundwater field duplicate sample,
- Two soil matrix spike/matrix spike duplicate (MS/MSD) pairs,
- One water MS/MSD pair,
- Five equipment rinsates,
- One reagent blank, and
- One tap water field blank.

The results of the data quality evaluation indicate that the overall quality of the data enables its use to confirm the presence or absence of contamination. Through data verification, validation, and review, the analytical information has been qualified as appropriate. Data are considered usable if results are unqualified or qualified as estimated. For groundwater and surface water, 100% of the data was considered usable. For soil and sediment, 100% of the data was considered usable. The overall quality of the data meets or exceeds the established project objectives.

Field QC

Four soil field duplicate and one groundwater duplicate were collected. Field duplicate analytical results were generally consistent with their associated parent samples, indicating no significant issues with field and laboratory precision with the exception of two relative percent difference (RPD) results in two separate soil samples, which were >50%. Data are not qualified on the basis of field duplicate results alone, since the *Contract Laboratory Program National Functional Guidelines for Organic Data Review* (EPA 1999), and DoD Quality Systems Manual (QSM) Version 5.1 (DoD 2017) do not include control limits for field duplicate RPD values. Three MS/MSD pairs were collected, one for water and two for soil. The MS/MSD results are discussed in the "PFOS/PFOA" section of this data quality assessment.

Five equipment rinsate samples, three for soil/sediment and two for groundwater, were collected and analyzed for PFOS/PFOA. One reagent blank was collected following the procedure outlined in the SI WP and was free from contamination. All results were non-detect for the ER-02 and ER-03 samples. PFOS and PFHxS were detected in ER-03 and ER-05 and PFOS was detected in ER-01. Two PFOS results were qualified as non-detect (U) in environmental samples due to equipment blank contamination. A field blank sample (FB-01) was collected from a potable water source at the current Base fire station (Building 2500) and analyzed for PFOS/PFOA. The field blank contained detections for PFOS, PFOA, PFHxS, PFHpA, PFNA, and PFBS at low concentrations. The field QC blank results are presented in Table 9. Note that the PFOS/PFOA detections are well below the drinking water health advisory for PFOS (EPA 2016a) and the drinking water health advisory for PFOA (EPA 2016b). Based on available data, it is not clear that the low-level detections in the field blank are actually indicative of contamination of a public water supply system. It should be noted that the Current Fire Station (Building 2500) was used to store and transfer AFFF to fire rescue vehicles, and vehicle cleaning was conducted at the fire station.

All remaining sample results either were non-detections or above the associated equipment and/or field blank concentration and no additional qualification was required. Note that decontamination procedures were followed in the field, including washing with laboratory grade, non-phosphate detergent; rinsing with potable water; final rinsing with deionized, analyte free water; and air drying. For these reasons, SI data quality was not impacted as a result of the SI COCs being detected in the field blank.

PFOS/PFOA

Some perfluorinated compounds were qualified as estimated due to minor QC outliers. Four results were qualified as estimated (J) due to surrogate recovery results outside control limits. Forty-three PFOS/PFOA results were qualified as estimated (J) due to internal standard outliers. One PFOS and one PFHpA result in the associated parent samples were qualified as estimated (J) due to MS/MSD recovery outliers. One PFOS result was qualified as estimated (J) due to MS/MSD RPD results above control limits. Three PFOS, one PFBS, and one PFOA result were qualified as estimated (J) due to laboratory control sample/laboratory control sample duplicate recovery outliers. Four PFHxS results were qualified as non-detect due to continuing calibration blank contamination. The PFOS result for sample LIN13-SW1-01 was qualified as estimated due to results reported above the calibration range after maximum dilution. No other QC outliers resulted in qualification of the data during the data validation process.

Except as noted above, data produced for this investigation demonstrate that it can withstand scientific scrutiny; are appropriate for its intended purpose; are technically defensible; and are of known and acceptable sensitivity, precision, and accuracy. Data integrity has been documented through proper implementation of QA and QC measures. The environmental information presented has an established confidence that allows utilization for the project objectives and provides data for future needs.

5.2 INVESTIGATION-DERIVED WASTE

Investigation-derived waste (IDW) was managed in compliance with the Final SI WP (Leidos 2018). Twelve drums of non-hazardous soil IDW and two drums of non-hazardous water IDW were transported to a designated drum staging area located onsite. Two IDW samples (one aqueous and one solid) were collected for this event, and the IDW sample results in conjunction with the PFOS/PFOA results and historical site process knowledge will be used for characterization of generated IDW. The IDW sample results indicate the waste is non-hazardous. Following approval of the waste profile, the IDW drums will be transported to a permitted offsite facility for disposal.

5.3 PRL 1: AIRCRAFT PARKING RAMP

Two soil borings (LIN01-SB1 and LIN01-SB2) and one groundwater monitoring well (MW-LIN01-01) were installed and sampled to evaluate PRL 1.

5.3.1 Sampling Activities

5.3.1.1 Soil sampling

Two soil borings were installed on July 18, 2018, to evaluate PRL 1. The soil borings were installed within the grassy area to the south of the Aircraft Parking Ramp (Figure 3). The soil borings were advanced using a direct-push drilling system to total depths ranging from 16 ft BGS (LIN01-SB1) to 20 ft BGS (LIN01-SB2). Soil lithology descriptions were logged on the soil boring logs (Appendix A). A total of five soil samples (including one field duplicate) were collected and analyzed for PFOS/PFOA.

5.3.1.2 Groundwater

MW-LIN01-01 was drilled on July 19, 2018. Well construction details are shown in Table 4. The well construction diagram is included in Appendix A.

MW-LIN01-01 was developed on July 24, 2018, and sampled on July 25, 2018. Water levels are shown in Table 5, and water quality parameters are shown in Table 6. Groundwater sample MW-LIN01-01-01 was collected and analyzed for PFOS/PFOA. The Groundwater Micro Purge Sheet and Groundwater Micro Purge Log are included in Appendix B.

Monitoring well MW-LIN01-01 was surveyed by a licensed surveyor, and the well survey report is included in Appendix C.

5.3.2 Analytical Results

5.3.2.1 Soil

Five soil samples (including one field duplicate) were collected and analyzed from PRL 1, as described in Section 5.3.1. The two surface soil samples (0 to 2 ft BGS) indicated PFNA, PFHpA, PFHxS, PFOS, and PFOA concentrations above the laboratory detection limits. No screening criteria exist for PFNA, PFHpA, or PFHxS. PFOS and PFOA did not exceed the soil screening criteria. PFBS was not detected.

Three subsurface soil samples (LIN01-SB1-02 primary and duplicate, LIN01-SB2-02) were collected. In the LIN01-SB1-02 (10 to 12 ft BGS) primary sample, PFNA, PFHpA, PFHxS, PFOS, and PFOA were detected above the laboratory detection limits and PFBS was non-detect. In the LIN01-SB1-02 (10 to 12 ft BGS) duplicate sample, PFNA, PFHxS, PFOS, and PFOA were detected above the laboratory detection limits and PFBS and PFHpA were non-detect. No screening criteria exist for PFNA, PFHpA, or PFHxS. PFOS and PFOA did not exceed the soil screening criteria. No compounds were detected above the laboratory detection limits in LIN02-SB2-02. Soil analytical results for PRL 1 are presented in Table 7 and shown in Figure 3.

5.3.2.2 Groundwater

One groundwater sample was collected from MW-LIN01-01 (located downgradient from the PRL near the Installation boundary) and analyzed as described in Section 5.3.1. PFBS, PFNA, PFHpA, PFHxS, and PFOA were detected above laboratory detection limits. PFOS was not detected above the laboratory detection limit. No screening criteria exist for PFHxS, PFHpA, or PFNA. PFBS concentrations did not exceed the RSL of 400,000 ng/L. PFOA did not exceed the 70-ng/L EPA drinking water HA (EPA 2016b). Groundwater analytical results for PRL 1 are presented in Table 8 and shown in Figure 5.

5.4 PRL 2: MAIN AIRCRAFT MAINTENANCE HANGAR – BUILDING 600

Two soil borings (LIN02-SB1 and LIN02-SB2) and one groundwater monitoring well (MW-LIN02-01) were installed and sampled, and one existing groundwater monitoring well (TU015-MW005-PRL02) was sampled to evaluate PRL 2.

5.4.1 Sampling Activities

5.4.1.1 Soil

Two soil borings were installed on July 18 and July 20, 2018, to evaluate the soil at PRL 2. The soil borings were installed within the grassy area outside of Building 600 (Figure 3). The soil borings were advanced using a direct-push drilling system to a total depth of 20 ft BGS. Soil lithology descriptions were logged on the soil boring logs (Appendix A). A total of four soil samples were collected and analyzed for PFOS/PFOA.

5.4.1.2 Groundwater

MW-LIN02-01 was drilled on July 20, 2018. Well construction details are shown in Table 4. The well construction diagram is included in Appendix A.

MW-LIN02-01 was developed on July 21 and 24, 2018, and sampled on July 25, 2018. Monitoring well TU015-MW-005-PRL02 was sampled on July 25, 2018. Water levels are shown in Table 5, and water quality parameters are shown in Table 6. Groundwater samples MW-LIN02-01-01 and TU015-MW005-PRL02-01 were collected and analyzed for PFOS/PFOA. The Groundwater Micro Purge Sheet and Groundwater Micro Purge Log are included in Appendix B.

Monitoring well MW-LIN02-01 was surveyed by a licensed surveyor, and the well survey report is included in Appendix C.

5.4.2 Analytical Results

5.4.2.1 Soil

Four soil samples were collected from LIN02-SB1 and LIN02-SB2 and analyzed as described in Section 5.4.1. The two surface soil samples (0 to 2 ft BGS) indicated PFHpA, PFHxS, PFOS, and PFOA concentrations above the laboratory detection limits. PFNA was detected above the laboratory detection limit in LIN02-SB1-01 but not in LIN02-SB2-01. PFBS was not detected in either sample. No screening criteria exist for PFNA, PFHpA, or PFHxS. PFOS and PFOA did not exceed the soil screening criteria.

Two subsurface soil samples (LIN02-SB1-02, LIN02-SB2-02) were collected. PFBS was detected above the laboratory limit in LIN02-SB2-02. PFHxS was detected above the laboratory limits in both samples. PFNA, PFHpA, PFOS, and PFOA were not detected above the laboratory detection limits in either sample. No screening criteria exist for PFHxS. PFBS did not exceed the soil screening criteria. PRL 2 soil analytical results are presented in Table 7 and shown in Figure 3.

5.4.2.2 Groundwater

One groundwater sample each was collected from MW-LIN02-01 and TU015-MW005-PRL02 and analyzed as described in Section 5.4.1. All six PFOS/PFOA compounds were detected above laboratory detection limits. No screening criteria exist for PFHxS, PFHpA, or PFNA. PFBS concentrations did not exceed the RSL of 400,000 ng/L. PFOS and PFOA exceeded the 70-ng/L EPA drinking water HA (EPA 2016a and EPA 2016b) at concentrations of 13,000 and 1,700 ng/L in MW-LIN02-01 and 2,400 and 230 ng/L in TU015-MW005-PRL-02, respectively. The combined PFOS/PFOA concentration at MW-LIN02-01 is 14,700 ng/L and the combined PFOS and PFOA at TU015-MW005-PRL-02 is 2,630 ng/L. Groundwater analytical results for PRL 2 are presented in Table 8 and shown in Figure 5.

5.5 PRL 3: FUEL SYSTEMS MAINTENANCE HANGAR – BUILDING 2600

Three soil borings (LIN03-SB1, LIN03-SB2, LIN03-SB3) and one groundwater monitoring well (MW-LIN03-01) were installed and sampled to evaluate PRL 3. Well MW-LIN03-01 was co-located with soil boring LIN03-SB3.

5.5.1 Sampling Activities

5.5.1.1 Soil

Three soil borings were installed on July 18, 2018, to evaluate PRL 3. The soil borings were installed in the concrete and grassy area outside Building 2600 (Figure 3). The soil borings were advanced using a direct-push drilling system to a total depth of 20 ft BGS. Soil lithology descriptions were logged on the soil boring logs (Appendix A). A total of seven soil samples (including one field duplicate) were collected and analyzed for PFOS/PFOA.

5.5.1.2 Groundwater

MW-LIN03-01 was drilled on July 19, 2018. Well construction details are shown in Table 4. The well construction diagram is included in Appendix A.

MW-LIN03-01 was developed on July 24, 2018, and sampled on July 25, 2018. Water levels are shown in Table 5, and water quality parameters are shown in Table 6. Groundwater sample MW-LIN03-01-01 and the field duplicate were collected and analyzed for PFOS/PFOA. The Groundwater Micro Purge Sheet and Groundwater Micro Purge Log are included in Appendix B.

Monitoring well MW-LIN03-01 was surveyed by a licensed surveyor, and the well survey report is included in Appendix C.

5.5.2 Analytical Results

5.5.2.1 Soil

Seven soil samples (including one field duplicate) were collected and analyzed from PRL 3, as described in Section 5.5.1. In surface soil samples (0 to 2 ft BGS) LIN03-SB2-01 and LIN03-SB3-01 (primary and duplicate samples), PFHxS, PFHpA, PFBS, PFOS, and PFOA were detected above the laboratory detection limits. Sample LIN03-SB1-01 contained only PFOS above the laboratory detection limit. PFNA was not detected in any of the three samples. No screening criteria exist for PFHxS or PFHpA. PFBS, PFOS, and PFOA concentrations did not exceed the soil screening criteria at either location.

Three subsurface soil samples (LIN03-SB1-02, LIN03-SB2-02, LIN03-SB3-02) were collected. PFHxS was detected above the laboratory detection limit in all three samples. PFBS was detected above the laboratory detection limit in LIN03-SB1-02 and LIN03-SB3-02, and PFOS was detected above the laboratory detection limit in LIN03-SB2-01. PFHpA, PFNA, and PFOA were not detected in any of the three samples. No screening criteria exist for PFHxS. PFOS and PFBS did not exceed the soil screening criteria. Soil analytical results for PRL 3 are presented in Table 7 and shown in Figure 3.

5.5.2.2 Groundwater

One groundwater sample was collected from MW-LIN03-01 and analyzed as described in Section 5.5.1. All six PFOS/PFOA compounds were detected above laboratory detection limits. No screening criteria exist for PFHxS, PFHpA, or PFNA. PFBS concentrations did not exceed the RSL of 400,000 ng/L. PFOS and PFOA exceeded the 70-ng/L EPA drinking water HA (EPA 2016a and EPA 2016b) at concentrations of 4,200 and 180 ng/L, respectively. The combined PFOS and PFOA concentration at this location is 4,380 ng/L. Groundwater analytical results for PRL 3 are presented in Table 8 and shown in Figure 5.

5.6 PRL 4: CURRENT FIRE STATION – BUILDING 2500

Two soil borings (LIN04-SB1, LIN04-SB2) and one groundwater monitoring well (MW-LIN04-01) were installed and sampled to evaluate PRL 4.

5.6.1 Sampling Activities

5.6.1.1 Soil

Two soil borings were installed on July 18, 2018, to evaluate PRL 4. The soil borings were installed in grassy areas north and south of the concrete apron outside the hangar door (Figure 3). The soil borings were advanced using a direct-push drilling system to a total depth of 20 ft BGS. Soil lithology descriptions were logged on the soil boring logs (Appendix A). A total of four soil samples were collected and analyzed for PFOS/PFOA.

5.6.1.2 Groundwater

MW-LIN04-01 was drilled on July 20, 2018. Well construction details are shown in Table 4. The well construction diagram is included in Appendix A.

MW-LIN04-01 was developed on July 21 and 24, 2018, and sampled on July 25, 2018. Water levels are shown in Table 5, and water quality parameters are shown in Table 6. Groundwater sample MW-LIN04-01-01 was collected and analyzed for PFOS/PFOA. The Groundwater Micro Purge Sheet and Groundwater Micro Purge Log are included in Appendix B.

Monitoring well MW-LIN04-01 was surveyed by a licensed surveyor, and the well survey report is included in Appendix C.

5.6.2 Analytical Results

5.6.2.1 Soil

Four soil samples were collected from LIN04-SB1 and LIN04-SB2 and analyzed as described in Section 5.6.1. Five of six PFOS/PFOA compounds were detected in both of the surface soil samples. PFBS was detected above the laboratory detection limit in LIN04-SB1-01 but was not detected in LIN04-SB2-01. No screening criteria exist for PFNA, PFHxS or PFHpA. PFBS, PFOS, and PFOA concentrations did not exceed the soil screening criteria at either surface soil sample location.

Two subsurface soil samples (LIN04-SB1-02, LIN04-SB2-02) were collected. PFBS, PFHpA, and PFHxS were detected above the laboratory detection limits in both samples. PFOA was detected above the laboratory detection limit in LIN04-SB1-02 but not in LIN04-SB2-02. PFNA and PFOS were not detected in either sample. No screening criteria exist for PFHpA or PFHxS. PFBS and PFOA concentrations did not exceed the soil screening criteria. PRL 4 soil analytical results are presented in Table 7 and shown in Figure 3.

5.6.2.2 Groundwater

One groundwater sample was collected from MW-LIN04-01 and analyzed as described in Section 5.6.1. All six PFOS/PFOA compounds were detected above laboratory detection limits. No screening criteria exist for PFHxS, PFHpA, or PFNA. PFBS concentrations did not exceed the RSL of 400,000 ng/L. PFOS and PFOA exceeded the 70-ng/L EPA drinking water HA (EPA 2016a and EPA 2016b) at concentrations of 13,000 and 1,300 ng/L, respectively. The combined PFOS and PFOA concentration at this location is 14,300 ng/L. Groundwater analytical results for PRL 4 are presented in Table 8 and shown in Figure 5.

5.7 PRL 5: FORMER FIRE STATION – FORMER BUILDING 606

Three soil borings (LIN05-SB1, LIN05-SB2, LIN05-SB-3) and one groundwater monitoring well (MW-LIN05-01) were installed and sampled to evaluate PRL 5. PRL 9 is co-located with PRL5. The new monitoring well installed at PRL 9 (MW-LIN09-01) was also used to assess the groundwater at PRL 5.

5.7.1 Sampling Activities

5.7.1.1 Soil

Three soil borings were installed on July 18 and 19, 2018, to evaluate PRL 5. The soil borings were installed in the grassy area near former Building 606 (Figure 4). The soil borings were advanced using a direct-push drilling system to total depths of 26 ft BGS (LIN05-SB1) and 20 ft BGS (LIN05-02, REN05-SB3). Soil lithology descriptions were logged on the soil boring logs (Appendix A). A total of seven soil samples (including one field duplicate) were collected and analyzed for PFOS/PFOA.

5.7.1.2 Groundwater

MW-LIN05-01 and MW-LIN09-01 were drilled on July 19, 2018. Well construction details are shown in Table 4. The well construction diagrams are included in Appendix A.

MW-LIN05-01 and MW-LIN09-01 were developed on July 24, 2018, and sampled on July 25, 2018. Water levels are shown in Table 5, and water quality parameters are shown in Table 6. Groundwater samples MW-LIN05-01-01 and MW-LIN09-01-01 were collected and analyzed for PFOS/PFOA. The Groundwater Micro Purge Sheets and Groundwater Micro Purge Logs are included in Appendix B.

Monitoring wells MW-LIN05-01 and MW-LIN09-01 were surveyed by a licensed surveyor, and the well survey reports are included in Appendix C.

5.7.2 Analytical Results

5.7.2.1 Soil

Seven soil samples (including one field duplicate) were collected and analyzed from PRL 5, as described in Section 5.7.1. The four surface soil samples (0 to 2 ft BGS) indicated all six PFOS/PFOA compounds were detected above the laboratory detection limits. No screening criteria exist for PFHxS, PFHpA, or PFNA. PFBS, PFOS, and PFOA concentrations did not exceed the soil screening criteria at either location.

Three subsurface soil samples (LIN05-SB1-02, LIN05-SB2-02, LIN05-SB3-02) were collected. PFBS, PFHxS, and PFOS were detected at concentrations above the laboratory detection limits in LIN05-SB1-02 and LIN05-SB3-02. PFHpA and PFOS were detected at concentrations above the laboratory detection limits in LIN05-SB1-02 only. No PFOS/PFOA compounds were detected in LIN05-SB2-2. No screening criteria exist for PFHxS, PFHpA, or PFNA. PFBS, PFOS, and PFOA concentrations did not exceed the soil screening criteria at either location. Soil analytical results for PRL 5 are presented in Table 7 and shown in Figure 4.

5.7.2.2 Groundwater

One groundwater sample each was collected from MW-LIN05-01 and MW-LIN09-01 (located downgradient from the PRL near the Installation boundary) and analyzed as described in Sections 5.7.1 and 5.10.1. All six PFOS/PFOA compounds were detected above laboratory detection limits in MW-LIN05-01. PFOS was the only compound not detected above laboratory detection limits in MW-LIN09-01. No screening criteria exist for PFHxS, PFHpA, or PFNA. PFBS concentrations did not exceed the RSL of 400,000 ng/L in either well. PFOS and PFOA exceeded the 70-ng/L EPA drinking water HA (EPA 2016a and EPA 2016b) at concentrations of 1,500 and 130 ng/L, respectively, at MW-LIN05-01. The combined PFOS and PFOA concentration at MW-LIN05-01 is 1,630 ng/L. In MW-LIN09-01, PFOS was non-detect and PFOA did not exceed the 70-ng/L EPA drinking water HA (EPA 2016b) at a concentration of 40 ng/L. Groundwater analytical results for PRL 5 are presented in Table 8 and shown in Figure 5.

5.8 PRL 7: VEHICLE MAINTENANCE – BUILDING 636

Two soil borings (LIN07-SB1, LIN07-SB2) and one groundwater monitoring well (MW-LIN07-01) were installed and sampled to evaluate PRL 7.

5.8.1 Sampling Activities

5.8.1.1 Soil

Two soil borings were installed on July 20, 2018, to evaluate PRL 7. The soil borings were installed in grassy areas south of the PRL (Figure 4). The soil borings were advanced using a direct-push drilling system to a total depth of 12 ft BGS. Soil lithology descriptions were logged on the soil boring logs (Appendix A). A total of five soil samples (including one field duplicate) were collected and analyzed for PFOS/PFOA.

5.8.1.2 Groundwater

MW-LIN07-01 was drilled on July 20, 2018. Well construction details are shown in Table 4. The well construction diagram is included in Appendix A.

MW-LIN07-01 was developed on July 21 and 24, 2018, and sampled on July 25, 2018. Water levels are shown in Table 5, and water quality parameters are shown in Table 6. Groundwater sample MW-LIN07-01-01 was collected and analyzed for PFOS/PFOA. The Groundwater Micro Purge Sheet and Groundwater Micro Purge Log are included in Appendix B.

Monitoring well MW-LIN07-01 was surveyed by a licensed surveyor, and the well survey report is included in Appendix C.

5.8.2 Analytical Results

5.8.2.1 Soil

Five soil samples (including one field duplicate) were collected from LIN07-SB1 and LIN07-SB2 and analyzed as described in Section 5.8.1. The two surface soil samples (0 to 2 ft BGS) indicate five of six PFOS/PFOA compounds were detected above the laboratory detection limits. Only PFBS was non-detect. No screening criteria exist for PFHxS, PFHpA, or PFNA. PFOS and PFOA concentrations did not exceed the soil screening criteria at either location.

Three subsurface soil samples (LIN07-SB1-02 primary and duplicate samples, LIN07-SB2-02) were collected. PFBS and PFHxS were detected above the laboratory limits in all three samples. PFHpA was only present in the sample from LIN07-SB1-02 (both primary and duplicate samples). PFNA, PFOS, and PFOA were not detected above the laboratory detection limit in LIN07-SB1-02 primary and LIN07-SB1-02. PFOA was detected above the laboratory detection limit in the LIN07-SB1-02 duplicate sample. No screening criteria exist for PFHxS or PFHpA. PFBS concentrations did not exceed the soil screening criteria at either location. PRL 7 soil analytical results are presented in Table 7 and shown in Figure 4.

5.8.2.2 Groundwater

One groundwater sample was collected from MW-LIN07-01 (located downgradient from the PRL near the Installation boundary) and analyzed as described in Section 5.8.1. All six PFOS/PFOA compounds were detected above laboratory detection limits. No screening criteria exist for PFHxS, PFHpA, or PFNA. PFBS concentration did not exceed the RSL of 400,000 ng/L. PFOS and PFOA exceeded the 70-ng/L EPA drinking water HA (EPA 2016a and EPA 2016b) at concentrations of 640 and 140 ng/L, respectively. The combined PFOS and PFOA concentration at this location is 780 ng/L. Groundwater analytical results for PRL 7 are presented in Table 8 and shown in Figure 5.

5.9 PRL 8: CIVIL ENGINEERING – BUILDING 635

Two soil borings (LIN08-SB1, LIN08-SB2) and one groundwater monitoring well (MW-LIN08-01) were installed and sampled to evaluate PRL 8.

5.9.1 Sampling Activities

5.9.1.1 Soil

Two soil borings were installed on July 20, 2018 (LIN08-SB1, LIN08-SB2) to evaluate PRL 8. LIN08-SB1 is located in the grassy area north of Building 635 (Figure 4). LIN08-SB2 is located in the concrete surface north of Building 638. The soil borings were advanced using a direct-push drilling system to a total depth of 12 ft BGS. Soil lithology descriptions were logged on the soil boring logs (Appendix A). A total of four soil samples were collected and analyzed for PFOS/PFOA.

5.9.1.2 Groundwater

MW-LIN08-01 was drilled on July 20, 2018. Well construction details are shown in Table 4. The well construction diagram is included in Appendix A.

MW-LIN08-01 was developed on July 21 and 24, 2018, and sampled on July 25, 2018. Water levels are shown in Table 5, and water quality parameters are shown in Table 6. Groundwater sample MW-LIN08-01-01 was collected and analyzed for PFOS/PFOA. The Groundwater Micro Purge Sheet and Groundwater Micro Purge Log are included in Appendix B.

Monitoring well MW-LIN08-01 was surveyed by a licensed surveyor, and the well survey report is included in Appendix C.

5.9.2 Analytical Results

5.9.2.1 Soil

Four soil samples were collected from LIN08-SB1 and LIN08-SB2 and analyzed as described in Section 5.9.1. The two surface soil samples (0 to 2 ft BGS) indicate that all six PFOS/PFOA compounds were detected above the laboratory detection limits in LIN08-SB1-01, and only PFHxS and PFOS were detected in LIN08-SB2-01. No screening criteria exist for PFNA, PFHxS or PFHpA. PFBS, PFOS, and PFOA concentrations did not exceed the soil screening criteria in the surface soil sample.

Two subsurface soil samples (LIN08-SB1-02, LIN08-SB2-02) were collected. No PFOS/PFOA compounds were detected above the laboratory detection limits in LIN08-SB1-02. PFHxS, PFOS, and PFOA were detected at concentrations above the laboratory detections limits in LIN08-SB2-02. No screening criteria exist for PFNA, PFHxS or PFHpA. PFOS and PFOA concentrations did not exceed the soil screening criteria at LIN08-SB2-02. PRL 8 soil analytical results are presented in Table 7 and shown in Figure 4.

5.9.2.2 Groundwater

One groundwater sample was collected from MW-LIN08-01 (located downgradient from the PRL near the Installation boundary) and analyzed as described in Section 5.9.1. All six PFOS/PFOA compounds were detected above laboratory detection limits. No screening criteria exist for PFHxS, PFHpA, or PFNA. PFBS concentrations did not exceed the RSL of 400,000 ng/L. PFOS and PFOA exceeded the 70-ng/L EPA drinking water HA (EPA 2016a and EPA 2016b) at concentrations of 880 and 410 ng/L, respectively. The combined PFOS and PFOA concentration at this location is 1,290 ng/L. Groundwater analytical results for PRL 8 are presented in Table 8 and shown in Figure 5.

5.10 PRL 9: RETENTION POND

Two soil borings (LIN09-SB1, LIN09-SB2) and one groundwater monitoring well (MW-LIN09-01) were installed and sampled to evaluate PRL 9.

5.10.1 Sampling Activities

5.10.1.1 Soil

Two soil borings were installed on July 19, 2018 (LIN09-SB1, LIN09-SB2) to evaluate PRL 9. The soil borings were installed in the grassy area to the south and west of the PRL. The soil borings were advanced using a direct-push drilling system to total depths of 16 ft BGS (LIN09-SB1) and 20 ft BGS (LIN09-SB2). Soil lithology descriptions were logged on the soil boring logs (Appendix A). A total of three soil samples were collected and analyzed for PFOS/PFOA.

5.10.1.2 Groundwater

MW-LIN09-01 was drilled on July 19, 2018. Well construction details are shown in Table 4. The well construction diagram is included in Appendix A.

MW-LIN09-01 was developed on July 24, 2018, and sampled on July 25, 2018. Water levels are shown in Table 5, and water quality parameters are shown in Table 6. Groundwater sample MW-LIN09-01-01 was collected and analyzed for PFOS/PFOA. The Groundwater Micro Purge Sheet and Groundwater Micro Purge Log are included in Appendix B.

Monitoring well MW-LIN09-01 was surveyed by a licensed surveyor, and the well survey report is included in Appendix C.

5.10.2 Analytical Results

5.10.2.1 Soil

Four soil samples were collected from LIN09-SB1 and LIN09-SB2 and analyzed as described in Section 5.10.1. All six PFOS/PFOA compounds were detected in the surface soil. No screening criteria exist for PFHxS, PFHpA, or PFNA. PFBS, PFOS, and PFOA concentrations did not exceed the soil screening criteria.

Two subsurface soil samples (LIN09-SB1-02, LIN09-SB2-02) were collected. In LIN09-SB1-02, five of six PFOS/PFOA compounds were detected, and only PFNA was not detected above the laboratory detection limits. In LIN09-SB2-02, only PFHxS was present above the laboratory detection limits. No screening criteria exist for PFHxS, PFHpA, or PFNA. PFBS, PFOS, and PFOA concentrations did not exceed the soil screening criteria. PRL 9 soil analytical results are presented in Table 7 and shown in Figure 4.

5.10.2.2 Groundwater

One groundwater sample was collected from MW-LIN09-01 (located downgradient from the PRL near the Installation boundary) and analyzed as described in Section 5.10.1. PFOS was the only compound not detected above laboratory detection limits. No screening criteria exist for PFHxS, PFHpA, or PFNA. PFBS concentration did not exceed the RSL of 400,000 ng/L. PFOS was non-detect and PFOA did not exceed the 70-ng/L EPA drinking water HA (EPA 2016b) at a concentration of 40 ng/L. Groundwater analytical results for PRL 9 are presented in Table 8 and shown in Figure 6.

5.11 PRL 10: OUTFALL 001

One sediment sample and one surface water sample (if available) were planned to evaluate PRL10; however, neither sediment nor surface water were available to sample in the PRL. At the time of the field event, there was no water flow and the bottom of the outfall was lined with concrete riprap; therefore, no surface water or sediment was sampled.

5.12 PRL 11: OUTFALL 002

One sediment sample (LIN11-SD1) and one surface water sample (LIN11-SW1) were collected to evaluate PRL11.

5.12.1 Sampling Activities

5.12.1.1 Surface water

Surface water sample LIN11-SW1 was collected on July 25, 2018. A sample was collected from the Outfall 002 surface water discharge location southwest of Building 608 near the Installation boundary. The sample location is shown in Figure 5. Sample LIN11-SW1 was analyzed for PFOS/PFOA.

5.12.1.2 Sediment

Sediment sample LIN11-SD1 was collected on July 25, 2018, from Outfall 002 southwest of Building 608 near the Installation boundary. The sample is shown in Figure 4. Sample LIN11-SD1 was analyzed for PFOS/PFOA.

5.12.2 Analytical Results

5.12.2.1 Surface water

Surface water sample LIN11-SW1 was collected and analyzed as described in Section 5.12.1. All six PFOS/PFOA compounds were detected at concentrations above the laboratory detection limits. No screening criteria exist for PFHxS, PFHpA, or PFNA. PFBS concentrations did not exceed the RSL of 400,000 ng/L. PFOS exceeded the 70-ng/L EPA drinking water HA (EPA 2016a) at a concentration of 120. The combined PFOS and PFOA concentration at this location is 130 ng/L. PRL 11 surface water analytical results are presented in Table 8 and shown in Figure 5.

5.12.2.2 Sediment

Sediment sample LIN11-SD1 was collected and analyzed as described in Section 5.12.1. Four of six PFOS/PFOA compounds were detected above the laboratory detection limits. PFHpA and PFNA were not detected above the laboratory detection limits No screening criteria exist for PFHxS. PFBS, PFOS, and PFOA concentrations did not exceed the soil screening criteria in the sediment sample at PRL 11. PRL 11 sediment analytical results are presented in Table 7 and shown in Figure 4.

5.13 PRL 12: OUTFALL 003

One sediment sample and one surface water sample (if available) were planned to evaluate PRL12; however, neither sediment nor surface water were available to sample in the PRL. At the time of the field event, there was no water flow and the bottom of the outfall was lined with concrete riprap; therefore, no surface water or sediment was sampled.

5.14 PRL 13: OUTFALL 004

One sediment sample (LIN13-SD1) and one surface water sample (LIN13-SW1) were collected to evaluate PRL 13.

5.14.1 Sampling Activities

5.14.1.1 Surface water

Surface water sample LIN13-SW1 was collected on July 25, 2018. A sample was collected from the Outfall 004 surface water discharge location southwest of Building 638 near the Installation boundary. The sample location is shown in Figure 5. Sample LIN13-SW1 was analyzed for PFOS/PFOA.

5.14.1.2 Sediment

Sediment sample LIN13-SD1 was collected on July 25, 2018, from Outfall 004 southwest of Building 638 near the Installation boundary. The sample is shown in Figure 4. Sample LIN13-SD1 was analyzed for PFOS/PFOA.

5.14.2 Analytical Results

5.14.2.1 Surface water

Surface water sample LIN13-SW1 was collected and analyzed as described in Section 5.14.1. All six PFOS/PFOA compounds were detected at concentrations above the laboratory detection limits. No screening criteria exist for PFHxS, PFHpA, or PFNA. PFBS concentrations did not exceed the RSL of

400,000 ng/L. PFOS and PFOA exceeded the 70-ng/L EPA drinking water HA (EPA 2016a and EPA 2016b) at concentrations of 33,000 and 1,800 ng/L, respectively. The combined PFOS and PFOA concentration at this location is 34,800 ng/L. PRL 13 surface water analytical results are presented in Table 8 and shown in Figure 5.

5.14.2.2 Sediment

Sediment sample LIN13-SD1 was collected and analyzed as described in Section 5.14.1. All six PFOS/PFOA compounds were detected. No screening criteria exist for PFHxS, PFHpA, or PFNA. PFBS, PFOS, and PFOA concentrations did not exceed the soil screening criteria in the sediment sample at PRL 13. PRL 13 sediment analytical results are presented in Table 7 and shown in Figure 4.

5.15 PRL 14: OUTFALL 005

One sediment sample (LIN14-SD1) and one surface water sample (LIND14-SW1) were collected to evaluate PRL 14.

5.15.1 Sampling Activities

5.15.1.1 Surface water

Surface water sample LIN14-SW1 was collected on July 25, 2018, of the discharge from Outfall 005 southeast of Building 638 near the Installation boundary. The sample location is shown in Figure 5. Sample LIN14-SW1 was analyzed for PFOS/PFOA.

5.15.1.2 Sediment

Sediment sample LIN14-SD1 was collected on July 25, 2018, from Outfall 005 southeast of Building 638 near the Installation boundary. The sample is shown in Figure 4. Sample LIN14-SD1 was analyzed for PFOS/PFOA

5.15.2 Analytical Results

5.15.2.1 Surface water

Surface water sample LIN14-SW1 was collected and analyzed as described in Section 5.15.1. All six PFOS/PFOA compounds were detected at concentrations above the laboratory detection limits. No screening criteria exist for PFHxS, PFHpA, or PFNA. PFBS concentrations did not exceed the RSL of 400,000 ng/L. PFOS and PFOA exceeded the 70-ng/L EPA drinking water HA (EPA 2016a and EPA 2016b) at concentrations of 990 and 90 ng/L, respectively. The combined PFOS and PFOA concentration at this location is 1,080 ng/L. PRL 14 surface water analytical results are presented in Table 8 and shown in Figure 5.

5.15.2.2 Sediment

Sediment sample LIN14-SD1 was collected and analyzed as described in Section 5.15.1. All six PFOS/PFOA compounds were detected. No screening criteria exist for PFHxS, PFHpA, or PFNA. PFBS, PFOS, and PFOA concentrations did not exceed the soil screening criteria in the sediment sample at PRL 14. PRL 14 sediment analytical results are presented in Table 7 and shown in Figure 4.

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6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 CONCLUSIONS

This section presents the SI conclusions for each PRL and an evaluation of PFOS/PFOA contamination near the Installation boundary. The recommended DQOs are based on data collected by Leidos during this SI and an evaluation of the analytical results compared to applicable screening criteria.

6.1.1 PRL 1: Aircraft Parking Ramp

Although PFOS/PFOA compounds were detected in PRL 1 soil samples, evaluation of soil analytical data compared to soil screening criteria indicates there are no calculated residential risk-based screening level exceedances for PFBS, PFOS or PFOA for soil in PRL 2.

Although PFOS/PFOA compounds were detected in the groundwater sample from MW-LIN01-01, evaluation of groundwater analytical data compared to screening criteria indicates there is no exceedance of the EPA RSL for PFBS and no exceedance of the EPH HA (70 ng/L) for PFOS and PFOA (combined).

Based on the SI results, the following DQOs are recommended for PRL 1:

- Additional surface and subsurface soil samples to determine if a previously undetected source area exists that is contributing to the groundwater concentrations; and
- Additional investigation to determine the nature and extent of PFOS/PFOA in groundwater (both laterally and vertically), through sampling of additional new monitoring wells located both upgradient of and downgradient from PRL 1.

6.1.2 PRL 2: Main Aircraft Maintenance Hangar – Building 600

Although PFOS/PFOA compounds were detected in PRL 2 soil samples, evaluation of soil analytical data compared to soil screening criteria indicates there are no calculated residential risk-based screening level exceedances for PFBS, PFOS or PFOA for soil in PRL 3.

Evaluation of groundwater data compared to screening criteria indicates an exceedance of the EPA HA (70 ng/L) in MW-LIN02-01 and TU015-MW005-PRL-02 for PFOS and PFOA (combined), with a result of 14,700 and 2,630 ng/L, respectively.

Based on the SI results, the following DQOs are recommended for PRL 2:

- Additional surface and subsurface soil samples to determine if a previously undetected source area exists that is contributing to the groundwater exceedances; and
- Additional investigation to determine the nature and extent of PFOS/PFOA in groundwater (both laterally and vertically), through sampling of additional new monitoring wells located both upgradient of and downgradient from PRL 2.

6.1.3 PRL 3: Fuel Systems Maintenance Hangar – Building 2600

Although PFOS/PFOA compounds were detected in PRL 3 soil samples, evaluation of soil analytical data compared to soil screening criteria indicates there are no calculated residential risk-based screening level exceedances for PFBS, PFOS and PFOA for soil in PRL 3.

Evaluation of groundwater data compared to screening criteria indicates an exceedance of the EPA HA (70 ng/L) in MW-LIN03-01 for PFOS and PFOA (combined), with a result of 4,380 ng/L.

Based on the SI results, the following DQOs are recommended for PRL 3:

- Additional surface and subsurface soil samples to determine if a previously undetected source area exists that is contributing to the groundwater exceedances; and
- Additional investigation to determine the nature and extent of PFOS/PFOA in groundwater (both laterally and vertically), through sampling of additional new monitoring wells located both upgradient of and downgradient from PRL 3.

6.1.4 PRL 4: Current Fire Station – Building 2500

Although PFOS/PFOA compounds were detected in PRL 4 soil samples, evaluation of soil analytical data compared to soil screening criteria indicates there are no calculated residential risk-based screening level exceedances for PFBS, PFOS or PFOA for soil in PRL 5.

Evaluation of groundwater data compared to screening criteria indicates an exceedance of the EPA HA (70 ng/L) in MW-LIN04-01 for PFOS and PFOA (combined), with a result of 14,300 ng/L.

Based on the SI results, the following DQOs are recommended for PRL 4:

- Additional surface and subsurface soil samples to determine if a previously undetected source area exists that is contributing to the groundwater exceedances; and
- Additional investigation to determine the nature and extent of PFOS/PFOA in groundwater (both laterally and vertically), through sampling of additional new monitoring wells located both upgradient of and downgradient from PRL 4.

6.1.5 PRL 5: Former Fire Station – Former Building 606

Although PFOS/PFOA compounds were detected in PRL 5 soil samples, evaluation of soil analytical data compared to soil screening criteria indicates there are no calculated residential risk-based screening level exceedances for PFBS, PFOS and PFOA for soil in PRL 5.

Evaluation of groundwater data compared to screening criteria indicates an exceedance of the EPA HA (70 ng/L) in MW-LIN05-01 for PFOS and PFOA (combined), with a result of 1,630 ng/L.

Based on the SI results, the following DQOs are recommended for PRL 5:

- Additional surface and subsurface soil samples to determine if a previously undetected source area exists that is contributing to the groundwater exceedances; and

- Additional investigation to determine the nature and extent of PFOS/PFOA in groundwater (both laterally and vertically), through sampling of additional new monitoring wells located both upgradient of and downgradient from PRL 5.

6.1.6 PRL 7: Vehicle Maintenance – Building 636

Although PFOS/PFOA compounds were detected in PRL 7 soil samples, evaluation of soil analytical data compared to soil screening criteria indicates there are no calculated residential risk-based screening level exceedances for PFBS, PFOS or PFOA for soil in PRL 7.

Evaluation of groundwater data compared to screening criteria indicates an exceedance of the EPA HA (70 ng/L) in MW-LIN07-01 for PFOS and PFOA (combined), with a result of 780 ng/L.

Based on the SI results, the following DQOs are recommended for PRL 7:

- Additional surface and subsurface soil samples to determine if a previously undetected source area exists that is contributing to the groundwater exceedances; and

- Additional investigation to determine the nature and extent of PFOS/PFOA in groundwater (both laterally and vertically), through sampling of additional new monitoring wells located both upgradient of and downgradient from PRL 7.

6.1.7 PRL 8: Civil Engineering – Building 635

Although PFOS/PFOA compounds were detected in PRL 8 soil samples, evaluation of soil analytical data compared to soil screening criteria indicates there are no calculated residential risk-based screening level exceedances for PFBS, PFOS or PFOA for soil in PRL 8.

Evaluation of groundwater data compared to screening criteria indicates an exceedance of the EPA HA (70 ng/L) in MW-LIN08-01 for PFOS and PFOA (combined), with a result of 1,290 ng/L.

Based on the SI results, the following DQOs are recommended for PRL 8:

- Additional surface and subsurface soil samples to determine if a previously undetected source area exists that is contributing to the groundwater exceedances; and

- Additional investigation to determine the nature and extent of PFOS/PFOA in groundwater (both laterally and vertically), through sampling of additional new monitoring wells located both upgradient of and downgradient from PRL 8.

6.1.8 PRL 9: Retention Pond

Although PFOS/PFOA compounds were detected in PRL 9 soil samples, evaluation of soil analytical data compared to soil screening criteria indicates there are no calculated residential risk-based screening level exceedances for PFBS, PFOS or PFOA for soil in PRL 9.

Although PFOS/PFOA compounds were detected in the groundwater sample from MW-LIN09-01, evaluation of groundwater analytical data compared to screening criteria indicates there is no exceedance of the EPA RSL for PFBS and no exceedance of the EPH HA (70 ng/L) for PFOS and PFOA (combined).

Based on the SI results, the following DQOs are recommended for PRL 9:

- Additional surface and subsurface soil samples to determine if a previously undetected source area exists that is contributing to the groundwater concentrations; and
- Additional investigation to determine the nature and extent of PFOS/PFOA in groundwater (both laterally and vertically), through sampling of additional new monitoring wells located both upgradient of and downgradient from PRL 9.

6.1.9 PRL 10: Outfall 001

At the time of the field event, there was no water flow and the bottom of the outfall at PRL 10 was lined with concrete riprap; therefore, no sediment or surface water was available and no samples were collected.

The following DQO is recommended for PRL 10:

- Investigation to evaluate the concentrations of PFOS/PFOA in surface water and sediment.

6.1.10 PRL 11: Outfall 002

All six PFOS/PFOA compounds were detected at concentrations above the laboratory detection limit in surface water location LIN11-SW1. Evaluation of the surface water results compared to screening criteria indicated an exceedance of the EPA HA for PFOS and PFOA (combined), with a result of 130 ng/L. Sediment results from the outfall indicated four of six PFOS/PFOA compounds were detected. Evaluation of sediment analytical data compared to soil screening criteria indicates there are no EPA RSL exceedances for PFBS and no calculated residential risk-based screening level exceedances for PFOS or PFOA for sediment at PRL 11.

Based on the SI results, the following DQO is recommended for PRL 11:

- Additional investigation to further evaluate the concentrations of PFOS/PFOA in surface water, which should include additional sampling of surface water and sediment for PFOS/PFOA at PRL 11.

6.1.11 PRL 12: Outfall 003

At the time of the field event, there was no water flow and the bottom of the outfall at PRL 12 was lined with concrete riprap; therefore, no sediment or surface water was available and no samples were collected.

The following DQO is recommended for PRL 12:

- Investigation to evaluate the concentrations of PFOS/PFOA in surface water and sediment.

6.1.12 PRL 13: Outfall 004

All six PFOS/PFOA compounds were detected at concentrations above the laboratory detection limit in surface water location LIN13-SW1. Evaluation of the surface water results compared to screening criteria indicated an exceedance of the EPA HA for PFOS and PFOA (combined), with a result of 34,800 ng/L. This was the highest reported concentration of PFOS/PFOA in surface water for this SI. Sediment results from the outfall indicated all six PFOS/PFOA compounds were detected. Evaluation of sediment analytical data compared to soil screening criteria indicates there are no EPA RSL exceedances for PFBS and no calculated residential risk-based screening level exceedances for PFOS or PFOA for sediment at PRL 13.

Based on the SI results, the following DQO is recommended for PRL 13:

- Additional investigation to further evaluate the concentrations of PFOS/PFOA in surface water, which should include additional sampling of surface water and sediment for PFOS/PFOA at PRL 13.

6.1.13 PRL 14: Outfall 005

All six PFOS/PFOA compounds were detected at concentrations above the laboratory detection limit in surface water location LIN14-SW1. Evaluation of the surface water results compared to screening criteria indicated an exceedance of the EPA HA for PFOS and PFOA (combined), with a result of 1,080 ng/L. Sediment results from the outfall indicated all six PFOS/PFOA compounds were detected. Evaluation of sediment analytical data compared to soil screening criteria indicates there are no EPA RSL exceedances for PFBS and no calculated residential risk-based screening level exceedances for PFOS or PFOA for sediment at PRL 14.

Based on the SI results, the following DQO is recommended for PRL 14:

- Additional investigation to further evaluate the concentrations of PFOS/PFOA in surface water, which should include additional sampling of surface water and sediment for PFOS/PFOA at PRL 14.

6.1.14 PFOS/PFOA Contamination Near Installation Boundary

Samples from five monitoring wells (MW-LIN01-01, MW-LIN05-01, MW-LIN07-01, MW-LIN08-01, MW-LIN09-01) and three surface water samples (LIN11-SW1, LIN13-SW1, LIN14-SW1) were collected to evaluate the PFOS/PFOA contamination near the Installation boundary (Figure 5). All six PFOS/PFOA compounds were detected in the samples collected adjacent to the Installation boundary with the exception of PFOS at the southwestern corner of the Installation (at MW-LIN01-01) and at one location along the southern boundary (MW-LIN09-01). The screening results from the other three wells at the Base boundary indicate the presence of PFOS and PFOA at concentrations exceeding the 70-ng/L EPA drinking water HA (EPA 2016a). In addition, each of the three surface water samples indicate the presence of PFOS and PFOA concentrations exceeding the 70-ng/L EPA drinking water HA (EPA 2016a) with the maximum combined concentration of PFOS and PFOA occurring at LIN13-SW1 (34,800 ng/L), in the downgradient direction from the PRLs at the Installation. PFBS concentrations did not exceed the RSL at any of the groundwater or surface water sample locations. No screening criteria exist for PFHxS, PFHpA, or PFNA. PFOS/PFOA compounds are likely migrating offsite given their presence and magnitude at the Installation boundary.

6.2 SUMMARY AND RECOMMENDATIONS

In summary, additional investigations are recommended for soil and groundwater at each of the 13 PRLs assessed during this SI. The recommendations are summarized in Table 10 and described briefly below:

- Further investigation is necessary to determine the nature and extent of PFOS/PFOA contamination due to detectable levels of PFOS/PFOA at the PRLs.

- Although PRLs 10 and 12 could not be sampled during the SI, these outfalls should be investigated in the future due to PFOS/PFOA concentrations detected in the PRLs contributing to surface water discharge at these outfalls.

- Develop an expanded conceptual site model that considers localized groundwater and surface water flow paths to select future sampling locations.

- Complete the delineation of nature and extent of PFAS as part of an Expanded SI or an RI that could consist of:

    - Additional soil and sediment sampling and analysis of an expanded list of PFAS constituents (in addition to the six UCMR3 constituents) to determine if significant source areas related to precursor substances are present. Precursor substances have been demonstrated to oxidize into PFOS and PFOA, and thus could provide a lingering source of these compounds to soil and groundwater.

    - Implement an expanded groundwater sampling program (including analysis of an expanded list of PFAS constituents) to complete horizontal and vertical delineation of the PFOS/PFOA impacts. Further groundwater investigation at the Base boundary is recommended due to the presence of PFAS in groundwater above their respective screening criteria.

    - The installation and sampling of upgradient boundary monitoring wells and downgradient off-Base monitoring wells to better define the potential upgradient source of PFOS/PFOA as well as PFOS/PFOA concentrations that may have migrated off Base.

    - Conduct preliminary site-specific risk assessment calculations in order to identify chemicals of potential concern (COPCs) in every medium and establish preliminary remedial goals for screening purposes.

DQOs are proposed based on the results of the SI and are presented in Table 10. In general, additional samples are required at each PRL in order to establish the nature and extent of PFOS/PFOA constituents for each applicable medium and determine if a complete receptor pathway exists. For soil, additional samples are proposed to determine if a source area exists, and if so, to determine the vertical and horizontal extent for both the vadose and saturated zones. Additional surface water and sediment samples should be collected at PRLs 10 through and 14 (including analysis of an expanded list of PFAS constituents) to further evaluate PFOS/PFOA concentrations in surface water and sediment.

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TABLES

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Table 1. Preliminary Assessment Report Summary and Recommendations

PRL Number	Potential AFFF PRL	Rationale	Recommendation
1	Aircraft Parking Ramp	The ramp is used for parking, fueling and de-fueling, deicing, and minor maintenance of aircraft.	Proceed to SI. Focus on soil and groundwater.
2	Main Aircraft Maintenance Hangar – Building 600	Equipped with AFFF FSS from 1997 to 2009, which was supplied by a 2,000-gal AFFF tank. Known release of AFFF from spill and regular FSS annual testing. Discharges pre-1999 entered the floor drains and discharged to the storm sewer. Discharges after 1999 entered the floor drains and discharged to the retention pond. The hangar was retrofitted with an HEF FSS in 2009. No AFFF is currently used or stored at the hangar.	Proceed to SI. Focus on soil and groundwater.
3	Fuel Systems Maintenance Hangar – Building 2600	Equipped with an AFFF FSS, which is supplied by a 2,000-gal AFFF tank. Documented releases of AFFF from spills and FSS annual testing. Discharges entered the floor drains and discharged to the retention pond.	Proceed to SI. Focus on soil and groundwater.
4	Current Fire Station – Building 2500	Current Fire Station since 1995. Known AFFF storage in ARFF vehicles and trailer, vehicle filling with AFFF, and vehicle washing. Interior drains to OWS and sanitary sewer. Nozzle testing conducted on the ramp to the west of the fire station. Stormwater to Outfall 005.	Proceed to SI. Focus on soil and groundwater.
5	Former Fire Station – Former Building 606	Fire Station from 1978 to 1995. Known AFFF storage in ARFF vehicles and trailer, vehicle filling with AFFF, and vehicle washing.	Proceed to SI. Focus on soil and groundwater.
6	Building 651: Base Supply	Former AFFF storage area. No documented releases. Any releases were likely contained within the building.	NFA
7	Vehicle Maintenance – Building 636	Vehicle maintenance since 1999. Bay specifically for ARFF vehicles. Floor drains go to a pit, which is pumped to the sanitary sewer. Small leaks/drips were wiped up with a rag and the rag was disposed of in the waste bin.	Proceed to SI. Focus on soil and groundwater.
8	Civil Engineering – Building 635	Vehicle maintenance from 1979 to 1999 on the eastern end of building. Maintenance bay had a pit that discharged to a sanitary sewer on the northern side of the building.	Proceed to SI. Focus on soil and groundwater.
9	Retention Pond	Known AFFF in pond from disposal of AFFF and releases of AFFF from the hangars. Hangar floor drains are connected to the pond.	Proceed to SI. Focus on groundwater, soil, sediment, and surface water. Sample locations should be chosen so as to not compromise the integrity of the pond's rubber liner.
10	Outfall 001	Collects surface water runoff from the Aircraft Parking Ramp Area and the area southwest of the FSMH.	Proceed to SI. Focus on soil and groundwater. Sample sediment and surface water, if present.