

## TABLE OF CONTENTS

## EXECUTIVE SUMMARY

<b>1.0</b>	<b>INTRODUCTION .....</b>	<b>1</b>
1.1	Objectives .....	1
1.2	Scope of Work .....	1
<b>2.0</b>	<b>PROCESS DESCRIPTION .....</b>	<b>1</b>
<b>3.0</b>	<b>METHODS AND APPLICABLE REGULATIONS AND STANDARDS .....</b>	<b>2</b>
3.1	Lead Wipe Sampling.....	2
3.2	Painted Surface Evaluation.....	2
3.3	Moisture Intrusion and Limited Visual Fungal Growth Evaluation .....	3
3.4	Asbestos Management .....	3
3.5	Heating, Ventilation, and Air-Conditioning Systems and Indoor Air Quality ..	3
3.6	Hazard Communication and Hazardous Material Storage.....	4
3.7	Safety Training and Record Keeping.....	4
3.8	Kitchen Ventilation Survey.....	4
3.9	Kitchen Appliance Sound-Level Measurements .....	5
3.10	General Safety Walk-Through.....	5
3.11	Equipment Used.....	5
3.12	Quality Assurance .....	5
<b>4.0</b>	<b>FINDINGS AND RECOMMENDATIONS.....</b>	<b>6</b>
4.1	Lead Wipe Sampling.....	6
4.2	Painted Surface Evaluation.....	6
4.3	Moisture Intrusion and Limited Visual Fungal Growth Evaluation .....	7
4.4	Asbestos Management .....	7
4.5	Heating, Ventilation, and Air-Conditioning Systems and Indoor Air Quality ..	7
4.6	Hazard Communication and Hazardous Material Storage.....	8
	4.6.1 Hazardous Materials Inventory and Material Safety Data Sheets (MSDS).....	8
	4.6.2 Flammable Storage Cabinets .....	9
4.7	Safety Training and Record Keeping.....	9
4.8	Kitchen Ventilation Survey.....	10
4.9	Kitchen Appliance Sound-Level Measurements .....	10
4.10	General Safety Walk-Through.....	11
<b>5.0</b>	<b>PROJECT LIMITATIONS .....</b>	<b>11</b>
<b>6.0</b>	<b>PROJECT APPROVAL .....</b>	<b>12</b>

## APPENDICES

Appendix A	References
Appendix B	Assessment Criteria
Appendix C	Photo Log
Appendix D	Chemical Inventory
Appendix E	Floor Plan/IAQ - Temp, RH, & CO <sub>2</sub> Monitoring/Water-Stained Ceiling Tile Drawing
Appendix F	Ventilation Data
Appendix G	Field Notes
Appendix H	Calibration Certificates
Appendix I	Lead Wipe and Lead Paint Chip Table and Drawing
Appendix J	Laboratory Reports
Appendix K	IHSW Violation Inventory Log
Appendix L	Recommendations
Appendix M	DD Form 2214



## EXECUTIVE SUMMARY

On July 11, 2012 **Non-Responsive** MPH, an Industrial Hygienist with IHI Environmental (IHI), conducted an Industrial Hygiene (IH) Assistance Visit at the Clovis Armory located at 601 South Norris Street, Clovis, New Mexico 88101. The primary point of contact for information gathered during this survey was **Non-Responsive** (505) 474-2236,

**Non-Responsive**

The objectives of this IH Assistance Visit were to perform the following activities:

- collect lead wipe samples;
- evaluate the condition of painted surfaces and collect paint chip samples for lead analysis where painted surfaces are peeling;
- inspect the interior rooms of the armory for water damage and the presence of fungal growth;
- review asbestos survey and assessment files and determine if documentation of asbestos awareness training is current;
- evaluate the condition of the Heating, Ventilation, and Air-Conditioning system, and collect indoor air quality data;
- review hazardous material storage and use procedures;
- review safety training and record keeping;
- perform a ventilation survey on the kitchen stove hood (if present);
- perform a noise survey on the kitchen appliances; and
- conduct a safety walk-through evaluation and note any existing safety hazards.

Significant findings for this IH Assistance Visit can be found in the Industrial Hygiene Southwest – Violation Inventory Log located in Appendix K of this report.

The report that follows this Executive Summary should be read in its entirety because it includes important information not included in this summary, such as task descriptions, work space locations, regulatory requirements, and additional recommendations.

## 1.0 INTRODUCTION

On July 11, 2012, **Non-Responsive**, an Industrial Hygienist with IHI Environmental (IHI), conducted an Industrial Hygiene (IH) Assistance Visit at the Clovis Armory located at 601 South Norris Street, Clovis, New Mexico 88101. The primary point of contact for information gathered during this survey was **Non-Responsive** (505) 474-2236,

**Non-Responsive**

### 1.1 Objectives

To evaluate the occupational environment of the administrative areas in the armory in order to determine the presence of operational health and safety risks, and make recommendations for corrective actions or follow-up work to manage those risks.

### 1.2 Scope of Work

To achieve the above objectives at this facility, the survey included the following work:

- collect lead wipe samples;
- evaluate the condition of painted surfaces and collect paint chip samples for lead analysis where painted surfaces are peeling;
- inspect the interior rooms of the armory for water damage and the presence of fungal growth;
- review asbestos survey and assessment files and determine if documentation of asbestos awareness training is current;
- evaluate the condition of the Heating, Ventilation, and Air-Conditioning system and collect indoor air quality data;
- review hazardous material storage and use procedures;
- review safety training, and record keeping;
- perform a ventilation survey on the kitchen stove hood (if present);
- perform a noise survey on the kitchen appliances; and
- conduct a safety walk-through evaluation and note any existing safety hazards.

## 2.0 PROCESS DESCRIPTION

The Clovis Armory has two full-time guard members. The armory has space used for administrative offices, a recruitment office, training facilities, a drill floor, storage rooms, a break room, a locker room, a kitchen, and a maintenance bay. There are no civilian employees at this armory and all maintenance is performed by military personnel. The only civilian activity in this armory is to rent the drill hall for private parties. Once a month, 58 IDT reserve soldiers use the facility to train. The Army National Guard members occasionally clean weapons on the drill floor, in the storage room, and in the gun vault.



### 3.0 METHODS AND APPLICABLE REGULATIONS AND STANDARDS

#### 3.1 Lead Wipe Sampling

Lead residue (dust) wipe samples were collected on horizontal surfaces, such as the drill floor, kitchen, administrative areas, and indoor firing ranges (where present), to determine housekeeping standards. Lead Wipe™ brand wipes were used with a 100-square-centimeter template. The wipes used conform to American Standards for Testing Materials E1792, Standard Specification for Wipe Sampling Materials for Lead in Surface Dust. The collected wipe samples were placed in clean and labeled plastic containers. Samples were submitted to ALS Laboratories for analysis, using NIOSH Method 7300. See Appendix I for sample locations and Appendix J for laboratory results.

The Mather, California, office of Industrial Hygiene Southwest has developed a Standard Operating Procedure (SOP) for lead, which is a blend of OSHA, HUD, and Army regulations. Essentially, this SOP sets forth a criterion of 40 micrograms per square foot ( $\mu\text{g}/\text{ft}^2$ ) for converted indoor firing ranges, break rooms, floor surfaces, or any area that might be used for non-military functions. Additionally, a 200  $\mu\text{g}/\text{ft}^2$  criterion has been established for tool rooms, maintenance bays, furnace rooms, boiler rooms, storage closets, and other areas where general public access is not expected.

#### 3.2 Painted Surface Evaluation

The interior of the armory was visually inspected for peeling paint on the walls and ceilings. Upon encountering peeling paint, a paint chip sample was collected by removing all paint inside a two-inch x two-inch template and placing it in a sampling vial. All samples were submitted to American West Analytical Laboratories (AWAL) in Salt Lake City, Utah. AWAL analyzed the samples for lead using inductively coupled plasma (ICP) and atomic emission spectroscopy (EPA SW-846, Method 6010C). See Appendix I for sample locations and Appendix J for laboratory results.

The U.S. Department of Housing and Urban Development (HUD) and EPA define "lead-based paint" as any coating that has a lead concentration of 1.0 milligram per square centimeter ( $\text{mg}/\text{cm}^2$ ) or greater, or if the lead concentration is greater than 0.5 percent (%) by weight. The Consumer Product Safety Commission (CPSC) currently considers paint to be



lead-containing if the concentration of lead exceeds 600 parts per million (ppm) or 0.06% by weight. Both the CPSC and HUD definitions of lead paint are aimed at protecting the general population from exposure to lead in the residential setting.

By contrast, the mission of the Occupational Safety and Health Administration (OSHA) with respect to lead-containing paint is to protect workers during construction activities that could result in hazardous exposures. OSHA states that construction work (including renovation, maintenance, and demolition) performed on structures coated with paint that contains levels of lead lower than HUD and CPSC standards can still result in exposures that exceed the regulatory limits. For this reason, OSHA has not defined a lower threshold level of lead content for lead-containing paint, but states that paint with any measurable level of lead may pose a significant potential for overexposure.

Therefore, construction activities that create lead containing dust or fume must be performed in accordance with OSHA's Lead in Construction Standard, 29 CFR 1926.62. This standard requires, among other things, medical surveillance, lead training, initial exposure assessments, respiratory protection, and worker hygiene facilities.

### **3.3 Moisture Intrusion and Limited Visual Fungal Growth Evaluation**

The interior of the armory was visually inspected for signs of moisture intrusion that could result in fungal growth. Any signs of moisture intrusion (e.g., discoloration, staining, blistering) were noted and documented on a drawing for a follow-up evaluation.

### **3.4 Asbestos Management**

Armory personnel were asked if an asbestos survey and assessment had been conducted and whether there was a written Operations and Maintenance Program for the facility. IHI also reviewed any asbestos awareness training records.

### **3.5 Heating, Ventilation, and Air-Conditioning Systems and Indoor Air Quality**

An evaluation of the heating, ventilation, and air-conditioning (HVAC) systems that serve the armory was accomplished. This evaluation consisted of a visual inspection of the system to note any obvious problems and a review of the facility maintenance plan, if one is available.

Carbon dioxide (CO<sub>2</sub>), temperature, and relative humidity were measured throughout the armory using a TSI Model 7565-X Q-Trak™ IAQ Monitor. The unit was calibrated before use with certified zero gas and 1,000-ppm CO<sub>2</sub> span gas. See Appendix E for IAQ data.

Carbon dioxide is a normal constituent of exhaled breath and is commonly measured as a screening tool to evaluate whether adequate fresh, outdoor air are being provided. If typical CO<sub>2</sub> levels within a building are maintained at or less than 1,000 ppm, with appropriate temperature and humidity levels, complaints about indoor air quality should be minimized (American Society for Testing and Material (ASTM) – International D6245-12, Using Indoor Carbon Dioxide Concentrations to Evaluate Indoor Air Quality). If a building exceeds this guideline, it should not be interpreted as an unhealthy or hazardous situation. An elevated CO<sub>2</sub> level is only an indication that the amount of outside air being brought into a building may be inadequate or poorly distributed and further investigation may be warranted.

In building areas where there are potential sources of CO<sub>2</sub> other than exhaled breath, the guidelines above cannot be used. The Occupational Safety and Health Administration (OSHA) standard for CO<sub>2</sub> should be used in these instances. The OSHA standard is an eight-hour time-weighted average (TWA) of 5,000 ppm with a short-term 15-minute average limit of 30,000 ppm.

### **3.6 Hazard Communication and Hazardous Material Storage**

A review of the armory's chemical inventory and Material Safety Data Sheet (MSDS) file was accomplished. Chemical storage areas, i.e., flammable storage cabinets/rooms, were also inspected.

### **3.7 Safety Training and Record Keeping**

An inspection of safety training programs and documentation was performed to determine if the armory's site-specific training programs and annual documentation were current.

### **3.8 Kitchen Ventilation Survey**

Duct velocity measurements are performed on facility kitchen exhaust hoods (when present) using a TSI VelociCalc, Model 9515.



The 2011 National Fire Protection Association Standard 96, Section 8.2.1.1 requires exhaust fan ducts used in commercial cooking equipment to have a duct velocity of not less than 500 feet per minute (fpm).

### 3.9 Kitchen Appliance Sound-Level Measurements

Sound-pressure-levels of the kitchen appliances (when present) are measured using a MSA Type 2 Sound Level Meter in the dBA and dBC ranges, with the meter set on slow response. DD Form 2214 is provided in Appendix M.

### 3.10 General Safety Walk-Through

A limited fire life safety code walk-through evaluation of the armory was performed to

- document the presence of a fire alarm,
- determine if fire extinguishers are properly mounted and current on their monthly and annual inspections,
- determine if eyewash station inspections are current, and
- document any fire or safety hazards in the armory.

### 3.11 Equipment Used

The following equipment was used for this survey.

Type	Model Number	Serial Number	Calibration Date
TSI VelociCalc™	9515	T95151103007	05/03/2012
TSI Q-Trak™	7565-X	7565X 0812016	11/15/2011
MSA® Sound Level Meter Type II	Type 2	00035	02/10/2012

The calibration certificates for these instruments are attached in Appendix H.

### 3.12 Quality Assurance

IHI employs, at a minimum, the following methods to help assure quality of field investigations and reports:

- Use of appropriately educated and experienced personnel;
- Documentation of pertinent field and sampling information
- Continuing education of technical personnel through attendance at training sessions and conferences, and literature review;



- Peer and supervisory review of sampling strategy, field methods, calculations, and reports;
- Strict adherence to method requirements, in particular to NIOSH and OSHA, standard methods, including strict chain-of-custody protocol;
- Use of accredited laboratories, or, in cases where specific accreditation is not available, choice of laboratories of good reputation, having strong QA/QC programs.
- Calibration of instruments, including field calibration via manufacturers' recommended procedures and routine (typically annual) off-site calibration of equipment via certified third parties.

#### **4.0 FINDINGS AND RECOMMENDATIONS**

##### **4.1 Lead Wipe Sampling**

Analytical results for lead wipe sampling indicate a lead concentration of 140  $\mu\text{g}/\text{ft}^2$  inside the gun vault and 27  $\mu\text{g}/\text{ft}^2$  on the floor of the maintenance bay. Both areas have restricted access to the general public. Both locations have lead levels below the IHSW recommended criterion level of 200  $\mu\text{g}/\text{ft}^2$ . All other sampling results were below the analytical criterion outlined in the IHSW SOP. See Appendix I for a data table and a drawing showing sample locations and Appendix J for the laboratory reports. Photographs were taken of each sampling point and are presented in Appendix C.

##### **Recommendation**

None

##### **4.2 Painted Surface Evaluation**

Two colors of peeling paint were observed on several walls. One sample, light tan in color, was collected from an office adjacent to the Officer's Briefing Room. The second sample, white in color, was collected from the south wall of the southwest classroom.

The analytical results for the paint chip samples indicates that both types of paint contain 0.0025 mg/kg of lead each. Because there is measureable lead in the sample, OSHA's Lead in Construction Standard applies when this paint is disturbed. See Appendix I for a data table and a drawing showing sample locations and Appendix J for the laboratory reports. Photographs were taken of each sampling point and are presented in Appendix C.

### **Recommendation**

Construction personnel must follow the requirements of the OSHA Lead in Construction Standard, 29 CFR 1926.62, if they perform activities involving this painted surface that could create lead dust or fume.

#### **4.3 Moisture Intrusion and Limited Visual Fungal Growth Evaluation**

Water-damaged ceiling tiles were noted in five rooms, as well as the central longitudinal corridor. Dark staining was found on the gypsum wallboard behind the peeling paint along the south wall of the southwest classroom. Surface or airborne spore samples were not collected on the day of the survey; however, fungal growth is suspected. There was no visible evidence of fungal growth in the remaining surveyed spaces. See Appendix C for photos of the stained materials and the drawing in Appendix E for locations of these ceiling tiles.

### **Recommendation**

Conduct a comprehensive moisture intrusion and fungal growth assessment. Ensure that all water leaks are repaired before any mitigation efforts are undertaken.

#### **4.4 Asbestos Management**

An asbestos survey could not be located during this visit. Personnel have not been provided with asbestos awareness training.

### **Recommendations**

1. Locate the asbestos survey for this building or contract with a licensed firm to perform an asbestos survey and assessment.
2. Once asbestos-containing materials have been identified and assessed, provide awareness training to assigned personnel for the specific material types and locations of asbestos in this armory.

#### **4.5 Heating, Ventilation, and Air-Conditioning Systems and Indoor Air Quality**

The HVAC system servicing the armory consists of four roof-mounted Trane<sup>®</sup> combination heating and cooling units. The heating portion of the unit consists of a gas-fired forced-air furnace. The cooling portion of the air-handling units distributes cool air through the same HVAC ducting to various areas of the building.



The kitchen has several dedicated exhaust fans on the roof, including the stove/oven exhaust that was tested during this visit.

The average outdoor CO<sub>2</sub> concentration at the time of the survey was 341 ppm. The highest CO<sub>2</sub> concentration measured inside the building was 445 ppm, which should not result in indoor air quality complaints.

Building air temperatures ranged from 68.9°F to 74.1°F and relative humidity was between 56.2% and 68.5% during the testing period. Air temperatures were within the recommended comfort range of 68°F to 75°F and the relative humidity was slightly above the recommended comfort range between 30% and 60%. Humidity levels above 60% can result in proliferation of bacteria and fungi, while levels below 30% can cause dry eyes, skin, and mucous membranes.

#### **Recommendation**

None

#### **4.6 Hazard Communication and Hazardous Material Storage**

##### **4.6.1 Hazardous Materials Inventory and Material Safety Data Sheets (MSDS)**

Inventories and all associated MSDSs for both hazardous materials storage areas can be found in the binder located inside the maintenance bay's cleaning supply room. An inspection of the chemical inventory for the cleaning supply room revealed that all hazardous chemicals are identified on the inventory list and their associated MSDSs are in the binder. The inventory for flammable materials, however, is inconsistent with the contents of the flammable storage cabinet located in the south area of the maintenance bay.

Copies of chemical inventories are provided in Appendix D.

#### **Recommendation**

Update the inventory and maintain MSDSs for the flammable materials maintained in the flammable storage cabinet.



#### 4.6.2 Flammable Storage Cabinets

There is one flammable storage cabinet located in the south area of the maintenance bay. The room is ventilated by general dilution ventilation. Empty fuel containers are maintained outdoors in a fenced area with a secondary containment.

The flammable storage cabinet was inspected, and no storage incompatibilities or leaking materials were found. However, the chemicals on the inventory were found to be inconsistent with the contents of the flammable cabinet. This cabinet was in good condition and all doors closed properly.

#### Recommendations

See recommendation for Section 4.6.1 of this report.

#### 4.7 Safety Training and Record Keeping

The following safety documentation is maintained in the Clovis Armory:

##### Safety Standard Operating Procedures

- Accident Reporting
- Safety Council
- Safety Awards
- Fatigue Sleep Loss
- Cold- Heat Weather Training
- Vehicle Safety
- Fire Prevention/Protection
- Bomb Threat

The Army Safety Program, New Mexico National Guard Regulation 385-10

The following safety training documentation is maintained in the Clovis Armory:

- Additional Duty Safety Courses (ADSC)
- Commander's Safety Course
- Fire and Safety
- Risk Management
- Electrical Safety
- Fire Marshal's Program (IAW: Fort Hood Regulation 420-1)
- NMARNG-SRP Range OIC and Safety Officer Certification Course
- Weapons Safety

The last Safety Council Meeting was held on March 3, 2012. In addition, the NMARNG has other training courses with reference to safety training.

**Note:** IHI did not conduct a thorough evaluation of the contents or quality of any of the documents identified during this visit.

#### **Recommendation**

None

#### **4.8 Kitchen Ventilation Survey**

There is a roof-mounted exhaust fan located in the south area of the kitchen servicing the stove/oven. Duct velocity measurements could not be directly obtained for the exhaust fan due to its configuration; therefore, duct velocity estimates were calculated using measurements of the face velocity of the hood, the dimensions of the exhaust hood located in the kitchen and diameter of the duct on the roof.

A volumetric flow rate of 1,452 cubic feet per minute (cfm) was obtained from the face of the exhaust duct. This volumetric flow equates to a duct velocity of approximately 1,040 feet per minute (fpm) from the 16-inch circular duct that exhausts air from this hood.

This kitchen exhaust duct meets the 2011 National Fire Protection Association Standard 96, Section 8.2.1.1, which requires exhaust fan ducts used in commercial cooking equipment to have a duct velocity of not less than 500 fpm.

#### **Recommendation**

None

#### **4.9 Kitchen Appliance Sound-Level Measurements**

Sound-level measurements were recorded for the True<sup>®</sup> freezer, Southbend<sup>®</sup> food warmer, and exhaust hoods serving the stove/oven and dishwasher. The garbage disposal was not evaluated for sound-pressure levels because it was broken on the day of the survey. All of the kitchen appliances measured produce noise levels well below the hazardous noise criterion of 85 dBA. Based on this information, there is no need for noise reduction measures or additional noise dosimetry surveys for this area.

#### **Recommendation**

None

#### 4.10 General Safety Walk-Through

1. Housekeeping throughout the facility was good.
2. There are fire alarms present in this facility.
3. Fire extinguishers are strategically located throughout the armory. The annual and monthly inspections were out of date on several of the fire extinguishers, including the extinguishers in the kitchen and supply room.
4. Eyewash stations were not observed in this facility.
5. Fire evacuation routes and emergency exit signs are posted throughout this armory.
6. A cover plate on an electrical panel in the kitchen (Box "K") was missing and wires are accessible.
7. There was no ground fault circuit interrupter (GFCI) outlet located within six feet of the kitchen sink.

#### Recommendations

1. Ensure all fire extinguishers undergo an annual and monthly maintenance check.
2. Replace the cover plate on electrical panel box K in the kitchen so electrical wires cannot be contacted.
3. Install GFCI protection on any outlets within six feet of a water source.

#### 5.0 PROJECT LIMITATIONS

This Project was performed using, as a minimum, practices consistent with standards acceptable within the industry at this time, and a level of diligence typically exercised by industrial hygiene and environmental consultants performing similar services.

The procedures used in this investigation attempt to establish a balance between the competing goals of limiting investigative and reporting costs and time, and reducing the uncertainty about unknown conditions. Therefore, because the findings of this report were derived from the scope, costs, time, and other limitations, the conclusions should not be construed as a guarantee that all environmental or occupational hazards have been identified and fully evaluated. Where sample collection and testing have been performed, IHI's professional opinions are based in part on the interpretation of data from discrete sampling locations that may not represent conditions at non-sampled locations. IHI assumes no responsibility for omissions or errors resulting from inaccurate information or data provided by sources outside of IHI, or from omissions or errors in public records.



Furthermore, it is emphasized that the final decision on how much risk to accept always remains with the client since IHI is not in a position to fully understand all of the client's needs. Clients with a greater aversion to risk may want to take additional actions while others, with less aversion to risk, may want to take no further action.

## 6.0 PROJECT APPROVAL

This IH Assistance Visit was reviewed and approved by:

**Non-Responsive**

October 26, 2012

Date

Technical Assistance: For technical assistance regarding information found in this report or the performed survey, please contact **Non-Responsive** at 801-466-2223, or **Non-Responsive** of the Southwest Regional Industrial Hygiene Office at 916-804-1707.

Contact the State Safety and Occupational Health Office and/or the Regional Industrial Hygienist should any of the operations change, or should the personnel become incapable of following the previous recommendations and subsequent recommendations are needed.

## Appendix A

### References

- American Conference of Governmental Industrial Hygienists (ACGIH), Industrial Ventilation, A Manual of Recommended Practice
- American Conference of Governmental Industrial Hygienists (ACGIH), Threshold Limit Values for Chemical Substances and Physical Agents and Biological Indices
- American National Standards Institute (ANSI)/Illuminating Engineering Society (IES), Industrial Lighting.
- American National Standards Institute, Z358. 1-1998. Emergency Eyewash and Shower Equipment
- AR 40-5, Preventative Medicine
- AR 40-10, Appendix B – Health Hazard Assessment Program in Support of Army Material Acquisition Decision Process
- AR 385-10, The Army Safety Program
- Corps of Engineers Guide Specification, CEGS-1585 1, Overhead vehicle tailpipe (and welding fume) Exhaust Systems
- DA PAM 40-ERG, Ergonomics
- DA PAM 40-501, Hearing Conservation.
- National Safety Council, Fundamentals of Industrial Hygiene
- NOR 385-10, Army National Guard Safety and Occupational Health Program
- TB MED 503, The Army Industrial Hygiene Program
- TG022, US Army Environmental Hygiene Agency (USAEHA), Industrial Hygiene Evaluation Guide
- TG 141, US Army for Health Promotion and Preventive Medicine (USACHPPM) Industrial Hygiene Air Sampling Guide, Nov. 1997
- Title 29, Code of Federal Regulations (CFR), 2011, revision Part 1910, Occupational Safety and Health Standards



## **Appendix B**

### **Assessment Criteria**

#### **A. Ventilation Standards**

Ventilation rates were compared to recommendations made in 29 CFR 1910, ACGIH Industrial Ventilation Manual, and Corps of Engineers specifications. See Appendix A for reference information.

#### **B. Illumination Standards**

Illumination measurements were compared with recommendations made by the Industrial Engineering Society (IES)/American National Standards Institute (ANSI) RP7-1991 Standard and MIL-STD-1472E.

#### **C. Noise**

Noise measurements were taken and compared with OSHA Standard 29 CFR 1910.95 and Department of the Army Pamphlet 40-501.

#### **D. Air Sampling**

Personal air sampling was conducted in compliance with applicable NIOSH Analytical Methods. Sampling results were compared to relevant Occupational Safety and Health Administration (OSHA) Permissible Exposure Limits (PEL), American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLV), or National Institute of Occupational Safety and Health (NIOSH) Recommended Exposure Limits (REL).

#### **Occupational Safety and Health Administration (OSHA)**

OSHA has established Permissible Exposure Limits (PELs) for workplace toxic and hazardous substances listed in 29 CFR 1910.1000 Table Z-1. Most OSHA PELs are based on 8-hour time weighted averages (TWAs); when sampling periods differ from 8 hours, the result must first be converted to an 8-hour TWA before comparing it to the OSHA PEL. Some OSHA PELs are based on Short Term Exposures Limits (STEL) of 15 minutes of worst case exposure or Ceiling Limits of worst case peak exposures (sampled as a 15 minute exposure if direct-reading methods are not available).

OSHA regulations are legally enforceable. Employers are required to maintain employee exposures below PELs. The best practice is to eliminate hazards and use safer substitutes. Alternatively, engineering and/or administrative (work practice) controls may reduce exposures to acceptable levels. Personal protective equipment should be the solution of last resort, implemented after all other efforts to eliminate the hazard have been exhausted or deemed infeasible. OSHA 29 CFR 1910.134 covers the use of respiratory protection in the work place.

#### **American Conference of Governmental Industrial Hygienists (ACGIH)**

Unlike the OSHA PELs, the ACGIH TLVs are not consensus standards; however, TLVs represent a scientific opinion based on a review of existing peer-reviewed scientific literature by committees of experts in public health and related sciences.

**Occupational Exposure Limit**

In accordance with the Department of the Army (DA) Pamphlet 40-503, Industrial Hygiene Program (DA PAM 40-503), "The DA mandates the use of ACGIH TLVs when they are more stringent than OSHA regulations or when there is no PEL." The DA defines the resulting exposure limit as the Occupational Exposure Limit (OEL).





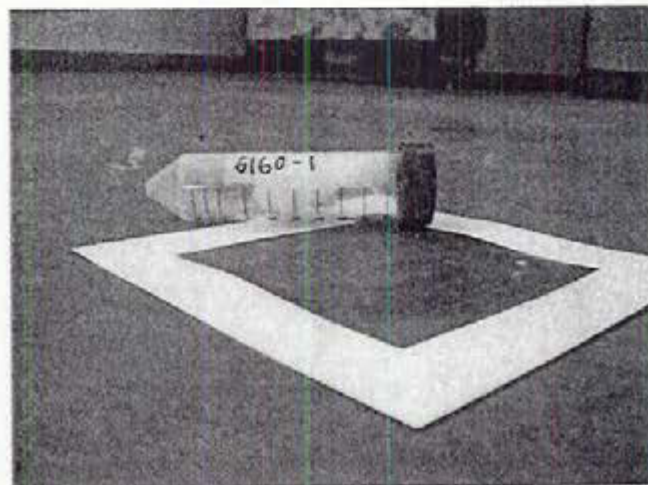
**Photograph 1**  
Clovis Armory, exterior, north side



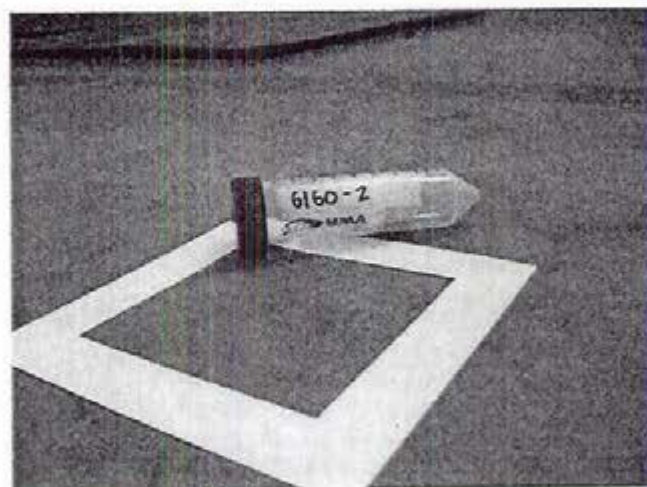
**Photograph 2**  
Clovis Armory, exterior, east side



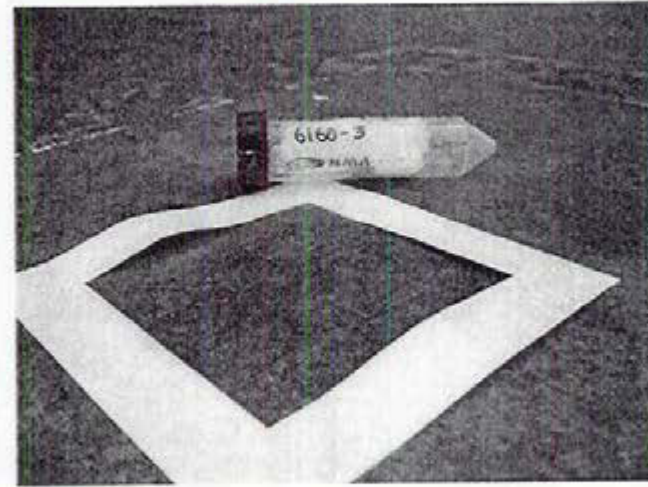
**Photograph 3**  
Clovis Armory Gymnasium/Drill Hall



**Photograph 4**  
Lead wipe sample location 6160-1



**Photograph 5**  
Lead wipe sample location 6160-2

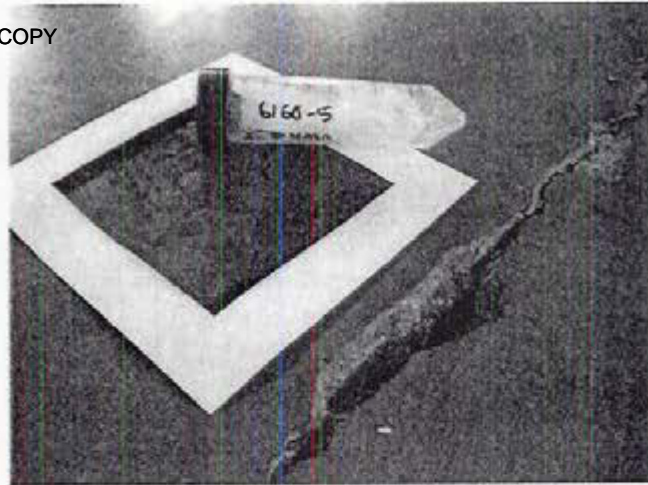


**Photograph 6**  
Lead wipe sample location 6160-3

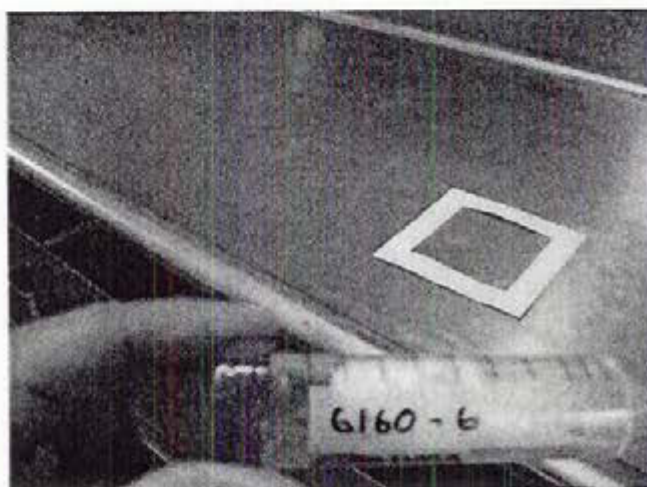




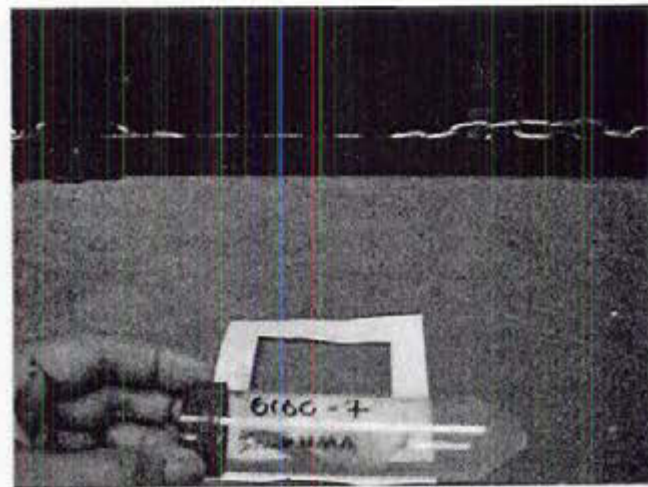
**Photograph 7**  
Lead wipe sample location 6160-4



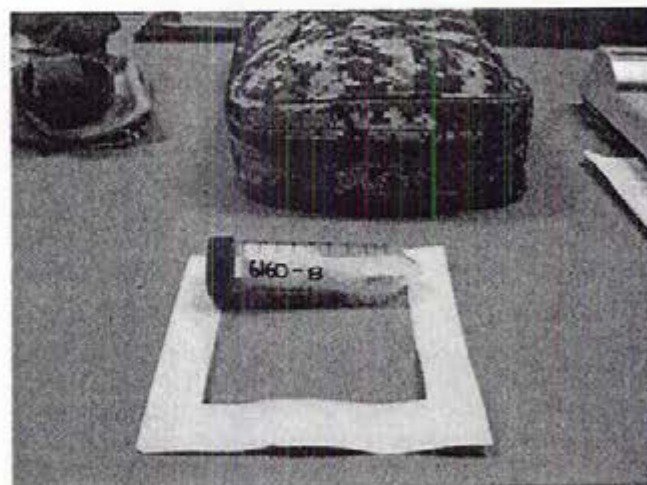
**Photograph 8**  
Lead wipe sample location 6160-5



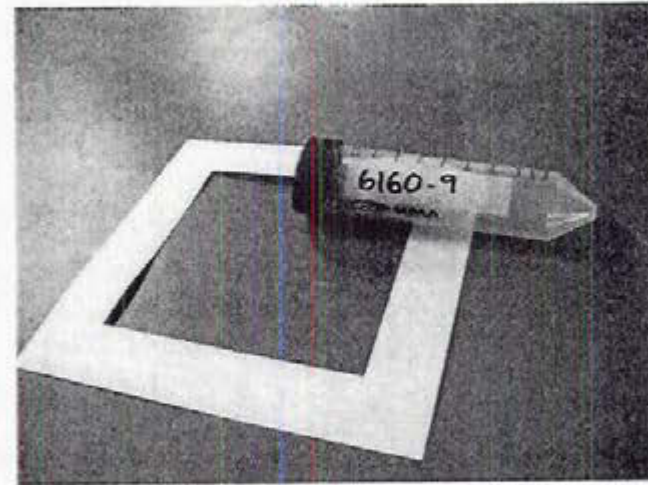
**Photograph 9**  
Lead wipe sample location 6160-6



**Photograph 10**  
Lead wipe sample location 6160-7



**Photograph 11**  
Lead wipe sample location 6160-8

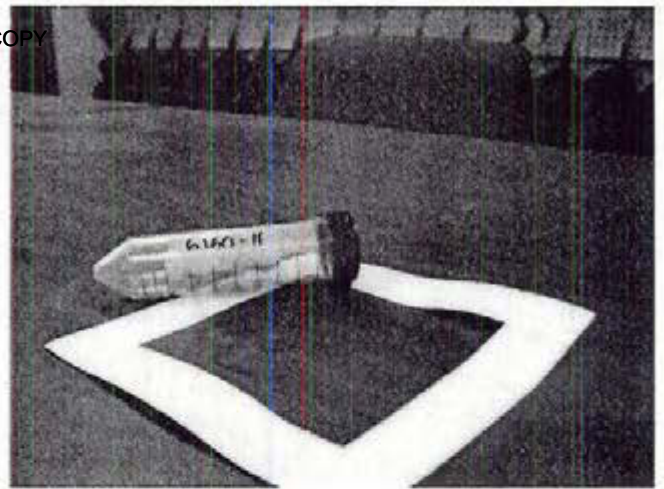


**Photograph 12**  
Lead wipe sample location 6160-9





**Photograph 13**  
Lead wipe sample location 6160-10



**Photograph 14**  
Lead wipe sample location 6160-11



**Photograph 15**  
Kitchen exhaust hood over stove/oven and food warmer



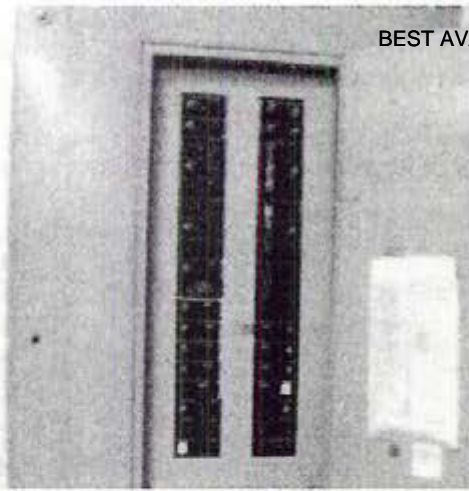
**Photograph 16**  
Roof fan for exhaust hood over stove/oven and food warmer



**Photograph 17**  
Flammable storage cabinet, closed



**Photograph 18**  
View of contents of flammable storage cabinet, open



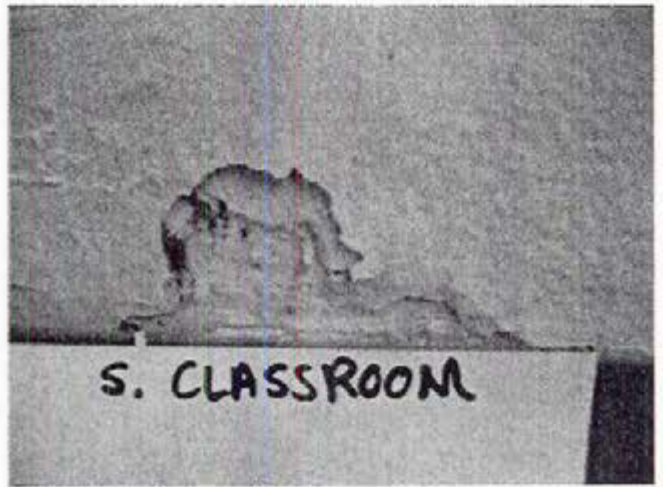
**Photograph 19**  
Safety, missing cover plate on electrical panel



**Photograph 20**  
Safety, expired fire extinguishers



**Photograph 21**  
Water stained ceiling tile in NBC Room



**Photograph 22**  
Dark water staining on wall in south classroom



# MATERIAL SAFETY DATA SHEET

## TABLE OF CONTENTS

### CHEMICAL ITEMS

- A. ULTRA HI MAINTAINER
- B. SUPER SPARY LOK
- C. FLOOR SEALER
- D. BOWEL CLEANER
- E. SIMPLE GREEN HAND CLEANER GEL
- F. BRAVO HEAVY DUTY LOW ODOR STRIPPER
- G. CAREFREE
- H. LITE'N FOAMY SUNFLOWER FRESH
- I. TOILET SOAP
- J. SCORING POWDER
- K. LEMON FURNITURE POLISH
- L. 700 SPECIAL MOP TREATMENT
- M. GOJO LOTION CREAM SOAP
- N. PINE OIL
- O. FLOOR FINISH RESTORER
- P. AJAX
- Q. GLASS CLEANER RTU
- R. FULL BACK
- S. SPRAY BUFF
- T. KITCHEN MATE DISHWASHING DETERGENT
- U. MULTI-SURFACE CLEANER & POLISH
- V. ENVIRO PATROL NEUTRAL CLEANER
- W. DOUBLE PLAY (HAND CLEANER)
- X. RAB ROD (DRAIN OPENER)
- Y. 2U054- PROTÉGÉ FLOOR FINISH
- Z. GLASS PRO, AEROSOL GLASS CLEANER

1. COCONUT LIQUID HAND SOAP
2. GLASS PRO, AEROSOL GLASS CLEANER
3. SKILLCRAFT POWER DUSTER
4. PURELL INSTANT HAND SANITIZER
5. GOJO ALL SKIN CLEANER
6. LEMON OIL FUNITURE POLISH
7. HEALTH GARDS PARA TOSS
8. RING MASTER ALL BATHROOM CLEANER
9. SPRAY NINE
10. SPIC AND SPAN ALL PURPOSE CLEANER
11. BRITE GLO CLEANSER W/BLEACH
12. LAUNDRY DETERGANT
13. BETCO EASY TASK
14. SW URNIAL SCREENING PAD
15. 2CYH9 READY TO USE SPRAY BUFF# 130
16. SW 2000 EXTRA POINT RESTORER
17. SW 2000 TOUCHDOWN ULTRA HIGH SPEED FLOOR FINISH
18. SW 2000 LINEBACK LINE MAINT FLOOR FINISH
19. SW 2000 LINEBACK SPEED STRIPPER
20. SW 2000 QUARTERBACK NEUTRAL CLEANER
21. TERRA COTE HARD FLOOR SEAL/FINISH
22. SOFT SCRUB W/BLEACH
23. 7930-00-267-1224 METAL/ALUMINUM POLISH
24. CARE ALL HAND SOAP
25. SW PINE DISINFECTANT
26. CHEM MIST COCONUT OIL HAND SOAP
27. SW 2000 40% COCONUT LIQUID HAND SOAP
28. GOJO ORANGE HAND CLEANER W/PUMP
29. SW 15 TO 1 CONCENTRATED GLASS CLEANER
30. CLR GREASE MAGNET
31. M.A.D DESK/OFFICE CLEANER



- A. COMBO PLUS CLEANER, DEODORIZER, DISINFECTANT**
- B. LEMON SCENT FESTIVAL FURNITURE POLISH**
- C. GOJO ENHANCED FORMULA PINK & CLEAN SKIN CLEANER**
- D. GOJO LOTION CREAM SOAP**

# **MATERIAL SAFETY DATA SHEET**

## **TABLE OF CONTENTS**

### **FLAMMABLE ITEMS**

- A. LUBRICANT PROTECTANT**
- B. POLISH METAL ALUMINUM TYPE 1**
- C. ISOPROPANOL( ISOPROPYL ALCOHOL)**
- D. DOUBLE PLAY**
- E. AEROSOL**
- F. GARDFLEET SAE 30 DIESEL ENGINE OIL**
- G. GREASE AUTOMOTIVE & ARTILLERY**
- H. WINDSHIELD WASHER**
- I. DUR-A-PLEX 800**
- J. TYPE 1 COATING, WATER DISPERSIBLE ALIPHATIC POLYURETHANE**
- K. MIL C 450 TYPE II**
- L. BODY FILLERS (REG PLASTIC BODY FILLER)**
- M. PROMAR 200 INTERIOR LATEX SEMI-GLOSS ENAMEL**
- N. RIFLE BORE CLEANER**
- O. TOLUENE TECHICAL**
- P. DEIONIZED WATER**
- Q. LUBRICATING OIL, GEAR**
- R. POULAN TWO-CYCLE ENGINE OIL**
- S. LUBRICANT TIRE**
- T. 2-CYCLE ENGINE OIL ACE**
- U. DELO 400 MULTIGRADE SAE 15 W-40**
- V. ICE-FOE**
- W. COATING, ALIPHATIC POLYURETHANE BLACK**



# Kitchen Stove/Oven Exhaust Duct Velocity Estimate

Face Dimensions =	18	X	80	Inches
Face Area =	10	ft <sup>2</sup>		
Face Vel. Measurement Points				
1	3	5	7	9
2	4	6	8	10
				11
				12
Face Velocity Measurements				
Point	Flow rate (fpm)			
1	94			
2	116			
3	232			
4	182			
5	98			
6	191			
7	131			
8	67			
9	228			
10	54			
11	156			
12	194			
Ave Flow Rate (V) =	145.25	fpm		
Area of Face (A) =	10	ft <sup>2</sup>		
Q = A x V				
Q =	1452.5	CFM		
Exhaust Duct Diameter =	16 inches			
Area of Roof Top Exhaust Duct =	1.39627	ft <sup>2</sup>		
Estimated Duct Velocity =	1040.27	fpm		

Clovis

7/11/12

Facility info:

primary activities ← metal focus training  
 physical fitness training

primary unit - Alpha Co 717 BSB - only unit  
 - no co-tenants

sq. ft:

work sched: M-F

1 maintenance bay in back of bldg.

personnel

- 2 full time (admin, military)
- SB IDT Reserve soldiers (come to facility for training 1x/mo)
- 0 maint. personnel - maint. conducted by admin

0 employees in HCP

0 in Resp. protec. program

0 in med. surv.

0 in vision program

no asb. program / no awareness training... no knowledge  
 of asbestos in bldg

**Non-Responsive**



Clovis

7/11/12

weapons cleaned -

- drill hall floor
- storage room
- vault

civilian activities

- rent drill hall for parties
- INACTIVE: family support office

chemical storage cabinets

- cleaning supplies
- flammables

} inventory + MSDSs avail.



Noise

Equip	dba	dBe
food warmer Southbend	78	79
True brand freezer	61	68
Kitchen exhaust hood over dish washer	68	76
Kitchen exhaust hood over stove/ oven	77	85
Kitchen exhaust hood over sink	67	74

page 2

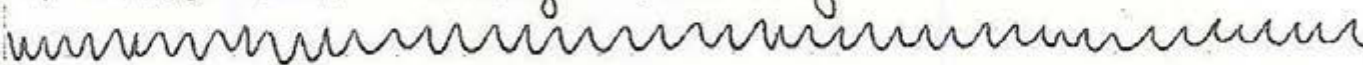
## HVAC

Trane ② Combo cooling + heating unit

heating portion - forced air furnace, natural gas

Cooling - attached to heating - separate unit

4 combo units serving the bldg.

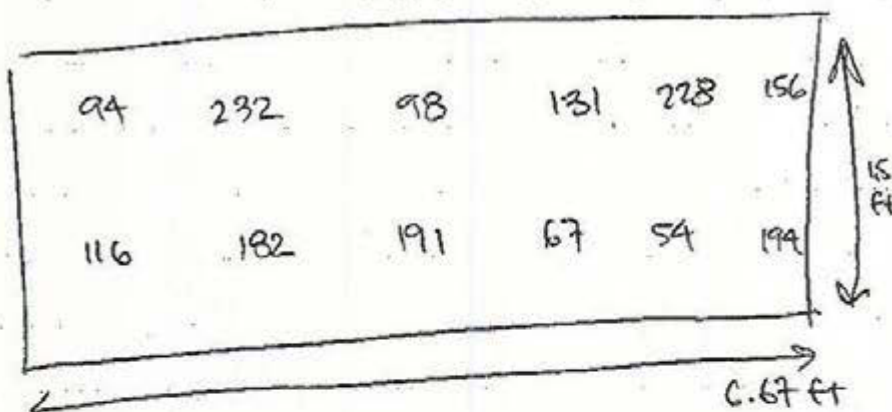


kitchen exhaust vent sys. (store oven)

roof: duct diam 16"  $\rightarrow$  1.3 ft

interior: hood dimensions 18" x 80" or 1.5 ft x 6.67 ft

direct mnt of  
it could not be taken  
w/c duct positioning on  
roof doesn't allow for  
easy drilling...  
indirect mnt via face  
velocity of hood...



avg face velocity = 145.25

area of hood  $\approx 10 \text{ ft}^2$

$$Q = VA$$

$$Q = 1452.5 \text{ at hood}$$

Assuming no loss till roof duct

$$\text{area of duct} = \pi \left( \frac{1.3}{2} \right)^2 = 1.32 \text{ ft}^2$$

$$Q = VA$$

$$1452.5 / 1.32 \text{ ft}^2 = 1117 \text{ fpm}$$



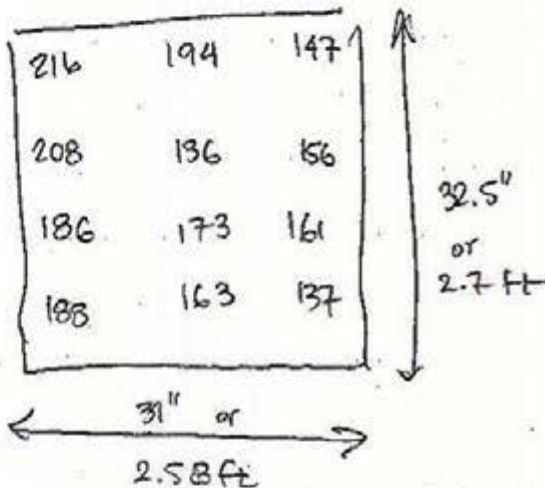
Dish washer exhaust hood

duct diam on roof: 20" or 1.67 ft [EXHAUST FAN #12]

interior: hood dimensions: 31" x 32.5" or 2.58 ft x 2.7 ft

hood area: 7 ft<sup>2</sup>

$$\text{duct area} = \pi \times (1.67/2)^2 =$$



avg face velocity

172.1 fpm

$$Q = VA$$

$$Q = (172.1)(7 \text{ ft}^2) = 1204.6 \text{ cfm}$$

Assuming NO loss

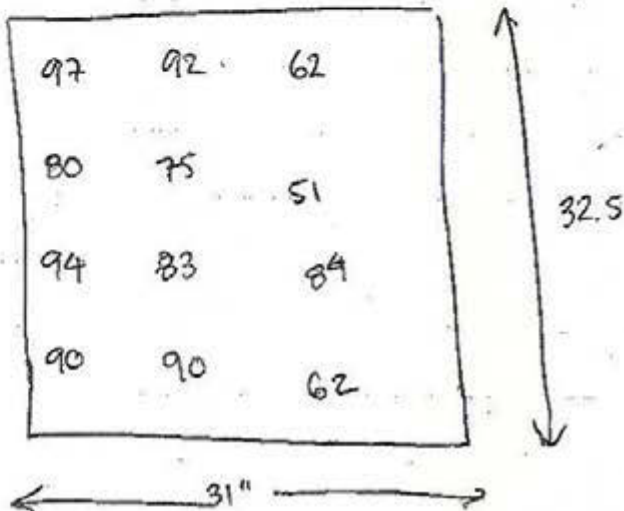
$$\text{duct on roof} \quad 1204.6 \text{ cfm} = (V)(2.2 \text{ ft}^2)$$

$$V = 547.5 \text{ or } 548$$

Exhaust hood above sink

duct on roof : diam 20" or 1.67 ft [EXHAUST FAN #15]

dimensions of hood 81" x 32.5" or 2.58 x 2.7 ft  
or 7 ft<sup>2</sup>



avg face velocity =  
80 fpm

hood

$$Q = VA$$

$$Q = (80 \text{ fpm}) (7 \text{ ft}^2) = 560 \text{ cfm}$$

ASSUMING NO LOSS

duct

$$Q = VA$$

$$\left( \frac{560 \text{ cfm}}{2.2 \text{ ft}^2} \right) = V = 254.5 \text{ fpm} \approx 255 \text{ fpm}$$

Safety walkthrough

Fire extinguisher has expired annual/monthly < supply in kitchen

no GCFI near kitchen sink

electrical panel K missing plate

dead roaches on floor (kitchen) - poor housekeeping



## Duct velocity estimations from (hood) face velocity

Stove/oven exhaust

Dish washer exhaust

Sink exhaust

city to V <sub>h</sub>	① 94	216	97
	② 116	208	80
	③ 232	186	94
	④ 182	188	90
	⑤ 98	194	92
	⑥ 191	136	75
	⑦ 131	173	83
	⑧ 67	163	90
	⑨ 228	137	62
	⑩ 54	147	51
	⑪ 156	156	84
	⑫ 94	161	62
	Average 145.25	Avg 172.08	Avg 80

(An) Dimensions	inches	ft	inches	ft	inches	ft
	18"	1.5	31	32.5	31	32.5
	80"	6.67	2.58	2.70	2.58	2.70
Vol Area	10 ft <sup>2</sup>		~7 ft <sup>2</sup>		~7 ft <sup>2</sup>	
Diarm	inches	ft	inches	ft	inches	ft
	16	1.3	20	1.67	20	1.67
		$r = \frac{ft}{2} = .65$		$r = \frac{ft}{2} = .835$		$r = \frac{ft}{2} = .835$
Area	$\pi (0.65)^2 = 1.3 \text{ ft}^2$		$\pi (0.835)^2 = \sim 2.2 \text{ ft}^2$		$\pi (0.835)^2 = \sim 2.2 \text{ ft}^2$	

Exhaust hood Q

rod Q:

Stove oven

$$Q = VA$$

$$Q = (145.25 \text{ fpm})(10 \text{ ft}^2) \\ = 1452.5 \text{ cfm}$$

dish washer

$$Q = (172.08)(7 \text{ ft}^2) \\ = 1204.6 \text{ cfm}$$

sink

$$Q = (80 \text{ fpm})(7 \text{ ft}^2) \\ = 560 \text{ cfm}$$

\* Assuming no loss

act velocity

given:  $A = 1.3 \text{ ft}^2$   
 $Q = 1452.5 \text{ cfm}$

$$Q = VA$$

$$V = \frac{Q}{A}$$

duct velocity

$$V = \frac{1452.5 \text{ cfm}}{1.3 \text{ ft}^2} = 1117.3$$

$$A = 2.2 \text{ ft}^2$$

$$Q = 1204.6 \text{ cfm}$$

$$\frac{1204.6}{2.2}$$

$$= 547.5$$

$$\sim 548$$

$$2.2 \text{ ft}^2$$

$$Q = 560 \text{ cfm}$$

$$\frac{560}{2.2} = 254.5$$

$$\sim 255$$



## chem storage lockers

- cleaning supplies MSDS + inventory ☒
- flammables in a room w/in maint bay
  - inventory inconsistent w/ contents of cabinet
  - no incompat. chems though
- cage outdoors w/ fuel containers ☒
  - segregated
  - 2° containment

no compressed air tanks

## peeling paint

- tan wall - samp taken from office adj. to breiting room
- white paint classroom
  - dark staining on wall behind peeling paint
  - possible mold growth

lots of H<sub>2</sub>O stained tiles - stained

other than classroom no vis. mold.

→ obvious they have a poorly sealed roof  
- H<sub>2</sub>O intrusion problem.

page 6

**FACILITY INFORMATION**  
(Information listed in First Section)  
(1<sup>st</sup> Few Paragraphs/Pages of Report)

**1. Date Prepared:**

7/11/12

**2. Names (and Company Name) of Personnel Conducting Industrial Hygiene Site Assistance Visit:**

**Non-Responsive**

**3. Facility Name and Brief Summary of Primary Activities Conducted at Facility:**

Clovis Armory. Primary activities include metal focus training, physical fitness training

**4. Facility Address:**

601 South Norris Street, Clovis, NM, 88101

**5. Primary Unit Assigned to Facility (Ensure to capture and provide Unit Identification Code (UIC)):**

Alpha Co 717 BSB

**6. Co-Tenant Units Assigned or Working Within Facility (LIST ALL):**

No other unit at this facility

**7. Square Ft. Area of Facility:**

**8. Work Schedule:**

M-F

**9. Number of work bays:**

1 maintenance bay

**10. Equipment Density and Type:**

a. List Equipment Nomenclature Serviced or Maintained at Facility:

b. List Total Number for Each Nomenclature Serviced or Maintained at Facility:

**11. Total Number of Personnel: 2**

**12. No. of Admin. Personnel (Include Status – AGR, Fed. Tech., IDT, State or Contract Employee):**

2 AGR



**13. No. of Maintenance Personnel (Include Status – AGR, Fed. Tech., IDT, State or Contract Employee):**

No maintenance personnel assigned to this facility. All maintenance is conducted by administrative personnel.

**14. Total Number of Personnel Enrolled in the Hearing Conservation Program: 0**

**15. Total Number of Personnel Enrolled in the Respiratory Protection Program:0**

**16. Total Number of Personnel Enrolled in the Medical Surveillance Program:0**

**17. Total Number of Personnel Enrolled in the Vision Program: 0**

**18. Facility Commander:**

a. Email address, Commercial Telephone Number and Unit Assigned to:

**19. Safety Officer:**

a. Email Address, Commercial Telephone Number and Unit Assigned to:

**20. Facility Telephone Number:**

**Non-Responsive**



THE INDUSTRIAL DISTRIBUTION EXPERTS

## ***Technical Services Division***

### **Certificate of Calibration**

The following equipment was calibrated to manufacturer's specification with instrumentation whose accuracies are traceable to the *National Institute of Standards and Technology*.

Manufacturer: MSA  
Model: Sound Level Meter Type 2  
Serial Number: 00035  
Calibration Date: February 10, 2012  
Calibrated By: **Non-Responsive**

1111 South 27th Street Billings, Montana 59101  
1-800-947-7120





THE INDUSTRIAL DISTRIBUTION EXPERTS

## Technical Services Division

### Certificate of Calibration

The following equipment was calibrated to manufacturer's specification with instrumentation whose accuracies are traceable to the *National Institute of Standards and Technology*.

Manufacturer: MSA  
Model: Sound Level Calibrator 6950  
Serial Number: 07349  
Calibration Date: February 10, 2012  
Calibrated By: **Non-Responsive**

1111 South 27th Street Billings, Montana 59101  
1-800-947-7120





# CERTIFICATE OF CALIBRATION AND TESTING

TSI Incorporated, 500 Cardigan Road, Shoreview, MN 55126 USA  
Tel: 1-800-874-2811 1-651-490-2811 Fax: 1-651-490-3824 <http://www.tsi.com>

ENVIRONMENT CONDITION			MODEL	7565-X
TEMPERATURE	66.9 (19.4)	°F (°C)	SERIAL NUMBER	7565X0812016
RELATIVE HUMIDITY	21	%RH		
BAROMETRIC PRESSURE	28.60 (968.5)	inHg (hPa)		

☒ AS LEFT

☒ IN TOLERANCE

☐ AS FOUND

☐ OUT OF TOLERANCE

## - CALIBRATION VERIFICATION RESULTS -

THERMO COUPLE				SYSTEM PRESSURE01-02				Unit: °F (°C)
#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	MEASURED	ALLOWABLE RANGE	
1	72.3 (22.4)	72.3 (22.4)	70.3~74.3 (21.3~23.5)					

BAROMETRIC PRESSURE				SYSTEM PRESSURE01-02				Unit: inHg (hPa)
#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	MEASURED	ALLOWABLE RANGE	
1	28.68 (971.2)	28.68 (971.2)	28.11~29.25 (951.9~990.5)					

TSI does hereby certify that the above described instrument conforms to the original manufacturer's specification (not applicable to As Found data) and has been calibrated using standards whose accuracies are traceable to the United States National Institute of Standards and Technology (NIST) or has been verified with respect to instrumentation whose accuracy is traceable to NIST, or is derived from accepted values of physical constants. TSI's calibration system is registered to ISO-9001:2008 and meets the requirements of ISO 10012:2003.

Measurement Variable	System ID	Last Cal.	Cal. Due	Measurement Variable	System ID	Last Cal.	Cal. Due
Temperature	E002416	03-25-11	03-25-12	Pressure	E003984	10-06-11	10-06-12
Pressure	E003982	10-03-11	04-03-12	DC Voltage	E003493	01-05-11	01-05-12

**Non-Responsive**

November 15, 2011

DATE

Doc. ID: CERT\_GEN\_WCC





# CERTIFICATE OF CALIBRATION AND TESTING

TSI Incorporated, 500 Cardigan Road, Shoreview, MN 55126 USA  
Tel: 1-800-874-2811 1-651-490-2811 Fax: 1-651-490-3824 <http://www.tsi.com>

ENVIRONMENT CONDITION			MODEL	7565-X
TEMPERATURE	67.1 (19.5)	°F (°C)	SERIAL NUMBER	7565X0812016
RELATIVE HUMIDITY	21	%RH		
BAROMETRIC PRESSURE	28.60 (968.5)	inHg (hPa)		

☐ AS LEFT

☒ IN TOLERANCE

☒ AS FOUND

☐ OUT OF TOLERANCE

## - CALIBRATION VERIFICATION RESULTS -

THERMO COUPLE				SYSTEM PRESSURE01-02				Unit: °F (°C)
#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	MEASURED	ALLOWABLE RANGE	
1	72.3 (22.4)	72.1 (22.3)	70.3-74.3 (21.3-23.5)					

BAROMETRIC PRESSURE				SYSTEM PRESSURE01-02				Unit: inHg (hPa)
#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	MEASURED	ALLOWABLE RANGE	
1	28.67 (970.9)	28.65 (970.2)	28.10-29.24 (951.6-990.2)					

TSI does hereby certify that the above described instrument conforms to the original manufacturer's specification (not applicable to As Found data) and has been calibrated using standards whose accuracies are traceable to the United States National Institute of Standards and Technology (NIST) or has been verified with respect to instrumentation whose accuracy is traceable to NIST, or is derived from accepted values of physical constants. TSI's calibration system is registered to ISO 9001:2008 and meets the requirements of ISO 10012:2003.

Measurement Variable	System ID	Last Cal.	Cal. Due	Measurement Variable	System ID	Last Cal.	Cal. Due
Temperature	E002416	03-25-11	03-25-12	Pressure	E003984	10-05-11	10-06-12
Pressure	E003982	10-03-11	04-03-12	DC Voltage	E003493	01-05-11	01-05-12

Non-Responsive

November 15, 2011

DATE

Doc. ID: CERT\_GEN\_WCC





# CERTIFICATE OF CALIBRATION AND TESTING

TSI Incorporated, 500 Cardigan Road, Shoreview, MN 55126 USA  
Tel: 1-800-874-2811 1-651-490-2811 Fax: 1-651-490-3824 http://www.tsi.com

ENVIRONMENT CONDITION			MODEL	982
TEMPERATURE	66.7 (19.3)	°F (°C)	SERIAL NUMBER	P08100015
RELATIVE HUMIDITY	22	%RH		
BAROMETRIC PRESSURE	28.60 (968.5)	inHg (hPa)		

☐ AS LEFT

☐ IN TOLERANCE

☒ AS FOUND

☒ OUT OF TOLERANCE

## - CALIBRATION VERIFICATION RESULTS -

GAS CO <sub>2</sub> AS FOUND				SYSTEM G-101			Unit: ppm
#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	MEASURED	ALLOWABLE RANGE
1	0	0	0-50	4	2999	3063	2909-3089
2	513.4	* 350.5	463.4-563.4	5	4934	* 5115.4 *	4786-5082
3	1009.6	* 914.7	959.6-1059.6				

GAS CO AS FOUND				SYSTEM G-101			Unit: ppm
#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	MEASURED	ALLOWABLE RANGE
1	35	35	32-38	2	100.1	* 95.6	97.1-103.1

TEMPERATURE AS FOUND				SYSTEM T-101			Unit: °F (°C)
#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	MEASURED	ALLOWABLE RANGE
1	32.0 (0.0)	32.5 (0.3)	31.0-33.0 (-0.6-0.6)	2	140.0 (60.0)	140.5 (60.3)	139.0-141.0 (59.4-60.6)

HUMIDITY AS FOUND				SYSTEM H-102			Unit: %RH
#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	MEASURED	ALLOWABLE RANGE
1	10.0	9.7	7.0-13.0	4	70.0	68.3	67.0-73.0
2	30.0	29.6	27.0-33.0	5	90.0	87.4	87.0-93.0
3	50.0	49.3	47.0-53.0				

\*Indicates Out-of-Tolerance Condition

TSI does hereby certify that the above described instrument conforms to the original manufacturer's specification (not applicable to As Found data) and has been calibrated using standards whose accuracies are traceable to the United States National Institute of Standards and Technology (NIST) or has been verified with respect to instrumentation whose accuracy is traceable to NIST, or is derived from accepted values of physical constants. TSI's calibration system is registered to ISO-9001:2008 and meets the requirements of ISO 10012:2003.

Measurement Variable	System ID	Last Cal.	Cal. Due	Measurement Variable	System ID	Last Cal.	Cal. Due
5000 CO <sub>2</sub>	EB0021287	08-03-11	08-02-14	200 CO	CC188518	07-28-11	07-27-14
N <sub>2</sub>	K100246116	11-04-11	10-26-16	Air	HP-T-098370	10-11-11	09-16-14
Flow	E003297	04-20-11	04-20-12	Flow	E003298	04-22-11	04-22-12
Flow	E003501	06-08-11	06-08-12	Flow	E003980	08-17-11	08-17-12
2000 C <sub>4</sub> H <sub>8</sub>	CC314662	06-04-09	06-04-12	100 C <sub>4</sub> H <sub>8</sub>	EB0014789	05-06-09	05-06-12
Temperature	E003986	10-24-11	04-24-12	Temperature	E003987	10-24-11	04-24-12
Humidity	E003539	08-30-11	02-29-12				

Non-Responsive

November 15, 2011

DATE

Doc. ID: CERT\_GEN\_WCC





# CERTIFICATE OF CALIBRATION AND TESTING

TSI Incorporated, 500 Cardigan Road, Shoreview, MN 55126 USA  
Tel: 1-800-874-2811 1-651-490-2811 Fax: 1-651-490-3824 http://www.tsi.com

ENVIRONMENT CONDITION			MODEL	982
TEMPERATURE	70.2 (21.2)	°F (°C)	SERIAL NUMBER	P08100015
RELATIVE HUMIDITY	16	%RH		
BAROMETRIC PRESSURE	28.87 (977.7)	inHg (hPa)		

<input checked="" type="checkbox"/> AS LEFT	<input checked="" type="checkbox"/> IN TOLERANCE
<input type="checkbox"/> AS FOUND	<input type="checkbox"/> OUT OF TOLERANCE

## - CALIBRATION VERIFICATION RESULTS -

TEMPERATURE VERIFICATION				SYSTEM T-101			Unit: °F (°C)
#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	MEASURED	ALLOWABLE RANGE
1	32.0 (0.0)	32.1 (0.0)	31.0-33.0 (-0.6-0.6)	2	140.0 (60.0)	140.1 (60.0)	139.0-141.0 (59.4-60.6)

HUMIDITY VERIFICATION				SYSTEM H-102			Unit: %RH
#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	MEASURED	ALLOWABLE RANGE
1	10.0	9.4	7.8-12.2	4	70.0	69.8	67.8-72.2
2	30.0	29.9	27.8-32.2	5	90.0	89.2	87.8-92.2
3	50.0	50.2	47.8-52.2				

CO2 GAS VERIFICATION				SYSTEM G-101			Unit: ppm
#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	MEASURED	ALLOWABLE RANGE
1	0	0	0-50	4	3001	2993	2911-3091
2	512	507	462-562	5	4926	4918	4778-5074
3	1010	1010	960-1060				

CO GAS VERIFICATION				SYSTEM G-101			Unit: ppm
#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	MEASURED	ALLOWABLE RANGE
1	35	35	32-38	2	100	99	97-103

TSI does hereby certify that the above described instrument conforms to the original manufacturer's specification (not applicable to As Found data) and has been calibrated using standards whose accuracies are traceable to the United States National Institute of Standards and Technology (NIST) or has been verified with respect to instrumentation whose accuracy is traceable to NIST, or is derived from accepted values of physical constants. TSI's calibration system is registered to ISO-9001:2008 and meets the requirements of ISO 10012:2003.

Measurement Variable	System ID	Last Cal.	Cal. Due
Temperature	E003986	10-24-11	04-24-12
Humidity	E003539	08-30-11	02-29-12
200 CO	CC188518	07-28-11	07-27-14
Air	HP-T-098370	10-11-11	09-16-14
Flow	E003298	04-22-11	04-22-12
Flow	E003980	08-17-11	08-17-12
100 C4H8	EB0014789	05-06-09	05-06-12

Measurement Variable	System ID	Last Cal.	Cal. Due
Temperature	E003987	10-24-11	04-24-12
5000 CO2	EB0015430	08-03-11	03-04-12
N2	K100246116	11-04-11	10-26-16
Flow	E003297	04-20-11	04-20-12
Flow	E003501	06-08-11	06-08-12
2000 C4H8	CC114662	06-04-09	06-04-12

Non-Responsive

November 16, 2011

DATE

Doc ID: CERT\_GEN\_WCC





# CERTIFICATE OF CALIBRATION AND TESTING

TSI Incorporated, 500 Cardigan Road, Shoreview, MN 55126 USA  
Tel: 1-800-874-2811 1-651-490-2811 Fax: 1-651-490-3824 <http://www.tsi.com>

ENVIRONMENT CONDITION			MODEL	9515
TEMPERATURE	66.7 (19.3)	°F (°C)	SERIAL NUMBER	T95151103007
RELATIVE HUMIDITY	58	%RH		
BAROMETRIC PRESSURE	28.78 (974.6)	inHg (hPa)		

☐ AS LEFT      ☒ IN TOLERANCE  
☒ AS FOUND      ☐ OUT OF TOLERANCE

## - CALIBRATION VERIFICATION RESULTS -

TEMPERATURE AS FOUND				SYSTEM T-101			Unit: °F (°C)
#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	MEASURED	ALLOWABLE RANGE
1	32.0 (0.0)	32.1 (0.1)	31.5-32.5 (-0.3~0.3)	2	140.0 (60.0)	139.7 (59.8)	139.5-140.5 (59.7-60.3)

VELOCITY VERIFICATION				SYSTEM V-107			Unit: ft/min (m/s)
#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	MEASURED	ALLOWABLE RANGE
1	0 (0.00)	0 (0.00)	-5-5 (-0.03-0.03)	7	700 (3.55)	686 (3.49)	665-735 (3.36-3.73)
2	30 (0.15)	26 (0.13)	25-35 (0.13-0.18)	8	1198 (6.09)	1195 (6.07)	1138-1258 (5.78-6.39)
3	61 (0.31)	61 (0.31)	56-66 (0.28-0.33)	9	1922 (9.76)	1915 (9.73)	1826-2018 (9.28-10.25)
4	100 (0.51)	99 (0.50)	95-104 (0.48-0.53)	10	2711 (13.77)	2724 (13.84)	2576-2847 (13.08-14.46)
5	200 (1.02)	199 (1.01)	190-210 (0.97-1.07)	11	3791 (19.26)	3818 (19.39)	3601-3980 (18.29-20.22)
6	406 (2.06)	407 (2.07)	386-427 (1.96-2.17)				

TSI does hereby certify that the above described instrument conforms to the original manufacturer's specification (not applicable to As Found data) and has been calibrated using standards whose accuracies are traceable to the United States National Institute of Standards and Technology (NIST) or has been verified with respect to instrumentation whose accuracy is traceable to NIST, or is derived from accepted values of physical constants. TSI's calibration system is registered to ISO-9001:2008 and meets the requirements of ISO 10012:2003.

Measurement Variable	System ID	Last Cal.	Cal. Due	Measurement Variable	System ID	Last Cal.	Cal. Due
Temperature	E003986	04-17-12	10-17-12	Temperature	E003987	04-17-12	10-17-12
DC Voltage	E001653	06-24-11	12-24-12	Barometric Pressure	E001992	04-06-12	04-06-13
Temperature	E001643	02-16-12	08-16-12	Pressure	E001718	12-07-11	06-07-12
Pressure	E002389	03-06-12	09-06-12	Velocity	E003327	09-19-07	09-19-12

# Non-Responsive

May 3, 2012

DATE

DOC ID: CERT\_GEN\_WCC





# CERTIFICATE OF CALIBRATION AND TESTING

TSI Incorporated, 500 Cardigan Road, Shoreview, MN 55126 USA  
Tel: 1-800-874-2811 1-651-490-2811 Fax: 1-651-490-3824 <http://www.tsi.com>

ENVIRONMENT CONDITION		MODEL	9515
TEMPERATURE	66.7 (19.3) °F (°C)	SERIAL NUMBER	T95151103007
RELATIVE HUMIDITY	58 %RH		
BAROMETRIC PRESSURE	28.78 (974.6) inHg (hPa)		

☒ IN TOLERANCE  
☐ OUT OF TOLERANCE  
☒ AS LEFT  
☐ AS FOUND

## - CALIBRATION VERIFICATION RESULTS -

TEMPERATURE VERIFICATION				SYSTEM T-101		Unit: °F (°C)
#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	MEASURED
1	32.0 (0.0)	32.1 (0.1)	31.5-32.5 (-0.3-0.3)	2	140.0 (60.0)	139.7 (59.8)
						ALLOWABLE RANGE
						139.5-140.5 (59.7-60.3)

VELOCITY VERIFICATION				SYSTEM V-111		Unit: ft/min (m/s)
#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	MEASURED
1	0 (0.00)	0 (0.00)	-5-5 (-0.03-0.03)	7	699 (3.55)	698 (3.55)
2	30 (0.15)	30 (0.15)	25-35 (0.13-0.18)	8	1203 (6.11)	1206 (6.12)
3	60 (0.30)	61 (0.31)	55-65 (0.28-0.33)	9	1901 (9.66)	1897 (9.64)
4	101 (0.51)	102 (0.52)	96-106 (0.49-0.54)	10	2705 (13.74)	2720 (13.82)
5	200 (1.01)	198 (1.01)	190-210 (0.96-1.07)	11	3804 (19.32)	3815 (19.38)
6	397 (2.02)	399 (2.03)	377-417 (1.91-2.12)			
						ALLOWABLE RANGE
						664-734 (3.37-3.73)
						1143-1263 (5.81-6.42)
						1806-1996 (9.18-10.14)
						2570-2841 (13.06-14.43)
						3614-3994 (18.36-20.29)

TSI does hereby certify that the above described instrument conforms to the original manufacturer's specification (not applicable to As Found data) and has been calibrated using standards whose accuracies are traceable to the United States National Institute of Standards and Technology (NIST) or has been verified with respect to instrumentation whose accuracy is traceable to NIST, or is derived from accepted values of physical constants. TSI's calibration system is registered to ISO 9001:2008 and meets the requirements of ISO 10012:2003.

Measurement Variable	System ID	Last Cal.	Cal. Due	Measurement Variable	System ID	Last Cal.	Cal. Due
Temperature	E003986	04-17-12	10-17-12	Temperature	E003987	04-17-12	10-17-12
Barometric Pressure	E001992	04-06-12	04-06-13	DC Voltage	E004398	12-08-11	06-08-12
Temperature	E001644	01-20-12	07-20-12	Pressure	E004041	03-30-12	09-30-12
Pressure	E001058	01-18-12	01-18-13	Velocity	E003327	09-19-07	09-19-12

May 3, 2012

DATE

**Non-Responsive**

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**Lead Wipe Sample Results**

Sample Number	Collection Date	Location	Result $\mu\text{g}/\text{ft}^2$
6160-01	7/11/2012	Drill floor S.W. area	<23
6160-02	7/11/2012	Drill floor N.W. area	<23
6160-03	7/11/2012	Drill floor S.E. area	<23
6160-04	7/11/2012	Drill floor N.E. area	<23
6160-05	7/11/2012	Drill floor Center area	<23
6160-06	7/11/2012	Kitchen, on top of food preparation surface	<23
6160-07	7/11/2012	Gun Vault, center	140
6160-08	7/11/2012	Supply room, top of counter	<23
6160-09	7/11/2012	Maintenance bay, center	27
6160-10	7/11/2012	SFC Arguello's desk top	<23
6160-11	7/11/2012	NBC Room, on top of desk	<23
6160-14	7/11/2012	Field Blank	<23

**Paint Chip Sample Result**

Sample Number	Collection Date	Location	Lead Result mg/kg
6160-12	7/11/2012	Office adjacent to the Officer's Breifing Area (N. wall)	0.0025
6160-13	7/11/2012	Southwest classroom, south wall	0.0025





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ANALYTICAL REPORT

Report Date: July 24, 2012

**Non-Responsive**

IHI Environmental  
640 East Wilmington Avenue  
Salt Lake City, UT 84106

Phone: (801) 466-2223

Fax: (801) 466-9616

**Non-Responsive**

Workorder: **34-1220110**

Client Project ID: Clovis Armory

Purchase Order: 12U-I6160

Project Manager: **Non-Responsive**

**Analytical Results**

Sample ID: 6160-1		Media: Lead Dust Wipe		Collected: 07/11/2012
Lab ID: 1220110001		Sampling Location: Clovis Armory		Received: 07/18/2012
Method: NIOSH 7300 Mod.		Sampling Parameter: Area 100 cm²		Prepared: 07/20/2012
				Analyzed: 07/23/2012
Analyte	ug/sample	ug/ft²	RL (ug/sample)	
Lead	<2.5	<23	2.5	

Sample ID: <b>6160-2</b>		Media: Lead Dust Wipe		Collected: 07/11/2012
Lab ID: 1220110002		Sampling Location: Clovis Armory		Received: 07/18/2012
Method: NIOSH 7300 Mod.		Sampling Parameter: Area 100 cm²		Prepared: 07/20/2012
				Analyzed: 07/23/2012
Analyte	ug/sample	ug/ft²	RL (ug/sample)	
Lead	<2.5	<23	2.5	

Sample ID: 6160-3		Media: Lead Dust Wipe		Collected: 07/11/2012
Lab ID: 1220110003		Sampling Location: Clovis Armory		Received: 07/18/2012
Method: NIOSH 7300 Mod.		Sampling Parameter: Area 100 cm²		Prepared: 07/20/2012
				Analyzed: 07/23/2012
Analyte	ug/sample	ug/ft²	RL (ug/sample)	
Lead	<2.5	<23	2.5	

Sample ID: <b>6160-4</b>		Media: Lead Dust Wipe		Collected: 07/11/2012
Lab ID: 1220110004		Sampling Location: Clovis Armory		Received: 07/18/2012
Method: NIOSH 7300 Mod.		Sampling Parameter: Area 100 cm²		Prepared: 07/20/2012
				Analyzed: 07/23/2012
Analyte	ug/sample	ug/ft²	RL (ug/sample)	
Lead	<2.5	<23	2.5	

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Workorder: **34-1220110**  
Client Project ID: Clovis Armory  
Purchase Order: 12U-I6160  
Project Manager: **Non-Responsive**

**Analytical Results**

Sample ID: <b>6160-5</b>		Media: Lead Dust Wipe	Collected: 07/11/2012
Lab ID: 1220110005	Sampling Location: Clovis Armory		Received: 07/18/2012
Method: NIOSH 7300 Mod.		Sampling Parameter: Area 100 cm <sup>2</sup>	Prepared: 07/20/2012 Analyzed: 07/23/2012
Analyte	ug/sample	ug/ft <sup>2</sup>	RL (ug/sample)
Lead	<2.5	<23	2.5

Sample ID: <b>6160-6</b>		Media: Lead Dust Wipe	Collected: 07/11/2012
Lab ID: 1220110006	Sampling Location: Clovis Armory		Received: 07/18/2012
Method: NIOSH 7300 Mod.		Sampling Parameter: Area 100 cm <sup>2</sup>	Prepared: 07/20/2012 Analyzed: 07/23/2012
Analyte	ug/sample	ug/ft <sup>2</sup>	RL (ug/sample)
Lead	<2.5	<23	2.5

Sample ID: <b>6160-7</b>		Media: Lead Dust Wipe	Collected: 07/11/2012
Lab ID: 1220110007	Sampling Location: Clovis Armory		Received: 07/18/2012
Method: NIOSH 7300 Mod.		Sampling Parameter: Area 100 cm <sup>2</sup>	Prepared: 07/20/2012 Analyzed: 07/23/2012
Analyte	ug/sample	ug/ft <sup>2</sup>	RL (ug/sample)
Lead	16	140	2.5

Sample ID: <b>6160-8</b>		Media: Lead Dust Wipe	Collected: 07/11/2012
Lab ID: 1220110008	Sampling Location: Clovis Armory		Received: 07/18/2012
Method: NIOSH 7300 Mod.		Sampling Parameter: Area 100 cm <sup>2</sup>	Prepared: 07/20/2012 Analyzed: 07/23/2012
Analyte	ug/sample	ug/ft <sup>2</sup>	RL (ug/sample)
Lead	<2.5	<23	2.5

Sample ID: <b>6160-9</b>		Media: Lead Dust Wipe	Collected: 07/11/2012
Lab ID: 1220110009	Sampling Location: Clovis Armory		Received: 07/18/2012
Method: NIOSH 7300 Mod.		Sampling Parameter: Area 100 cm <sup>2</sup>	Prepared: 07/20/2012 Analyzed: 07/23/2012
Analyte	ug/sample	ug/ft <sup>2</sup>	RL (ug/sample)
Lead	2.9	27	2.5





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**ANALYTICAL REPORT**

Workorder: **34-1220110**  
Client Project ID: Clovis Armory  
Purchase Order: 12U-I6160  
Project Manager: **Non-Responsive**

**Analytical Results**

Sample ID: <b>6160-10</b>	Media: Lead Dust Wipe	Collected: 07/11/2012
Lab ID: 1220110010	Sampling Location: Clovis Armory	Received: 07/18/2012
Method: NIOSH 7300 Mod.	Sampling Parameter: Area 100 cm <sup>2</sup>	Prepared: 07/20/2012 Analyzed: 07/23/2012

Analyte	ug/sample	ug/ft <sup>2</sup>	RL (ug/sample)
Lead	<2.5	<23	2.5

Sample ID: <b>6160-11</b>	Media: Lead Dust Wipe	Collected: 07/11/2012
Lab ID: 1220110011	Sampling Location: Clovis Armory	Received: 07/18/2012
Method: NIOSH 7300 Mod.	Sampling Parameter: Area 100 cm <sup>2</sup>	Prepared: 07/20/2012 Analyzed: 07/23/2012

Analyte	ug/sample	ug/ft <sup>2</sup>	RL (ug/sample)
Lead	<2.5	<23	2.5

Sample ID: <b>6160-12</b>	Media: Paint Chip	Collected: 07/11/2012
Lab ID: 1220110012	Sampling Location: Clovis Armory	Received: 07/18/2012
Method: NIOSH 7300 Mod.	Sampling Parameter: Weight 0.1003 grams	Prepared: 07/19/2012 Analyzed: 07/23/2012

Analyte	%	RL (%)
Lead	<0.0025	0.0025

Sample ID: <b>6160-13</b>	Media: Paint Chip	Collected: 07/11/2012
Lab ID: 1220110013	Sampling Location: Clovis Armory	Received: 07/18/2012
Method: NIOSH 7300 Mod.	Sampling Parameter: Weight 0.1006 grams	Prepared: 07/19/2012 Analyzed: 07/23/2012

Analyte	%	RL (%)
Lead	<0.0025	0.0025

Sample ID: <b>6160-14 (FB)</b>	Media: Lead Dust Wipe	Collected: 07/11/2012
Lab ID: 1220110014	Sampling Location: Clovis Armory	Received: 07/18/2012
Method: NIOSH 7300 Mod.	Sampling Parameter: Area 100 cm <sup>2</sup>	Prepared: 07/20/2012 Analyzed: 07/23/2012

Analyte	ug/sample	ug/ft <sup>2</sup>	RL (ug/sample)
Lead	<2.5	<23	2.5

**Comments**

**Quality Control: NIOSH 7300 Mod. - (HBN: 90291)**

The 286112 matrix spike (1220163001MS) recovery was high outside of control limits at 142% for unknown reasons. Suspect non-homogeneity of sample to be the cause of the high recovery.



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ANALYTICAL REPORT

Workorder: **34-1220110**  
Client Project ID: Clovis Armory  
Purchase Order: 12U-I6160  
Project Manager: **Non-Responsive**

Report Authorization

Method	Analyst	Peer Review
NIOSH 7300 Mod.	<b>Non-Responsive</b>	<b>Non-Responsive</b>
NIOSH 7300 Mod.		

Laboratory Contact Information

ALS Environmental  
960 W Levoe Drive  
Salt Lake City, Utah 84123

Phone: (801) 266-7700  
Email: [alst.lab@ALSGlobal.com](mailto:alst.lab@ALSGlobal.com)  
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General Lab Comments

The results provided in this report relate only to the items tested.  
Samples were received in acceptable condition unless otherwise noted.  
Samples have not been blank corrected unless otherwise noted.  
This test report shall not be reproduced, except in full, without written approval of ALS.

ALS provides professional analytical services for all samples submitted. ALS is not in a position to interpret the data and assumes no responsibility for the quality of the samples submitted.

All quality control samples processed with the samples in this report yielded acceptable results unless otherwise noted.

ALS is accredited for specific fields of testing (scopes) in the following testing sectors. The quality system implemented at ALS conforms to accreditation requirements and is applied to all analytical testing performed by ALS. The following table lists testing sector, accreditation body, accreditation number and website. Please contact these accrediting bodies or your ALS project manager for the current scope of accreditation that applies to your analytical testing.

Testing Sector	Accreditation Body (Standard)	Certificate Number	Website
Environmental	AClass (DoD ELAP)	ADE-1420	<a href="http://www.aclasscorp.com">http://www.aclasscorp.com</a>
	Utah (NELAC)	DATA1	<a href="http://health.utah.gov/lab/labimp/">http://health.utah.gov/lab/labimp/</a>
	Nevada	UT00009	<a href="http://ndep.nv.gov/bsdwlabservice.htm">http://ndep.nv.gov/bsdwlabservice.htm</a>
	Oklahoma	UT00009	<a href="http://www.deq.state.ok.us/CSDnew/">http://www.deq.state.ok.us/CSDnew/</a>
	Iowa	IA# 376	<a href="http://www.iowadnr.gov/InsideDNR/RegulatoryWater.aspx">http://www.iowadnr.gov/InsideDNR/RegulatoryWater.aspx</a>
	Florida (TNI)	E871067	<a href="http://www.dep.state.fl.us/abs/bars/sas/qa/">http://www.dep.state.fl.us/abs/bars/sas/qa/</a>
	Texas (TNI)	T104704456-11-1	<a href="http://www.tceq.texas.gov/field/qa/lab_accred_certif.html">http://www.tceq.texas.gov/field/qa/lab_accred_certif.html</a>
Industrial Hygiene	AIHA (ISO 17025 & AIHA IHLAP/ELLAP)	101574	<a href="http://www.aihaaccreditedlabs.org">http://www.aihaaccreditedlabs.org</a>
Lead Testing:			
CPSC	AClass (ISO 17025, CPSC)	ADE-1420	<a href="http://www.aclasscorp.com">http://www.aclasscorp.com</a>
Soil, Dust, Paint, Air	AIHA (ISO 17025, AIHA ELLAP and NLLAP)	101574	<a href="http://www.aihaaccreditedlabs.org">http://www.aihaaccreditedlabs.org</a>
Dietary Supplements	AClass (ISO 17025)	ADE-1420	<a href="http://www.aclasscorp.com">http://www.aclasscorp.com</a>





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**ANALYTICAL REPORT**

Workorder: **34-1220110**  
Client Project ID: Clovis Armory  
Purchase Order: 12U-I6160  
Project Manager: **Non-Responsive**

**Definitions**

LOD = Limit of Detection = MDL = Method Detection Limit, A statistical estimate of method/media/instrument sensitivity.

LOQ = Limit of Quantitation = RL = Reporting Limit, A verified value of method/media/instrument sensitivity.

ND = Not Detected, Testing result not detected above the LOD or LOQ.

\*\* No result could be reported, see sample comments for details.

< This testing result is less than the numerical value.

( ) This testing result is between the LOD and LOQ and has higher analytical uncertainty than values at or above the LOQ.



# Industrial Hygiene Southwest

## Violation Inventory Log

### LOG OF SCHEDULE OF CORRECTIVE ACTION - COMPLIANCE WITH SAFETY AND HEALTH STANDARDS

#### Clovis Armory, Clovis, New Mexico

CONTROL NUMBER	HAZARD DESCRIPTION	SITE	RAC	CORRECTIVE ACTIONS (Abatement Plan)	SUSPENSE DATE	ACTION OIC/NCOIC	Estimated Cost(s)	DATE CORRECTED	REFERENCES
CLOSED <input type="checkbox"/> NMCA-071112-4.2.1 <input type="checkbox"/>	The peeling paint contains 0.0025% lead by weight and is regulated by OSHA if paint is disturbed.	Classroom	3	Construction personnel must follow the requirements of the OSHA Lead in Construction Standard, 29 CFR 1926.62, prior to performing construction activities that disturb this painted surface.					29 CFR 1926.62
NMCA-071112-4.4 <input type="checkbox"/>	An asbestos survey could not be located during this IH Assistance Visit.	Clovis Armory	3	Either locate the asbestos survey for this building or contract with a licensed firm to perform an asbestos survey and assessment.					1910.1001(j)(3)(i)
NMCA-071112-4.4 <input type="checkbox"/>	Personnel have not been provided with asbestos awareness training.	Clovis Armory	4	Based on the findings of an asbestos survey, provide awareness training to assigned personnel for the specific types of asbestos in this Armory.					29 CFR 1910.1001 or 1101 or AR 40-5
NMCA-071112-4.3 <input type="checkbox"/>	Dark staining was found on the gypsum wallboard behind the peeling paint along the south wall of the southwest classroom.	Classroom	4	Perform fungal sampling along the south wall of the southwest classroom by a professional proficient in conducting mold assessments.					Recommended Practice
NMCA-071112-4.6.1 <input type="checkbox"/>	The inventory for flammable materials is inconsistent with the contents of the flammable storage cabinet.	Room Containing Flammable Storage Cabinet	4	Update inventory and MSDSs for the flammables to reflect the current contents of the flammable storage cabinet.					1910.1200 (e)(1)(i)
NMCA-071112-4.10 <input type="checkbox"/>	Not all fire extinguishers have current monthly and annual maintenance checks	Clovis Armory	4	Conduct monthly and annual maintenance checks on all fire extinguishers					1910.157 (d) (2) 1910.157 (e) (2)
NMCA-071112-4.10 <input type="checkbox"/>	There was no ground fault circuit interrupter (GFCI) outlet located within six feet of the kitchen sink.	Kitchen	4	Install GFCI protection on any outlets within six feet of a water source.					1910.303(b)(1) & NFPA 70, Article 210-8





Industrial Hygiene Southwest

Violation Inventory Log

LOG OF SCHEDULE OF CORRECTIVE ACTION - COMPLIANCE WITH SAFETY AND HEALTH STANDARDS

Clovis Armory, Clovis, New Mexico

CONTROL NUMBER	HAZARD DESCRIPTION	SITE	RAC	CORRECTIVE ACTIONS (Abatement Plan)	SUSPENSE DATE	ACTION OIC/NCOIC	Estimated Cost(s)	DATE CORRECTED	REFERENCES
<input type="checkbox"/> NMCA-071112- 4.10 <input type="checkbox"/>	A cover plate on an electrical panel in the kitchen (Box "K") was missing and wires are accessible.	Clovis Armory	3	Replace the cover plate on electrical panel box K in the kitchen so electrical wires cannot be contacted.					1910.303 (g) (2) (i) (B)

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## Summary of Recommendations for Clovis Armory

### 4.2 Painted Surface Evaluation

#### Recommendation

Construction personnel must follow the requirements of the OSHA Lead in Construction Standard, 29 CFR 1926.62, if they perform activities involving this painted surface that could create lead dust or fume.

### 4.3 Moisture Intrusion and Limited Visual Fungal Growth Evaluation

#### Recommendation

Conduct a comprehensive moisture intrusion and fungal growth assessment. Ensure that all water leaks are repaired before any mitigation efforts are undertaken.

### 4.4 Asbestos Management

#### Recommendations

1. Locate the asbestos survey for this building or contract with a licensed firm to perform an asbestos survey and assessment.
2. Once asbestos-containing materials have been identified and assessed, provide awareness training to assigned personnel for the specific material types and locations of asbestos in this armory.

### 4.6.1 Hazardous Materials Inventory and Material Safety Data Sheets (MSDS)

#### Recommendation

Update the inventory and maintain MSDS's for the flammable materials maintained in the flammable storage cabinet.

### 4.10 General Safety Walk-Through

#### Recommendations

1. Ensure all fire extinguishers undergo an annual and monthly maintenance check.
2. Replace the cover plate on electrical panel box K in the kitchen so electrical wires cannot be contacted.
3. Install GFCI protection on any outlets within six feet of a water source.



NOISE SURVEY (Sound Level Meter Survey)									
1. DATE (YYYYMMDD) 20120711				2. TYPE SURVEY (Enter code) 1 1 - INITIAL SURVEY 2 - RE-SURVEY 3 - OTHER					
3. SOUND LEVEL METER			4. MICROPHONE			5. CALIBRATOR			
a. MANUFACTURER MSA			a. MANUFACTURER MSA			a. MANUFACTURER MSA			
b. MODEL Type 2		c. SERIAL NO. 00035	b. MODEL Type 2		c. SERIAL NO. 00035	b. MODEL 6950		c. SERIAL NO. 07349	
d. LAST ELECTROACOUSTIC CALIB DATE (YYYYMMDD) 20120210			d. LAST ELECTROACOUSTIC CALIB DATE (YYYYMMDD) 20120210			d. LAST ELECTROACOUSTIC CALIB DATE (YYYYMMDD) 20120210			
6. WIND SCREEN (X one) <input checked="" type="checkbox"/> USED <input type="checkbox"/> NOT USED					7. MEASUREMENTS OBTAINED (X one) <input checked="" type="checkbox"/> INDOORS <input type="checkbox"/> OUTDOORS				
8. DESCRIPTION OF AREAS/DUTIES WHERE NOISE SURVEY CONDUCTED (Illustrate on additional sheet and attach to form) Clovis Armory Kitchen						9. PRIMARY SOURCE OF NOISE See 11a. column below			
						10. SECONDARY SOURCE OF NOISE			
11. SOUND LEVEL DATA					12. PROTECTION REQUIRED (re: dBA - Level)				
a. LOCATION	b. METER ACTION	c. dBC	d. dBA	e. RISK ASSESSMENT CODE	a. NONE (Less than 85)	b. PLUG OR MUFF (85-108)	c. PLUG AND MUFF (108-118)	d. PLUG + MUFF + TIME LIMIT (Greater than 118)	
Southbend® food warmer	S	79.0	78.0	IVD	X				
True® freezer	S	68.0	61.0	IVD	X				
Kitchen exhaust serving the dish washer	S	76.0	68.0	IVD	X				
Kitchen exhaust serving the stove/oven	S	85.0	77.0	IVD	X				
Kitchen exhaust serving the sink	S	74.0	67.0	IVD	X				
					X				
NOTES: Range of levels noted by /; i.e., 102/109. At operator stations, measure at ear level. METER ACTION: Enter F for fast meter action and S for slow meter action.									
13. REMARKS (i.e., Area and equipment posted, hearing protection in use, etc.)									
14. MORE DETAILED NOISE EVALUATION REQUIRED:					<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO (If "YES," identify type evaluation needed.)			
15. NAME(S) OF PERSON(S) IDENTIFIED FOR AUDIOMETRIC MONITORING (Use additional sheet if more space is needed and attach to form)									
16. SUPERVISOR OF NOISE-HAZARDOUS AREA OR OPERATION									
NAME (Last, First, Middle Initial) <b>Non-Responsive</b>			b. TELEPHONE (Include area code) (505) 474-2236			c. ORGANIZATION NMARNG			
NAME (Last, First, Middle Initial) <b>Non-Responsive</b>				18. HEARING CONSERVATION MONITOR (Last Name, First Name, MI) <b>Non-Responsive</b>					



18 Oct 14

# ARMY NATIONAL GUARD INDUSTRIAL HYGIENE - SOUTHWEST

Guam • Hawaii • California • Oregon • Washington • Nevada • Arizona • Idaho • Utah • Wyoming • Montana • New Mexico • Nebraska

## Industrial Hygiene Site Assistance Visit

**Clovis Armory**  
601 S. Norris Street  
Clovis, NM 88101

---

10510 Superfortress Avenue, Suite C, Mather, CA 95655

(916) 854-1494



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**Industrial Hygiene Southwest's mission is to ensure all military personnel and military leadership is provided the specialized technical expertise, consultation and assistance to ensure all military operations and processes are conducted in a healthy manner**

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DEPARTMENT OF THE ARMY AND AIRFORCE  
NATIONAL GUARD BUREAU  
INDUSTRIAL HYGIENE SOUTHWEST  
10510 Superfortress Ave, Ste. C  
Mather, CA 95655

ARNG-CSG-P

14 NOV 2014

MEMORANDUM THRU LTC Monica Martinez-Archibeque, SOHM, 600 Wyoming Blvd, NE, Albuquerque, NM 87123

FOR Commander, Clovis Armory 601 S. Norris Street, Clovis, NM 88101

SUBJECT: Executive Summary for a Site Assistant Visit (IHSAV) for Clovis Armory 601 S. Norris Street, Clovis, NM on 15 OCT 2014.

1. References. See survey report.

2. General.

a. At the request of the NGB Industrial Hygiene, Southwest (IHSW) Region, an Industrial Hygiene Site Assistance Visit and cursory review of safety related items and programs was conducted at the Clovis Armory 601 S. Norris Street, Clovis, NM on 15 OCT 2014.

b. The findings and recommendations in this Executive Summary are controlling and supersede all recommendations within the attached Industrial Hygienist report. However, IHSW concurs with the observations and findings within the attached Industrial Hygiene report.

c. Risk Assessment Codes (RAC) provided in this report have been derived from two sources: Deriving Risk Assessment Codes (RAC's) for Health Hazards (Ref: DOD Instruction 6055.1) and AR 385-10, The Army Safety Program.

d. Use of trademark names in the attached report, or this Executive Summary, does not imply Army National Guard endorsement of any product.

3. Findings. See survey report.

4. General Observations.

a. The armory does not have an Indoor Firing Range.

5. Observations / Recommendations.

**NOTE:** This section provides conclusions and recommendations for the findings and observations made within the attached contractors report. The paragraphs are numbered to correspond to the sections where they were first noted. (i.e., paragraph 2.1a represents the 2.1a located within the contractors report.

a. Check water damaged ceiling tile for additional water intrusion. Repair any areas where water



**SUBJECT:** Executive Summary for a Site Assistant Visit (IHSAV) of Clovis Armory 601 S. Norris Street, Clovis, NM on 15 OCT 2014.

intrusion has occurred and remove water damaged materials, e.g. sheet rock, ceiling tile, etc. and replace with new materials. This will help prevent proliferation of mold spores/allergens. (para. 3.3) (RAC 4)

b. Annual and monthly fire extinguishers inspections should be accomplished and recorded on inspection tag affixed to extinguisher(s). (para. 3.6) (RAC 3)

c. Update MSDSs to SDS format and add table of contents to help utilize index easier. (para. 3.5) (RAC 4)

#### **6. Violation Correction Log.**

a. IHSW has provided a Violation Correction Log derived from the observations from this visit. IHSW recommends the following:

(1) Commander(s) assign an Action OIC/NCOIC, Suspense Date for completion, and Estimated Cost(s) to ensure item completion and corrective status is briefed during quarterly (or monthly) Safety Meetings/Councils until resolved.

(2) Corrective measures should be implemented and accomplished at the lowest levels possible. Hazards and Corrective Measures that cannot be corrected at the facility level, and require assistance from higher headquarters or from the state level, should be elevated to the Quarterly State/BN Safety Council Meeting for resolution.

(3) Recommend a representative from the facility attend all quarterly/monthly meetings to ensure the appropriate emphasis and corrective actions are followed for hazard resolution and abatement of the observations made during this visit.

(4) Retain entries of the items corrected, or closed, for future reference. This may be accomplished by posting completed items within the Corrected Hazard Sheet portion of the Excel Violation Correction Log Workbook we've provided.

(5) The preferred method to document and track identified hazards for resolution is for their entry into the Reserve Component Automation System – Safety and Occupational Health (RCAS-SOH) Program.

b. IHSW recommends further program refinement through written documentation for standardized guidance to the personnel performing the processes. Conducting Hazard Assessments consistent with 29 Code of Federal Regulations (CFR) 1910.132, General Requirements for Personal Protective Equipment and AR 40-5, Preventive Medicine, would provide this continued program refinement.

#### **7. Hazard Assessment/Job Safety Analysis (JSA).**

a. Documenting the Hazard Assessments provides a method to obtain initial and periodic review from the Industrial Hygiene, Occupational Health and Safety Professions located at the JFHQ/HQ/state level.

b. The Hazard Assessments should be used as written training materials for the new, transfer and unit personnel working under the auspice of the facility.

**SUBJECT:** Executive Summary for a Site Assistant Visit (IHSAV) of Clovis Armory 601 S. Norris Street, Clovis, NM on 15 OCT 2014.

c. IHSW recommends facility supervisory staff and facility personnel conduct initial Hazard Assessments outlined in AR 40-5, Army Preventive Medicine (Section V) and 29 CFR 1910.132 and submit for review and obtain approval from the state Industrial Hygiene, Occupational Health and Safety Professions.

d. We have not provided an appendix with Hazard Assessments (HA) examples of some of this facilities operations. Additional operations can utilize this format to design HA not observed during this IHSAV.

e. An integral and important factor of the Hazard Assessment/JSA process is for the review and guidance from qualified Safety, Occupational Health and Industrial Hygiene professions located at the higher headquarters level or state level. For this reason, the Hazard Assessments (to include all pertinent and supporting documents) should be completed by the facility personnel and forward to the New Mexico Army National Guard Industrial Hygiene, Occupational Health and Safety Office for final review and approval (signature).

f. Job Safety Analysis (JSA's)/Hazard Assessments.

**NOTE:** The Hazard Assessments can be used for monthly meetings to brief/train, and document large group training events and activities.

8. IHSW recommends the Senior Unit Commander of this Facility and any Co-Tenant Organizations or Units, review and provide assistance with implementation of these recommendations. This will educate the chain of command and allow the unit or co-tenant organizations to take any necessary precautions or actions required by them and their personnel.

9. To assist you with execution of your responsibilities in correcting the observations noted, we encourage you to consult with the State Safety Manager, Occupational Health Manager and Industrial Hygiene professions located and/or authorized within the State Safety and Occupational Health Office.

10. For additional information please contact the NGB-IHSW office at (916) 854-1491 or via email at [docbreath@aol.com](mailto:docbreath@aol.com).



RON W. FAULL  
NGB, IHSW, CIV  
Regional Industrial  
Hygiene Manager





# Industrial Hygiene Southwest

## Violation Inventory Log

### LOG OF SCHEDULE OF CORRECTIVE ACTION - COMPLIANCE WITH SAFETY AND HEALTH STANDARDS

#### CLOVIS ARMORY, NEW MEXICO 88101

CONTROL NUMBER	HAZARD DESCRIPTION	SITE	RAC	CORRECTIVE ACTIONS (Abatement Plan)	SUSPENSE DATE	ACTION OIC/NCOIC	Estimated Cost(s)	DATE CORRECTED	REFERENCES
NMCA-10152014-3.3 <input type="checkbox"/>	There were ceiling tiles damaged from water intrusion.	Armory	4	Check ceiling tile areas for water intrusion. Repair any areas where water intrusion has occurred and remove water damaged materials and replace					General Duty Clause 5 (a)(1)
NMCA-10152014-3.4	The ventilation system is not able to handle the vehicles that the armory services.	Armory	4	If decided to start operations in maintenance bay, replace exhaust ventilation system.					Per memorandum from Army National Guard IHN received on November 13, 2013 on minimum vehicle exhaust
NMCA-10152014-3.5	The SDS file is still listed as MSDS since the Globally Harmonized System (GHS) Classification of Labeling Chemicals has just taken effect this year and the documents are still MSDS documents.	Armory	4	Update all MSDS for the facility with the new SDS format by June 2016					29 CFR 1910.1200(g)(8)
NMCA-10152014-3.6	Fire extinguishers, throughout the facility, were not being inspected monthly.	Armory	3	Annual and monthly inspection of fire extinguishers should be accomplished and recorded on fire extinguisher.					29 CFR 1910.157(b)(1)

## *ARMORY*

### CLEANUP & FOLLOW-UP HOUSEKEEPING RECOMMENDATIONS

#### Materials Needed:

1. Cloth Mop head (s) & Mop head holder(s) with handle.
2. Mop bucket (s) with wringer.
3. Clean cotton rags and sponges.
4. Disposable gloves
5. Large barrel (55 gal.) to store wastewater in after changing out of dirty scrub water. Waste water containers.
6. Disposable overshoes or rubber boots. Personnel conducting cleaning operations should not take clothes, boots, etc., home for laundering.
7. HEPA vacuum
8. Six (6) mill plastic bags to dispose of waste.
9. Detergent with surfactant, e.g., Spic-N-Span, Mr. Clean, etc.

#### Disposal of Waste Water and Cleaning Materials:

1. *NOTE:* Consult with Local Army National Guard Environmental Office prior to taking any collection, disposal or wiping activities commence. Each state and territory may have additional regulatory guidance on collection, storage and disposal of wastewater.
2. Mop heads should be disposed of after initial cleanup, unless otherwise advised by Environmental office personnel. Note: thorough cleaning of mop heads may be sufficient enough to reuse on future Armory cleanups but check with local Environmental Office.
3. Disposable gloves should be treated as hazardous waste.
4. Soiled cotton rags should be treated as hazardous waste.
5. Wash water contaminated with Lead can be collected and allowed to slowly evaporate leaving Lead deposits/sludge that may be collected in plastic containers, placed in metal drums, and stored for future delivery to an authorized hazardous waste disposal site.



- a. Drums shall be properly labeled to identify contents In-Accordance With (IAW) Federal, State and local regulatory guidance.
- b. Disposal of containerized waste shall be coordinated IAW State hazardous waste program requirements.
- c. The Environmental Office shall coordinate removal and disposal of all containerized hazardous waste through established waste streams.

#### Post-Cleanup Precautionary Measures:

1. Thoroughly wash hands with soap and water.
2. Rinse off rubber boots with soap and water, capturing wastewater for collection into established waste stream. If personnel choose to use over shoes for protection, dispose of overshoes into waste stream. NOTE: This recommendation is for initial clean up activities and PPE requirements may be reduced after it has been determined non-hazardous levels have been achieved.
3. Wash BDU's or personal clothing separately from children's clothes.

**NOTE:** No eating, drinking or cosmetics allowed during cleanup procedures (these may be allowed after washing of hands/face and done outside of cleanup area)

**NOTE:** Avoid blowing, shaking or like actions which could potentially disperse lead dust. Dry sweeping, dusting, wiping or blowing with compressed air shall not be permitted

#### Initial Armory Cleanup:

1. Use a vacuum cleaner equipped with a HEPA exhaust filter. HEPA vacuum all surfaces in the room (ceiling, walls trim, and floors). Start with the ceiling and work down, moving toward the entry door. Completely clean each room before moving on.
2. Prepare water and detergent for the wipe down phase, according to manufactures recommendations.

3. Wet wipe, with cotton rags or sponge, any horizontal, diagonal or vertical surfaces up six (6) feet from floor surfaces using hot water and "Spic-n-Span" or an equivalent product.
  - a. Rinse out cleaning cloths thoroughly and frequently.
  - b. Change out cleaning water as necessary.

**NOTE: If walls to be cleaned show signs of deterioration, e.g., chipping or crumbling paint, in which wiping, scrubbing, or disrupting might potentially increase or spread contamination, then this portion of the clean up should be avoided.**

4. Now prepare water and detergent (e.g. Spic N Span, Mr. Clean, Pine Sol) for the mopping phase, according to manufactures recommendations, which should be found on the products label for general clean up.
  - a. Change out water frequently (when water appears dirty)
  - b. Rinse out mop heads frequently to prevent contamination of dirty water.
5. Cover entire drill floor surface with above prescribed water and detergent.
6. Final rinse should be with clean water only - -after mop heads have been cleaned.

**Recommended Follow-up Housekeeping Practices** *after Clearance sampling of cleaned area is performed by certified personnel:*

1. Floor cleaning and dusting should be accomplished using the wet method described in Initial Armory Cleanup SOP.

**Note:** Only exception to these wet cleaning procedures would be the use of a chemically treated dust floor mop. This can be used for follow-up armory cleaning by sweeping of large particles of dirt and paper.

- a. Pre-treated (chemically treated) dust floor mop will limit dust particles from being disbursed into the surround atmosphere.



- b. If treated dust mop is used - -Do Not Shake Mop head - - have mop head laundered after use. Always keep used dust mop heads in sealed double plastic bags when stored at armory/facility. Shaking of mop head could release unwanted contaminants into surrounding atmosphere.
2. Frequency of Cleanup- Armories will vary, according to usage and how often they should be cleaned. The following general cleaning schedule is provided:
- a. Only full-time technicians and traditional soldiers using facility during the month. (*Cleaned Monthly*)
  - b. Occasional activities taking place during the month, e.g., 1-2 classes or volleyball games, etc. (*Cleaned 2x's Monthly*)
  - c. Used regularly by soldiers or outside agencies/personnel. (*Cleaned Regularly - -at least Weekly*)

**NOTE:** Armories with adjoining Indoor Firing Ranges (IFR) should be cleaned more than weekly, again depending on use of Armory and IFR.

**NOTE:** Clearance sampling/testing is to be accomplished by certified personnel after these cleanup procedures are followed. If the area is an average Armory, occupied by adults only, for which you are cleaning and **is not a Converted IFR space**, you may continue to utilize the Armory space before the officials re-test this space. Please notify your Safety and/or Occupational Health personnel of the completion of this cleaning regime and they will notify the proper officials of the sampling/testing requirements needed.

If work is contracted out, a third party should do the clearance sampling.

Young children and females who are pregnant, there should be posted signs on all facilities, warning of the potential danger of exposure to lead dust.

# **NEW MEXICO ARMY NATIONAL GUARD**

## **CLOVIS ARMORY**

601 S Norris St.  
Clovis, NM 88101  
(505) 474 2236



### **Submitted to:**

Mr. Ron Faull, IH  
National Guard Bureau  
Southwest Region Industrial Hygiene Office  
10510 Superfortress Avenue  
Suite C  
Mather, CA 95655



## Table of Contents

- 1.0 Introduction and Background
- 2.0 Survey Procedures and Equipment Used
- 3.0 Findings and Recommendations
  - 3.1 Lead Wipe Sampling
  - 3.2 Asbestos Survey
  - 3.3 Indoor Air Quality and HVAC Systems
  - 3.4 Exhaust and Ventilation Systems
  - 3.5 Hazardous Materials Use and Storage
  - 3.6 Physical Safety and Condition of Facility
  - 3.7 Sound Level Survey
  - 3.8 Illumination Survey
  - 3.9 Safety Policies, Training, and Record Keeping
  - 3.10 Recurring event
- 4.0 Industrial Hygienist Certification and Project limitations
- 5.0 Technical Assistance

### Appendices

Appendix A	References
Appendix B	Assessment Criteria
Appendix C	Photograph Log
Appendix D	Floor Plans / Illumination Survey
Appendix E	Lab Analysis / Sampling Location & Log
Appendix F	Personnel List
Appendix G	ARNG Armory Survey Checklist
Appendix H	Chemical List
Appendix I	Recommendations
Appendix J	Violation Inventory Log

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## INDUSTRIAL HYGIENE ASSISTANCE VISIT CLOVIS ARMORY CLOVIS, NEW MEXICO



### 1.0. Introduction and Background

1.1. This report summarizes the results of the Industrial Hygiene (IH) Survey conducted at the Clovis Armory in Clovis, NM on October 15, 2014. The Army National Guard of Industrial Hygiene Southwest Regional Manager (ARNG-IHSW) requested Aloha World to visit the Clovis Armory to evaluate ventilation, lighting, noise, and verify vehicle and hazardous materials inventories. The IH Survey also included an interview with SFC Ben Arguello regarding industrial hygiene, OSHA training compliance, personnel Federal Employees Compensation Act (FECA) claims, as well as safety standards in the work area. Finally, the IH Assessment included the development of employee profiles as baseline administrative occupational health records for employees. Jennifer Bolton, from Aloha World completed this survey.

1.2. The following sections will provide details on how the IH Survey was conducted. A drawing showing the facility layout and sampling locations is included as **Attachment E**. The most stringent OSHA, ARNG, Corps of Engineers (COE), American National Standards Institute (ANSI), American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) and Design Guide standards in effect at the time of the survey were used to assess the workplace.

1.3. The Clovis Armory supports the Alpha Co 717<sup>th</sup> BSB. The Armory has 2 full time guard members (**Appendix F**) and approximately 45 guardsmen and women on drill weekend. This armory was constructed in 1991. The armory has offices used for administrative purposes and also contains a drill floor, arms room, supply room, classroom, weight room and a maintenance bay.

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There is not a Converted Indoor Firing Range (CIFR) in this facility. The maintenance bay has not been used for over 10 years. FMS 1A is located adjacent to the Clovis Armory. All vehicle maintenance is done there.

## 2.0. Survey Procedures

2.1. Lead wipe samples were collected on dusty horizontal floor surfaces in the facility including but not limited to the drill floor, maintenance shop and the kitchen. "Ghost Wipe" brand wipes was used with a 16 square inch template. The wipes used conform to American Standards for Testing Materials E1792-96A, *Standard Specification for Wipe Sampling Materials for Lead in Surface Dust*. The collected wipe samples were placed in clean, labeled centrifuge tubes. Samples were submitted to Reservoir Environmental Services, Inc for analysis via Flame Atomic Absorption, USEPA Method SW846 3050B. Laboratory results are listed in micrograms of lead per square foot ( $\mu\text{g}/\text{ft}^2$ ). Copies of the raw analytical data are presented in **Appendix E**.

A visual inspection of materials utilized in this 1991 constructed building was performed. All accessible areas of the facility were visually inspected to identify suspect asbestos-containing materials (ACM).

Illumination measurements were taken in several areas of the armory using a Konica Minolta Light Meter, Model TL1. Measurements in the office and classroom areas were taken at typical work locations, such as the tops of desks and near computer workstations.

Air ventilation was measured on the industrial kitchen hood.

### Equipment Used

Type	Model Number	Serial Number	Calibration Date
VelociCalc	8386A	54110581	March, 2014
Type	Model Number	Serial Number	Calibration Date
Konica Minolta	TL1	00279029	September 2014

## 3.0. Findings and Recommendations

**Lead wipe sampling-** Analytical results from the lead wipe sampling obtained from the armory are found in Table 3.1.A. A graphical and written representation of sampling locations can be found in **Appendix E** along with analytical reports. Photographs were taken of each sample point and are presented in **Appendix C**. There are currently no standards that dictate what a safe level of lead is from a wipe sample. Lead sampling results can be compared to the protocol outlined in the U.S. Department of Housing and Urban Development's (HUD's) *Guidelines For The Evaluation And Control Of Lead-Based Paint Hazards In Housing*, June 1997. HUD

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Industrial Hygiene Survey  
Clovis Armory

currently recommends an exposure limit of 40 ug/ft<sup>2</sup>. This guideline was established to prevent lead exposure to children in domestic homes, along with females who are pregnant. Areas that have levels that exceed 40 ug/ft<sup>2</sup> should be thoroughly cleaned and employees that may come into contact with those areas should be properly trained in the hazards of lead exposure.

**Lead Wipe  
Table 3.1.A.**

<i>Sample ID</i>	<i>AREA</i>	<i>Photo #</i>	<i>Result ug/ft2</i>
101514-1	Control	NA	BDL
101514-2	North drill hall	2	BDL
101514-3	Center drill hall	3	BDL
101514-4	South drill hall	4	BDL
101514-5	West drill hall	5	22.7
101514-6	East drill hall	6	BDL
101514-7	North maintenance shop	7	26.4
101514-8	South maintenance shop	8	35.5
101514-9	Kitchen	9	BDL

**BDL= Below Detection Limits**

**ug/ ft2= Micrograms per Square Foot**

**NOTE:** Please continue the cleaning of working environment throughout the armory, especially in weapons cleaning areas. Please utilize the attached SOP and general information paper provided for cleaning procedures.

**3.2. Asbestos Survey-** SFC Arguello was asked during this survey about the presence of asbestos and he advised no asbestos has ever been found or suspected in the armory.

Asbestos is regulated as a hazardous air pollutant by the Environmental Protection Agency (EPA) under the authority of the Clean Air Act. The asbestos regulations are included in the National Emissions Standards for Hazardous Air Pollutants (NESHAPS) and are referenced as 40 CFR 61, Subpart M.

ACM is defined by the EPA, as any material containing greater than one percent of asbestos. ACMs are categorized as being either friable or non-friable. Friable ACMs are those materials that can be easily crumbled, pulverized, or otherwise broken up using hand or finger pressure when dry, and are materials considered more likely to produce airborne asbestos fibers. Non-friable ACMs are materials that do not meet the above test, and are considered less likely to produce airborne asbestos fibers. Non-friable ACMs are further categorized into Category I non-friable ACM (packing's, gaskets, resilient floor coverings, and asphalt roofing products) and Category II non-friable ACM (materials not included in Category I).

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**3.8. Illumination Survey-** Illumination levels that were measured throughout the armory office and classroom areas can be found on the floor plan in Appendix D. The numbers represent the illumination level in foot-candles (FC). In general, the measurements were taken at task surface level, such as on desks. Measurements not taken on a desk were taken at waist level.

Illumination measurements were compared with recommendations made by the Industrial Engineering Society (IES)/American National Standards Institute (ANSI) RP7-1991. In general, IES recommends a range of **50 to 100 foot-candles** as the minimum lighting requirements for performance of visual tasks of medium contrast or small size, such as would typically occur in an office area.

Based on these criteria, the general lighting appears to be adequate in the office spaces and classrooms. Inadequate light levels may place strain on the eyes and cause headaches or vision problems. With an aging work force in place, task lighting can help reduce the vision problems associated with inadequate lighting. Adequate lighting was found in the classroom and in the office spaces.

**3.9. Safety Policies, Training, and Record Keeping** – The following safety policies and procedures were found at this site: none found

#### **4.0 Industrial Hygienist Certification and Project Limitations**

All Industrial Hygiene Assessment techniques and tests used in the Industrial Hygiene survey of the Army National Guard Armories were reviewed by Ron Faull, Industrial Hygiene Southwest, National Guard Bureau at (916) 854-1492.

This Project was performed using, as a minimum, practices consistent with standards acceptable within the industry at this time, and a level of diligence typically exercised by industrial hygiene and environmental consultants performing similar services.

The procedures used in this investigation attempt to establish a balance between the competing goals of limiting investigative and reporting costs and time, and reducing the uncertainty about unknown conditions. Therefore, because the findings of this report were derived from the scope, costs, time, and other limitations, the conclusions should not be construed as a guarantee that all environmental or occupational hazards have been identified and fully evaluated. Where sample collection and testing have been performed, Aloha World's professional opinions are based in part on the interpretation of data from discrete sampling locations that may not represent conditions at non-sampled locations. Aloha World assumes no responsibility for omissions or errors resulting from inaccurate information or data provided by sources outside of Aloha World, or from omissions or errors in public records.

Furthermore, it is emphasized that the final decision on how much risk to accept always remains with the client since Aloha World is not in a position to fully understand all of the client's needs.

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Industrial Hygiene Survey  
Clovis Armory

Clients with a greater aversion to risk may want to take additional actions while others, with less aversion to risk, may want to take no further action.

## 5.0 Technical Assistance

For technical assistance regarding information found in this report or the performed survey, please contact Mr. Ron Faull of the Southwest Regional Industrial Hygiene Office-(916) 854 1492. Contact the State Safety, State Industrial Hygiene and Occupational Health Office and/or the Regional Industrial Hygienist should any of the operations change, or should the personnel become incapable of following the previous recommendations and subsequent recommendations that are needed.

Jennifer Bolton, IH Tech  
Aloha World Environmental

Aloha World



## Appendix A: References

American Conference of Governmental Industrial Hygienists (ACGIH), Industrial Ventilation, A Manual of Recommended Practice, 23 Edition, 1998.

American Conference of Governmental Industrial Hygienists (ACGIH), Threshold Limit Values for Chemical Substances and Physical Agents and Biological Indices for 1998.

American National Standards Institute (ANSI)/Illuminating Engineering Society (IES), Industrial Lighting 1991.

American National Standards Institute, Z358. 1-1998. Emergency Eyewash and Shower Equipment 1998.

AR 40-5, Preventative Medicine, 15 October 1990.

AR 385-10, The Army Safety Program, 23 May 1988.

Corps of Engineers Guide Specification, CEGS-1585 1, Overhead vehicle tailpipe (and welding fume) Exhaust Systems, May 1984.

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DA PAM 40-501, Hearing Conservation, 27 August 1991.

National Safety Council, Fundamentals of Industrial Hygiene, 4~ edition, 1996.

NOR 385-10, Army National Guard Safety and Occupational Health Program, 29 December 1989.

TB MED 503, The Army Industrial Hygiene Program, February 1985.

TG022, US Army Environmental Hygiene Agency (USAEHA), Industrial Hygiene Evaluation Guide, October 1975

TG 141, US Army for Health Promotion and Preventive Medicine (USACHPPM) Industrial Hygiene Air Sampling Guide, Nov. 1997

Title 29, Code of Federal Regulations (CFR), 1998, revision Part 1910, Occupational Safety and Health Standards

Title 29, Code of Federal Regulations (CFR), 1998, revision Part 1926, Construction Standards

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## **Appendix B: Assessment Criteria**

### **A. Ventilation Standards**

Ventilation rates were compared to recommendations made in the ACGIH Industrial Ventilation Manual and Corps of Engineers specifications. See Appendix A for reference information.

### **B. Illumination Standards**

Illumination measurements were compared with recommendations made by the Industrial Engineering Society (IES)/American National Standards Institute (ANSI) RP7-1991 Standard and MIL-STD1472E.

### **C. Noise**

Noise measurements were taken and compared with OSHA Standard 29 CFR 1910.95 and Department of the Army Pamphlet 40-501.

### **D. Air Sampling**

Personal air sampling, if conducted, was in compliance with applicable NIOSH Analytical Methods. Sampling results were compared to relevant Occupational Safety and Health Administration (OSHA) Permissible Exposure Limits (PEL), American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLV), or National Institute of Occupational Safety and Health (NIOSH) Recommended Exposure Limits (REL).

### **E. Risk Assessment Codes**

Risk Assessment Codes (RACs) are included in this report to quantify the risk of particular operations to employees and to establish funding priorities for corrective actions. RACs are assigned with regard to hazard severity and mishap probability. The type, length, and route of exposure are taken into consideration, as are the medical effects that would occur with such exposures.

Aloha World



## Appendix C

### Photograph Log

Aloha World

Photo Log



Photo #1 – Clovis Armory

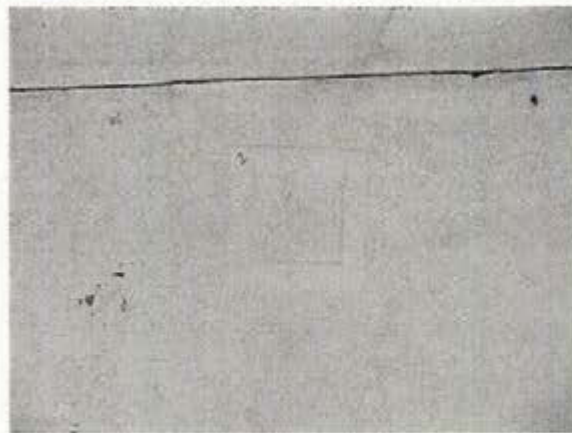


Photo #2- North drill hall wipe

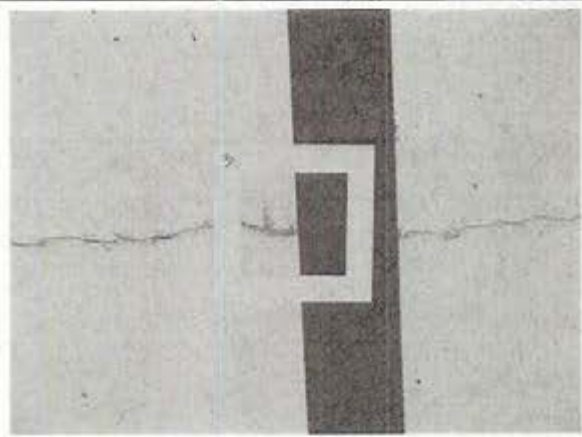


Photo #3- Center drill hall wipe

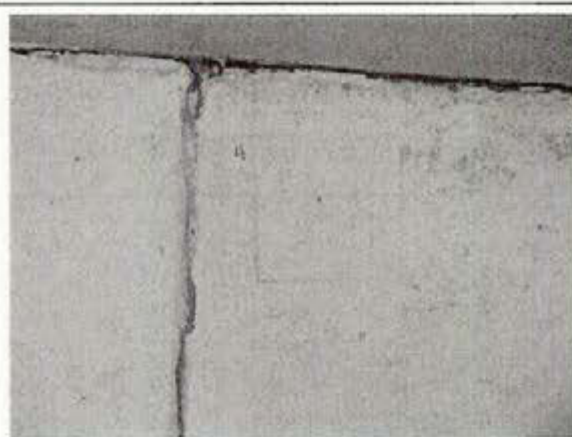


Photo #4- South drill hall wipe

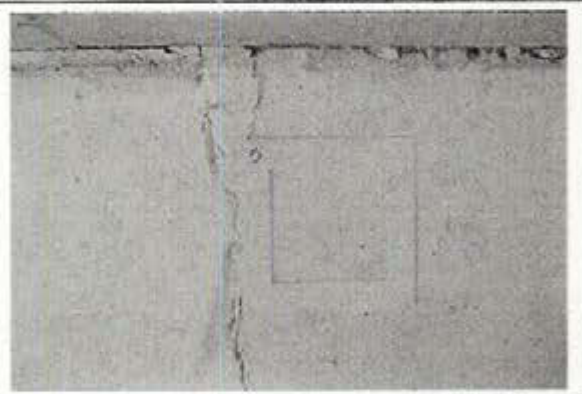


Photo #5 –West drill hall wipe

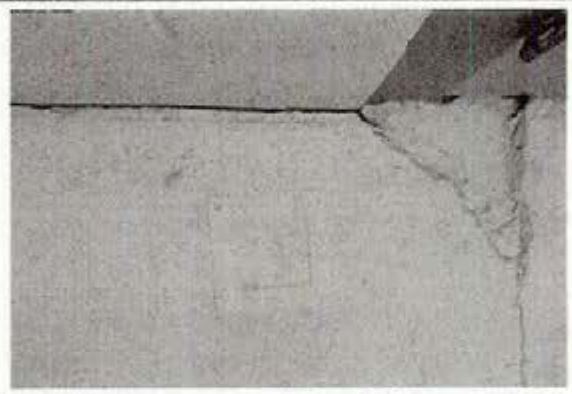


Photo #6 – East drill hall wipe



Photo Log

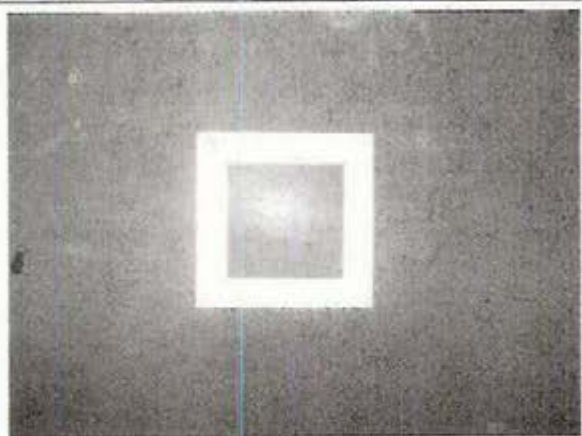


Photo #7 – North maintenance bay wipe

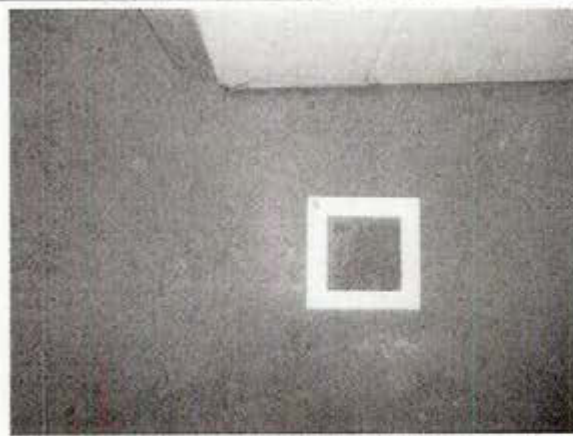


Photo #8- South Maintenance bay wipe

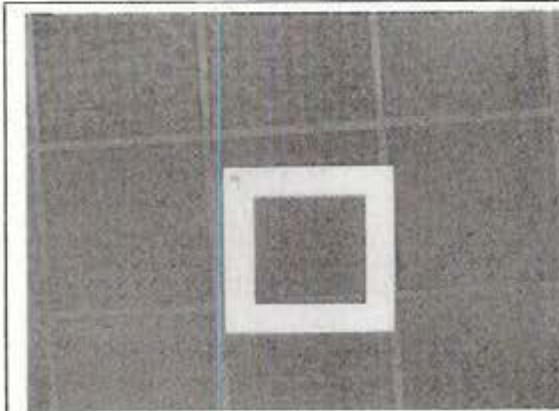


Photo #9 – Kitchen wipe



Photo #10 – Drill hall



Photo #11 –Janitor closet



Photo #12 –Kitchen

**Photo Log**

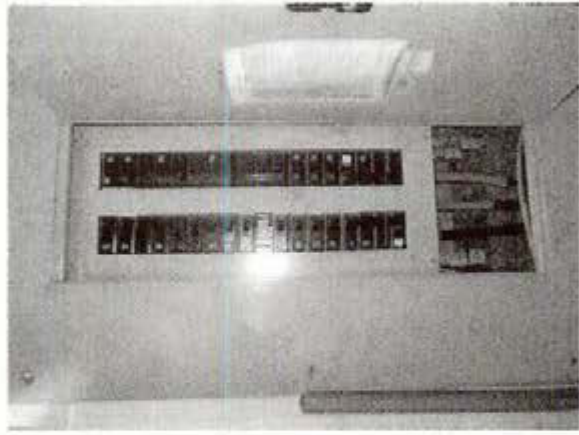


Photo #13 – Electrical box



Photo #14- Maintenance bay

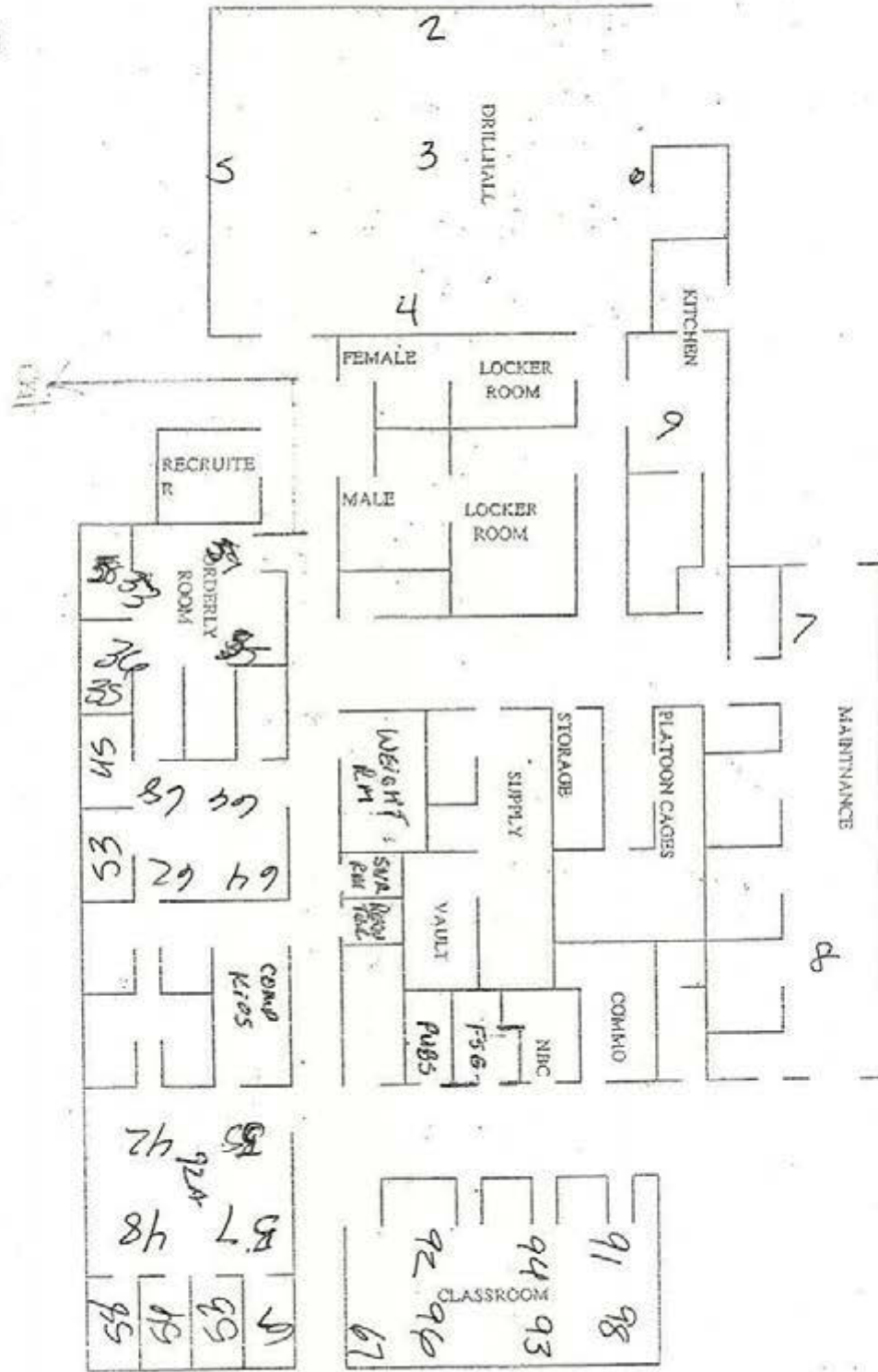
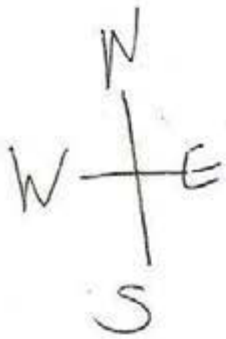


## Appendix D

### Floor Plan/Illumination Survey

Aloha World

PRIMARY  
ROUTE





## Appendix E

### Laboratory Analysis Reports Sample Location & Log

Aloha World

# RESERVOIRS ENVIRONMENTAL, INC.

5801 Logan St., Suite 100  
Denver CO 80216

## TABLE ANALYSIS: LEAD BY WIPE SAMPLING

RES Job Number: RES 303549-1  
Client: Aloha World  
Client Project Number / P.O.: 101514  
Client Project Description: Clovis Armory  
Date Samples Received: October 21, 2014  
Analysis Type: USEPA SW846 3050B / AA (7420)  
Turnaround: 3-5 Day  
Date Samples Analyzed: October 24, 2014

Client ID Number	Lab ID Number	Sample Area (sq.ft.)	LEAD (µg)	Reporting Limit (µg/ft <sup>2</sup> )	LEAD CONCENTRATION (µg/ft <sup>2</sup> )
101514-1	EM 1280857	0.11	BRL	22.7	BRL
101514-2	EM 1280858	0.11	BRL	22.7	BRL
101514-3	EM 1280859	0.11	BRL	22.7	BRL
101514-4	EM 1280860	0.11	BRL	22.7	BRL
101514-5	EM 1280861	0.11	2.5	22.7	22.7
101514-6	EM 1280862	0.11	BRL	22.7	BRL
101514-7	EM 1280863	0.11	2.9	22.7	26.4
101514-8	EM 1280864	0.11	3.9	22.7	35.5
101514-9	EM 1280865	0.11	BRL	22.7	BRL

\*Calculations Based On A 1 sq.ft. Sample Area Unless Otherwise Noted

\* Unless otherwise noted all quality control samples performed within specifications established by the laboratory.

BRL = Below Reporting Limit

P: 303-964-1996  
F: 303-477-4275

5801 Logan Street, Suite 100 Denver, CO 80216

Page 2 of 2

Data QA \_\_\_\_\_

1-866-RESI-ENV  
www.resilab.com

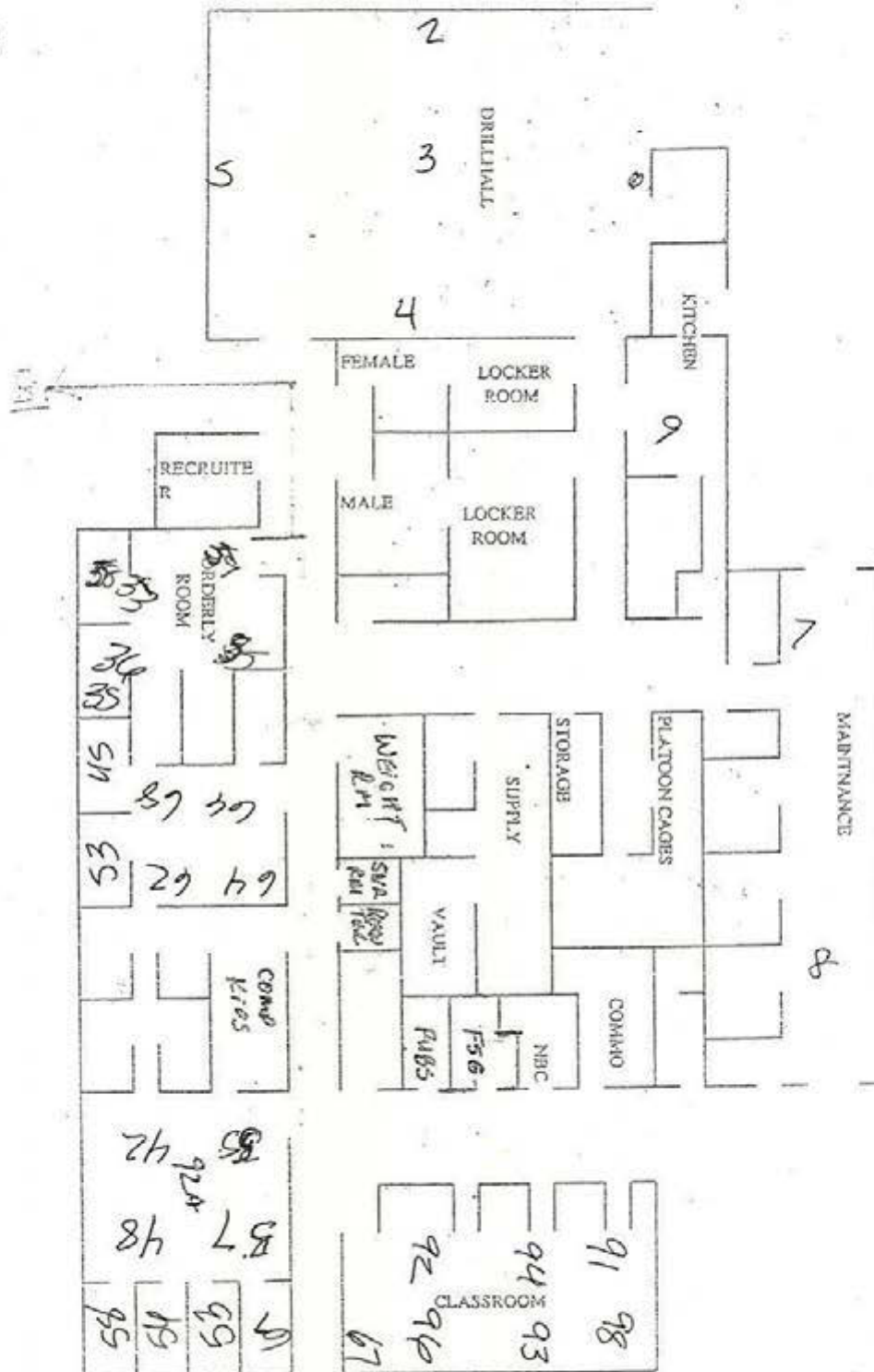
Posted to NGB FOIA Reading Room  
May, 2018

FOIA Requested Record #J-15-0085 (NM)  
Released by National Guard Bureau  
Page 492 of 1628

Digitally signed  
by Reservoirs  
Environmental, Inc.  
Date: 2014.10.28  
13:06:31 -0500



PRIMARY  
ROUTE



## Appendix F

### Full-Time Personnel Listing

Aloha World



## FULL TIME ROSTER FOR CLOVIS, NM ARMORY

SFC Ben Arguello

SSG Manuel Najere

## Appendix G

### ARNG Survey Checklist

Aloha World



# **Army National Guard Armory Survey** **(To Be Included In Report)**

Five <b>lead wipe</b> samples collected from drill floor (take samples from dusty horizontal floor surfaces)	✓
Are any <b>weapons</b> cleaned in the facility, if yes where are they cleaned?	yes
Additional lead <b>wipe</b> samples taken from 25% of the rest of the building - (on floor areas only)	✓
Is there a <b>converted indoor firing range</b> ? If so collect additional wipe samples IAW the SOW.	none
Is there any peeling <b>paint</b> ? Take bulk sample if able.	none
Are there any signs of water damage or mold?	like none
Any suspected <b>ACM</b> ? Where and what condition is it in. Bulk sample if able.	none
Quality of housekeeping	ok
<b>HVAC</b> maintenance plan in place?	state - replaced lyrago
<b>Overall condition</b> of HVAC system	great
Obtained <b>CO2, Temp, RH</b> monitoring	FMS #7A
<b>HAZMAT</b> inventory on hand (make copies for the report), <b>MSDS</b> available for all materials.	✓ - needs book
<b>HAZMAT storage</b> , Condition of lockers, if outside storage building is used is it ventilated and does it meet <b>OSHA</b> standards.	FMS 7A

Fire alarm in working condition - -not usually in place in older armories	good - replaced 3 yrs ago
Fire extinguishers in place and properly identified and mounted	yes
Evidence of monthly fire extinguisher inspections	no
Annual fire extinguisher inspections tags current	yes
Are eye wash stations available in areas where hazardous materials are used and are they inspected weekly (inspections must be documented)	none
Egress routes accessible and properly marked - -noted on <u>Fire Evacuation Plan</u>	yes
Training programs in place; Hazcom, Respiratory Protection, Confined Spaces, Hearing conservation, PPE (if applicable)	none
Any Photo labs	no
Any hazardous noise sources	no
Light levels checked throughout building	✓
Breaker panels properly labeled with no exposed wiring	✓
Check building occupancy 1. How many military personnel, how many civilian personnel 2. What types of units occupy facility, i.e. Administrative, Maintenance, etc.?	✓
Any civilian activities in armory (cub scouts, classes, day care, parties etc)	rented out
Obtain two lead air samples	On IHSW Request Only



Evaluate Kitchen Stove Hood Flow if Present IAW NFPA Standard 96.	yes
Collect Source Noise Measurements of Kitchen Appliances and Document Using DD 2214	n/a
Conduct a safety walkthrough of entire facility document any safety deficiencies found.	✓
<b>Take photos</b> of outside of building, all sample points and any pertinent hazards or concerns.	✓
Name of Armory, POC, phone #, address and organizations in Armory	
(Add Checklist to Report)	(Add Checklist to Report)

HAZCOM AWARENESS					
MONTHLY INVENTORY January 2014					
BINDER TAB	ROOM	SHELF	ITEM	QTY	
A	35	1A	COCONUT OIL HAND SOAP	2 GALLONS	
	35	1A	WHITE COCONUT LIQUID SOAP	3 GALLONS	
	35	1A	GOJO	9 GALLONS	
B	35	1B	GOJO PINK & KLEAN	9 BOXES	
	35	1B	HEALTH GARDS	83 BARS	
	35	1B	SW PARA TOILET BOWL BLOCK	63 BLOCKS	
	35	1B	RING MASTER	5 QUARTS	
C	35	1C	GOJO ORANGE	1 GALLON	
	35	1C	SOFT SCRUB W/ BLEACH	15 BOTTLES	
	35	1C	SW URINAL SCREEN	26 SCREENS	
	35	1C	TOUGH GUY URINAL SCREEN	96 SCREENS	
	35	1C	SKILCRAFT METER MIST	2 CANS	
	35	1C	RONSONOL LIGHTER FLUID	1 BOTTLE	
D	35	2A	PAMOLIVE	1 BOTTLE	
	35	2A	DAWN	1 BOTTLE	
	35	2A	SUPER SPRAY-LOK	3 GALLONS	
	35	2A	SW PINK PEARL	1 GALLON	
	35	2A	CARROLL- 700 SPECIAL	2 GALLONS	
	35	2A	SPARY BUFF	7 GALLONS	
	35	2A	BETCO RESTORER	4 GALLONS	
E	35	2B	QUARTERBACK	11 GALLONS	
	35	2B	FULLBACK	11 GALLONS	
F	35	2C	BALL TERRA-COTE	4 GALLONS	
	35	2C	BALL URETHANE FLOOR FINISH	2 BOXES	
	35	2C	DIVERSEY SNAPBACK	8 GALLONS	
G	35	2D	BRAVO STRIPPER	2 BUCKETS	
	35	2D	CAREFREE FLOOR FINISH	1 BUCKET	
H	35	3A	SKILCRAFT POWER DUSTER	5 CANS	
	35	3A	SKILCRAFT WINDOW CLEANER	19 CANS	
	35	3A	SCOURING POWDER W/ BLEACH	72 CANS	
I	35	3B	RAMROD	7 LITERS	
	35	3B	MULTI-SURFACE CLEANER	10 LITERS	
	35	3B	LEMON FURNITURE POLISH	3 LITERS	
	35	3B	READY TO USE SPRAY BUFF	5 LITERS	
	35	3B	LEMON OIL FURNITURE POLISH	1	
	35	3B	DOUBLE PLAY	2 GALLONS	
	35	3B	SIMPLE GREEN HAND CLEANER GEL	10 BOTTLES	2 GALLONS
	35	3B	CARE-ALL HAND SOAP	1 GALLON	
	35	3B	LITE' N FOAMY	4 GALLONS	
J	35	3B	LAUNDRY DETERGENT	9 BOXES	
	35	3C	ULTRA HI MAINTAINER	2 GALLONS	
	35	3C	METAL ALUMINUM POLLISH	2 GALLONS	



# **Appendix I**

## **Recommendations**

Aloha World

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Industrial Hygiene Survey  
Clovis Armory

**RECOMMENDATIONS**

1. Check ceiling for water leakage. OSHA requires that safeguards designed to protect employees during an emergency, including displaced ceiling tile, must be in proper working order at all times. General Duty Clause 5 (a)(1)
2. Per memorandum from Army National Guard received on November 13, 2013 a minimum duct velocity of 850 was not obtained. If decided to start operations in maintenance bay, replace exhaust ventilation system.
3. Update all MSDS for the facility with the new SDS format by June 2016 CFR 1910.1200(g)(8).
4. The Fire extinguishers were found to be behind on monthly inspections. The fire suppression system is behind on annual inspection. Properly inspect all fire extinguishers on an annual and monthly basis. [29 CFR 1910.157(b)(1)].

Aloha World



## Appendix J

### Violation Inventory Log

Aloha World



# Industrial Hygiene Southwest

## Violation Inventory Log

### LOG OF SCHEDULE OF CORRECTIVE ACTION - COMPLIANCE WITH SAFETY AND HEALTH STANDARDS CLOVIS ARMORY, NEW MEXICO 88101

CONTROL NUMBER	HAZARD DESCRIPTION	SITE	RAC	CORRECTIVE ACTIONS (Abatement Plan)	SUSPENSE DATE	ACTION OIC/NCOIC	Estimated Cost(s)	DATE CORRECTED	REFERENCES
NMCA-10152014- 3.3 <input type="checkbox"/>	There were ceiling tiles damaged from water intrusion.	Armory	4	Check ceiling tile areas for water intrusion. Repair any areas where water intrusion has occurred and remove water damaged materials and replace					General Duty Clause 5 (a)(1)
NMCA-10152014- 3.4	The ventilation system is not able to handle the vehicles that the armory services.	Armory	4	If decided to start operations in maintenance bay, replace exhaust ventilation system.					Per memorandum from Army National Guard IL-IN received on November 13, 2013 on minimum vehicle exhaust
NMCA-10152014- 3.5	The SDS file is still listed as MSDS since the Globally Harmonized System (GHS) Classification of Labeling Chemicals has just taken effect this year and the documents are still MSDS documents.	Armory	4	Update all MSDS for the facility with the new SDS format by June 2016					29 CFR 1910.1200(g)(8)
NMCA-10152014- 3.6	Fire extinguishers, throughout the facility, were not being inspected monthly.	Armory	3	Annual and monthly inspection of fire extinguishers should be accomplished and recorded on fire extinguisher.					29 CFR 1910.157(b)(1)



### Limitations and Exclusions of Findings

This asbestos survey and assessment was performed using procedures and a level of diligence typically exercised by professional performing similar services. However, asbestos-containing material (ACM) can be present in a structure, but not identified using ordinary investigative procedures.

No asbestos survey can completely eliminate uncertainty regarding the presence of ACM. The level of diligence and investigative procedures are intended to reduce, but not eliminate, potential uncertainty regarding the presence of ACM.

The only way to tell if an object contains asbestos by looking at it is if the material is labeled. Otherwise, you should have it sampled and analyzed by a qualified professional. Until you receive the results, treat the material as if it contains asbestos. Samples should be extracted only by qualified professionals. If improperly done, extracting samples can be more hazardous than leaving the material undisturbed.

**3.3. Indoor air quality and HVAC Systems-** The armory is heated and cooled through a central air system that was replaced in 2013. The Department of Military Affairs (DMA) maintains the HVAC system.

Building air temperature, within this facility, was in the comfort range for the occupants during this survey period. The day of the survey it was 80 degrees Fahrenheit outside. Inside air temperature is recommended to be between 68-75 degrees Fahrenheit and the relative humidity is to range from 30-60%. The indoor temperature was 70-72 degrees Fahrenheit. Humidity levels above 60 percent can result in proliferation of bacteria and fungi, while levels below 30 percent can cause dry eyes, skin, and mucous membranes. There were signs of water leakage. Water stains were noted on the ceiling tiles in the entrance hall and orderly room.

**Recommendation:** Check ceiling for water leakage. Repair all leaks and replace water damaged materials, e.g., ceiling tile, sheet rock, etc.

**3.4. Exhaust and Ventilation Systems-** The Clovis Armory has a maintenance bay. However, all vehicle maintenance is done in FMS 1A, located next door.

The exhaust ducts reportedly reach all exhaust ports on all the equipment serviced in this armory as required by AR 385-55, Section 2-14(b).

The following table lists volumetric flow rates measured in each duct (all ducts open for survey).

Location	CFM
TP-01	273
TP-02	Unable to pull down

Aloha World

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Industrial Hygiene Survey  
Clovis Armory

**Recommendation** Per memorandum from Army National Guard received on November 13, 2013 a minimum duct velocity of 850fpm was not obtained. Replace exhaust ducts if maintenance bay becomes functional.

Air flow was measured in the industrial kitchen under the hood of the oven. Air flow was measured at 680 fpm. This kitchen exhaust duct meets the 2011 National Fire Protection Association Standard 96, Section 8.2.1.1, which requires exhaust fan ducts used in commercial cooking equipment to have a duct velocity of not less than 500 fpm.

**3.5. Hazardous Materials Use and Storage-** All Hazmat and POL's are stored and maintained at FMS 1A located next door to the armory.

Small quantities of cleaning products, utilized by the workers, were located in the janitors' closet. Arms custodians, for cleaning purposes, should be utilizing user and environmental friendly products, while the more harmful products should be properly disposed of. A well-ventilated area should be utilized when using any solvent products, along with the appropriate Personal Protective Equipment (PPE) as designated on the MSDS information sheets. The MSDS was updated and well organized but not yet at the current SDS.

**Recommendation:** Update all MSDS for the facility with the new SDS format by June 2016 CFR 1910.120.

**3.6. Physical Safety and Condition of Facility-** A physical walk through of the facility was conducted. Overall, housekeeping was found to be in above average condition. Electrical breaker boxes were properly labeled and accessible. The electrical breaker box in the kitchen had loose wires and is shown in **Appendix C**.

This 1991 building is of concrete block and brick construction with a concrete roof over the drill hall, tar and rock composite on remaining roof area.

The fire extinguishers within this facility are part of the fire suppression available and should be tested annually and inspected monthly. NFPA 10, 27-3.4.1 addresses alarm systems and 29 CFR 1910.157 addresses inspection requirements for fire extinguishers. Annual inspections should be accomplished by a qualified organization, e.g., fire department, and checked and documented monthly by the facilities personnel. The fire extinguishers were found to be up to date on annual inspections but behind on monthly inspections. Annual inspection for the kitchen fire extinguisher is behind. Per SFC Arguello the kitchen has not been used for over 1 year and will not be used until the fire suppression system in the kitchen is inspected.

**Recommendation:** The Fire extinguishers were found to be behind on monthly inspections and the kitchen suppression system is behind on its annual inspection. Properly inspect all fire extinguishers on an annual and monthly basis. [29 CFR 1910.157(b)(1)].

**3.7. Sound Level Survey-** A noise survey was not conducted in the Clovis Armory. No noise hazards were noted in the facility.

Aloha World



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## ARMY NATIONAL GUARD INDUSTRIAL HYGIENE – SOUTHWEST

Guam • Hawaii • California • Oregon • Washington • Nevada • Arizona • Idaho • Utah • Wyoming • Montana • New Mexico • Nebraska

# Industrial Hygiene Site Assistance Visit

**Deming Armory**  
700 S. Pearl St.  
Deming, NM 88030

10510 Superfortess Avenue, Suite C, Mather, CA 95655

(916) 8545-1491





BEST AVAILABLE COPY  
DEPARTMENT OF THE ARMY AND AIRFORCE  
NATIONAL GUARD BUREAU  
INDUSTRIAL HYGIENE SOUTHWEST  
10510 Superfortress Ave, Ste. C  
Mather, CA 95655

ARNG-CSG-IHSW

5 December 2012

MEMORANDUM THRU New Mexico Army National Guard, Deputy State Surgeon (DSS), 600 Wyoming Blvd NE, Albuquerque, NM 87123

FOR Commander, Deming Armory 700 S. Pearl Street, Deming, New Mexico 88030

SUBJECT: Executive Summary for Industrial Hygiene Site Assistance Visit (IHSV) for the Deming Armory, 700 S. Pearl St. Deming, New Mexico conducted on 08 August 2012.

1. **References.** See survey report.

2. **General.**

a. At the request of the NGB Industrial Hygiene, Southwest (IHSW) Region, an Industrial Hygiene Site Assistance Visit and cursory review of safety related items and programs was conducted at the Deming Armory 700 S. Pearl St., Deming, NM on 08 AUG 2012.

b. The findings and recommendations in this Executive Summary are controlling and supersede all recommendations in the contractor report (reference Attachment II). However, IHSW concurs with the observations and findings within the attached contractor report.

c. Risk Assessment Codes (RAC) provided in this report have been derived from two sources: Deriving Risk Assessment Codes (RAC's) for Health Hazards (Ref: DOD Instruction 6055.1) and AR 385-10, The Army Safety Program.

d. Use of trademark names in the attached report, or this Executive Summary, does not imply Army National Guard endorsement of any product.

3. **Findings.** See survey report.

4. **Commendable.**

a. The facility personnel were helpful during this SAV.

5. **Observations / Recommendations.**

**NOTE:** This section provides conclusions and recommendations for the findings and observations made within the attached contractors report. The paragraphs are numbered to correspond to the sections where they were first noted. (i.e., paragraph 2.1a represents the 2.1a located within the contractors report.

a. Ensure water intrusion is identified and leaks are repaired in the female sleeping quarters and damaged materials replaced. (para. 4.3) (RAC 4)

**SUBJECT:** Executive Summary for Industrial Hygiene Site Assistance Visit (IHSAV) for the Deming Armory, 700 S. Pearl St. Deming, New Mexico conducted on 08 August 2012.

b. Locate the asbestos survey for this building or contract to have a licensed firm to perform an asbestos survey and assessment. This should be part of the NM ARNG Asbestos Management Plan with awareness training being provided to facility personnel and workers. (para. 4.4) (RAC 3)

c. Improve housekeeping practices and clean up armory using the Clean-up SOP include within this report, to prevent migration and accumulation of lead dust. Also, Clean-up after each episode of weapons cleaning. (para. 4.1) (RAC 3)

#### **6. Violation Correction Log.**

a. IHSW has provided a Violation Correction Log derived from the observations from this visit. IHSW recommends the following:

1. Commander(s) assign an Action OIC/NCOIC, Suspense Date for completion, and Estimated Cost(s) to ensure item completion and corrective status is briefed during quarterly (or monthly) Safety Meetings/Councils until resolved.

2. Corrective measures should be implemented and accomplished at the lowest levels possible. Hazards and Corrective Measures that cannot be corrected at the facility level, and require assistance from higher headquarters or from the state level, should be elevated to the Quarterly State/BN Safety Council Meeting for resolution.

3. Recommend a representative from the facility attend all quarterly/monthly meetings to ensure the appropriate emphasis and corrective actions are followed for hazard resolution and abatement of the observations made during this visit.

4. Retain entries of the items corrected, or closed, for future reference. This may be accomplished by posting completed items within the Corrected Hazard Sheet portion of the Excel Violation Correction Log Workbook we've provided.

5. The preferred method to document and track identified hazards for resolution is for their entry into the Reserve Component Automation System – Safety and Occupational Health (RCAS-SOH) Program.

b. IHSW recommends further program refinement through written documentation for standardized guidance to the personnel performing the processes. Conducting Hazard Assessments consistent with 29 Code of Federal Regulations (CFR) 1910.132, General Requirements for Personal Protective Equipment and AR 40-5, Preventive Medicine, would provide this continued program refinement.

#### **7. Hazard Assessment/Job Safety Analysis (JSA).**

a. Documenting the Hazard Assessments provides a method to obtain initial and periodic review from the Industrial Hygiene, Occupational Health and Safety Professions located at the JFHQ/HQ/state level.

b. The Hazard Assessments should be used as written training materials for the new, transfer and unit personnel working under the auspice of the facility.



**SUBJECT:** Executive Summary for Industrial Hygiene Site Assistance Visit (IHSAV) for the Deming Armory, 700 S. Pearl St. Deming, New Mexico conducted on 08 August 2012.

c. IHSW recommends facility supervisory staff and facility personnel conduct initial Hazard Assessments outlined in AR 40-5, Army Preventive Medicine (Section V) and 29 CFR 1910.132 and submit for review and obtain approval from the state Industrial Hygiene, Occupational Health and Safety Professions.

d. We have provided an appendix with Hazard Assessments (HA) examples of some of this facilities operations. Additional operations can utilize this format to design HA not observed during this SAV.

e. An integral and important factor of the Hazard Assessment/JSA process is for the review and guidance from qualified Safety, Occupational Health and Industrial Hygiene professions located at the higher headquarters level or state level. For this reason, the Hazard Assessments (to include all pertinent and supporting documents) should be completed by the facility personnel and forward to the New Mexico Army National Guard Industrial Hygiene, Occupational Health and Safety Office for final review and approval (signature).

f. Job Safety Analysis (JSA's)/Hazard Assessments.

**NOTE:** The Hazard Assessments can be used for monthly meetings to brief/train, and document large group training events and activities.

8. IHSW recommends the **Senior Unit Commander of this Facility and any Co-Tenant Organizations or Units, review and provide assistance with implementation of these recommendations.** This will educate the chain of command and allow the unit or co-tenant organizations to take any necessary precautions or actions required by them and their personnel.

9. To assist you with execution of your responsibilities in correcting the observations noted, we encourage you to consult with the State Safety Manager, Occupational Health Manager and Industrial Hygiene professions located and/or authorized within the State Safety and Occupational Health Office.

10. For additional information please contact the undersigned at (916) 854-1491 or via email at

**Non-Responsive**

**Non-Responsive**

*For*  
NGB, IHSW, CIV  
Industrial Hygiene



# Industrial Hygiene Southwest

## Violation Inventory Log

### LOG OF SCHEDULE OF CORRECTIVE ACTION - COMPLIANCE WITH SAFETY AND HEALTH STANDARDS

#### Deming Armory, NM

CONTROL NUMBER	HAZARD DESCRIPTION	SITE	RAC	CORRECTIVE ACTIONS (Abatement Plan)	SUSPENSE DATE	ACTION OIC/NCOIC	Estimated Cost(s)	DATE CORRECTED	REFERENCES
NMDA-080812-4.1 <input type="checkbox"/>	The analytical results for lead on the northeast corner of the drill hall floor was 200 $\mu\text{g}/\text{ft}^2$ .	Deming Armory	3	1. Clean the floors of the drill hall to a level of less than 40 $\mu\text{g}/\text{ft}^2$ following the guidance in the attached SOPs. 2. Perform post-cleanup wipe sampling to ensure lead levels are within the criterion outlined in the IHSW SOP for Armory Cleanup.					IHSW SOP Lead, 29 CFR 1910.1025 (h)(1)
NMDA-080812-4.4 <input type="checkbox"/>	An asbestos survey could not be located during this IH Assistance Visit.	Deming Armory	3	Either locate the asbestos survey for this building or contract with a licensed firm to perform an asbestos survey and assessment.					29 CFR 1910.1001(j)(3)(i)
NMDA-080812-4.4 <input type="checkbox"/>	Personnel have not been provided with asbestos awareness training.	Deming Armory	4	Based on the findings of this survey, provide awareness training to assigned personnel for the specific types of asbestos in this Armory.					29 CFR 1910.1001 or 1101 or AR 40-5
NMDA-080812-4.3 <input type="checkbox"/>	Stained ceiling tiles are present in the female sleeping quarters on the second floor.	Deming Armory	4	Ensure water intrusion is examined and leaks are repaired in the female sleeping quarters.					Recommended Practice



## *ARMORY*

### CLEANUP & FOLLOW-UP HOUSEKEEPING RECOMMENDATIONS

#### Materials Needed:

1. Cloth Mop head (s) & Mop head holder(s) with handle.
2. Mop bucket (s) with wringer.
3. Clean cotton rags and sponges.
4. Disposable gloves
5. Large barrel (55 gal.) to store wastewater in after changing out of dirty scrub water. Waste water containers.
6. Disposable overshoes or rubber boots. Personnel conducting cleaning operations should not take clothes, boots, etc., home for laundering.
7. HEPA vacuum
8. Six (6) mill plastic bags to dispose of waste.
9. Detergent with surfactant, e.g., Spic-N-Span, Mr. Clean, etc.

#### Disposal of Waste Water and Cleaning Materials:

1. *NOTE:* Consult with Local Army National Guard Environmental Office prior to taking any collection, disposal or wiping activities commence. Each state and territory may have additional regulatory guidance on collection, storage and disposal of wastewater.
2. Mop heads should be disposed of after initial cleanup, unless otherwise advised by Environmental office personnel. Note: thorough cleaning of mop heads may be sufficient enough to reuse on future Armory cleanups but check with local Environmental Office.
3. Disposable gloves should be treated as hazardous waste.
4. Soiled cotton rags should be treated as hazardous waste.
5. Wash water contaminated with Lead can be collected and allowed to slowly evaporate leaving Lead deposits/sludge that may be collected in plastic containers, placed in metal drums, and stored for future delivery to an authorized hazardous waste disposal site.

- a. Drums shall be properly labeled to identify contents In-Accordance With (IAW) Federal, State and local regulatory guidance.
- b. Disposal of containerized waste shall be coordinated IAW State hazardous waste program requirements.
- c. The Environmental Office shall coordinate removal and disposal of all containerized hazardous waste through established waste streams.

**Post-Cleanup Precautionary Measures:**

1. Thoroughly wash hands with soap and water.
2. Rinse off rubber boots with soap and water, capturing wastewater for collection into established waste stream. If personnel choose to use over shoes for protection, dispose of overshoes into waste stream. NOTE: This recommendation is for initial clean up activities and PPE requirements may be reduced after it has been determined non-hazardous levels have been achieved.
3. Wash BDU's or personal clothing separately from children's clothes.

**NOTE:** No eating, drinking or cosmetics allowed during cleanup procedures (these may be allowed after washing of hands/face and done outside of cleanup area)

**NOTE:** Avoid blowing, shaking or like actions which could potentially disperses lead dust. Dry sweeping, dusting, wiping or blowing with compressed air shall not be permitted

**Initial Armory Cleanup:**

1. Use a vacuum cleaner equipped with a HEPA exhaust filter. HEPA vacuum all surfaces in the room (ceiling, walls trim, and floors). Start with the ceiling and work down, moving toward the entry door. Completely clean each room before moving on.
2. Prepare water and detergent for the wipe down phase, according to manufactures recommendations.



3. Wet wipe, with cotton rags or sponge, any horizontal, diagonal or vertical surfaces up six (6) feet from floor surfaces using hot water and "Spic-n-Span" or an equivalent product.
  - a. Rinse out cleaning cloths thoroughly and frequently.
  - b. Change out cleaning water as necessary.

**NOTE: If walls to be cleaned show signs of deterioration, e.g., chipping or crumbling paint, in which wiping, scrubbing, or disrupting might potentially increase or spread contamination, then this portion of the clean up should be avoided.**

4. Now prepare water and detergent (e.g. Spic N Span, Mr. Clean, Pine Sol) for the mopping phase, according to manufactures recommendations, which should be found on the products label for general clean up.
  - a. Change out water frequently (when water appears dirty)
  - b. Rinse out mop heads frequently to prevent contamination of dirty water.
5. Cover entire drill floor surface with above prescribed water and detergent.
6. Final rinse should be with clean water only - -after mop heads have been cleaned.

**Recommended Follow-up Housekeeping Practices** *after Clearance sampling of cleaned area is performed by certified personnel:*

1. Floor cleaning and dusting should be accomplished using the wet method described in Initial Armory Cleanup SOP.

**Note:** Only exception to these wet cleaning procedures would be the use of a chemically treated dust floor mop. This can be used for follow-up armory cleaning by sweeping of large particles of dirt and paper.

- a. Pre-treated (chemically treated) dust floor mop will limit dust particles from being disbursed into the surround atmosphere.

- b. If treated dust mop is used - -Do Not Shake Mop head - - have mop head laundered after use. **Always keep used dust mop heads in sealed double plastic bags when stored at armory/facility.** Shaking of mop head could release unwanted contaminants into surrounding atmosphere.
2. Frequency of Cleanup- Armories will vary, according to usage and how often they should be cleaned. The following general cleaning schedule is provided:
  - a. Only full-time technicians and traditional soldiers using facility during the month. (*Cleaned Monthly*)
  - b. Occasional activities taking place during the month, e.g., 1-2 classes or volleyball games, etc. (*Cleaned 2x's Monthly*)
  - c. Used regularly by soldiers or outside agencies/personnel. (*Cleaned Regularly - -at least Weekly*)

**NOTE:** Armories with adjoining Indoor Firing Ranges (IFR) should be cleaned more than weekly, again depending on use of Armory and IFR.

**NOTE:** Clearance sampling/testing is to be accomplished by certified personnel after these cleanup procedures are followed. If the area is an average Armory, occupied by adults only, for which you are cleaning and **is not a Converted IFR space**, you may continue to utilize the Armory space before the officials re-test this space. Please notify your Safety and/or Occupational Health personnel of the completion of this cleaning regime and they will notify the proper officials of the sampling/testing requirements needed.

If work is contracted out, a third party should do the clearance sampling.

**Young children and females who are pregnant, there should be posted signs on all facilities, warning of the potential danger of exposure to lead dust.**



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**IH ASSISTANCE VISIT**

**New Mexico Army National Guard  
Deming Armory  
700 South Pearl Street  
Deming, New Mexico 88030**

**November 20, 2012**

**Prepared for:**

**Industrial Hygiene Southwest  
10510 Superfortress Avenue, Suite C  
Mather, California 95655**

**Prepared by:**

**Non-Responsive**

**Industrial Hygiene Technician**

**Reviewed by:**

**Non-Responsive**

**Industrial Hygiene Services Manager**

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## TABLE OF CONTENTS

## EXECUTIVE SUMMARY

<b>1.0</b>	<b>INTRODUCTION .....</b>	<b>1</b>
1.1	Objectives .....	1
1.2	Scope of Work .....	1
<b>2.0</b>	<b>PROCESS DESCRIPTION .....</b>	<b>1</b>
<b>3.0</b>	<b>METHODS AND APPLICABLE REGULATIONS AND STANDARDS .....</b>	<b>2</b>
3.1	Lead Wipe Sampling .....	2
3.2	Painted Surface Evaluation .....	2
3.3	Moisture Intrusion and Limited Visual Fungal Growth Evaluation .....	2
3.4	Asbestos Management .....	3
3.5	Heating, Ventilation, and Air-Conditioning Systems and Indoor Air Quality ..	3
3.6	Hazard Communication and Hazardous Material Storage .....	4
3.7	Safety Training and Record Keeping .....	4
3.8	Kitchen Ventilation Survey .....	4
3.9	Kitchen Appliance Sound-Level Measurements .....	4
3.10	General Safety Walk-Through .....	4
3.11	Equipment Used .....	5
3.12	Quality Assurance .....	5
<b>4.0</b>	<b>FINDINGS AND RECOMMENDATIONS .....</b>	<b>5</b>
4.1	Lead Wipe Sampling .....	5
4.2	Painted Surface Evaluation .....	6
4.3	Moisture Intrusion and Limited Visual Fungal Growth Evaluation .....	6
4.4	Asbestos Management .....	6
4.5	Heating, Ventilation, and Air-Conditioning Systems and Indoor Air Quality ..	6
4.6	Hazard Communication and Hazardous Material Storage .....	7
	4.6.1 Hazardous Materials Inventory and Material Safety Data Sheets (MSDS) .....	7
	4.6.2 Flammable Storage Cabinets .....	7
4.7	Safety Training and Record Keeping .....	8
4.8	Kitchen Ventilation Survey .....	8
4.9	Kitchen Appliance Sound-Level Measurements .....	8
4.10	General Safety Walk-Through .....	8
<b>5.0</b>	<b>PROJECT LIMITATIONS .....</b>	<b>9</b>
<b>6.0</b>	<b>PROJECT APPROVAL .....</b>	<b>9</b>



## APPENDICES

Appendix A	References
Appendix B	Assessment Criteria
Appendix C	Photo Log
Appendix D	Chemical Inventory
Appendix E	Floor Plan/IAQ - Temp, RH, & CO <sub>2</sub> Monitoring
Appendix F	Ventilation Data
Appendix G	Field Notes
Appendix H	Calibration Certificates
Appendix I	Lead Wipe & Lead Paint Chip Table and Drawing
Appendix J	Laboratory Reports
Appendix K	IHSW Violation Inventory Log
Appendix L	Recommendations
Appendix M	DD Forms 2214
Appendix N	IHSW Lead Cleanup SOP

## EXECUTIVE SUMMARY

On August 8, 2012, [Non-Responsive] of IHI Environmental (IHI) conducted an IH Assistance Visit at the Deming Armory in Deming, New Mexico. The primary point of contact for information gathered during this survey was [Non-Responsive] (505) 474-2636,

[Non-Responsive]

The objectives of this IH Assistance Visit were to perform the following activities:

- collect lead wipe samples;
- evaluate the condition of painted surfaces and collect paint chip samples for lead analysis where painted surfaces are peeling;
- inspect the interior rooms of the armory for water damage and the presence of fungal growth;
- review asbestos survey and assessment files and determine if documentation of asbestos awareness training is current;
- evaluate the condition of the Heating, Ventilation, and Air-Conditioning system, and collect indoor air quality data;
- review hazardous material storage and use procedures;
- review safety training and record keeping;
- perform a ventilation survey on the kitchen stove hood (if present);
- perform a noise survey on the kitchen appliances; and
- conduct a safety walk-through evaluation and note any existing safety hazards.

Significant findings for this IH Assistance Visit can be found in the Industrial Hygiene Southwest – Violation Inventory Log, located in Appendix K of this report.

The report that follows this Executive Summary should be read in its entirety because it includes important information not included in this summary, such as task descriptions, work space locations, regulatory requirements, and additional recommendations.



## 1.0 INTRODUCTION

On August 8, 2012, [Non-Responsive] of IHI Environmental (IHI) conducted an IH Assistance Visit at the Deming Armory located at 700 Pearl Street, Deming, New Mexico 88023. The primary point of contact for information gathered during this survey was [Non-Responsive]

**Non-Responsive**

### 1.1 Objectives

Evaluate the occupational environment of the administrative areas in the armory to determine the presence of operational health and safety risks, and make recommendations for corrective actions or follow-up work to manage those risks.

### 1.2 Scope of Work

To achieve the above objectives at this facility, the survey included the following work:

- collect lead wipe samples;
- evaluate the condition of painted surfaces and collect paint chip samples for lead analysis where painted surfaces are peeling;
- inspect the interior rooms of the armory for water damage and the presence of fungal growth;
- review asbestos survey and assessment files and determine if documentation of asbestos awareness training is current;
- evaluate the condition of the Heating, Ventilation, and Air-Conditioning system and collect indoor air quality data;
- review hazardous material storage and use procedures;
- review safety training, and record keeping;
- perform a ventilation survey on the kitchen stove hood (if present);
- perform a noise survey on the kitchen appliances; and
- conduct a safety walk-through evaluation and note any existing safety hazards.

## 2.0 PROCESS DESCRIPTION

At the time of the IH Assistance visit, the primary unit assigned to the Deming Armory was deployed and the facility was unoccupied. The armory has offices used for administrative purposes, a classroom, a vault and supply room, a maintenance bay, weight room, break area, bathrooms, locker rooms, sleeping quarters, and a mechanical room. There are no civilian employees at this armory. No civilian activities are currently occurring in this armory.

Weapons are not currently cleaned at this facility because the unit is deployed. However, when the unit was located at the Deming Armory, weapons were reportedly cleaned in the maintenance bay.

### **3.0 METHODS AND APPLICABLE REGULATIONS AND STANDARDS**

#### **3.1 Lead Wipe Sampling**

Lead residue (dust) wipe samples were collected on horizontal surfaces, such as the drill floor, kitchen, administrative areas, and indoor firing ranges (where present) to determine housekeeping standards. Lead Wipe™ brand wipes were used with a 100-square-centimeter template. The wipes used conform to American Society for Testing and Materials (ASTM) E1792, *Standard Specification for Wipe Sampling Materials for Lead in Surface Dust*. The collected wipe samples were placed in clean and labeled plastic containers. Samples were submitted to ALS Laboratories for analysis, using National Institute for Occupational Safety and Health (NIOSH) Method 7300. See Appendix I for sample locations and Appendix J for laboratory results.

The Mather, California, office of Industrial Hygiene Southwest has developed a Standard Operating Procedure (SOP) for lead, which is a blend of Occupational Safety and Health Administration (OSHA), U.S. Department of Housing and Urban Development (HUD), and Army regulations. Essentially, this SOP sets forth a criterion of 40 micrograms of lead per square foot ( $\mu\text{g}/\text{ft}^2$ ) for converted indoor firing ranges, break rooms, floor surfaces, or any area that might be used for non-military functions. A 200- $\mu\text{g}/\text{ft}^2$  criterion has been established for tool rooms, maintenance bays, furnace rooms, boiler rooms, storage closets, and other areas where the general public is not expected to visit.

#### **3.2 Painted Surface Evaluation**

The interior of the armory was visually inspected for peeling paint on the walls and ceilings.

#### **3.3 Moisture Intrusion and Limited Visual Fungal Growth Evaluation**

The interior of the armory was visually inspected for signs of moisture intrusion that could result in fungal growth. Any signs of moisture intrusion (e.g., discoloration, staining, blistering) were noted and documented on a drawing for a follow-up evaluation.



### 3.4 Asbestos Management

Armory personnel were asked if an asbestos survey and assessment had been conducted and whether there was a written Operations and Maintenance Program for the facility. IHI also reviewed any asbestos awareness training records.

### 3.5 Heating, Ventilation, and Air-Conditioning Systems and Indoor Air Quality

The heating, ventilation, and air-conditioning (HVAC) systems that serve the armory were evaluated. This evaluation consisted of a visual inspection of the system to note any obvious problems, and a review of the facility maintenance plan, if one was available.

Carbon dioxide (CO<sub>2</sub>), temperature, and relative humidity were measured throughout the armory using a TSI Model 8762 IAQ-Calc™ Monitor. The unit was calibrated before use with certified zero gas and 1,000 parts per million (ppm) CO<sub>2</sub> span gas. See Appendix E for IAQ data.

Carbon dioxide is a normal constituent of exhaled breath and is commonly measured as a screening tool to evaluate whether adequate fresh, outdoor air is being provided. If typical CO<sub>2</sub> levels within a building are maintained at or less than 1,000 ppm, with appropriate temperature and humidity levels, complaints about indoor air quality should be minimal (American Society for Testing and Materials (ASTM) – International D6245-12, *Using Indoor Carbon Dioxide Concentrations to Evaluate Indoor Air Quality*). If a building exceeds this guideline, it should not be interpreted as an unhealthy or hazardous situation. An elevated CO<sub>2</sub> level is only an indication that the amount of outside air being brought into a building may be inadequate or poorly distributed and further investigation may be warranted.

In building areas where there are potential sources of CO<sub>2</sub> other than exhaled breath, the guidelines above cannot be used. The OSHA standard for CO<sub>2</sub> should be used in these instances. The OSHA standard is an eight-hour time-weighted average (TWA) of 5,000 ppm with a short-term 15-minute average limit of 30,000 ppm.

### **3.6 Hazard Communication and Hazardous Material Storage**

A review of the armory's chemical inventory and Material Safety Data Sheet (MSDS) file was accomplished. Chemical storage areas, i.e., flammable storage cabinets/rooms, were also inspected.

### **3.7 Safety Training and Record Keeping**

A review of safety training programs and documentation was performed to determine if the armory's site-specific training programs and annual documentation were current.

### **3.8 Kitchen Ventilation Survey**

Duct velocity measurements were collected on facility kitchen exhaust hoods (when present) using a TSI VelociCalc, Model 8345.

The 2011 National Fire Protection Association Standard 96, Section 8.2.1.1, requires exhaust fan ducts used in commercial cooking equipment to have a duct velocity of not less than 500 feet per minute (fpm).

### **3.9 Kitchen Appliance Sound-Level Measurements**

Sound-pressure levels of the kitchen appliances (when present) were measured using a Sound Level Meter in the dBA and dBC ranges, with the meter set on slow response. DD Forms 2214 are provided in Appendix M.

### **3.10 General Safety Walk-Through**

A limited Fire Life Safety Code walk-through evaluation of the armory was performed to:

- document the presence of a fire alarm,
- determine if fire extinguishers are properly mounted and current on their monthly and annual inspections,
- determine if eyewash station inspections are current, and
- document any fire or safety hazards in the armory.



### 3.11 Equipment Used

The following equipment was used for this survey.

Type	Model Number	Serial Number	Calibration Date
TSI VelociCalc™ Meter	8345	98060408	6/12/2011
TSI IAQ Calc™	8732	54100272	03/19/2012
3M SLM	SD-100	SD20010465	10/12/2011

The calibration certificates for these instruments are attached in Appendix H.

### 3.12 Quality Assurance

IHI employs, at a minimum, the following methods to help assure quality of field investigations and reports:

- Use of appropriately educated and experienced personnel;
- Documentation of pertinent field and sampling information
- Continuing education of technical personnel through attendance at training sessions and conferences, and literature review;
- Peer and supervisory review of sampling strategy, field methods, calculations, and reports;
- Strict adherence to method requirements, in particular to NIOSH and OSHA standard methods, including strict chain-of-custody protocol;
- Use of accredited laboratories, or, in cases where specific accreditation is not available, choice of laboratories of good reputation, having strong QA/QC programs.
- Calibration of instruments, including field calibration via manufacturers' recommended procedures and routine (typically annual) off-site calibration of equipment via certified third parties.

## 4.0 FINDINGS AND RECOMMENDATIONS

### 4.1 Lead Wipe Sampling

The laboratory analytical results indicate that lead concentrations for all but one of the lead wipe samples collected were below the 40 µg/ft<sup>2</sup> criterion which is outlined in the IHSW Standard Operating Procedure (SOP) for Armory Cleanup. The wipe sample on the Northeast corner of the drill hall floor had a lead concentration of 200 µg/ft<sup>2</sup>. See Appendix I for a data table and a drawing showing sample locations and Appendix J for the laboratory reports. Photographs were taken of each sampling point and are presented in Appendix C.

**Recommendations**

1. Clean the floors of the drill hall to a lead concentration of less than  $40 \mu\text{g}/\text{ft}^2$ , following the guidance in the attached SOPs.
2. Perform post-cleanup wipe sampling to ensure lead levels are within the criterion outlined in the IHSW SOP for Armory Cleanup.

**4.2 Painted Surface Evaluation**

No peeling paint was observed in the Deming Armory; therefore, no paint samples were taken.

**Recommendation**

None

**4.3 Moisture Intrusion and Limited Visual Fungal Growth Evaluation**

Visual evidence of water damage and moisture intrusion was observed in water-damaged ceiling tiles in the female sleeping quarters on the second floor. Personnel noted that the roof had recently been patched in that location; however, personnel also noted that it appeared as if there were more damaged ceiling tiles than before.

**Recommendation**

1. Ensure water intrusion is examined and leaks are repaired in the female sleeping quarters.

**4.4 Asbestos Management**

An asbestos survey report could not be located during this visit.

**Recommendations**

1. Locate the asbestos survey report for this building or contract with a licensed firm to perform an asbestos survey and assessment.
2. Once asbestos-containing materials have been identified and assessed, provide awareness training to assigned personnel for the specific material types and locations of asbestos in this armory.

**4.5 Heating, Ventilation, and Air-Conditioning Systems and Indoor Air Quality**

The armory is heated by two large gas-fired heaters located on the drill hall ceiling and individual units in the office areas. Cooling air is provided by two swamp coolers in the drill hall and individual air-conditioning units supply cooling air in the office areas.



The average outdoor CO<sub>2</sub> concentration at the time of the survey was 333 ppm. The highest CO<sub>2</sub> concentration measured inside the building was 440 ppm; however, the building was not occupied at the time of the survey, so the measured CO<sub>2</sub> concentration is not representative of occupied conditions. Therefore, no conclusions can be drawn with respect to the likelihood of occupant complaints based on the measured CO<sub>2</sub> concentration.

Building air temperatures ranged from 75.5 to 82.0°F and relative humidity was between 33 and 37 percent during the testing period. Air temperatures were higher than the recommended comfort range of 68-75°F, and the relative humidity was within the recommended comfort range of between 30 and 60 percent. Although the air temperatures Low relative humidity is common in New Mexico the majority of the year. Humidity levels above 60 percent can result in proliferation of bacteria and fungi, while levels below 30 percent can cause dry eyes, skin, and mucous membranes.

State maintenance personnel maintain all HVAC units in the armory.

#### **Recommendation**

None

### **4.6 Hazard Communication and Hazardous Material Storage**

#### **4.6.1 Hazardous Materials Inventory and Material Safety Data Sheets (MSDS)**

At the time of the IH Assistance Visit, no chemical products were in the Deming Armory due to the recent renovation. A chemical inventory of all custodial products used by the armory, along with associated MSDSs, is maintained in a master binder located in the boiler room.

#### **Recommendation**

None

#### **4.6.2 Flammable Storage Cabinets**

No flammable storage cabinets are located in this armory; however, there is a flammable storage cabinet located in the FMS.

#### **Recommendation**

None

#### **4.7 Safety Training and Record Keeping**

Safety training records were not located at the Deming Armory at the time of the IH Assistance Visit since the armory is not currently occupied.

##### **Recommendation**

None

#### **4.8 Kitchen Ventilation Survey**

There is no commercial kitchen at the Deming Armory, so a ventilation survey was not completed on this facility.

##### **Recommendation**

None

#### **4.9 Kitchen Appliance Sound-Level Measurements**

All of the kitchen appliances measured produce noise levels well below the hazardous noise criterion of 85 dBA. Based on this information, there is no need for noise reduction measures or additional noise dosimetry surveys for this area.

##### **Recommendation**

None

#### **4.10 General Safety Walk-Through**

1. Housekeeping throughout the facility was good.
2. There is a fire alarm in this facility; monthly inspections are completed by SSG Villagran while the primary unit is deployed, and annual inspections are completed by Simplex-Grinnell.
3. Fire extinguishers are strategically located throughout the armory. All extinguishers were current on their annual and monthly inspections.
4. Fire evacuation routes are posted strategically throughout the building.
5. Electrical panel boxes were inspected and were found to contain no exposed wiring or openings in the panel.

##### **Recommendation**

None

## 5.0 PROJECT LIMITATIONS

This Project was performed using, as a minimum, practices consistent with standards acceptable within the industry at this time, and a level of diligence typically exercised by industrial hygiene and environmental consultants performing similar services.

The procedures used in this investigation attempt to establish a balance between the competing goals of limiting investigative and reporting costs and time, and reducing the uncertainty about unknown conditions. Therefore, because the findings of this report were derived from the scope, costs, time, and other limitations, the conclusions should not be construed as a guarantee that all environmental or occupational hazards have been identified and fully evaluated. Where sample collection and testing have been performed, IHI's professional opinions are based in part on the interpretation of data from discrete sampling locations that may not represent conditions at non-sampled locations. IHI assumes no responsibility for omissions or errors resulting from inaccurate information or data provided by sources outside of IHI, or from omissions or errors in public records.

Furthermore, it is emphasized that the final decision on how much risk to accept always remains with the client since IHI is not in a position to fully understand all of the client's needs. Clients with a greater aversion to risk may want to take additional actions while others, with less aversion to risk, may want to take no further action.

## 6.0 PROJECT APPROVAL

This IH Assistance Visit was reviewed and approved by:

**Non-Responsive**

November 20, 2012

Date



Technical Assistance: For technical assistance regarding information found in this report or the performed survey, please contact **Non-Responsive** at 801-466-2223, or **Non-Responsive** of the Southwest Regional Industrial Hygiene Office at 916-804-1707.

Contact the State Safety and Occupational Health Office and/or the Regional Industrial Hygienist should any of the operations change, or should the personnel become incapable of following the previous recommendations and subsequent recommendations are needed.

## Appendix A

### References

- American Conference of Governmental Industrial Hygienists (ACGIH), Industrial Ventilation, A Manual of Recommended Practice
- American Conference of Governmental Industrial Hygienists (ACGIH), Threshold Limit Values for Chemical Substances and Physical Agents and Biological Indices
- American National Standards Institute (ANSI)/Illuminating Engineering Society (IES), Industrial Lighting.
- American National Standards Institute, Z358. 1-1998. Emergency Eyewash and Shower Equipment
- AR 40-5, Preventative Medicine
- AR 40-10, Appendix B – Health Hazard Assessment Program in Support of Army Material Acquisition Decision Process
- AR 385-10, The Army Safety Program
- Corps of Engineers Guide Specification, CEGS-1585 1, Overhead vehicle tailpipe (and welding fume) Exhaust Systems
- DA PAM 40-ERG, Ergonomics
- DA PAM 40-501, Hearing Conservation.
- National Safety Council, Fundamentals of Industrial Hygiene
- NOR 385-10, Army National Guard Safety and Occupational Health Program
- TB MED 503, The Army Industrial Hygiene Program
- TG022, US Army Environmental Hygiene Agency (USAEHA), Industrial Hygiene Evaluation Guide
- TG 141, US Army for Health Promotion and Preventive Medicine (USACHPPM) Industrial Hygiene Air Sampling Guide, Nov. 1997
- Title 29, Code of Federal Regulations (CFR), 2011, revision Part 1910, Occupational Safety and Health Standards

## Appendix B

### Assessment Criteria

#### A. Ventilation Standards

Ventilation rates were compared to recommendations made in 29 CFR 1910, ACGIH Industrial Ventilation Manual, and Corps of Engineers specifications. See Appendix A for reference information.

#### B. Illumination Standards

Illumination measurements were compared with recommendations made by the Industrial Engineering Society (IES)/American National Standards Institute (ANSI) RP7-1991 Standard and MIL-STD-1472E.

#### C. Noise

Noise measurements were taken and compared with OSHA Standard 29 CFR 1910.95 and Department of the Army Pamphlet 40-501.

#### D. Air Sampling

Personal air sampling was conducted in compliance with applicable National Institute of Occupational Safety and Health (NIOSH) Analytical Methods. Sampling results were compared to relevant Occupational Safety and Health Administration (OSHA) Permissible Exposure Limits (PEL), American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLV), or NIOSH Recommended Exposure Limits (REL).

#### Occupational Safety and Health Administration (OSHA)

OSHA has established Permissible Exposure Limits (PELs) for workplace toxic and hazardous substances listed in 29 CFR 1910.1000 Tables Z-1, Z-2 and Z-3. Most OSHA PELs are based on 8-hour time weighted averages (TWAs); when sampling periods are less than 8 hours, the result must first be converted to an 8-hour TWA before comparing it to the OSHA PEL. Some OSHA PELs are based on Short Term Exposure Limits (STEL) of 15 minutes of worst-case exposure or Ceiling Limits of worst-case peak exposures (sampled as a 15 minute exposure if direct-reading methods are not available).

OSHA regulations are legally enforceable. Employers are required to maintain employee exposures below PELs. The best practice is to eliminate hazards and use safer substitutes. Alternatively, engineering and/or administrative (work practice) controls may reduce exposures to acceptable levels. Personal protective equipment should be the solution of last resort, implemented after all other efforts to eliminate the hazard have been exhausted or deemed infeasible. OSHA 29 CFR 1910.134 covers the use of respiratory protection in the work place.

#### American Conference of Governmental Industrial Hygienists (ACGIH)

Unlike the OSHA PELs, the ACGIH TLVs are not consensus standards; however, TLVs represent a scientific opinion based on a review of existing peer-reviewed scientific literature by committees of experts in public health and related sciences.



**Occupational Exposure Limit**

In accordance with the Department of the Army (DA) Pamphlet 40-503, Industrial Hygiene Program (DA PAM 40-503), "The DA mandates the use of ACGIH TLVs when they are more stringent than OSHA regulations or when there is no PEL." The DA defines the resulting exposure limit as the Occupational Exposure Limit (OEL).



**Photograph 1**  
Deming Armory, Front, Exterior



**Photograph 2**  
Deming Armory, Rear, Exterior



**Photograph 3**  
Deming Armory, General View



**Photograph 4**  
Deming Armory, General View



**Photograph 5**  
Deming Armory, Weight Room/Converted IFR

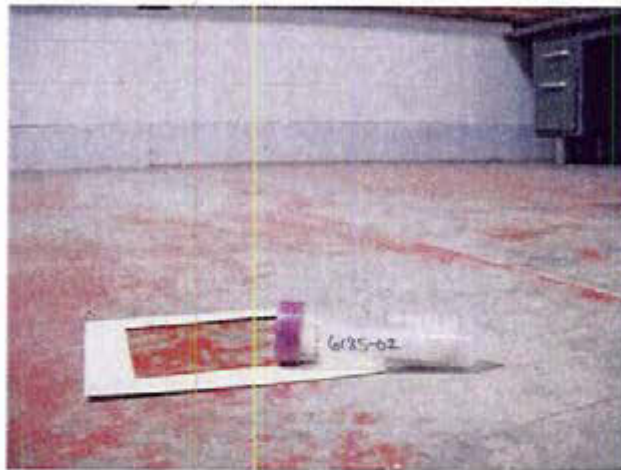


**Photograph 6**  
Deming Armory, Stained Ceiling Tiles in Female  
Sleeping Quarters





**Photograph 7**  
Location of lead wipe sample number 6185-01



**Photograph 8**  
Location of lead wipe sample number 6185-02



**Photograph 9**  
Location of lead wipe sample number 6185-03



**Photograph 10**  
Location of lead wipe sample number 6185-04



**Photograph 11**  
Location of lead wipe sample number 6185-05

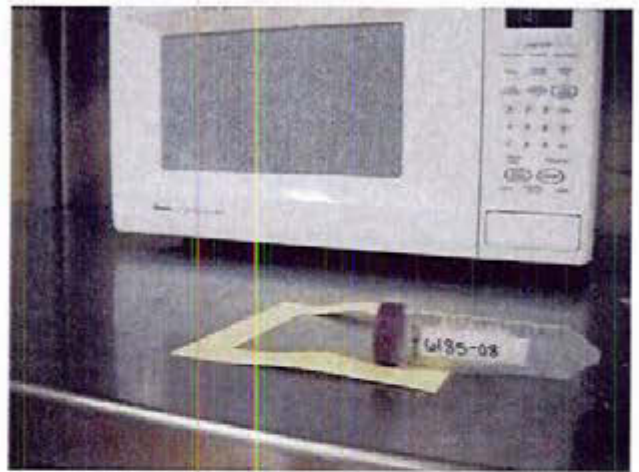


**Photograph 12**  
Location of lead wipe sample number 6185-06





**Photograph 13**  
Location of lead wipe sample number 6185-07



**Photograph 14**  
Location of lead wipe sample number 6185-08



**Photograph 15**  
Location of paint chip sample number 6185-09

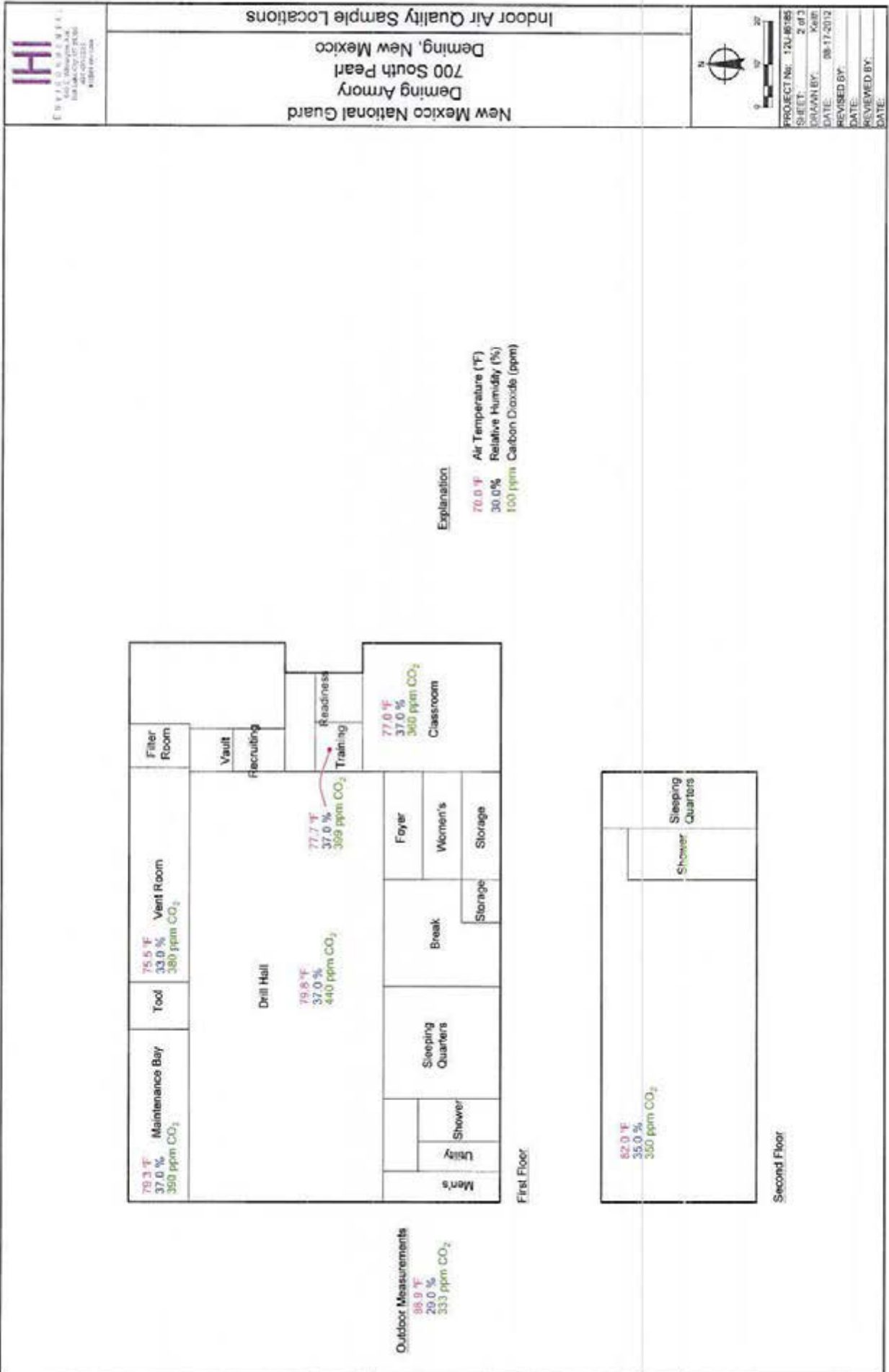
## MSDS for Cleaning Cage

A.B.C./ Allied Block Chemical.....	A
Ajax/ Clogate-Palmolive.....	B
Amrep Inc. ....	C
Big D .....	D
Blue/ Patterson Lab.....	E
Carroll Co. ....	F
Clorox .....	G
DPI Southwest .....	H
Dracett Professional/ SC Johnson .....	I
Fitzpatrick Inc. ....	J
GOJO .....	K
Grainger .....	L
Intercon Chemical Co. ....	M
Johnson Wax .....	N
LHB Industries .....	O
Lighthouses for the Blind of Houston .....	P
Proctor and Gambel .....	Q
Pure Bright/ KIK Int. ....	R
Ramsey .....	S
Zep .....	T

Item Name	Quantity on hand	Unit of Issue	Manufacture	Location
15 gal oil base floor sweep	3	box	2600761/ man ID: 44031cart	Cleaning Cage
Brite glo cleanser	30	can 21 oz can	A.B.C./Allied Block Chemical	Cleaning Cage
Soft Cleanser	30	can 21 oz can	Ajax/ Colgate-Polmolive	Cleaning Cage
Chlorine Cleanser	28	can 21 oz can	Ajax/ Colgate-Polmolive	Cleaning Cage
Oxygen Bleach Cleanser	24	can 21 oz can	Ajax/ Colgate-Polmolive	Cleaning Cage
Misty Dry Deodorizer	5	can 7 oz can	Amrep Inc.	Cleaning Cage
Glass and mirror Cleaner RTU	2	Bottle gallon bottle	Amrep Inc.	Cleaning Cage
Para urinal toss blocks	2	box 12 blocks a box	big D	Cleaning Cage
Para toilet bowl hanger	1	box 12 hangers a box	big D	Cleaning Cage
Bleach	1	Bottle gallon bottle	Blue Ribbon/ Patterson Lab	Cleaning Cage
Combo Plus Cleaner/ Deoderizer	3	can 18 oz can	Carroll Co.	Cleaning Cage
Clean N Fresh handsoap	39	box 27 oz box	Carroll Co.	Cleaning Cage
sudsing cream cleanser	16	Bottle 32 oz bottle	Carroll Co.	Cleaning Cage
Clorox toilet bowl cleaner	7	Bottle 24 oz bottle	Clorox	Cleaning Cage
pine sol all purpose cleaner	2	Bottle 144 oz bottle	Clorox	Cleaning Cage
pine sol clean,disinfect,deodorize	3	Bottle 144 oz bottle	Clorox	Cleaning Cage
Clorox Bleach	4	Bottle 96 oz bottle	Clorox	Cleaning Cage
Para toilet bowl block	19	box 12-4oz blocks a box	DPI southwest	Cleaning Cage
multisurface cleaner & polish	28	Bottle 32 oz bottle	DPI southwest	Cleaning Cage
contact disinfect hospital cleaner	17	Bottle 32 oz bottle	DPI southwest	Cleaning Cage
Big John	8	Bottle 32 oz bottle	DPI southwest	Cleaning Cage
RTU Glass Cleaner	6	Bottle gallon bottle	DPI southwest	Cleaning Cage
15 to 1 concentrated glass cleaner	1	Bottle gallon bottle	DPI southwest	Cleaning Cage
Concentrated Glass Cleaner	2	Bottle gallon bottle	DPI southwest	Cleaning Cage
Quarterback neutral cleaner	1	Bottle gallon bottle	DPI southwest	Cleaning Cage
Extra point restorer	6	Bottle gallon bottle	DPI southwest	Cleaning Cage
Drano liquid drain opener	20	Bottle 32 oz bottle	Dracett Professional/ SC Johnson	Cleaning Cage
Scouring powder w/chlor. bleach	6	can 21 oz can	Fitzpatrick Inc.	Cleaning Cage
Premium Hand Wash w/ skin cond.	4	Bottle 40.5 oz bottle	Gojo	Cleaning Cage
Original formula hand cleaner	12	box 27 oz box	Gojo	Cleaning Cage
Lotion Cream soap	1	Bottle gallon bottle	Gojo	Cleaning Cage
Castillian lotion soap	1	Bottle gallon bottle	Gojo	Cleaning Cage
Antibacterial Lotion Soap w/ moist.	6	box 27 oz box	Gojo	Cleaning Cage



Dust mop Treatment	1	can	18 oz can	Grainger	Cleaning Cage
Versa-buff spray buff & restorer	1	Bottle	32 oz bottle	Grainger	Cleaning Cage
Terra-Cote hardfloor seal finish	1	Bottle	gallon bottle	Grainger	Cleaning Cage
Ultra Bleach	5	Bottle	96 oz bottle	Grainger	Cleaning Cage
Aqua treat Dust mop Treatment	2	can	18 oz can	Grainger	Cleaning Cage
Lemon wax furniture polish	1	can	18 oz can	Grainger	Cleaning Cage
White Coconut liquid soap	20	Bottle	gallon bottle	Grainger	Cleaning Cage
Brite high acid disinf. toilet bowl	7	Bottle	32 oz bottle	Intercon Chemical Co.	Cleaning Cage
G P Forward cleaner	12	Bottle	gallon bottle	Johnson Wax	Cleaning Cage
Power Green all purp. Clean/deg.	44	Bottle	22 oz bottle	LHB Industries	Cleaning Cage
Detergent general purpose clean	19	Bottle	16 oz bottle	Lighthouse for the blind of Houston	Cleaning Cage
Spic and Span all Purpose Cleaner	4	box	27 oz box	Proctor and Gambel	Cleaning Cage
Disinfectant Cleaner	24	can	21 oz can	Proctor and Gambel	Cleaning Cage
Germicidal Bleach	2	Bottle	gallon bottle	Pure Bright/ KIK Int.	Cleaning Cage
Defoamer	2	Bottle	gallon bottle	Ramsey	Cleaning Cage
Meter Mist Peach	10	can	7 oz can	Zep	Cleaning Cage



# **Army National Guard Armory Survey** (To Be Included In Report)

Five lead wipe samples collected from drill floor (take samples from dusty horizontal floor surfaces)	yes.
Are any weapons cleaned in the facility, if yes where are they cleaned?	Currently Deployed, but will clean weapons in Maintenance Bay
Additional lead wipe samples taken from 25% of the rest of the building --(on floor areas only)	yes
Is there a converted indoor firing range? If so collect additional wipe samples IAW the SOW.	YES
Is there any peeling paint? Take bulk sample if able.	NO.
Are there any signs of water damage or mold?	Female Sleeping Quarters
Any suspected ACM? Where and what condition is it in. Bulk sample if able.	Does not know.
Quality of housekeeping	good.
HVAC maintenance plan in place?	State Maintenance Personnel
Overall condition of HVAC system	Individual units in office areas (H & C) Butane Gas units on Drill Hall ceiling
Obtained CO2, Temp, RH monitoring	Swamp Coolers on Drill Hall Floor yes
HAZMAT inventory on hand (make copies for the report), MSDS available for all materials.	yes.
HAZMAT storage, Condition of lockers, if outside storage building is used is it ventilated and does it meet OSHA standards.	outside & in cleaning cage.



Fire alarm in working condition - -not usually in place in older armories	yes. <b>Non-Responsive</b> conducts monthly checks. Simplex - <del>conducts</del> yearly.	
Fire extinguishers in place and properly identified and mounted	yes.	
Evidence of monthly fire extinguisher inspections	yes.	
Annual fire extinguisher inspections tags current	yes.	
Are eye wash stations available in areas where hazardous materials are used and are they inspected weekly (inspections must be documented)	NO.	
Egress routes accessible and properly marked - -noted on <u>Fire Evacuation Plan</u>	yes.	
Training programs in place; Hazcom, Respiratory Protection, Confined Spaces, Hearing conservation, PPE (if applicable)	Deployed.	
Any Photo labs	N/A	
Any hazardous noise sources	none	
Light levels checked throughout building	N/A	
Breaker panels properly labeled with no exposed wiring	yes	
Check building occupancy 1. How many military personnel, how many civilian personnel 2. What types of units occupy facility, i.e. Administrative, Maintenance, etc.?	Currently Deployed.	
Any civilian activities in armory (club scouts, classes, day care, parties etc)	None currently	
Obtain two lead air samples	On IHSW Request Only	

Evaluate Kitchen Stove Hood Flow if Present IAW NFPA Standard 96.	N/A
Collect Source Noise Measurements of Kitchen Appliances and Document Using DD 2214	yes.
Conduct a safety walkthrough of entire facility document any safety deficiencies found.	yes.
<u>Take photos</u> of outside of building, all sample points and any pertinent hazards or concerns.	yes.
Name of Armory, POC, phone #, address and organizations in Armory  (Add Checklist to Report)	Deming Armory 700 S Pearl Deming NM 88023 (Add Checklist to Report)
	POC SSG VILAGRAN

505-474-2636

POC

with

return from deployment

**Non-Responsive**

**FACILITY INFORMATION**  
(Information listed in First Section)  
(1<sup>st</sup> Few Paragraphs/Pages of Report)

1. Date Prepared: **08/08/2012**
2. Names (and Company Name) of Personnel Conducting Industrial Hygiene Site Assistance Visit: **Non-Responsive** **HI Environmental**
3. Facility Name and Brief Summary of Primary Activities Conducted at Facility: **Deming Armory, Transportation Co with mechanics**
4. Facility Address: **700 South Pearl Street, Deming, NM 88030**
5. Primary Unit Assigned to Facility **Non-Responsive**
6. Co-Tenant Units Assigned or Working Within Facility (LIST ALL): **None**
7. Square Ft. Area of Facility: **approximately 14,500 sq. ft**
8. Work Schedule: **Currently deployed**
9. Number of work bays: **M1165-M1078**
10. Equipment Density and Type: **N/A**
  - a. List Equipment Nomenclature Serviced or Maintained at Facility: **N/A**
  - b. List Total # for Each Nomenclature Serviced or Maintained at Facility: **N/A**
11. Total Number of Personnel: **Currently deployed**
12. No. of Admin. Personnel (Include Status – AGR, Fed. Tech., IDT, State or Contract Employee): **Unknown**
13. No. of Maintenance Personnel (Include Status – AGR, Fed. Tech., IDT, State or Contract Employee): **Unknown**
14. Total Number of Personnel Enrolled in the Hearing Conservation Program: **Unknown**



15. Total Number of Personnel Enrolled in the Respiratory Protection Program: **Unknown**

16. Total Number of Personnel Enrolled in the Medical Surveillance Program: **Unknown**

17. Total Number of Personnel Enrolled in the Vision Program: **Unknown**

18. Facility Commander: **Non-Responsive**

**Non-Responsive** none number and Unit Assigned to:  
575-647-2451

19. Safety Officer: Unknown

a. Email Address, Commercial Telephone Number and Unit Assigned to:

20. Facility Telephone Number: **Temporary NCOIC SSG Villagran (505) 474-2636**



3M Occupational Health and  
Environmental Safety Division

BEST AVAILABLE COPY  
1060 Corporate Center Drive  
Oconomowoc, WI 53066-4828  
www.3m.com/OccSafety  
651 735 6501  
800 328 1667 Customer Service  
800 243 4630 Technical Assistance

## Certificate of Calibration

Certificate Number: 265801SD20010465

Model: SD-200 Class 2 Integrating SLM

Date Issued: 12-Sep-2011

S/N: SD20010465

On this day of manufacture and calibration 3M certifies that the above listed product meets or exceeds the performance requirements of the following acoustic standard(s)

ANSI S1.4 1983 (R 2006) - Type 2 / Specification for Sound Level Meters

ANSI S1.43 1997 (R 2007) - Type 2 / Integrating-Averaging Sound Level Meter

IEC 61672-1 (2002) - Class 2/Electro Acoustics - SLMs - Pt1: Specifications

Test Conditions: Temp: 18-25°C Humidity: 20-80% R.H. Barometer: 950-1050 mBar

Test Procedure: S053-771

### Reference Standard(s):

Device	Ref Standard Cal Due	Uncertainty - Estimated at 95% Confidence Level (k=2)
B&K Ensemble	10/7/2011	+/- 2.2% Acoustic (0.19dB)

Calibrated By:

**Non-Responsive**

In order to maintain best instrument performance over time, we recommend the instrument be recalibrated annually.  
Any number of factors may cause the calibration to drift before the recommended interval has expired.  
See user manual for more information.

All test equipment used in the test and calibration of this instrument is traceable to NIST, and applies only to the unit identified above.  
This report must not be reproduced except in its entirety without the written approval of 3M, Inc.



## Declaration of Conformity

**Product/Model:** SD-200 / Sound Detector - Class 2 Integrating SLM

**Directives Covered:**

- > EMC / Council Directive 2004/108/EC on Electromagnetic Compatibility.
- > Safety / Council Directive 2006/95/EC on Low Voltage Equipment Safety.
- > RoHS / Council Directive 2002/95/EC Restriction of Hazardous Substances.
- > WEEE / Council Directive 2002/96/EC Waste electrical and electronic equipment.
- > Performance / Council Directive 2004/22/EC Measuring Instruments.

**The basis on which conformity is declared:**

EN 61326-1 (2005) Electrical equipment for measurement, control and laboratory use  
EMC requirements, Group 1, Class B Equipment (emissions)

CFR:47 (2008) Code of Federal Regulations: Part 15 Subpart B - Radio Frequency Devices - Unintentional Radiators.

EN 61326-1 (2005) Electrical equipment for measurement, control and laboratory use  
EMC requirements, Industrial Location Immunity.

ANSI S1.4 1983 (R 2006) - Type 2 / Specification for Sound Level Meters

ANSI S1.43 1997 (R 2007) - Type 2 / Integrating-Averaging Sound Level Meter

IEC 61672-1 (2002) - Class 2/Electro Acoustics - SLMs - Pt1: Specifications

IEC 61010-1 (2010) Safety requirements for electrical equipment for measurement, control and laboratory use  
Part 1: General Requirements

This instrument is considered WEEE Category 6 (Electrical and electronic tools), and therefore falls within the scope of the  
RoHS Directive. These units are RoHS compliant.

Note: This certification applies to all standard options and accessories supplied with the SD-200.

At the end of its life cycle, this product and internal power cell must be sent to a WEEE recycling center,  
and is marked accordingly.

The technical construction file required by this directive is maintained in Oconomowoc, WI USA

**Non-Responsive**



# TSI CERTIFICATE OF CALIBRATION AND TESTING

TSI Model 8732

TSI Serial No. 02100504

Description IAQ Meter with CO2

Calibration Standard Multi-Gas Calibration Bench #127

## CALIBRATION VERIFICATION RESULTS

Calibration Standard	Instrument Output	Difference	Tolerance Limit-	Error Compared to Tolerance	Tolerance Limit +
5001 PPM	4990 PPM	-0.2 %		0	
3000 PPM	3012 PPM	0.4 %		*	
1000 PPM	1001 PPM	1 PPM		*	
500 PPM	496 PPM	-4 PPM		*	
0 PPM	-15 PPM	-15 PPM		*	

Tolerance Limits:  
CO2: 50PPM or 3% of reading

TSI Incorporated does hereby certify that all materials, components, and workmanship used in the manufacture of this equipment are in strict accordance with the applicable specifications agreed upon by TSI and the customer and with all published specifications. All performance and acceptance tests required under this contract were successfully conducted according to required specifications. Furthermore, all test and calibration data supplied by TSI has been obtained using standards whose accuracies are traceable to the National Institute of Standards and Technology (NIST) or has been verified with respect to instrumentation whose accuracy is traceable to NIST, or is derived from accepted values of physical constants. Calibration procedures for this instrument comply with MIL-STD-45662A. The accuracy of the calibration facilities is greater than a ratio of 1:1 with respect to the accuracy specifications of the instrument being calibrated.

### Applicable Test Report

DC Voltage  
Barometric Pressure  
Pure Nitrogen  
CO2 1000 PPM in N2  
CO2 5000 PPM in N2

### Report Number

E002415  
E001992  
UT-230  
EB0013815  
EB0020543

### Date Last Verified

06-21-11  
04-08-11  
03-02-12  
01-21-10  
02-01-12

**Non-Responsive**

☒ Final  
Function Check

Mar 19, 2012  
Calibration Date

TSI Incorporated, 500 Cardigan Road, Shoreview, MN 55126 USA  
Tel: 800-874-2811 651-490-2874 FAX: 651-490-2121 www.tsi.com





# CERTIFICATE OF CALIBRATION AND TESTING

TSI Model 8732

TSI Serial No. 02100504

Description IAQ Meter with CO2

Calibration Standard Multi-Gas Calibration Bench #127

## CALIBRATION VERIFICATION RESULTS

Calibration Standard	Instrument Output	Difference	Tolerance Limit-	Error Compared to Tolerance	Tolerance Limit+
5001 PPM	5895 PPM	17.9 %		0	*
3000 PPM	3762 PPM	25.4 %			*
1000 PPM	1243 PPM	243 PPM			*
500 PPM	614 PPM	114 PPM			*
0 PPM	-15 PPM	-15 PPM			*

\*\*\*\*\* AS FOUND DATA \*\*\*\*\*  
(INITIAL CALIBRATION CHECK)

**Tolerance Limits:**  
CO2: 50PPM or 3% of reading

TSI Incorporated does hereby certify that all materials, components, and workmanship used in the manufacture of this equipment are in strict accordance with the applicable specifications agreed upon by TSI and the customer and with all published specifications. All performance and acceptance tests required under this contract were successfully conducted according to required specifications. Furthermore, all test and calibration data supplied by TSI has been obtained using standards whose accuracies are traceable to the National Institute of Standards and Technology (NIST) or has been verified with respect to instrumentation whose accuracy is traceable to NIST, or is derived from accepted values of physical constants. Calibration procedures for this instrument comply with MIL-STD-45662A. The accuracy of the calibration facilities is greater than a ratio of 1:1 with respect to the accuracy specifications of the instrument being calibrated.

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Barometric Pressure  
Pure Nitrogen  
CO2 1000 PPM in N2  
CO2 5000 PPM in N2

### Report Number

E002415  
E001992  
UT-230  
EB0013815  
EB0020543

### Date Last Verified

06-21-11  
04-08-11  
03-02-12  
01-21-10  
02-01-12

**Non-Responsive**

☐ Final  
Function Check

Mar 19, 2012  
Calibration Date

TSI Incorporated, 500 Cardigan Road, Shoreview, MN 55126 USA  
Tel: 800-874-2811 651-490-2874 FAX: 651-490-2121 www.tsi.com

1803172





# CERTIFICATE OF CALIBRATION AND TESTING

TSI Incorporated, 500 Cardigan Road, Shoreview, MN 55126 USA  
Tel: 1-800-874-2811 1-651-490-2811 Fax: 1-651-490-3824 <http://www.tsi.com>

ENVIRONMENT CONDITION			MODEL	8345
TEMPERATURE	68.5 (20.3)	°F (°C)	SERIAL NUMBER	98060408
RELATIVE HUMIDITY	53	%RH		
BAROMETRIC PRESSURE	28.95 (980.4)	inHg (hPa)		

☒ AS LEFT  
☐ AS FOUND

☒ IN TOLERANCE  
☐ OUT OF TOLERANCE

## - CALIBRATION VERIFICATION RESULTS -

VELOCITY VERIFICATION				SYSTEM V-110			Unit: ft/min (m/s)
#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	MEASURED	ALLOWABLE RANGE
1	0 (0.00)	0 (0.00)	-3~3 (-0.02~0.02)	7	648 (3.29)	644 (3.27)	628~667 (3.19~3.39)
2	35 (0.18)	34 (0.17)	32~38 (0.16~0.19)	8	996 (5.06)	991 (5.03)	966~1026 (4.91~5.21)
3	65 (0.33)	65 (0.33)	62~68 (0.32~0.35)	9	1473 (7.48)	1476 (7.50)	1428~1517 (7.26~7.70)
4	99 (0.50)	98 (0.50)	96~102 (0.49~0.52)	10	2473 (12.56)	2484 (12.62)	2399~2547 (12.18~12.94)
5	160 (0.81)	158 (0.80)	155~165 (0.79~0.84)	11	4493 (22.82)	4514 (22.93)	4358~4627 (22.14~23.51)
6	334 (1.70)	333 (1.69)	324~344 (1.64~1.75)	12	5903 (29.99)	5902 (29.98)	5726~6080 (29.09~30.89)

TEMPERATURE VERIFICATION				SYSTEM T-119			Unit: °F (°C)
#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	MEASURED	ALLOWABLE RANGE
1	32.0 (0.0)	32.1 (0.1)	31.5~32.5 (-0.3~0.3)	2	140.0 (60.0)	140.2 (60.1)	139.5~140.5 (59.7~60.3)

TSI does hereby certify that the above described instrument conforms to the original manufacturer's specification (not applicable to As Found data) and has been calibrated using standards whose accuracies are traceable to the United States National Institute of Standards and Technology (NIST) or has been verified with respect to instrumentation whose accuracy is traceable to NIST, or is derived from accepted values of physical constants. TSI's calibration system is registered to ISO-9001:2008 and meets the requirements of ISO 10012:2003.

Measurement Variable	System ID	Last Cal.	Cal. Due
Temperature	E001800	01-19-12	07-19-12
DC Voltage	E001658	06-28-11	12-28-12
Pressure	E001719	12-13-11	06-13-12
Barometric Pressure	E001992	04-06-12	04-06-13

Measurement Variable	System ID	Last Cal.	Cal. Due
Temperature	E001799	01-19-12	07-19-12
Temperature	E004402	12-08-11	06-08-12
Pressure	E001721	12-13-11	06-13-12
Velocity	E003327	09-19-07	09-19-12

**Non-Responsive**

June 5, 2012

DATE

DOC ID: CERT\_DEFAULT





# CERTIFICATE OF CALIBRATION AND TESTING

TSI Incorporated, 500 Cardigan Road, Shoreview, MN 55126 USA  
Tel: 1-800-874-2811 1-651-490-2811 Fax: 1-651-490-3824 http://www.tsi.com

ENVIRONMENT CONDITION			MODEL	8345
TEMPERATURE	67.8 (19.9)	°F (°C)	SERIAL NUMBER	98060408
RELATIVE HUMIDITY	53	%RH		
BAROMETRIC PRESSURE	28.93 (979.7)	inHg (hPa)		

☐ AS LEFT  
☒ AS FOUND

☐ IN TOLERANCE  
☒ OUT OF TOLERANCE

## - CALIBRATION VERIFICATION RESULTS -

VELOCITY VERIFICATION				SYSTEM V-106			Unit: ft/min ( m/s )
#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	MEASURED	ALLOWABLE RANGE
1	0 (0.00)	0 (0.00)	-3~3 (-0.02~0.02)	7	645 (3.28)	626 (3.18)	626~664 (3.18~3.37)
2	35 (0.18)	36 (0.18)	32~38 (0.16~0.19)	8	996.5 (5.062)	* 961.5 (4.884)	966.5~1026.4 (4.91~5.214)
3	65 (0.33)	66 (0.33)	62~68 (0.31~0.34)	9	1473.3 (7.484)	* 1386.8 (7.045)	1429.1~1517.5 (7.26~7.709)
4	100 (0.51)	101 (0.51)	97~103 (0.49~0.52)	10	2503.6 (12.718)	* 2344.6 (11.911)	2428.5~2578.7 (12.337~13.10)
5	160 (0.81)	160 (0.81)	155~164 (0.79~0.84)	11	4484 (22.78)	4451 (22.61)	4350~4619 (22.10~23.46)
6	328 (1.67)	326 (1.65)	318~338 (1.62~1.72)	12	5908 (30.01)	5884 (29.89)	5731~6085 (29.11~30.91)

TEMPERATURE VERIFICATION				SYSTEM T-119			Unit: °F (°C)
#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	MEASURED	ALLOWABLE RANGE
1	32.0 (0.0)	* 32.7 (0.39)	31.5~32.5 (-0.28~0.28)	2	140.0 (60.0)	140.0 (60.0)	139.5~140.5 (59.7~60.3)

\*Indicates Out-of-Tolerance Condition

TSI does hereby certify that the above described instrument conforms to the original manufacturer's specification (not applicable to As-Found data) and has been calibrated using standards whose accuracies are traceable to the United States National Institute of Standards and Technology (NIST) or has been verified with respect to instrumentation whose accuracy is traceable to NIST, or is derived from accepted values of physical constants. TSI's calibration system is registered to ISO 9001:2008 and meets the requirements of ISO 10012:2003.

Measurement Variable	System ID	Last Cal.	Cal. Due	Measurement Variable	System ID	Last Cal.	Cal. Due
DC Voltage	E004477	12-15-11	12-15-12	Temperature	E001644	01-20-12	07-20-12
Pressure	E001558	12-12-11	06-12-12	Pressure	E001560	12-12-11	06-12-12
Velocity	E003327	09-19-07	09-19-12	Barometric Pressure	E001992	04-06-12	04-06-13
Temperature	E001800	01-19-12	07-19-12	Temperature	E001799	01-19-12	07-19-12

**Non-Responsive**

June 5, 2012

DATE

Doc: D: CERT DEFAULT





## TSI - Customer Service report

Thank you for the opportunity to service your instrument.

**RMA Number: 800245509**

<b>Ship-to party</b> 17032  IHI ENVIRONMENTAL 640 E WILMINGTON AVE SALT LAKE CITY UT USA	<b>Sold-to party</b> 17032  IHI ENVIRONMENTAL 640 E WILMINGTON AVE SALT LAKE CITY UT USA
---	---

**Service Information:**

Purchase Order 12U-I6001TSIJCH  
Purchase Order Date 06/05/2012

**Description** Calibration of VelociCalc 8345

Equipment 98060408  
Serial Number 98060408  
Material 8345

**Service Description:**

**Return Reason:**

ANNUAL CALIBRATION

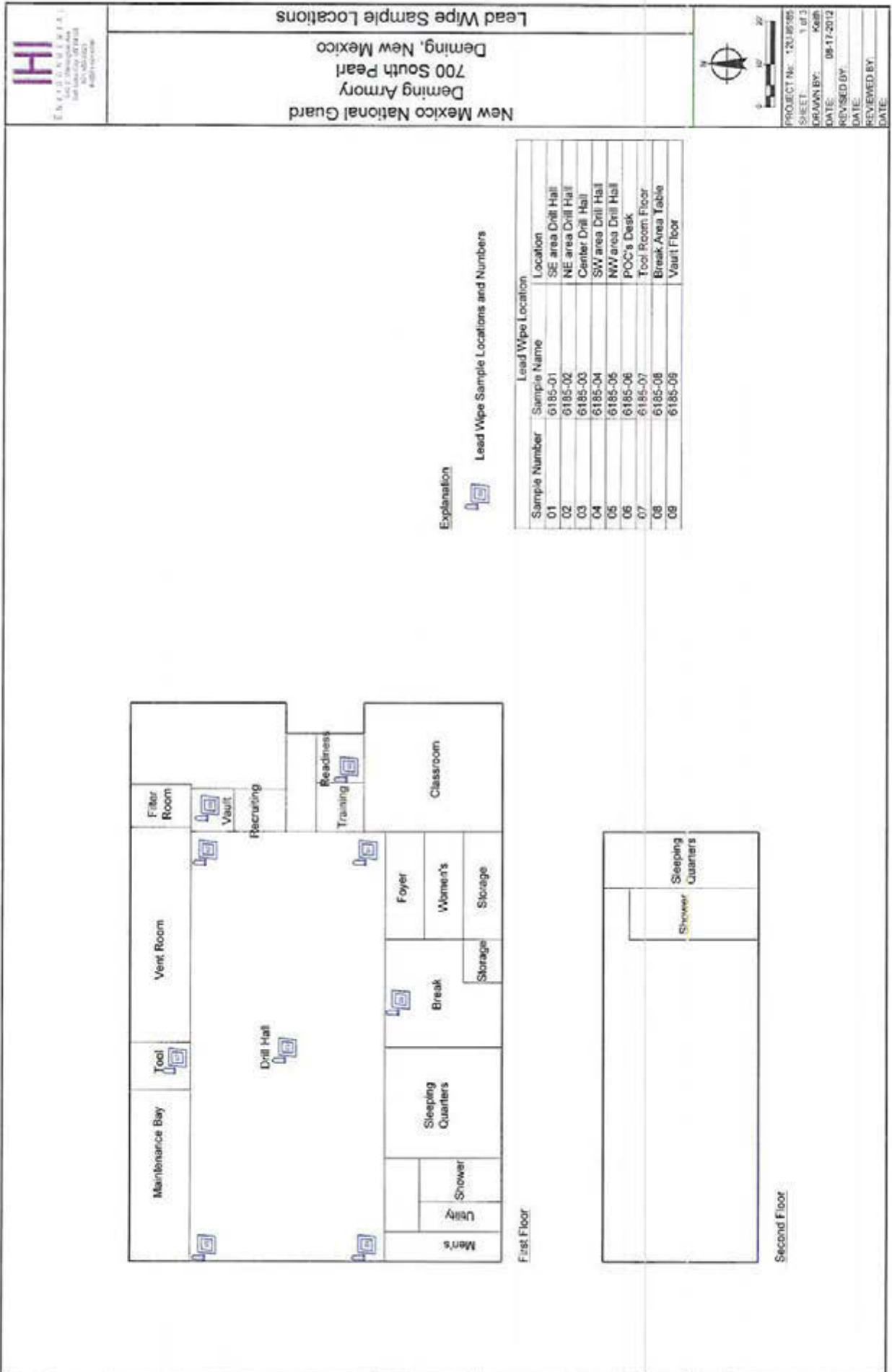
**Findings:**

Unit sent in for clean and calibration. The unit failed as found.

**Action:**

The unit was cleaned, calibrated, and a complete operational checkout was performed.





**Deming, NM Armory - Lead Wipe Sample Results****Lead Wipe Sample Results**

Sample Number	Collection Date	Location	Result $\mu\text{g}/\text{ft}^2$
6185-01	8/8/2012	SE Corner of Drill Hall Floor	<23
6185-02	8/8/2012	NE Corner of Drill Hall Floor	200
6185-03	8/8/2012	Center of Drill Hall Floor	<23
6185-04	8/8/2012	SW Corner of Drill Hall Floor	36
6185-05	8/8/2012	NW Corner of Drill Hall Floor	<23
6185-06	8/8/2012	POC's Desk	<23
6185-07	8/8/2012	Tool Room Floor	<23
6185-08	8/8/2012	Break Room Table	<23
6185-09	8/8/2012	Vault Floor	<23





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## ANALYTICAL REPORT

Report Date: August 15, 2012

Non-Responsive

IHI Environmental  
640 East Wilmington Avenue  
Salt Lake City, UT 84106

Phone: (801) 466-2223

Fax: (801) 466-9616

Non-Responsive

Workorder: 34-1222310

Client Project ID: 12U-I6185/Armory-Deming, UT

Purchase Order: 12U-I6185

Project Manager: Non-Responsive

## Analytical Results

Sample ID: 6185-01		Media: Lead Dust Wipe		Collected: 08/08/2012
Lab ID: 1222310001		Sampling Location: Armory-Deming, UT		Received: 08/10/2012
Method: NIOSH 7300 Mod.		Sampling Parameter: Area 100 cm <sup>2</sup>		Prepared: 08/14/2012
				Analyzed: 08/14/2012
Analyte	ug/sample	ug/ft <sup>2</sup>	RL (ug/sample)	
Lead	<2.5	<23	2.5	

Sample ID: 6185-02		Media: Lead Dust Wipe		Collected: 08/08/2012
Lab ID: 1222310002		Sampling Location: Armory-Deming, UT		Received: 08/10/2012
Method: NIOSH 7300 Mod.		Sampling Parameter: Area 100 cm <sup>2</sup>		Prepared: 08/14/2012
				Analyzed: 08/14/2012
Analyte	ug/sample	ug/ft <sup>2</sup>	RL (ug/sample)	
Lead	22	200	2.5	

Sample ID: 6185-03		Media: Lead Dust Wipe		Collected: 08/08/2012
Lab ID: 1222310003		Sampling Location: Armory-Deming, UT		Received: 08/10/2012
Method: NIOSH 7300 Mod.		Sampling Parameter: Area 100 cm <sup>2</sup>		Prepared: 08/14/2012
				Analyzed: 08/14/2012
Analyte	ug/sample	ug/ft <sup>2</sup>	RL (ug/sample)	
Lead	<2.5	<23	2.5	

Sample ID: 6185-04		Media: Lead Dust Wipe		Collected: 08/08/2012
Lab ID: 1222310004		Sampling Location: Armory-Deming, UT		Received: 08/10/2012
Method: NIOSH 7300 Mod.		Sampling Parameter: Area 100 cm <sup>2</sup>		Prepared: 08/14/2012
				Analyzed: 08/14/2012
Analyte	ug/sample	ug/ft <sup>2</sup>	RL (ug/sample)	
Lead	3.8	36	2.5	

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## ANALYTICAL REPORT

Workorder: 34-1222310

Client Project ID: 12U-I6185/Armory-Deming, UT

Purchase Order: 12U-I6185

Project Manager: Non-Responsive

## Analytical Results

Sample ID: 6185-05		Media: Lead Dust Wipe		Collected: 08/08/2012
Lab ID: 1222310005		Sampling Location: Armory-Deming, UT		Received: 08/10/2012
Method: NIOSH 7300 Mod.		Sampling Parameter: Area 100 cm²		Prepared: 08/14/2012
				Analyzed: 08/14/2012
Analyte	ug/sample	ug/ft²	RL (ug/sample)	
Lead	<2.5	<23	2.5	

Sample ID: 6185-06		Media: Lead Dust Wipe		Collected: 08/08/2012
Lab ID: 1222310006		Sampling Location: Armory-Deming, UT		Received: 08/10/2012
Method: NIOSH 7300 Mod.		Sampling Parameter: Area 100 cm²		Prepared: 08/14/2012
				Analyzed: 08/14/2012
Analyte	ug/sample	ug/ft²	RL (ug/sample)	
Lead	<2.5	<23	2.5	

Sample ID: 6185-07		Media: Lead Dust Wipe		Collected: 08/08/2012
Lab ID: 1222310007		Sampling Location: Armory-Deming, UT		Received: 08/10/2012
Method: NIOSH 7300 Mod.		Sampling Parameter: Area 100 cm²		Prepared: 08/14/2012
				Analyzed: 08/14/2012
Analyte	ug/sample	ug/ft²	RL (ug/sample)	
Lead	<2.5	<23	2.5	

Sample ID: 6185-08		Media: Lead Dust Wipe		Collected: 08/08/2012	
Lab ID: 1222310008		Sampling Location: Armory-Deming, UT		Received: 08/10/2012	
Method: NIOSH 7300 Mod.		Sampling Parameter: Area 100 cm²		Prepared: 08/14/2012	
				Analyzed: 08/14/2012	
Analyte	ug/sample	ug/ft²	RL (ug/sample)		
Lead	<2.5	<23	2.5		

Sample ID: 6185-09		Media: Lead Dust Wipe		Collected: 08/08/2012
Lab ID: 1222310009		Sampling Location: Armory-Deming, UT		Received: 08/10/2012
Method: NIOSH 7300 Mod.		Sampling Parameter: Area 100 cm²		Prepared: 08/14/2012
				Analyzed: 08/14/2012
Analyte	ug/sample	ug/ft²	RL (ug/sample)	
Lead	<2.5	<23	2.5	

## Report Authorization

Method	Analyst	Peer Review
NIOSH 7300 Mod.	Non-Responsive	Non-Responsive





## ANALYTICAL REPORT

Workorder: 34-1222310

Client Project ID: 12U-I6185/Armory-Deming, UT

Purchase Order: 12U-I6185

Project Manager: Non-Responsive

## Laboratory Contact Information

ALS Environmental  
960 W Levoe Drive  
Salt Lake City, Utah 84123

Phone: (801) 266-7700  
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Web: www.alssl.com

## General Lab Comments

The results provided in this report relate only to the items tested.  
Samples were received in acceptable condition unless otherwise noted.  
Samples have not been blank corrected unless otherwise noted.  
This test report shall not be reproduced, except in full, without written approval of ALS.

ALS provides professional analytical services for all samples submitted. ALS is not in a position to interpret the data and assumes no responsibility for the quality of the samples submitted.

All quality control samples processed with the samples in this report yielded acceptable results unless otherwise noted.

ALS is accredited for specific fields of testing (scopes) in the following testing sectors. The quality system implemented at ALS conforms to accreditation requirements and is applied to all analytical testing performed by ALS. The following table lists testing sector, accreditation body, accreditation number and website. Please contact these accrediting bodies or your ALS project manager for the current scope of accreditation that applies to your analytical testing.

Testing Sector	Accreditation Body (Standard)	Certificate Number	Website
Environmental	AClass (DoD ELAP)	ADE-1420	<a href="http://www.aiclasscorp.com">http://www.aiclasscorp.com</a>
	Utah (NELAC)	DATA1	<a href="http://health.utah.gov/lab/labimp/">http://health.utah.gov/lab/labimp/</a>
	Nevada	UT00009	<a href="http://ndep.nv.gov/bsdwlabservice.htm">http://ndep.nv.gov/bsdwlabservice.htm</a>
	Oklahoma	UT00009	<a href="http://www.deq.state.ok.us/CSDnew/">http://www.deq.state.ok.us/CSDnew/</a>
	Iowa	IA# 376	<a href="http://www.iowadnr.gov/InsideDNR/RegulatoryWater.aspx">http://www.iowadnr.gov/InsideDNR/RegulatoryWater.aspx</a>
	Florida (TNI)	E871067	<a href="http://www.dep.state.fl.us/labs/bars/sas/qa/">http://www.dep.state.fl.us/labs/bars/sas/qa/</a>
	Texas (TNI)	T104704456-11-1	<a href="http://www.tceq.texas.gov/field/qa/lab_accred_certif.html">http://www.tceq.texas.gov/field/qa/lab_accred_certif.html</a>
Industrial Hygiene	AIHA (ISO 17025 & AIHA IHLAP/ELLAP)	101574	<a href="http://www.aihaaccreditedlabs.org">http://www.aihaaccreditedlabs.org</a>
Lead Testing:			
CPSC	AClass (ISO 17025, CPSC)	ADE-1420	<a href="http://www.aiclasscorp.com">http://www.aiclasscorp.com</a>
Soil, Dust, Paint, Air	AIHA (ISO 17025, AIHA ELLAP and NLLAP)	101574	<a href="http://www.aihaaccreditedlabs.org">http://www.aihaaccreditedlabs.org</a>
Dietary Supplements	AClass (ISO 17025)	ADE-1420	<a href="http://www.aiclasscorp.com">http://www.aiclasscorp.com</a>

## Definitions

LOD = Limit of Detection = MDL = Method Detection Limit, A statistical estimate of method/media/instrument sensitivity.

LOQ = Limit of Quantitation = RL = Reporting Limit, A verified value of method/media/instrument sensitivity.

ND = Not Detected, Testing result not detected above the LOD or LOQ.

\*\* No result could be reported, see sample comments for details.

< This testing result is less than the numerical value.

( ) This testing result is between the LOD and LOQ and has higher analytical uncertainty than values at or above the LOQ.





# Industrial Hygiene Southwest

## Violation Inventory Log

### LOG OF SCHEDULE OF CORRECTIVE ACTION - COMPLIANCE WITH SAFETY AND HEALTH STANDARDS

#### Deming Armory, NM

CONTROL NUMBER	HAZARD DESCRIPTION	SITE	RAC	CORRECTIVE ACTIONS (Abatement Plan)	SUSPENSE DATE	ACTION OIC/NCOIC	Estimated Cost(s)	DATE CORRECTED	REFERENCES
NMDA-080812-4.1 <input type="checkbox"/>	The analytical results for lead on the northeast corner of the drill hall floor was 200 $\mu\text{g}/\text{ft}^2$ .	Deming Armory	3	1. Clean the floors of the drill hall to a level of less than 40 $\mu\text{g}/\text{ft}^2$ following the guidance in the attached SOP's. 2. Perform post-cleanup wipe sampling to ensure lead levels are within the criterion outlined in the IHSW SOP for Armory Cleanup.					IHSW SOP Lead, 29 CFR 1910.1025 (h)(1)
NMDA-080812-4.4 <input type="checkbox"/>	An asbestos survey could not be located during this IH Assistance Visit.	Deming Armory	3	Either locate the asbestos survey for this building or contract with a licensed firm to perform an asbestos survey and assessment.					29 CFR 1910.1001(j)(3)(i)
NMDA-080812-4.4 <input type="checkbox"/>	Personnel have not been provided with asbestos awareness training.	Deming Armory	4	Based on the findings of this survey, provide awareness training to assigned personnel for the specific types of asbestos in this Armory.					29 CFR 1910.1001 or 1101 or AR 40-5
NMDA-080812-4.3 <input type="checkbox"/>	Stained ceiling tiles are present in the female sleeping quarters on the second floor.	Deming Armory	4	Ensure water intrusion is examined and leaks are repaired in the female sleeping quarters.					Recommended Practice

## Summary of Recommendations for NMARNG Armory, Deming, New Mexico

### 4.1 Lead Wipe Sampling

1. Clean the floors of the drill hall to a lead concentration of less than 40  $\mu\text{g}/\text{ft}^2$  following the guidance in the attached SOPs.
2. Perform post-cleanup wipe sampling to ensure lead levels are within the criterion outlined in the IHSW SOP for Armory Cleanup.

### 4.3 Moisture Intrusion and Limited Visual Fungal Growth Evaluation

Ensure water intrusion is examined and leaks are repaired in the female sleeping quarters.

### 4.4 Asbestos Management

1. Locate the asbestos survey report for this building or contract with a licensed firm to perform an asbestos survey and assessment.
2. Once asbestos-containing materials have been identified and assessed, provide awareness training to assigned personnel for the specific material types and locations of asbestos in this armory.



*Lead*

CLEANUP & FOLLOW-UP HOUSEKEEPING  
RECOMMENDATIONS

**Materials Needed:**

1. Cloth Mop head (s) & Mop head holder(s) with handle.
2. Mop bucket (s) with wringer.
3. Clean cotton rags and sponges.
4. Disposable gloves
5. Large barrel (55 gal.) to store wastewater in after changing out of dirty scrub water.
6. Disposable overshoes or rubber boots. Personnel conducting cleaning operations should not take clothes, boots, etc., home for laundering.
7. HEPA vacuum
8. Six (6) mill plastic bags to dispose of waste.
9. Waste water containers.

**Disposal of Waste Water and Cleaning Materials:**

1. *NOTE:* Consult with Local Army National Guard Environmental Office prior to taking any collection, disposal or wiping activities commence. Each state and territory may have additional regulatory guidance on collection, storage and disposal of wastewater.
2. Mop heads should be disposed of after initial cleanup, unless otherwise advised by Environmental office personnel. Note: thorough cleaning of mop heads may be sufficient enough to reuse on future Armory cleanups but check with local Environmental Office.
3. Disposable gloves should be treated as hazardous waste.
4. Soiled cotton rags should be treated as hazardous waste.
5. Wash water contaminated with Lead can be collected and allowed to slowly evaporate leaving Lead deposits/sludge that may be collected in plastic containers, placed in metal drums, and stored for future delivery to an authorized hazardous waste disposal site.

- a. Drums shall be properly labeled to identify contents In-Accordance With (IAW) Federal, State and local regulatory guidance.
- b. Disposal of containerized waste shall be coordinated IAW State hazardous waste program requirements.
- c. The Environmental Office shall coordinate removal and disposal of all containerized hazardous waste through established waste streams.

**Post-Cleanup Precautionary Measures:**

1. Thoroughly wash hands with soap and water.
2. Rinse off rubber boots with soap and water, capturing wastewater for collection into established waste stream. If personnel choose to use over shoes for protection, dispose of overshoes into waste stream. NOTE: This recommendation is for initial clean up activities and PPE requirements may be reduced after it has been determined non-hazardous levels have been achieved.
3. Wash BDU's or personal clothing separately from children's clothes.

**NOTE:** No eating, drinking or cosmetics allowed during cleanup procedures (these may be allowed after washing of hands/face and done outside of cleanup area)

**NOTE:** Avoid blowing, shaking or like actions which could potentially disperses lead dust. Dry sweeping, dusting, wiping or blowing with compressed air shall not be permitted

**Initial Cleanup:**

1. Use a vacuum cleaner equipped with a HEPA exhaust filter. HEPA vacuum all surfaces in the room (ceiling, walls trim, and floors). Start with the ceiling and work down, moving toward the entry door. Completely clean each room before moving on.
2. Prepare water and detergent for the wipe down phase, according to manufactures recommendations.



3. Wet wipe, with cotton rags or sponge, any horizontal, diagonal or vertical surfaces up six (6) feet from floor surfaces using hot water and "Spic-n-Span" or an equivalent product.
  - a. Rinse out cleaning cloths thoroughly and frequently.
  - b. Change out cleaning water as necessary.

**NOTE: If walls to be cleaned show signs of deterioration, e.g., chipping or crumbling paint, in which wiping, scrubbing, or disrupting might potentially increase or spread contamination, then this portion of the clean up should be avoided.**

4. Now prepare water and detergent (e.g. Spic N Span, Mr. Clean, Pine Sol) for the mopping phase, according to manufactures recommendations, which should be found on the products label for general clean up.
  - a. Change out water frequently (when water appears dirty)
  - b. Rinse out mop heads frequently to prevent contamination of dirty water.
5. Cover entire drill floor surface with above prescribed water and detergent.
6. Final rinse should be with clean water only - -after mop heads have been cleaned.

**Recommended Follow-up Housekeeping Practices** *after Clearance sampling of cleaned area is performed by certified personnel:*

1. Floor cleaning and dusting should be accomplished using the wet method described in Initial Armory Cleanup SOP.

**Note:** Only exception to these wet cleaning procedures would be the use of a chemically treated dust floor mop. This can be used for follow-up armory cleaning by sweeping of large particles of dirt and paper.

- a. Pre-treated (chemically treated) dust floor mop will limit dust particles from being disbursed into the surround atmosphere.

- b. If treated dust mop is used - -Do Not Shake Mop head - - have mop head laundered after use. Always keep used dust mop heads in sealed double plastic bags when stored at armory/facility. Shaking of mop head could release unwanted contaminants into surrounding atmosphere.
2. Frequency of Cleanup- Armories will vary, according to usage and how often they should be cleaned. The following general cleaning schedule is provided:
- a. Only full-time technicians and traditional soldiers using facility during the month. (*Cleaned Monthly*)
  - b. Occasional activities taking place during the month, e.g., 1-2 classes or volleyball games, etc. (*Cleaned 2x's Monthly*)
  - c. Used regularly by soldiers or outside agencies/personnel. (*Cleaned Regularly - -at least Weekly*)

**NOTE:** Armories with adjoining Indoor Firing Ranges (IFR) should be cleaned more than weekly, again depending on use of Armory and IFR.

**NOTE:** Clearance sampling/testing is to be accomplished by certified personnel after these cleanup procedures are followed. If the area is an average Armory, occupied by adults only, for which you are cleaning and **is not a Converted IFR space**, you may continue to utilize the Armory space before the officials re-test this space. Please notify your Safety and/or Occupational Health personnel of the completion of this cleaning regime and they will notify the proper officials of the sampling/testing requirements needed.

If work is contracted out, a third party should do the clearance sampling.

Young children and females who are pregnant, there should be posted signs on all facilities, warning of the potential danger of exposure to lead dust.



Oct 14, 2014



## ARMY NATIONAL GUARD INDUSTRIAL HYGIENE - SOUTHWEST

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# Industrial Hygiene Site Assistance Visit

**Deming Armory Indoor Firing  
Range (IFR)**  
700 S Pearl  
Deming, NM 88030

10510 Superfortress Avenue, Suite C, Mather, CA 95655 (916) 854-1494

26



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DEPARTMENT OF THE ARMY AND AIRFORCE  
NATIONAL GUARD BUREAU  
INDUSTRIAL HYGIENE SOUTHWEST  
10510 Superfortress Ave, Ste. C  
Mather, CA 95655

ARNG-CSG-P

13 SEP 2015

MEMORANDUM THRU New Mexico Army National Guard, ATTN: **Non-Responsive**  
(SOHM), 600 Wyoming Blvd, NE, Albuquerque, NM 87123

FOR Commander, Deming Armory Indoor Firing Range (IFR), 700 S Pearl, Deming, NM 88030

SUBJECT: Executive Summary for an Industrial Hygiene Site Assistant Visit (IHSAV) for Deming Armory Indoor Firing Range (IFR), 700 S Pearl, Deming, NM, on 14 OCT 2014.

1. References. See survey report.

2. General.

a. At the request of the NGB Industrial Hygiene, Southwest (IHSW) Region, an IHSAV was conducted at the Deming Armory Indoor Firing Range (IFR), 700 S Pearl, Deming, NM on 14 OCT 2014.

b. The findings and recommendations in this Executive Summary are controlling and supersede all recommendations within the attached Industrial Hygienist report. However, IHSW concurs with the observations and findings within the attached Industrial Hygiene report.

c. Risk Assessment Codes (RAC) provided in this report have been derived from two sources: Deriving Risk Assessment Codes (RAC's) for Health Hazards (Ref: DOD Instruction 6055.1) and AR 385-10, The Army Safety Program.

d. Use of trademark names in the attached report, or this Executive Summary, does not imply Army National Guard endorsement of any product.

3. Findings. See survey report.

4. General Observations.

a. The data available during this site visit could not confirm the conversion of an IFR space. However, the area located on the north end of the facility identified as "STORAGE" does have similar characteristics to an IFR space.

b. The observations and data collected during this evaluation indicate elevated lead concentrations could be from multiple factors arising from the operations and/or process from the area identified as "STORAGE" which is presumed to previously have been an IFR.

c. Note, the NM ARNG command closed this and several other facilities/areas considered to be IFR's within the state until assessments to identify potential elevated lead concentrations and to employ appropriate control measures ensuring occupant health and property integrity/serviceability could be initiated.



**SUBJECT:** Executive Summary for an Industrial Hygiene Site Assistant Visit (IHSAV) for Deming Armory Indoor Firing Range (IFR), 700 S Pearl, Deming, NM, on 14 OCT 2014.

## **5. Observations / Recommendations.**

**NOTE:** This section provides conclusions and recommendations for the findings and observations made within the attached contractors report. The paragraphs are numbered to correspond to the sections where they were first noted. (i.e., paragraph 2.1a represents the 2.1a located within the contractors report.

a. As noted within the attached Industrial Hygiene Report, the elevated lead levels observed within the area identified as "STORAGE," presumed an IFR, could continue to impact the other areas and occupants with elevated lead surface levels if not treated/remediated. **(RAC 4)**

(1) Recommend treating this space as a CLOSED IFR. As a CLOSED IFR it should be locked with limited access, e.g., maintenance workers, until command decides what classification they will assign the IFR space.

b. Although the lead levels reported are comparatively low to other like spaces observed within the IHSW Region, they do raise concerns regarding origin, depth, and scope for lead levels throughout the other areas of the facility as it relates to elevated lead levels. **(RAC 2)**

(1) Recommend conducting a Holistic Lead Evaluation of facility to properly and clearly identify the lead impact. This evaluation will provide the command with a clear assessment of areas that potentially could impact the facility and occupants. During this opportunity Hazard Assessments (HA's) for processes involving facility maintenance and repair activities may be developed.

(a) IFR. - Determine status of IFR - Active, In-Active, Converted, Closed. Collect appropriate samples to identify lead levels and identify potential areas/systems that may impact other areas of facility and occupancies. Collect representative sampling of the IFR area.

(b) Source identification and confirmation. Evaluate facility and surrounding environment to validate and identify any and all potential lead sources, i.e. wipe, soil, and air sampling.

(c) HVAC and Air Handling Systems/Equipment. Evaluate Air Handling Equipment to determine lead levels and how elevated lead levels may impact facility, ventilation systems, and occupants. Collect wipe sampling from both upstream and downstream airflows of the air handling equipment to properly identify any elevated lead levels and provide corrective measures.

(d) Facility Air Handling Duct Systems. Evaluate facility air ducting through the collection of wipe sampling at supply and return registers within facility. Include wipe sampling from within duct systems to further clarify elevated lead levels.

(e) Exterior Roof Top areas. Evaluate roof top air handling systems and any ventilation systems identifying any potential lead particulate entry routes into the facility areas, collect representative roof top air and roof top wipe samples to verify lead levels.

(f) Non-Occupied Spaces.

(1) Above ceiling spaces. Evaluate and collect wipe samples of all crawl spaces, plenum areas, and above drop ceilings to determine lead levels and how elevated lead levels may impact facility and occupants.



**SUBJECT:** Executive Summary for an Industrial Hygiene Site Assistant Visit (IHSAV) for Deming Armory Indoor Firing Range (IFR), 700 S Pearl, Deming, NM, on 14 OCT 2014.

(2) Below flooring. Evaluate below floor crawl spaces to determine lead levels and methods to remediate if necessary. If the facility does not have these spaces the final evaluation must indicate such.

(3) Plenum areas. Evaluate all plenum spaces to ensure a complete understanding for how these spaces were designed/used for air circulation. These may prove to significantly enhance lead migration throughout the facility.

(g) Occupancy Density and Occupancy Types. Identify owning unit by Unit Identification Code (UIC), co-tenant organizations (include UIC), status of ARNG personnel (AGR, TECH., IDT, State (maintenance), Contract, Civilian, Volunteer(s), youth programs, and any other activities conducted at facility.

(1) Based on occupancies observed, provide notifications and education – Personal Protective Equipment (PPE) usage requirements, routine cleaning methods (general housekeeping), measures personnel should take to protect their health (frequent washing (hands/clothes), eating, drinking, etc.) to all personnel.

(2) Recommend the State ARNG determine what Non-ARNG occupancies should be allowed to occupy or utilize the facility prior to the conclusion of the lead evaluation.

(h) Occupied spaces (wipe sampling and area air sampling). Collect representative wipe samples to identify elevated lead levels and identify any potential areas/systems that may impact other areas of facility and occupancies. This sampling regime should include air sample collection for all spaces persons may enter, to properly identify inhalation hazards.

(i) It is important for the State ARNG take a holistic approach to remove all potential and existing lead hazards from within this facility by treating/remediating all non-occupied, as well as occupied, areas of this facility.

(j) It is important for all remediation activities be followed by post-remediation sampling verification. Recommend an ARNG Industrial Hygiene resource be utilized to verify all post-remediation/cleaning activities and are completed IAW the AR, ARNG, and NM ARNG Scope of Work. This will ensure lead levels are acceptable for re-occupancy and all work has been conducted accordingly.

c. Occupant Notifications. It is important for the State ARNG make appropriate notifications to all occupants outlining the potential hazards, measures persons must take to ensure their health, and to outline the State ARNG's plan to remediate (abate) the elevated lead levels within the facility as required by Federal, State, and local laws, regulations, and requirements. At the minimum, the following occupancy groups should be included within the notifications: AGR, IDT personnel, state employees, contract employees, youth program personnel, and all civilians. Note, the attached report may provide co-tenant organizations for inclusion of notifications. Documentation of notifications should be maintained by the facility command for future reference. (reference 29 CFR 1910.1025 as a resource guide)

d. It is important for NM ARNG to determine a classification of this IFR to properly implement the appropriate control measures for continued occupant health and to control lead surface contamination to "as clean as possible," i.e. 40ug/ft<sup>2</sup>, throughout the non-IFR areas of the facility. Also note, given the



**SUBJECT:** Executive Summary for an Industrial Hygiene Site Assistant Visit (IHSAV) for Deming Armory Indoor Firing Range (IFR), 700 S Pearl, Deming, NM, on 14 OCT 2014.

IFR status criteria below, the state should identify all IFR's within the state and determine a status for each. The following are provided:

(1) **Active IFR.** The range is continually used for normal small arms use as long as it is maintained IAW with the criteria outlined in NGR 385-15, Policy and Responsibilities for Inspection, Evaluation and Operation of Army National Guard Indoor Firing Ranges.

(2) **Inactive IFR.** The range is deactivated and maintained IAW criteria outlined in NGR 385-15, this allows the command to reopen to an Active IFR status to support future small arms usage.

(3) **Closed IFR.** The IFR is locked with no access and maintained as necessary IAW NGR 385-15. In a Closed status, the range must not be used for any occupancy or any storage. The Closed IFR must remain vacant of all activities until all remediation has been completed and the IFR remediation is certified "complete" by an ARNG Industrial Hygienist (OPM 0690 Series) resource.

(4) **Converted IFR.** The IFR is converted IAW NG Pam 420-15, Guidelines and Procedures for Rehabilitation and Conversion of Indoor Firing Ranges. It is important for the work to convert the IFR be certified by an ARNG Industrial Hygienist (OPM 0690 Series) resource.

e. Medical Surveillance.

(1) The elevated lead concentration on wipe samples levels do suggest the potential for an ingestion hazard remains. Occupants need to take necessary actions, i.e. good hygiene practices like washing prior to eating, drinking, smoking & chewing tobacco etc., be provided the necessary education to ensure their continued health.

(2) It is important for the State Occupational Health, or Medical Service Corp, determine the medical surveillance requirements based on occupancy type and occupancy responsibilities, i.e. administrative personnel, state maintenance workers, contract personnel, civilian population, and personnel who maintain or support IFR operations.

f. Continue the good housekeeping practices within the administrative offices, kitchen, and communal areas to maintain lead particulate concentrations below the ARNG standard of 40ug/ft<sup>2</sup>. Utilize the enclosed Clean-up SOP as a guide to assist with the prevention efforts. Ensure personnel clean-up area(s) and tables after weapons cleaning activities. Tables used for weapons cleaning should be marked, "For Weapons Cleaning Only," when utilized as such. ((DODI 6055.01 Appendix to Enclosure 4, date 14 OCT 2014) (RAC 4)

7. Violation Correction Log.

a. IHSW has provided a Violation Correction Log derived from the observations from this visit. IHSW recommends the following:

(1) Commander(s) assign an Action OIC/NCOIC, Suspense Date for completion, and Estimated Cost(s) to ensure item completion and corrective status is briefed during quarterly (or monthly) Safety Meetings/Councils until resolved.

(2) Corrective measures should be implemented and accomplished at the lowest levels possible. Hazards and Corrective Measures that cannot be corrected at the facility level, and require assistance

**SUBJECT:** Executive Summary for an Industrial Hygiene Site Assistant Visit (IHS AV) for Deming Armory Indoor Firing Range (IFR), 700 S Pearl, Deming, NM, on 14 OCT 2014.

9. IHSW recommends the Senior Unit Commander of this Facility and any Co-Tenant Organizations or Units, review and provide assistance with implementation of these recommendations. This will educate the chain of command and allow the unit or co-tenant organizations to take any necessary precautions or actions required by them and their personnel.

10. To assist you with execution of your responsibilities in correcting the observations noted, we encourage you to consult with the State Safety Manager, Occupational Health Manager and Industrial Hygiene professions located and/or authorized within the State Safety and Occupational Health Office.

11. For additional information please contact the NGB-IHSW office at (916) 854-1491 or via email at

**Non-Responsive**

**Non-Responsive**

NGB, IHSW, CIV  
Regional Industrial  
Hygiene Manager





**Industrial Hygiene Southwest**  
*Violation Inventory Log*  
**LOG OF SCHEDULE OF CORRECTIVE ACTION - COMPLIANCE WITH SAFETY AND HEALTH STANDARDS**  
**DEMING IFR, NEW MEXICO 88030**

CONTROL NUMBER CLOSED <input checked="" type="checkbox"/>	HAZARD DESCRIPTION	SITE	RAC	CORRECTIVE ACTIONS (Abatement Plan)	SUSPENSE DATE	ACTION OIC/NCOIC	Estimated Cost(s)	DATE CORRECTED	REFERENCES
<input type="checkbox"/> NMDA-10142014-3.1	Elevated Lead Levels observed within the area identified as "Storage Area"	IFR / "Storage Area"	4	Recommend treating this space as a CLOSED IFR. As a CLOSED IFR it should be locked with limited access, e.g., maintenance workers, until command decides what classification they will assign the IFR Space.					Occupational Safety and Health Administration (OSHA) standard for lead: 1910.1025 (h)(1)
<input type="checkbox"/> NMDA-10142014-3.1	Lead levels exceeded the minimum requirements.	Facility	2	Recommend conducting a Holistic Lead Evaluation of facility to properly and clearly identify the lead impact. This evaluation will provide the command with a clear assessment of areas that potentially could impact the facility and occupants. During their opportunity Hazard Assessments (HA's) for processes involving facility maintenance and repair activities may be developed.					Occupational Safety and Health Administration (OSHA) standard for lead: 1910.1025 (h)(1)



**Industrial Hygiene Southwest**  
*Violation Inventory Log*  
 LOG OF SCHEDULE OF CORRECTIVE ACTION - COMPLIANCE WITH SAFETY AND HEALTH STANDARDS  
 DEMING IFR, NEW MEXICO 88030

CONTROL NUMBER	HAZARD DESCRIPTION	SITE	RAC	CORRECTIVE ACTIONS (Abatement Plan)	SUSPENSE DATE	ACTION OIC/NCOIC	Estimated Cost(s)	DATE CORRECTED	REFERENCES
<input type="checkbox"/> NMDA-10142014- 3.1	Elevated Lead Levels exceeded the minimum requirements.	Drill Hall Floor	4	Continue the good housekeeping practices within the administrative offices, kitchen, and communal areas to maintain lead particulate concentrations below the ARNG standard of 40ug/ft <sup>2</sup> . Utilize the enclosed Clean-Up SOP as a guide to assist with the prevention efforts. Ensure personnel clean-up area(s) and tables after weapons cleaning activities. Tables used for weapons cleaning should be marked "For Weapons Cleaning Only", when utilized as such.					DODI 6055.01 Appendix to enclosure 4, date 14OCT 2014. Occupational Safety and Health Administration (OSHA) standard for lead. 1910.1025 (h)(1)



## ***ARMORY***

### **CLEANUP & FOLLOW-UP HOUSEKEEPING RECOMMENDATIONS**

#### **Materials Needed:**

1. Cloth Mop head (s) & Mop head holder(s) with handle.
2. Mop bucket (s) with wringer.
3. Clean cotton rags and sponges.
4. Disposable gloves
5. Large barrel (55 gal.) to store wastewater in after changing out of dirty scrub water. Waste water containers.
6. Disposable overshoes or rubber boots. Personnel conducting cleaning operations should not take clothes, boots, etc., home for laundering.
7. HEPA vacuum
8. Six (6) mill plastic bags to dispose of waste.
9. Detergent with surfactant, e.g., Spic-N-Span, Mr. Clean, etc.

#### **Disposal of Waste Water and Cleaning Materials:**

1. *NOTE:* Consult with Local Army National Guard Environmental Office prior to taking any collection, disposal or wiping activities commence. Each state and territory may have additional regulatory guidance on collection, storage and disposal of wastewater.
2. Mop heads should be disposed of after initial cleanup, unless otherwise advised by Environmental office personnel. Note: thorough cleaning of mop heads may be sufficient enough to reuse on future Armory cleanups but check with local Environmental Office.
3. Disposable gloves should be treated as hazardous waste.
4. Soiled cotton rags should be treated as hazardous waste.
5. Wash water contaminated with Lead can be collected and allowed to slowly evaporate leaving Lead deposits/sludge that may be collected in plastic containers, placed in metal drums, and stored for future delivery to an authorized hazardous waste disposal site.

- a. Drums shall be properly labeled to identify contents In-Accordance With (IAW) Federal, State and local regulatory guidance.
- b. Disposal of containerized waste shall be coordinated IAW State hazardous waste program requirements.
- c. The Environmental Office shall coordinate removal and disposal of all containerized hazardous waste through established waste streams.

**Post-Cleanup Precautionary Measures:**

1. Thoroughly wash hands with soap and water.
2. Rinse off rubber boots with soap and water, capturing wastewater for collection into established waste stream. If personnel choose to use over shoes for protection, dispose of overshoes into waste stream. NOTE: This recommendation is for initial clean up activities and PPE requirements may be reduced after it has been determined non-hazardous levels have been achieved.
3. Wash BDU's or personal clothing separately from children's clothes.

**NOTE:** No eating, drinking or cosmetics allowed during cleanup procedures (these may be allowed after washing of hands/face and done outside of cleanup area)

**NOTE:** Avoid blowing, shaking or like actions which could potentially disperses lead dust. Dry sweeping, dusting, wiping or blowing with compressed air shall not be permitted

**Initial Armory Cleanup:**

1. Use a vacuum cleaner equipped with a HEPA exhaust filter. HEPA vacuum all surfaces in the room (ceiling, walls trim, and floors). Start with the ceiling and work down, moving toward the entry door. Completely clean each room before moving on.
2. Prepare water and detergent for the wipe down phase, according to manufactures recommendations.



3. Wet wipe, with cotton rags or sponge, any horizontal, diagonal or vertical surfaces up six (6) feet from floor surfaces using hot water and "Spic-n-Span" or an equivalent product.
  - a. Rinse out cleaning cloths thoroughly and frequently.
  - b. Change out cleaning water as necessary.

**NOTE: If walls to be cleaned show signs of deterioration, e.g., chipping or crumbling paint, in which wiping, scrubbing, or disrupting might potentially increase or spread contamination, then this portion of the clean up should be avoided.**

4. Now prepare water and detergent (e.g. Spic N Span, Mr. Clean, Pine Sol) for the mopping phase, according to manufactures recommendations, which should be found on the products label for general clean up.
  - a. Change out water frequently (when water appears dirty)
  - b. Rinse out mop heads frequently to prevent contamination of dirty water.
5. Cover entire drill floor surface with above prescribed water and detergent.
6. Final rinse should be with clean water only - -after mop heads have been cleaned.

**Recommended Follow-up Housekeeping Practices** *after Clearance sampling of cleaned area is performed by certified personnel:*

1. Floor cleaning and dusting should be accomplished using the wet method described in Initial Armory Cleanup SOP.

**Note:** Only exception to these wet cleaning procedures would be the use of a chemically treated dust floor mop. This can be used for follow-up armory cleaning by sweeping of large particles of dirt and paper.

- a. Pre-treated (chemically treated) dust floor mop will limit dust particles from being disbursed into the surround atmosphere.

- b. If treated dust mop is used - -Do Not Shake Mop head - - have mop head laundered after use. **Always keep used dust mop heads in sealed double plastic bags when stored at armory/facility.** Shaking of mop head could release unwanted contaminants into surrounding atmosphere.
2. Frequency of Cleanup- Armories will vary, according to usage and how often they should be cleaned. The following general cleaning schedule is provided:
- a. Only full-time technicians and traditional soldiers using facility during the month. (*Cleaned Monthly*)
  - b. Occasional activities taking place during the month, e.g., 1-2 classes or volleyball games, etc. (*Cleaned 2x's Monthly*)
  - c. Used regularly by soldiers or outside agencies/personnel. (*Cleaned Regularly - -at least Weekly*)

**NOTE:** Armories with adjoining Indoor Firing Ranges (IFR) should be cleaned more than weekly, again depending on use of Armory and IFR.

**NOTE:** Clearance sampling/testing is to be accomplished by certified personnel after these cleanup procedures are followed. If the area is an average Armory, occupied by adults only, for which you are cleaning and **is not a Converted IFR space**, you may continue to utilize the Armory space before the officials re-test this space. Please notify your Safety and/or Occupational Health personnel of the completion of this cleaning regime and they will notify the proper officials of the sampling/testing requirements needed.

If work is contracted out, a third party should do the clearance sampling.

**Young children and females who are pregnant, there should be posted signs on all facilities, warning of the potential danger of exposure to lead dust.**



## INDUSTRIAL HYGIENE ASSISTANCE VISIT DEMING ARMORY DEMING, NEW MEXICO



### 1.0 Introduction and Background

1.1. This report summarizes the results of the Industrial Hygiene (IH) Site Assistant Visit (SAV) conducted at the Deming Armory in Deming, New Mexico on October 14, 2014. The Army National Guard Industrial Hygiene Southwest (ARNG-IHSW) requested Aloha World to visit the Deming Armory to follow-up and evaluate potential high lead. This IH SAV also includes interviews with **Non-Responsive** from the Department of Military Affairs, regarding industrial hygiene issues as well as any change in operations in the work area that might affect the workers health and safety. **Non-Responsive** from Aloha World completed this survey.

1.2. The following sections will provide details on how the IH Survey was conducted. A drawing showing the facility layout and sampling locations is included as **Attachment D**. The most stringent OSHA, ARNG, Corps of Engineers (COE), American National Standards Institute (ANSI), American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) and Design Guide standards in effect at the time of the survey were used to assess the workplace.

1.3. The Deming Armory is not occupied. This armory was constructed in 1976. This armory has offices that were used for administrative purposes and also contains a drill floor, arms room, classroom, industrial kitchen, storage and a weight room. Maintenance service was done at this site on drill weekend.

1.4 There is a Converted Indoor Firing Range (CIFR) in this facility. The ventilation system, firing lines, lighting and bullet stop have all been removed. Lead samples were taken in the the drill hall and the CIFR. Lead wipe samples results could not be obtained from the time of conversion.

Aloha World

## 2.0 Survey Procedures and Equipment Used

Lead wipe samples were collected on dusty horizontal floor surfaces in the facility including but not limited to the drill floor and the CIFR area (old maintenance bay, storage and weight room). "Ghost Wipe" brand wipes were used with a 16 square inch template. The wipes used conform to American Standards for Testing Materials E1792-96A, *Standard Specification for Wipe Sampling Materials for Lead in Surface Dust*. The collected wipe samples were placed in clean, labeled centrifuge tubes. Samples were submitted to Reservoir Environmental Services, Inc for analysis via Flame Atomic Absorption, USEPA Method SW846 3050B. Laboratory results are listed in micrograms of lead per square foot ( $\mu\text{g}/\text{ft}^2$ ). Copies of the raw analytical data are presented in **Appendix D**.

Samples were submitted to Reservoir Environmental Services, Inc, Denver, Colorado, for analysis via Flame Atomic Absorption.

## 3.0. Findings and Recommendations

**3.1. Lead wipe sampling-** Analytical results from the lead wipe sampling obtained from the armory are found in Table 3.1.A. A graphical and written representation of sampling locations can be found in **Appendix D** along with analytical reports. Photographs were taken of each sample point and are presented in **Appendix C**. There are currently no standards that dictate what a safe level of lead is from a wipe sample. Lead sampling results can be compared to the protocol outlined in the U.S. Department of Housing and Urban Development's (HUD's) *Guidelines For The Evaluation And Control Of Lead-Based Paint Hazards In Housing*, June 1997. HUD currently recommends an exposure limit of  $40 \mu\text{g}/\text{ft}^2$ . This guideline was established to prevent lead exposure to children in domestic homes, along with females who are pregnant. Areas that have levels that exceed  $40 \mu\text{g}/\text{ft}^2$  should be thoroughly cleaned and employees that may come into contact with those areas should be properly trained in the hazards of lead exposure.

Aloha World



BEST AVAILABLE COPY  
Industrial Hygiene Survey  
Deming Armory

**Table 3.1.A.  
Lead Wipe**

Sample ID	AREA	Photo #	Result ug/ft2
101214-1	Control	NA	BDL
101214-2	North drill hall	2	44.5
101214-3	Center drill hall	3	BDL
101214-4	South drill hall	4	BDL
101214-5	West drill hall	5	BDL
101214-6	East drill hall	6	BDL
101214-7	North CFR	7	40.0
101214-8	Center CFR	8	22.7
101214-9	South CFR	9	BDL
101214-10	West CFR	10	46.4
101214-11	East CFR	11	BDL

BDL= Below Detection Limits

ug/ ft2= Micrograms per Square Foot

**NOTE:** Adequate cleaning should be continued throughout the armory, especially in the areas where high lead levels were found. Please utilize the attached SOP and general information paper provided for cleaning procedures.

**Recommendation:** Dry sweeping should be restricted in areas where accumulations of dust are present to prevent toxic metals on surfaces from becoming airborne. The cleaning of loose material from horizontal surfaces should be conducted with HEPA (High Efficiency Particulate Air) vacuums and/or wet mopping. Any area that exceeds 40 ug/ft<sup>2</sup> should be thoroughly decontaminated.

**3.2. Operational Changes Noted-** None found.

**3.3. Physical Safety and Condition of Facility-** A physical walk through of the facility was conducted. Overall, housekeeping was found to be in above average condition.

This 1976 building is of concrete block and brick construction. Water leakage was detected in the roof. They have had previous issues with the roof leaking and it was recently fixed. However, there was roof leak found again. John Ridgway, from DMA, is currently getting this resolved.

**Recommendation:** Check ceiling for water leakage.

A fire evacuation plan was not posted throughout the armory.

The fire extinguishers within this facility are part of the fire suppression available and should be tested annually and inspected monthly. NFPA 10, 27-3.4.1 addresses alarm systems and 29 CFR 1910.157 addresses inspection requirements for fire extinguishers. Annual inspections should be accomplished by a qualified organization, e.g., fire department, and checked and documented

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**Industrial Hygiene Survey  
Deming Armory**

monthly by the facilities personnel. The fire extinguishers were found to be current on annual and monthly inspections. A fire alarm system is in place and per [REDACTED] Non-Responsive from DMA, in working order.

**3.4 Recurring Events:** We were unable to obtain any previous surveys for this armory.

#### **4.0 Industrial Hygienist Certification/Project Limitations**

All Industrial Hygiene Assessment techniques and tests used in the Industrial Hygiene survey of the Army National Guard Armories were reviewed by [REDACTED] Non-Responsive Industrial Hygiene Southwest, National Guard Bureau at (916) 854-1492

This Project was performed using, as a minimum, practices consistent with standards acceptable within the industry at this time, and a level of diligence typically exercised by industrial hygiene and environmental consultants performing similar services.

The procedures used in this investigation attempt to establish a balance between the competing goals of limiting investigative and reporting costs and time, and reducing the uncertainty about unknown conditions. Therefore, because the findings of this report were derived from the scope, costs, time, and other limitations, the conclusions should not be construed as a guarantee that all environmental or occupational hazards have been identified and fully evaluated. Where sample collection and testing have been performed, Aloha World's professional opinions are based in part on the interpretation of data from discrete sampling locations that may not represent conditions at non-sampled locations. Aloha World assumes no responsibility for omissions or errors resulting from inaccurate information or data provided by sources outside of Aloha World, or from omissions or errors in public records.

Furthermore, it is emphasized that the final decision on how much risk to accept always remains with the client since Aloha World is not in a position to fully understand all of the client's needs. Clients with a greater aversion to risk may want to take additional actions while others, with less aversion to risk, may want to take no further action

**5.0. Technical Assistance** For technical assistance regarding information found in this report or the performed survey, please contact [REDACTED] Non-Responsive of the Southwest Regional Industrial Hygiene Office, (916) 854-1491. Contact the State Safety, State Industrial Hygiene and Occupational Health Office and/or the Regional Industrial Hygienist should any of the operations change, or should the personnel become incapable of following the previous recommendations and subsequent recommendations are needed.

[REDACTED] Non-Responsive H Tech/Aloha World

Aloha World



## Appendix A References

American Conference of Governmental Industrial Hygienists (ACGIH), Industrial Ventilation, A Manual of Recommended Practice, 23 Edition, 1998.

American Conference of Governmental Industrial Hygienists (ACGIH), Threshold Limit Values for Chemical Substances and Physical Agents and Biological Indices for 1998.

American National Standards Institute (ANSI)/Illuminating Engineering Society (IES), Industrial Lighting 1991.

American National Standards Institute, Z358. 1-1998. Emergency Eyewash and Shower Equipment 1998.

AR 40-5, Preventative Medicine, 15 October 1990.

AR 385-10, The Army Safety Program, 23 May 1988.

Corps of Engineers Guide Specification, CEGS-1585 1, Overhead vehicle tailpipe (and welding fume) Exhaust Systems, May 1984.

DA PAM 40-ERG, Ergonomics

DA PAM 40-501, Hearing Conservation, 27 August 1991.

National Safety Council, Fundamentals of Industrial Hygiene, 4~ edition, 1996.

NOR 385-10, Army National Guard Safety and Occupational Health Program, 29 December 1989.

TB MED 503, The Army Industrial Hygiene Program, February 1985.

TG022, US Army Environmental Hygiene Agency (USAEHA), Industrial Hygiene Evaluation Guide, October 1975

TG 141, US Army for Health Promotion and Preventive Medicine (USACHPPM) Industrial Hygiene Air Sampling Guide, Nov. 1997

Title 29, Code of Federal Regulations (CFR), 1998, revision Part 1910, Occupational Safety and Health Standards

Aloha World

## Recommendations

1. Occupational Safety and Health Administration (OSHA) standard for lead; 1910.1025 (h) (1) require that all surfaces shall be maintained as free as practicable of accumulations of lead. Dry sweeping should be restricted in areas where accumulations of dust are present to prevent toxic metals on surfaces from becoming airborne. The cleaning of loose material from horizontal surfaces should be conducted with HEPA (High Efficiency Particulate Air) vacuums and/or wet mopping. Any area that exceeds 40 ug/ ft<sup>2</sup> should be thoroughly decontaminated.
2. Fix water leaks on the roof. OSHA requires that safeguards designed to protect employees during an emergency, including displaced ceiling tile, must be in proper working order at all times. General Duty Clause 5(a)(1).

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**Photo Log**



Photo #1 – Deming Armory

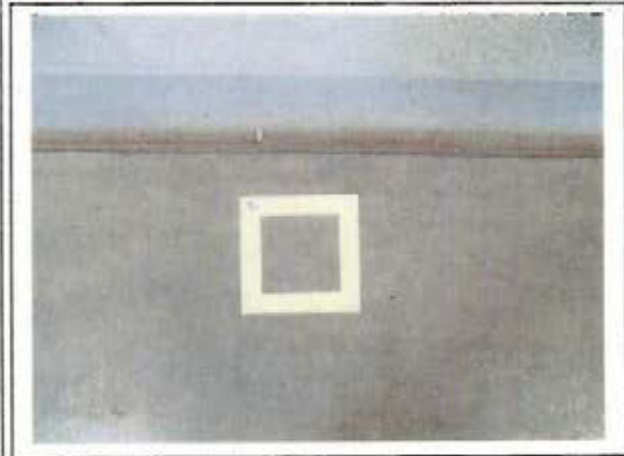


Photo #2- North drill hall wipe

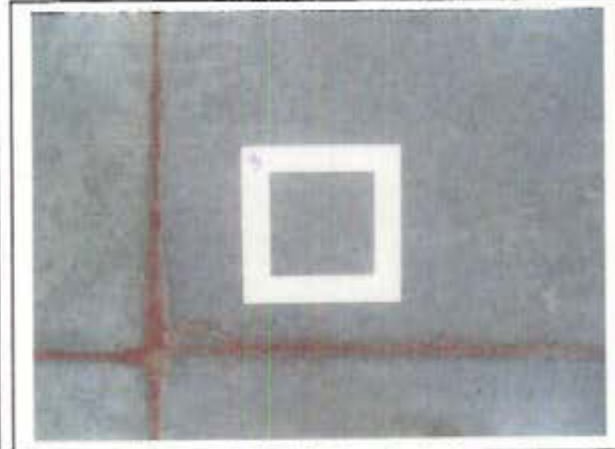


Photo #3- Center drill hall wipe

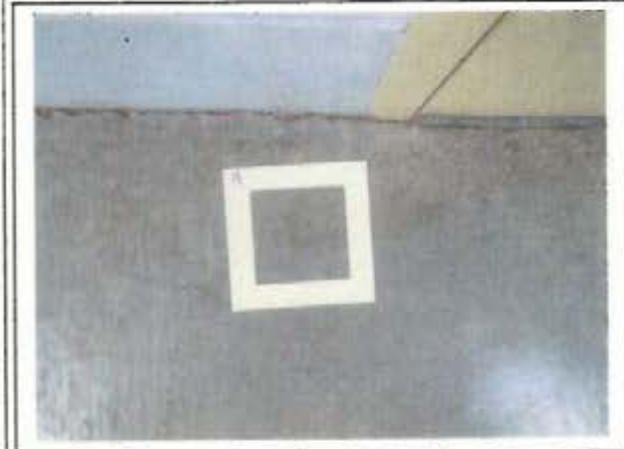


Photo #4- South drill hall wipe



Photo #5 – West drill hall wipe



Photo #6 – East drill hall wipe

**Photo Log**

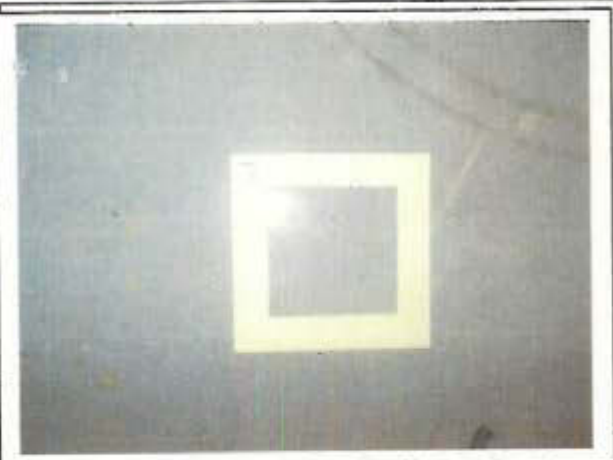


Photo #7 – North CIFR wipe

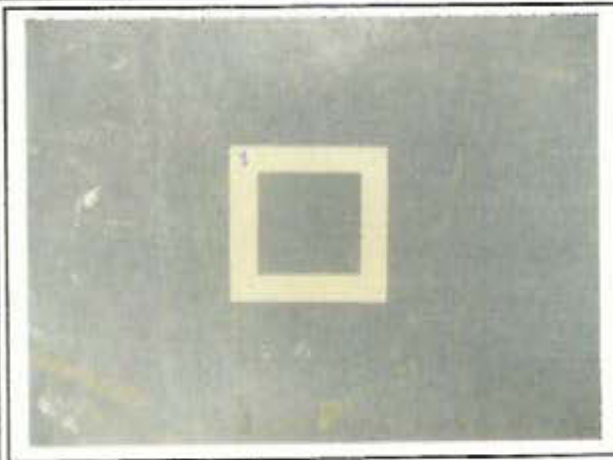


Photo #8- Center CIFR wipe



Photo #9 – South CIFR wipe



Photo #10 – West CIFR wipe



Photo #11 –East CIFR wipe



Photo #12 –CIFR/Maintenance bay



**Photo Log**



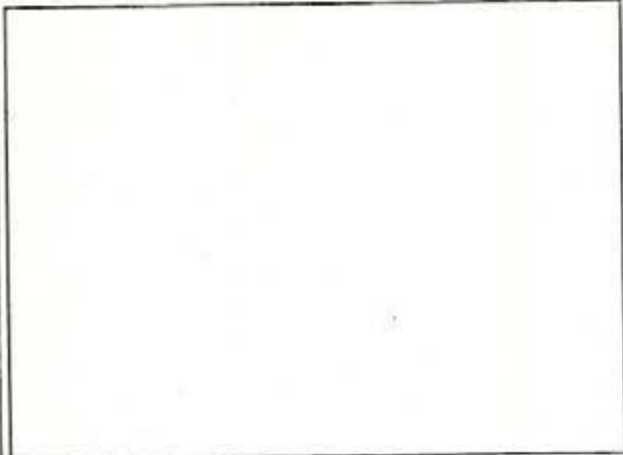
**Photo #13 – Old Maintenance bay**



**Photo #14-CIFR/Weight room**



**Photo #15 – Drill Hall**



## RESERVOIRS ENVIRONMENTAL, INC.

5801 Logan St., Suite 100

Denver CO 80216

### TABLE ANALYSIS: LEAD BY WIPE SAMPLING

RES Job Number: RES 303551-1  
Client: Aloha World  
Client Project Number / P.O.: 101214  
Client Project Description: Deming Armory  
Date Samples Received: October 21, 2014  
Analysis Type: USEPA SW846 3050B / AA (7420)  
Turnaround: 3-5 Day  
Date Samples Analyzed: October 27, 2014

Client ID Number	Lab ID Number	Sample Area (sq.ft.)	LEAD (µg)	Reporting Limit (µg/ft <sup>2</sup> )	LEAD CONCENTRATION (µg/ft <sup>2</sup> )
101214-1	EM 1280877	0.11	BRL	22.7	BRL
101214-2	EM 1280878	0.11	4.9	22.7	44.5
101214-3	EM 1280879	0.11	BRL	22.7	BRL
101214-4	EM 1280880	0.11	BRL	22.7	BRL
101214-5	EM 1280881	0.11	BRL	22.7	BRL
101214-6	EM 1280882	0.11	BRL	22.7	BRL
101214-7	EM 1280883	0.11	4.4	22.7	40.0
101214-8	EM 1280884	0.11	2.5	22.7	22.7
101214-9	EM 1280885	0.11	BRL	22.7	BRL
101214-10	EM 1280886	0.11	5.1	22.7	46.4
101214-11	EM 1280887	0.11	BRL	22.7	BRL

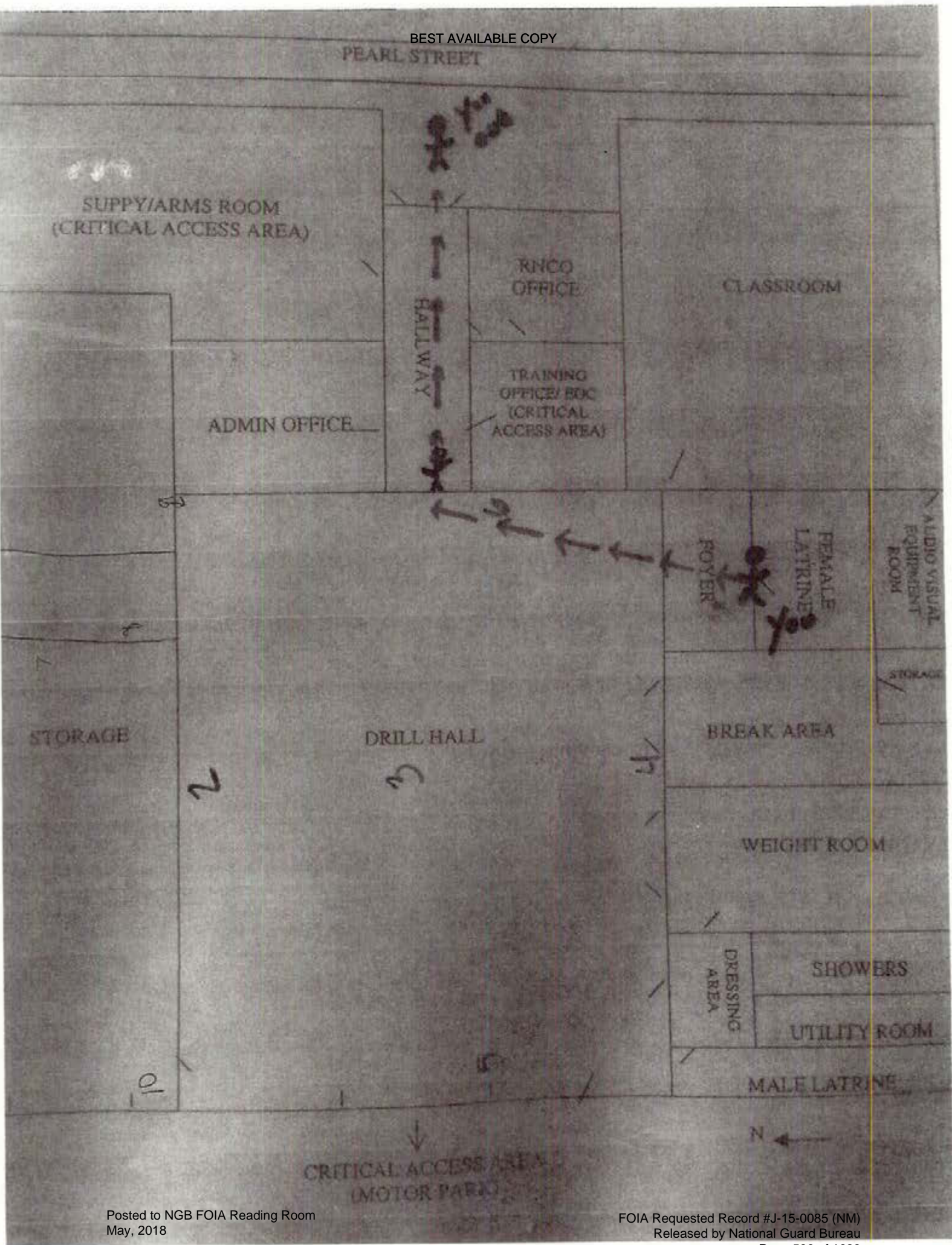
\*Calculations Based On A 1 sq.ft. Sample Area Unless Otherwise Noted

\* Unless otherwise noted all quality control samples performed within specifications established by the laboratory.

BRL = Below Reporting Limit

Non-Responsive





**Industrial Hygiene Southwest**  
**Violation Inventory Log**

**LOG OF SCHEDULE OF CORRECTIVE ACTION - COMPLIANCE WITH SAFETY AND HEALTH STANDARDS**  
**DEMING CDR, NEW MEXICO 88030**



CONTROL NUMBER	HAZARD DESCRIPTION	SITE	RAC	CORRECTIVE ACTIONS (Abatement Plan)	SUSPENSE DATE	ACTION OIG/NCOIC	Estimated Cost(s)	DATE CORRECTED	REFERENCES
CLOSED <input checked="" type="checkbox"/> NMIDA-10142014- 3.1 <input type="checkbox"/>	Lead levels exceeded the minimum requirements.	Armory	4	Occupational Safety and Health Administration (OSHA) standard for lead; 1910.1025 (h)(1) require that all surfaces shall be maintained as free as practicable of accumulations of lead. Any area that exceeds 40 ug/ ft2 should be thoroughly decontaminated. Utilize Clean-Up SOP provided in this report for future cleaning episodes.					Occupational Safety and Health Administration (OSHA) standard for lead; 1910.1025 (h)(1)





## ARMY NATIONAL GUARD INDUSTRIAL HYGIENE – SOUTHWEST

Guam • Hawaii • California • Oregon • Washington • Nevada • Arizona • Idaho • Utah • Wyoming • Montana • New Mexico • Nebraska

# Industrial Hygiene Site Assistance Visit

**Espanola Armory**  
2011 Industrial Park Road  
Espanola, NM 87532

---

10510 Superfortress Avenue, Suite C, Mather, CA 95655 (916) 854-1491



DEPARTMENT OF THE ARMY AND AIRFORCE  
NATIONAL GUARD BUREAU  
INDUSTRIAL HYGIENE SOUTHWEST  
10510 Superfortress Ave, Ste. C  
Mather, CA 95655

5 December 2012

ARNG-CSG-IHSW

MEMORANDUM THRU New Mexico Army National Guard, Deputy State Surgeon (DSS), 600 Wyoming Blvd NE, Albuquerque, NM 87123

FOR Commander, Espanola Armory 2011 Industrial Park Road, Espanola, New Mexico 87532

SUBJECT: Executive Summary for Industrial Hygiene Site Assistance Visit (IHSAV) for the Espanola Armory 2011 Industrial Park Road, NM conducted on 07 August 2012.

1. References. See survey report.

2. General.

a. At the request of the NGB Industrial Hygiene, Southwest (IHSW) Region, an Industrial Hygiene Site Assistance Visit and cursory review of safety related items and programs was conducted at the Espanola Armory 2011 Industrial Park Rd., Espanola, NM on 07 AUG 2012.

b. The findings and recommendations in this Executive Summary are controlling and supersede all recommendations in the contractor report (reference Attachment II). However, IHSW concurs with the observations and findings within the attached contractor report.

c. Risk Assessment Codes (RAC) provided in this report have been derived from two sources: Deriving Risk Assessment Codes (RAC's) for Health Hazards (Ref: DOD Instruction 6055.1) and AR 385-10, The Army Safety Program.

d. Use of trademark names in the attached report, or this Executive Summary, does not imply Army National Guard endorsement of any product.

3. Findings. See survey report.

4. Commendable.

a. The facility personnel were helpful during this SAV.

5. Observations / Recommendations.

NOTE: This section provides conclusions and recommendations for the findings and observations made within the attached contractors report. The paragraphs are numbered to correspond to the sections where they were first noted. (i.e., paragraph 2.1a represents the 2.1a located within the contractors report.

a. Make sure all monthly fire extinguisher inspections are completed and documented on the fire extinguisher tag. (para. 4.10.3) (RAC 4)



**ARNG-CSG-IHSW**

**SUBJECT:** Executive Summary for Industrial Hygiene Site Assistance Visit (IHSAV) for the Espanola Armory 2011 Industrial Park Road, NM conducted on 07 August 2012.

- b. Locate the asbestos survey for this building or contract to have a licensed firm to perform an asbestos survey and assessment. This should be part of the NM ARNG Asbestos Management Plan. (para. 4.4.1) (RAC 3)
- c. Upgrade the exhaust duct fan velocity, on west wall in the kitchen, to at least 500 fpm. (para. 4.8) (RAC 4)
- d. Provide personnel with asbestos awareness training to help prevent them from contaminating others, the building or themselves. (para. 4.4.2) (RAC 4)

**6. Violation Correction Log.**

a. IHSW has provided a Violation Correction Log derived from the observations from this visit. IHSW recommends the following:

- 1. Commander(s) assign an Action OIC/NCOIC, Suspense Date for completion, and Estimated Cost(s) to ensure item completion and corrective status is briefed during quarterly (or monthly) Safety Meetings/Councils until resolved.
- 2. Corrective measures should be implemented and accomplished at the lowest levels possible. Hazards and Corrective Measures that cannot be corrected at the facility level, and require assistance from higher headquarters or from the state level, should be elevated to the Quarterly State/BN Safety Council Meeting for resolution.
- 3. Recommend a representative from the facility attend all quarterly/monthly meetings to ensure the appropriate emphasis and corrective actions are followed for hazard resolution and abatement of the observations made during this visit.
- 4. Retain entries of the items corrected, or closed, for future reference. This may be accomplished by posting completed items within the Corrected Hazard Sheet portion of the Excel Violation Correction Log Workbook we've provided.
- 5. The preferred method to document and track identified hazards for resolution is for their entry into the Reserve Component Automation System – Safety and Occupational Health (RCAS-SOH) Program.
- b. IHSW recommends further program refinement through written documentation for standardized guidance to the personnel performing the processes. Conducting Hazard Assessments consistent with 29 Code of Federal Regulations (CFR) 1910.132, General Requirements for Personal Protective Equipment and AR 40-5, Preventive Medicine, would provide this continued program refinement.

**7. Hazard Assessment/Job Safety Analysis (JSA).**

- a. Documenting the Hazard Assessments provides a method to obtain initial and periodic review from the Industrial Hygiene, Occupational Health and Safety Professions located at the JFHQ/HQ/state level.
- b. The Hazard Assessments should be used as written training materials for the new, transfer and unit personnel working under the auspice of the facility.

ARNG-CSG-IHSW

**SUBJECT:** Executive Summary for Industrial Hygiene Site Assistance Visit (IHS AV) for the Espanola Armory 2011 Industrial Park Road, NM conducted on 07 August 2012.

c. IHSW recommends facility supervisory staff and facility personnel conduct initial Hazard Assessments outlined in AR 40-5, Army Preventive Medicine (Section V) and 29 CFR 1910.132 and submit for review and obtain approval from the state Industrial Hygiene, Occupational Health and Safety Professions.

d. We have provided an appendix with Hazard Assessments (HA) examples of some of this facilities operations. Additional operations can utilize this format to design HA not observed during this SAV.

e. An integral and important factor of the Hazard Assessment/JSA process is for the review and guidance from qualified Safety, Occupational Health and Industrial Hygiene professions located at the higher headquarters level or state level. For this reason, the Hazard Assessments (to include all pertinent and supporting documents) should be completed by the facility personnel and forward to the New Mexico Army National Guard Industrial Hygiene, Occupational Health and Safety Office for final review and approval (signature).

f. Job Safety Analysis (JSA's)/Hazard Assessments.

**NOTE:** The Hazard Assessments can be used for monthly meetings to brief/train, and document large group training events and activities.

**8. IHSW recommends the Senior Unit Commander of this Facility and any Co-Tenant Organizations or Units, review and provide assistance with implementation of these recommendations.** This will educate the chain of command and allow the unit or co-tenant organizations to take any necessary precautions or actions required by them and their personnel.

**9. To assist you with execution of your responsibilities in correcting the observations noted, we encourage you to consult with the State Safety Manager, Occupational Health Manager and Industrial Hygiene professions located and/or authorized within the State Safety and Occupational Health Office.**

**10. For additional information please contact the undersigned at (916) 854-1491 or via email at**

**Non-Responsive**

**Non-Responsive**

NGB, IHSW, CIV  
Industrial Hygiene





**Industrial Hygiene Southwest**  
**Violation Inventory Log**  
**LOG OF SCHEDULE OF CORRECTIVE ACTION - COMPLIANCE WITH SAFETY AND HEALTH STANDARDS**  
**Espanola Armory, New Mexico**

CONTROL NUMBER	HAZARD DESCRIPTION	SITE	RAC	CORRECTIVE ACTIONS (Abatement Plan)	SUSPENSE DATE	ACTION OIG/INCOIC	Estimated Cost(s)	DATE CORRECTED	REFERENCES
EA-080712-4.4.1 <input type="checkbox"/>	An asbestos survey could not be located during this IH Assistance Visit.	Espanola Armory	3	Either locate the asbestos survey for this building or contract with a licensed firm to perform an asbestos survey and assessment.					29 CFR 1910.1001(i)(3)(i)
EA-080712-4.4.2 <input type="checkbox"/>	Personnel have not been provided with asbestos awareness training.	Espanola Armory	4	Based on the findings of this survey, provide awareness training to assigned personnel for the specific types of asbestos in this Armory.					29 CFR 1910.1001(j)(3)(ii)
EA-080712-4.6.2 <input type="checkbox"/>	The flammable cabinet is not marked with the OSHA mandated warning label.	POL Room	4	Mark the storage cabinet as follows: "Flammable-Keep Fire Away."					Uniform Fire Code 79.201
EA-080712-4.8 <input type="checkbox"/>	The exhaust fan located along the west wall of the scullery and the kitchen exhaust fan did not have estimated duct velocities at a minimum of 500 fpm.	Scullery and Kitchen	4	Upgrade the duct velocity of the kitchen exhaust fan to at least 500 fpm.					NFPA, Standard 96, Section 8.2.1.1 (2011)
EA-080712-4.10.3 <input type="checkbox"/>	Fire extinguishers are strategically located throughout the armory. However, monthly inspections on all of the extinguishers were not current.	Espanola Armory	4	Perform and document monthly inspections on all fire extinguishers in the facility.					29 CFR 1910.157 (e) (2)
EA-080712-4.10.4 <input type="checkbox"/>	There is one emergency eyewash/shower located in the motor pool bay. This device was reported to be functional but leaking; as such, its use has been restricted with barriers.	Maintenance Bay	4	Repair the emergency eyewash/shower in the maintenance bay.					Recommended Practice



# Industrial Hygiene Southwest

## Violation Inventory Log

### LOG OF SCHEDULE OF CORRECTIVE ACTION - COMPLIANCE WITH SAFETY AND HEALTH STANDARDS Espanola Armory, New Mexico

CONTROL NUMBER	HAZARD DESCRIPTION	SITE	RAC	CORRECTIVE ACTIONS (Abatement Plan)	SUSPENSE DATE	ACTION OIC/NCOIC	Estimated Cost(s)	DATE CORRECTED	REFERENCES
CLOSED									
EA-080712-4.10.7 <input type="checkbox"/>	There are no ground fault circuit interrupter (GFCI) installed on the outlets within six feet of water sources in the scullery and kitchen.	Scullery and Kitchen	4	Install GFCI receptacles for all outlets located within six feet of a water source.					1910.303(b)(1) & NFPA 70, Article 210-8



- a. Drums shall be properly labeled to identify contents In-Accordance With (IAW) Federal, State and local regulatory guidance.
- b. Disposal of containerized waste shall be coordinated IAW State hazardous waste program requirements.
- c. The Environmental Office shall coordinate removal and disposal of all containerized hazardous waste through established waste streams.

**Post-Cleanup Precautionary Measures:**

1. Thoroughly wash hands with soap and water.
2. Rinse off rubber boots with soap and water, capturing wastewater for collection into established waste stream. If personnel choose to use over shoes for protection, dispose of overshoes into waste stream. NOTE: This recommendation is for initial clean up activities and PPE requirements may be reduced after it has been determined non-hazardous levels have been achieved.
3. Wash BDU's or personal clothing separately from children's clothes.

**NOTE:** No eating, drinking or cosmetics allowed during cleanup procedures (these may be allowed after washing of hands/face and done outside of cleanup area)

**NOTE:** Avoid blowing, shaking or like actions which could potentially disperses lead dust. Dry sweeping, dusting, wiping or blowing with compressed air shall not be permitted

**Initial Armory Cleanup:**

1. Use a vacuum cleaner equipped with a HEPA exhaust filter. HEPA vacuum all surfaces in the room (ceiling, walls trim, and floors). Start with the ceiling and work down, moving toward the entry door. Completely clean each room before moving on.
2. Prepare water and detergent for the wipe down phase, according to manufactures recommendations.

3. Wet wipe, with cotton rags or sponge, any horizontal, diagonal or vertical surfaces up six (6) feet from floor surfaces using hot water and "Spic-n-Span" or an equivalent product.
  - a. Rinse out cleaning cloths thoroughly and frequently.
  - b. Change out cleaning water as necessary.

**NOTE: If walls to be cleaned show signs of deterioration, e.g., chipping or crumbling paint, in which wiping, scrubbing, or disrupting might potentially increase or spread contamination, then this portion of the clean up should be avoided.**

4. Now prepare water and detergent (e.g. Spic N Span, Mr. Clean, Pine Sol) for the mopping phase, according to manufactures recommendations, which should be found on the products label for general clean up.
  - a. Change out water frequently (when water appears dirty)
  - b. Rinse out mop heads frequently to prevent contamination of dirty water.
5. Cover entire drill floor surface with above prescribed water and detergent.
6. Final rinse should be with clean water only - -after mop heads have been cleaned.

**Recommended Follow-up Housekeeping Practices** *after Clearance sampling of cleaned area is performed by certified personnel:*

1. Floor cleaning and dusting should be accomplished using the wet method described in Initial Armory Cleanup SOP.

**Note:** Only exception to these wet cleaning procedures would be the use of a chemically treated dust floor mop. This can be used for follow-up armory cleaning by sweeping of large particles of dirt and paper.

- a. Pre-treated (chemically treated) dust floor mop will limit dust particles from being disbursed into the surround atmosphere.



- b. If treated dust mop is used - -Do Not Shake Mop head - - have mop head laundered after use. **Always keep used dust mop heads in sealed double plastic bags when stored at armory/facility.** Shaking of mop head could release unwanted contaminants into surrounding atmosphere.
2. Frequency of Cleanup- Armories will vary, according to usage and how often they should be cleaned. The following general cleaning schedule is provided:
- a. Only full-time technicians and traditional soldiers using facility during the month. (*Cleaned Monthly*)
  - b. Occasional activities taking place during the month, e.g., 1-2 classes or volleyball games, etc. (*Cleaned 2x's Monthly*)
  - c. Used regularly by soldiers or outside agencies/personnel. (*Cleaned Regularly - -at least Weekly*)

**NOTE:** Armories with adjoining Indoor Firing Ranges (IFR) should be cleaned more than weekly, again depending on use of Armory and IFR.

**NOTE:** Clearance sampling/testing is to be accomplished by certified personnel after these cleanup procedures are followed. If the area is an average Armory, occupied by adults only, for which you are cleaning and **is not a Converted IFR space**, you may continue to utilize the Armory space before the officials re-test this space. Please notify your Safety and/or Occupational Health personnel of the completion of this cleaning regime and they will notify the proper officials of the sampling/testing requirements needed.

If work is contracted out, a third party should do the clearance sampling.

**Young children and females who are pregnant, there should be posted signs on all facilities, warning of the potential danger of exposure to lead dust.**

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**IH ASSISTANCE VISIT**

**New Mexico Army National Guard  
Espanola Armory  
2011 Industrial Park Road  
Espanola, New Mexico**

**November 20, 2012**

**Prepared for:**

**Industrial Hygiene Southwest  
10510 Superfortress Avenue, Suite C  
Mather, California 95655**

**Prepared by:**

**Non-Responsive**

Industrial Hygienist

**Reviewed by:**

**Non-Responsive**

Industrial Hygiene Services Manager

**Project #AL127261**

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Page 597 of 1628



## TABLE OF CONTENTS

## EXECUTIVE SUMMARY

<b>1.0</b>	<b>INTRODUCTION.....</b>	<b>1</b>
1.1	Objectives .....	1
1.2	Scope of Work .....	1
<b>2.0</b>	<b>PROCESS DESCRIPTION.....</b>	<b>1</b>
<b>3.0</b>	<b>METHODS AND APPLICABLE REGULATIONS AND STANDARDS.....</b>	<b>2</b>
3.1	Lead Wipe Sampling.....	2
3.2	Painted Surface Evaluation.....	2
3.3	Moisture Intrusion and Limited Visual Fungal Growth Evaluation.....	2
3.4	Asbestos Management .....	3
3.5	Heating, Ventilation, and Air-Conditioning Systems and Indoor Air Quality ..3	
3.6	Hazard Communication and Hazardous Material Storage.....	4
3.7	Safety Training and Record Keeping.....	4
3.8	Kitchen Ventilation Survey.....	4
3.9	Kitchen Appliance Sound-Level Measurements .....	4
3.10	General Safety Walk-Through.....	4
3.11	Equipment Used.....	5
3.12	Quality Assurance .....	5
<b>4.0</b>	<b>FINDINGS AND RECOMMENDATIONS.....</b>	<b>5</b>
4.1	Lead Wipe Sampling.....	5
4.2	Painted Surface Evaluation.....	6
4.3	Moisture Intrusion and Limited Visual Fungal Growth Evaluation .....	6
4.4	Asbestos Management .....	6
4.5	Heating, Ventilation, and Air-Conditioning Systems and Indoor Air Quality ..6	
4.6	Hazard Communication and Hazardous Material Storage.....	7
	4.6.1 Hazardous Materials Inventory and Material Safety Data Sheets (MSDS).....	7
	4.6.2 Flammable Storage Cabinets .....	7
	Flammable storage cabinets must be labeled conspicuously as follows: "Flammable-Keep Away from Open Flames.".....	8
4.7	Safety Training and Record Keeping.....	8
4.8	Kitchen Ventilation Survey.....	8
4.9	Kitchen Appliance Sound-Level Measurements .....	9
4.10	General Safety Walk-Through.....	9
<b>6.0</b>	<b>PROJECT LIMITATIONS .....</b>	<b>10</b>
<b>7.0</b>	<b>PROJECT APPROVAL .....</b>	<b>11</b>

**APPENDICES**

Appendix A	References
Appendix B	Assessment Criteria
Appendix C	Photo Log
Appendix D	Chemical Inventory
Appendix E	Floor Plan-IAQ Monitoring Locations and Water Stained Ceiling Tiles
Appendix F	Ventilation Data
Appendix G	Field Notes
Appendix H	Calibration Certificates
Appendix I	Lead Wipe and Lead Paint Chip Table and Drawing
Appendix J	Laboratory Reports
Appendix K	IHSW Violation Inventory Log
Appendix L	Recommendations
Appendix M	DD Forms 2214



## EXECUTIVE SUMMARY

On August 7, 2012, **Non-Responsive** PH, an Industrial Hygienist with IHI Environmental (IHI), conducted an IH Assistance Visit at the New Mexico Army National Guard Espanola Armory located at 2011 Industrial Park Road in Espanola, New Mexico.

The primary point of contact for information gathered during this survey was **Non-Responsive**

**Non-Responsive**

The objectives of this IH Assistance Visit were to perform the following activities:

- collect lead wipe samples;
- evaluate the condition of painted surfaces and collect paint chip samples for lead analysis where painted surfaces are peeling;
- inspect the interior rooms of the armory for water damage and the presence of fungal growth;
- review asbestos survey and assessment files and determine if documentation of asbestos awareness training is current;
- evaluate the condition of the Heating, Ventilation, and Air-Conditioning system, and collect indoor air quality data;
- review hazardous material storage and use procedures;
- review safety training and record keeping;
- perform a ventilation survey on the kitchen stove hood (if present);
- perform a noise survey on the kitchen appliances; and
- conduct a safety walk-through evaluation and note any existing safety hazards.

Significant findings for this IH Assistance Visit can be found in the Industrial Hygiene Southwest – Violation Inventory Log located in Appendix K of this report.

The report that follows this Executive Summary should be read in its entirety because it includes important information not included in this summary, such as task descriptions, work space locations, regulatory requirements, and additional recommendations.

## 1.0 INTRODUCTION

On August 7, 2012, **Non-Responsive** MPH, an Industrial Hygienist with IHI Environmental (IHI), conducted an IH Assistance Visit at the New Mexico Army National Guard Espanola Armory located at 2011 Industrial Park Road in Espanola, New Mexico. The primary point of contact for information gathered during this survey was **Non-Responsive**

**Non-Responsive**

### 1.1 Objectives

The objective of the IHI Assistance survey is to evaluate the occupational environment of the administrative areas in the armory to determine the presence of operational health and safety risks, and make recommendations for corrective actions or follow-up work to manage those risks.

### 1.2 Scope of Work

To achieve the above objectives at this facility, the survey included the following work:

- collect lead wipe samples;
- evaluate the condition of painted surfaces and collect paint chip samples for lead analysis where painted surfaces are peeling;
- inspect the interior rooms of the armory for water damage and the presence of fungal growth;
- review asbestos survey and assessment files and determine if documentation of asbestos awareness training is current;
- evaluate the condition of the Heating, Ventilation, and Air-Conditioning system and collect indoor air quality data;
- review hazardous material storage and use procedures;
- review safety training, and record keeping;
- perform a ventilation survey on the kitchen stove hood (if present);
- perform a noise survey on the kitchen appliances; and
- conduct a safety walk-through evaluation and note any existing safety hazards.

## 2.0 PROCESS DESCRIPTION

The Espanola Armory has two full-time guard members. The armory contains administrative offices, a recruiting center, training facilities, a drill floor, storage rooms, a locker room, and a motor pool bay. There are no civilian employees at this armory. Civilians use the



Espanola Armory for VA meetings, for celebratory and commemorative occasions, and to visit the recruiter's office.

Army National Guard members occasionally use the orderly room and the supply room as staging areas to clean weapons. The Department of Military Affairs, Maintenance Division, conducts regular maintenance of the building.

### **3.0 METHODS AND APPLICABLE REGULATIONS AND STANDARDS**

#### **3.1 Lead Wipe Sampling**

Lead residue (dust) wipe samples were collected on horizontal surfaces, such as the drill floor, kitchen, administrative areas, and indoor firing ranges (where present), to determine housekeeping standards. Lead Wipe™ brand wipes were used with a 100-square-centimeter template. The wipes used conform to American Standards for Testing Materials E1792, Standard Specification for Wipe Sampling Materials for Lead in Surface Dust. The collected wipe samples were placed in clean and labeled plastic containers. Samples were submitted to ALS Laboratories for analysis, using NIOSH Method 7300. See Appendix I for sample locations and Appendix J for laboratory results.

The Mather, California, office of Industrial Hygiene Southwest has developed a Standard Operating Procedure (SOP) for lead, which is a blend of OSHA, HUD, and Army regulations. Essentially, this SOP sets forth a criterion of 40 micrograms per square foot ( $\mu\text{g}/\text{ft}^2$ ) for converted indoor firing ranges, break rooms, floor surfaces, or any area that might be used for non-military functions. Additionally, a 200- $\mu\text{g}/\text{ft}^2$  criterion has been established for tool rooms, maintenance bays, furnace rooms, boiler rooms, storage closets, and other areas where general public access is not expected.

#### **3.2 Painted Surface Evaluation**

The interior of the armory was visually inspected for peeling paint on the walls and ceilings.

#### **3.3 Moisture Intrusion and Limited Visual Fungal Growth Evaluation**

The interior of the armory was visually inspected for signs of moisture intrusion that could result in fungal growth. Any signs of moisture intrusion (e.g., discoloration, staining, blistering) were noted and documented on a drawing for a follow-up evaluation.

### **3.4 Asbestos Management**

Armory personnel were asked if an asbestos survey and assessment had been conducted and whether there was a written Operations and Maintenance Program for the facility. IHI also reviewed any asbestos awareness training records.

### **3.5 Heating, Ventilation, and Air-Conditioning Systems and Indoor Air Quality**

An evaluation of the heating, ventilation, and air-conditioning (HVAC) systems that serve the armory was accomplished. This evaluation consisted of a visual inspection of the system to note any obvious problems, and a review of the facility maintenance plan, if one is available.

Carbon dioxide (CO<sub>2</sub>), temperature, and relative humidity were measured throughout the armory using a TSI Model 7565-X Q-Trak™ IAQ Monitor. The unit was calibrated before use with certified zero gas and 1,000-ppm CO<sub>2</sub> span gas. See Appendix E for IAQ data.

Carbon dioxide is a normal constituent of exhaled breath and is commonly measured as a screening tool to evaluate whether adequate fresh, outdoor air are being provided. If typical CO<sub>2</sub> levels within a building are maintained at or less than 1,000 ppm, with appropriate temperature and humidity levels, complaints about indoor air quality should be minimized (American Society for Testing and Material (ASTM) – International D6245-12, Using Indoor Carbon Dioxide Concentrations to Evaluate Indoor Air Quality). If a building exceeds this guideline, it should not be interpreted as an unhealthy or hazardous situation. An elevated CO<sub>2</sub> level is only an indication that the amount of outside air being brought into a building may be inadequate or poorly distributed and further investigation may be warranted.

In building areas where there are potential sources of CO<sub>2</sub> other than exhaled breath, the guidelines above cannot be used. The Occupational Safety and Health Administration (OSHA) standard for CO<sub>2</sub> should be used in these instances. The OSHA standard is an eight-hour time-weighted average (TWA) of 5,000 ppm with a short-term 15-minute average limit of 30,000 ppm.



### **3.6 Hazard Communication and Hazardous Material Storage**

A review of the armory's chemical inventory and Material Safety Data Sheet (MSDS) file was accomplished. Chemical storage areas, i.e., flammable storage cabinets/rooms, were also inspected.

### **3.7 Safety Training and Record Keeping**

An inspection of safety training programs and documentation was performed to determine if the armory's site-specific training programs and annual documentation were current.

### **3.8 Kitchen Ventilation Survey**

Duct velocity measurements are performed on facility kitchen exhaust hoods (when present) using a TSI VelociCalc, Model 9515.

The 2011 National Fire Protection Association Standard 96, Section 8.2.1.1 requires exhaust fan ducts used in commercial cooking equipment to have a duct velocity of not less than 500 feet per minute (fpm).

### **3.9 Kitchen Appliance Sound-Level Measurements**

Sound-pressure-levels of the kitchen appliances (when present) are measured using an MSA Type-2 Sound Level Meter in the dBA and dBC ranges, with the meter set on slow response. DD Forms 2214 are provided in Appendix M.

### **3.10 General Safety Walk-Through**

A limited Fire Life Safety Code walk-through evaluation of the armory was performed to

- document the presence of a fire alarm,
- determine if fire extinguishers are properly mounted and current on their monthly and annual inspections,
- determine if eyewash station inspections are current, and
- document any fire or safety hazards in the armory.

### 3.11 Equipment Used

The following equipment was used for this survey.

Type	Model Number	Serial Number	Calibration Date
TSI VelociCalc™	9515	T95151103007	05/03/2012
TSI Q-Trak™	7565-X	7565X 0812016	11/15/2011
MSA® Sound Level Meter Type II	Type 2	00035	02/10/2012

The calibration certificates for the equipment are attached in Appendix H.

### 3.12 Quality Assurance

IHI employs, at a minimum, the following methods to help assure quality of field investigations and reports:

- Use of appropriately educated and experienced personnel;
- Documentation of pertinent field and sampling information
- Continuing education of technical personnel through attendance at training sessions and conferences, and literature review;
- Peer and supervisory review of sampling strategy, field methods, calculations, and reports;
- Strict adherence to method requirements, in particular to NIOSH and OSHA, standard methods, including strict chain-of-custody protocol;
- Use of accredited laboratories, or, in cases where specific accreditation is not available, choice of laboratories of good reputation, having strong QA/QC programs.
- Calibration of instruments, including field calibration via manufacturers' recommended procedures and routine (typically annual) off-site calibration of equipment via certified third parties.

## 4.0 FINDINGS AND RECOMMENDATIONS

### 4.1 Lead Wipe Sampling

Analytical results for lead wipe sampling indicate all locations were below the analytical criterion outlined in the IHSW SOP. See Appendix I for a data table and a drawing showing sample locations and Appendix J for the laboratory reports. Photographs were taken of each sampling point and are presented in Appendix C.



**Recommendation**

None

**4.2 Painted Surface Evaluation**

There was no peeling paint noted in the surveyed areas within the Espanola Armory.

**Recommendation**

None

**4.3 Moisture Intrusion and Limited Visual Fungal Growth Evaluation**

Water-damaged ceiling tiles were noted in the north classroom and the southeast office; however, no fungal growth was observed.

**Recommendation**

None

**4.4 Asbestos Management**

An asbestos survey could not be located during this visit and personnel have not been provided with asbestos awareness training.

**Recommendations**

1. Locate the asbestos survey for this building or contract with a licensed firm to perform an asbestos survey and assessment.
2. Once asbestos-containing materials have been identified and assessed, provide awareness training to assigned personnel for the specific material types and locations of asbestos in this armory.

**4.5 Heating, Ventilation, and Air-Conditioning Systems and Indoor Air Quality**

The HVAC system servicing the armory consists of three Sterling® gas-fired packaged heating and cooling units, as well as, three Carrier® air-conditioning units mounted on the roof. The air-conditioning units provide filtered air.

The average outdoor CO<sub>2</sub> concentration at the time of the survey was 370 ppm. The highest CO<sub>2</sub> concentration measured inside the building was 461 ppm, which is unlikely to result in indoor air quality complaints.

Building air temperatures ranged from about 68.8°F to 74.5°F and relative humidity was between 36.4% and 56.4% during the survey period. Air temperatures were within the recommended comfort range of 68.0°F to 75.0°F and the relative humidity was also within than the recommended comfort range of between 30% and 60%. Humidity levels above 60% can result in proliferation of bacteria and fungi, while levels below 30% can cause dry eyes, skin, and mucous membranes.

The Department of Military Affairs, Maintenance Division maintains all HVAC units in the armory.

#### **Recommendation**

None

#### **4.6 Hazard Communication and Hazardous Material Storage**

##### **4.6.1 Hazardous Materials Inventory and Material Safety Data Sheets (MSDS)**

Inventories of all hazardous materials used by the armory along with their associated MSDSs are maintained in a master binder located in the foyer. There are also chemical inventories and MSDS binders located in the flammable materials storage room and the chemical storage room adjacent to the foyer. An inspection of the chemical inventory revealed that current products in use by the armory are all accounted for and their associated MSDSs are available.

Copies of chemical inventories are provided in Appendix D.

#### **Recommendation**

None

##### **4.6.2 Flammable Storage Cabinets**

There is one storage cabinet located in the Petroleum and Other Lubricants (POL) room.

The cabinet was inspected, and no storage incompatibilities or leaking materials were found; however, the cabinet is not marked with a Flammable Materials Caution sign. The cabinet was in good condition and all doors were noted to close properly.



## Recommendation

1. Mark the storage cabinet as follows : "Flammable-Keep Fire Away."

### 4.7 Safety Training and Record Keeping

The following safety documentation is maintained in the Espanola Armory:

- Army National Guard Safety Program: AGONM 385-10
- Army Safety Program: AR 385-10
- Safety Program Management Training Material
- Emergency Action Plan
- Safety SOP with references to various army regulations

The following safety training documentation is maintained in the Espanola Armory:

- Risk Management
- Heat and Cold Stress
- Safety Briefing
- Army Traffic Safety Program, Accident Avoidance Course

The last Safety Council Meeting was held on March 8, 2012. In addition, the NMARNG has numerous required computer based training courses with reference to safety training.

**Note:** IHI did not conduct a thorough evaluation of the contents or quality of any of the documents identified during this visit.

## Recommendation

None

### 4.8 Kitchen Ventilation Survey

The kitchen houses one exhaust ventilation hood located over the stove/oven along the north wall. The exhaust fan for this hood is located on the roof. Duct velocity measurements could not be obtained from the interior of the exhaust duct. Therefore, the duct velocity was calculated indirectly (estimated) by using the face velocity readings from the face of the hood, the area dimensions of the hood face, and the diameter of the exhaust duct. The average estimated duct velocity is: 241 fpm, which does not meet the NFPA recommended minimum of 500 fpm.

## Recommendation

1. Upgrade the kitchen exhaust ventilation hood duct velocity to at least 500 fpm.

### 4.9 Kitchen Appliance Sound-Level Measurements

Sound-level measurements were recorded for the following kitchen appliances:

- Scotsman® ice machine
- RTF manufacturing® refrigerator
- True® refrigerator
- McCall® refrigerator
- Exhaust hood serving the stove/oven
- Exhaust hood serving the dish washer
- Exhaust hood serving the sink

The garbage disposal, mixer, and dishwasher were not evaluated because they were non-operational on the day of the survey.

All operational equipment produced measured noise levels below 85 dBA and are not considered hazardous noise-producing equipment.

## Recommendation

None

### 4.10 General Safety Walk-Through

1. Housekeeping throughout the facility was fair.
2. There is a fire alarm in this facility maintained by **Non-Responsive** from state facilities.
3. Fire extinguishers are strategically located throughout the armory. However, monthly inspections on all of the extinguishers were not current.
4. There is one emergency eyewash/shower located in the motor pool bay. This device was reported to be functional but leaking; as such, its use has been restricted with barriers.
5. Fire evacuation routes are posted in most rooms of this armory.
6. Electrical panel boxes were inspected and were found to contain no exposed wiring or openings in the panel.



7. There are no ground fault circuit interrupter (GFCI) installed on the outlets within six feet of water sources in the scullery and kitchen.

### **Recommendations**

1. Perform and document monthly inspections on all fire extinguishers in the facility.
2. Repair the emergency eyewash/shower in the motor pool.
3. Install GFCI receptacles for all outlets located within six feet of a water source.

## **6.0 PROJECT LIMITATIONS**

This Project was performed using, as a minimum, practices consistent with standards acceptable within the industry at this time, and a level of diligence typically exercised by industrial hygiene and environmental consultants performing similar services.

The procedures used in this investigation attempt to establish a balance between the competing goals of limiting investigative and reporting costs and time, and reducing the uncertainty about unknown conditions. Therefore, because the findings of this report were derived from the scope, costs, time, and other limitations, the conclusions should not be construed as a guarantee that all environmental or occupational hazards have been identified and fully evaluated. Where sample collection and testing have been performed, IHI's professional opinions are based in part on the interpretation of data from discrete sampling locations that may not represent conditions at non-sampled locations. IHI assumes no responsibility for omissions or errors resulting from inaccurate information or data provided by sources outside of IHI, or from omissions or errors in public records.

Furthermore, it is emphasized that the final decision on how much risk to accept always remains with the client since IHI is not in a position to fully understand all of the client's needs. Clients with a greater aversion to risk may want to take additional actions while others, with less aversion to risk, may want to take no further action.

## 7.0 PROJECT APPROVAL

This IH Assistance Visit was reviewed and approved by:

**Non-Responsive**

Nov. 20, 2012

Date

Industrial Hygiene Services Manager

Technical Assistance: For technical assistance regarding information found in this report or the performed survey, please contact **Non-Responsive** at 801-466-2223, or **Non-Responsive** the Southwest Regional Industrial Hygiene Office at 916-804-1707.

Contact the State Safety and Occupational Health Office and/or the Regional Industrial Hygienist should any of the operations change, or should the personnel become incapable of following the previous recommendations and subsequent recommendations are needed.



## Appendix A

### References

- American Conference of Governmental Industrial Hygienists (ACGIH), Industrial Ventilation, A Manual of Recommended Practice
- American Conference of Governmental Industrial Hygienists (ACGIH), Threshold Limit Values for Chemical Substances and Physical Agents and Biological Indices
- American National Standards Institute (ANSI)/Illuminating Engineering Society (IES), Industrial Lighting.
- American National Standards Institute, Z358. 1-1998. Emergency Eyewash and Shower Equipment
- AR 40-5, Preventative Medicine
- AR 40-10, Appendix B – Health Hazard Assessment Program in Support of Army Material Acquisition Decision Process
- AR 385-10, The Army Safety Program
- Corps of Engineers Guide Specification, CEGS-1585 1, Overhead vehicle tailpipe (and welding fume) Exhaust Systems
- DA PAM 40-ERG, Ergonomics
- DA PAM 40-501, Hearing Conservation.
- National Safety Council, Fundamentals of Industrial Hygiene
- NOR 385-10, Army National Guard Safety and Occupational Health Program
- TB MED 503, The Army Industrial Hygiene Program
- TG022, US Army Environmental Hygiene Agency (USAEHA), Industrial Hygiene Evaluation Guide
- TG 141, US Army for Health Promotion and Preventive Medicine (USACHPPM) Industrial Hygiene Air Sampling Guide, Nov. 1997
- Title 29, Code of Federal Regulations (CFR), 2011, revision Part 1910, Occupational Safety and Health Standards

## **Appendix B**

### **Assessment Criteria**

#### **A. Ventilation Standards**

Ventilation rates were compared to recommendations made in 29 CFR 1910, ACGIH Industrial Ventilation Manual, and Corps of Engineers specifications. See Appendix A for reference information.

#### **B. Illumination Standards**

Illumination measurements were compared with recommendations made by the Industrial Engineering Society (IES)/American National Standards Institute (ANSI) RP7-1991 Standard and MIL-STD-1472E.

#### **C. Noise**

Noise measurements were taken and compared with OSHA Standard 29 CFR 1910.95 and Department of the Army Pamphlet 40-501.

#### **D. Air Sampling**

Personal air sampling was conducted in compliance with applicable NIOSH Analytical Methods. Sampling results were compared to relevant Occupational Safety and Health Administration (OSHA) Permissible Exposure Limits (PEL), American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLV), or National Institute of Occupational Safety and Health (NIOSH) Recommended Exposure Limits (REL).

#### **Occupational Safety and Health Administration (OSHA)**

OSHA has established Permissible Exposure Limits (PELs) for workplace toxic and hazardous substances listed in 29 CFR 1910.1000 Table Z-1. Most OSHA PELs are based on 8-hour time weighted averages (TWAs); when sampling periods differ from 8 hours, the result must first be converted to an 8-hour TWA before comparing it to the OSHA PEL. Some OSHA PELs are based on Short Term Exposures Limits (STEL) of 15 minutes of worst case exposure or Ceiling Limits of worst case peak exposures (sampled as a 15 minute exposure if direct-reading methods are not available).

OSHA regulations are legally enforceable. Employers are required to maintain employee exposures below PELs. The best practice is to eliminate hazards and use safer substitutes. Alternatively, engineering and/or administrative (work practice) controls may reduce exposures to acceptable levels. Personal protective equipment should be the solution of last resort, implemented after all other efforts to eliminate the hazard have been exhausted or deemed infeasible. OSHA 29 CFR 1910.134 covers the use of respiratory protection in the work place.



**American Conference of Governmental Industrial Hygienists (ACGIH)**

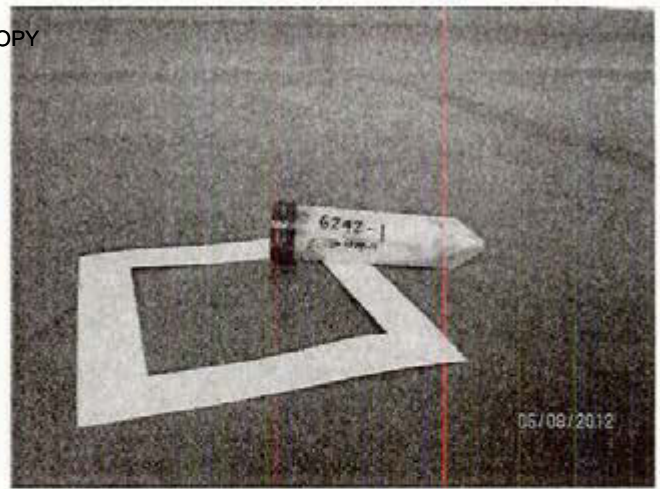
Unlike the OSHA PELs, the ACGIH TLVs are not consensus standards; however, TLVs represent a scientific opinion based on a review of existing peer-reviewed scientific literature by committees of experts in public health and related sciences.

**Occupational Exposure Limit**

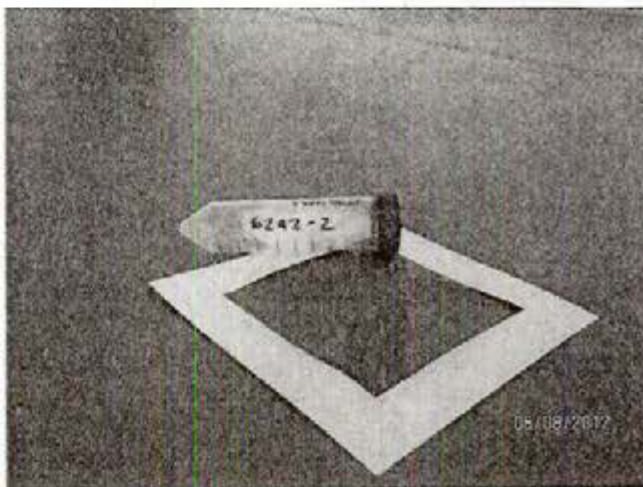
In accordance with the Department of the Army (DA) Pamphlet 40-503, Industrial Hygiene Program (DA PAM 40-503), "The DA mandates the use of ACGIH TLVs when they are more stringent than OSHA regulations or when there is no PEL." The DA defines the resulting exposure limit as the Occupational Exposure Limit (OEL).



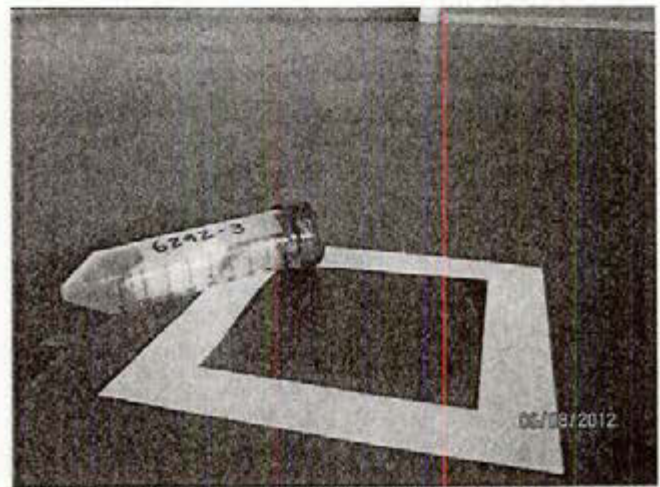
**Photograph 1**  
View of Espanola drill hall



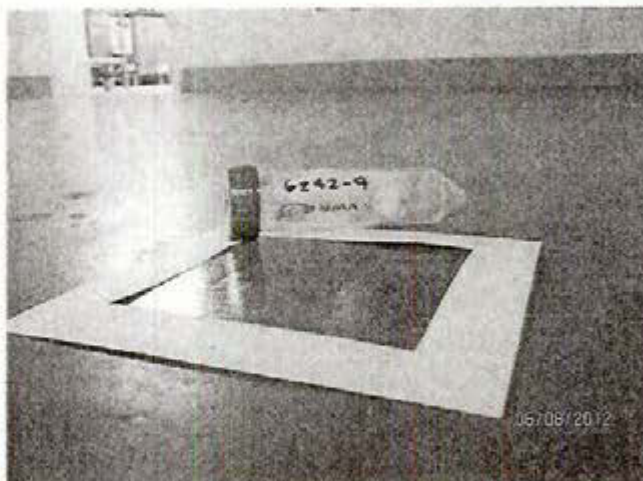
**Photograph 2**  
Wipe sample location 6242-1



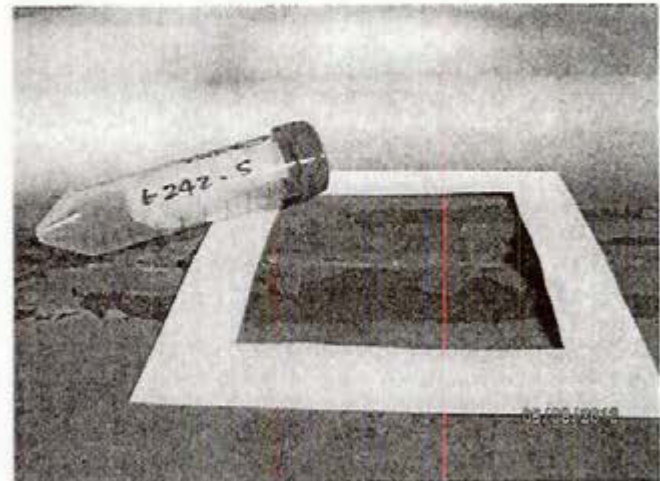
**Photograph 3**  
Wipe sample location 6242-2



**Photograph 4**  
Wipe sample location 6242-3

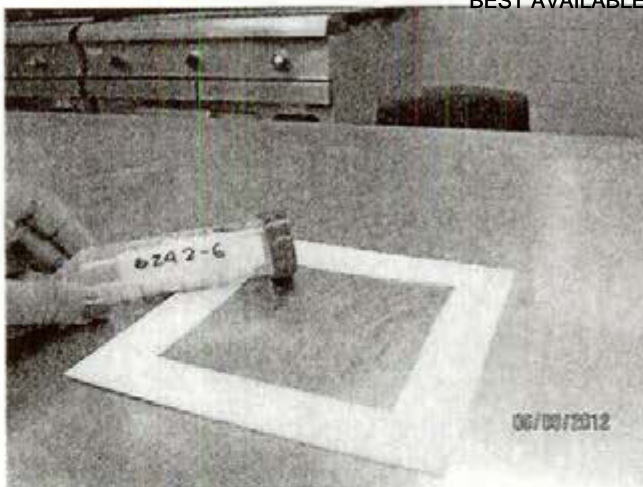


**Photograph 5**  
Wipe sample location 6242-4



**Photograph 6**  
Wipe sample location 6242-5

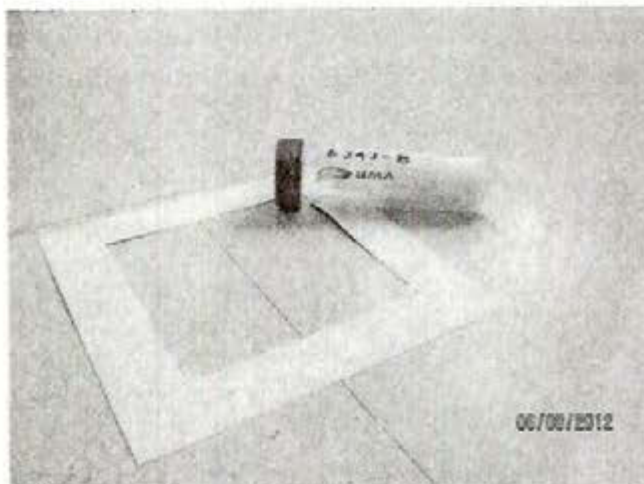




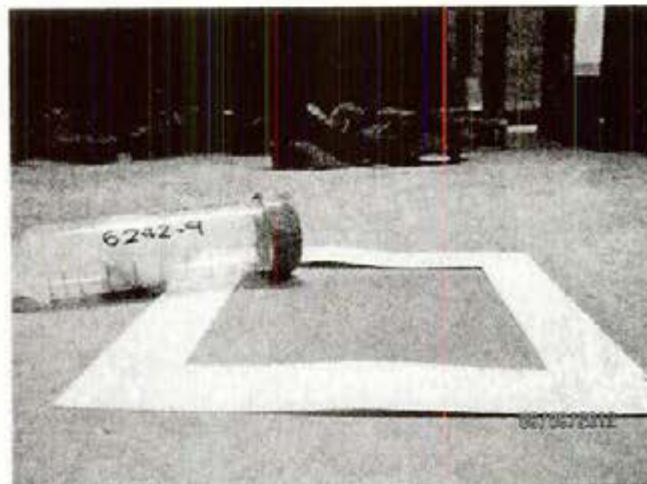
**Photograph 7**  
Wipe sample location 6242-6



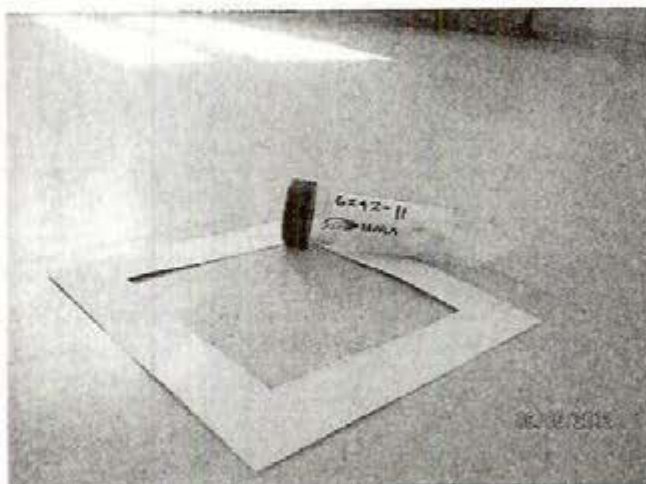
**Photograph 8**  
Wipe sample location 6242-7



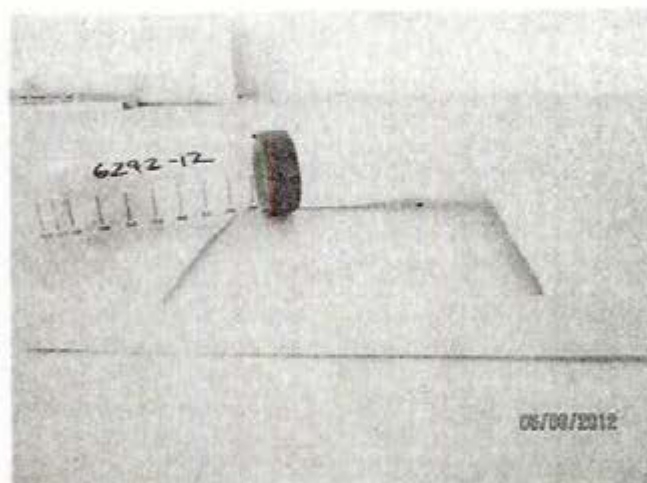
**Photograph 9**  
Wipe sample location 6242-8



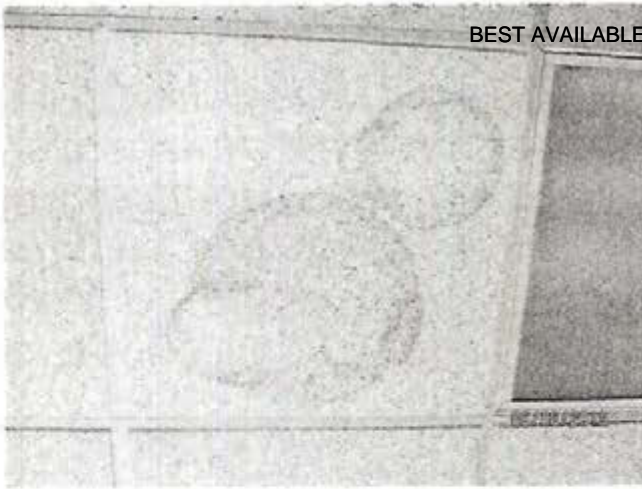
**Photograph 10**  
Wipe sample location 6242-9



**Photograph 11**  
Wipe sample location 6242-11



**Photograph 12**  
Wipe sample location 6242-12



**Photograph 13**  
Water Stained Ceiling Tiles in North Classroom



**Photograph 14**  
Kitchen exhaust hood over stove/oven



**Photograph 15**  
Roof exhaust fan for kitchen stove/oven



**Photograph 16**  
Fire extinguisher without inspection date documented



**Photograph 17**  
No GFCI installed within 6 feet of a water source

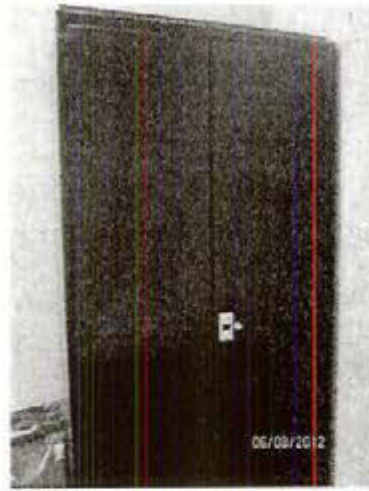


**Photograph 18**  
Closet containing hazardous chemicals





**Photograph 19**  
Cabinet containing flammables: Open



**Photograph 20**  
Cabinet containing flammables: Closed



**Photograph 21**  
Room containing flammable cabinet

Item Name	Item location
<del>Reg. Unleaded Gasoline</del>	<del>Tab 1.</del>
<del>Ortho Ground Clear</del>	<del>Tab 2.</del>
Husqvarna 30wt. Bar and Chain Oil	Tab 3.
Poulan Synthetic 2-Cycle	Tab 4.
<del>Gumout Carb and Choke Cleaner</del>	<del>Tab 5.</del>
<del>Power Care Chain, Bar and Sprocket Oil</del>	<del>Tab 6.</del>
Castrol Eng. Oil 15w40	Tab 7.
Guardol 15w40	Tab 8.
<del>Hydraulic Fluid Auto Transmission</del>	<del>Tab 9.</del>
<del>CLB Grease Magnet</del>	<del>Tab 10.</del>
Rust - Oleum aerosol	Tab 11.
SPRAY Paint Color Place Aerosols	Tab 12
Goof off	TAB 13
Odorless Mineral Spirits	TAB 14
Insect killer once + done	TAB 15
SILICONE RUBBER SEALANT	TAB 16
BLACK JACK ROOF CEMENT	TAB 17



## MSDS Checklist

ITEMS NAME	ITEM LOCATION
Misty Deodorizers	Tab 1
Comet	Tab 2
Festival Furniture Polish	Tab 3
Lotion Cleanser	Tab 4
RTU Glass Cleaner	Tab 5
Pine-O-Dis. Disinfectant Cleaner	Tab 6
Clorox	Tab 7
Elite Ammonia	Tab 8
Film Free RTU Glass Cleaner	Tab 9
Pex O Mite Wax stripper/South West Stripper	Tab 10
Allstar Sud'N Clean	Tab 11
Frequency 64 Neutral Cleaner	Tab 12
Baseboard Stripper	Tab 13
Pine 64	Tab 14
Raid	Tab 15
Purell Hand Sanitizer	Tab 16
Allstar X- Tractor	Tab 17
Dust mop Treatment	Tab 18
Furniture Polish	Tab 19
Stainless Steel Cleaner	Tab 20
Brady Hand and Body Foam	Tab 21
Snake-A-Way	Tab 22
Gojo Lotion Cream Soap	Tab 23
Hydrochloric Bowl Cleaner	Tab 24
Super six Quarterback	Tab 25
Dial Basic Foaming hand soap	Tab 26
Ram Rod Drain Opener	Tab 27
Thick Pink Industrial Soap	Tab 28

## Kitchen Stove/Oven Exhaust Duct Velocity Estimate

Face Dimensions = 7.75 X 81.75 Inches

Face Area = 4.40 ft<sup>2</sup>

### Face Vel. Measurement Points

1	3	5	7	9	11
2	4	6	8	10	12

### Face Velocity Measurements

Point      Flow rate (fpm)

1	121
2	135
3	162
4	152
5	130
6	128
7	120
8	112
9	127
10	126
11	138
12	129

Ave Flow Rate (V) = 131.67 fpm

Area of Face (A) = 4.40 ft<sup>2</sup>

Q = A x V

Q = 579.30 CFM

Exhaust Duct Diameter = 21 inches

Area of Roof Top Exhaust Duct = 2.41 ft<sup>2</sup>

Estimated Duct Velocity = 241 fpm



# **Army National Guard Armory Survey** (To Be Included In Report)

Five lead wipe samples collected from drill floor (take samples from dusty horizontal floor surfaces)	✓
Are any weapons cleaned in the facility, if yes where are they cleaned?	- Supply rm - orderly rm
Additional lead wipe samples taken from 25% of the rest of the building -- (on floor areas only)	✓
Is there a converted indoor firing range? If so collect additional wipe samples IAW the SOW.	No
Is there any peeling paint? Take bulk sample if able.	No
Are there any signs of water damage or mold?	yes- H <sub>2</sub> O. stained ceiling tiles
Any suspected ACM? Where and what condition is it in. Bulk sample if able.	- - -
Quality of housekeeping	good
HVAC maintenance plan in place?	State Facilities
Overall condition of HVAC system	Good
Obtained CO <sub>2</sub> , Temp, RH monitoring	✓
HAZMAT inventory on hand (make copies for the report), MSDS available for all materials.	
HAZMAT storage, Condition of lockers, if outside storage building is used is it ventilated and does it meet OSHA standards.	✓

Fire alarm in working condition - -not usually in place in older armories	✓
Fire extinguishers in place and properly identified and mounted	✓
Evidence of monthly fire extinguisher inspections	No -
Annual fire extinguisher inspections tags current	yes
Are eye wash stations available in areas where hazardous materials are used and are they inspected weekly (inspections must be documented)	eye wash present not functional
Egress routes accessible and properly marked - -noted on <u>Fire Evacuation Plan</u>	✓
Training programs in place; Hazcom, Respiratory Protection, Confined Spaces, Hearing conservation, PPE (if applicable)	✓
Any Photo labs	—
Any hazardous noise sources	No
Light levels checked throughout building	—
Breaker panels properly labeled with no exposed wiring	✓ no missing panels
Check building occupancy 1. How many military personnel, how many civilian personnel 2. What types of units occupy facility, i.e. Administrative, Maintenance, etc.?	2 mil personnel only unit is transportation
Any civilian activities in armory (cub scouts, classes, day care, parties etc)	yes
Obtain two lead air samples	—



Evaluate Kitchen Stove Hood Flow If Present IAW NFPA Standard 96	yes
Collect Source Noise Measurements of Kitchen Appliances and Document Using DD 2214	yes.
Conduct a safety walkthrough of entire facility document any safety deficiencies found.	yes - no GPEI w/in 6' of H <sub>2</sub> O sources- kitchen/sully - monthly checks on exting. not conducted
Take photos of outside of building, all sample points and any pertinent hazards or concerns.	
Name of Armory, POC, phone #, address and organizations in Armory	Non-Responsive 200 Industrial Pk Rd Non-Responsive

*ESPAÑOLA ARMORY*  
**FACILITY INFORMATION**  
(Information listed in First Section)  
(1<sup>st</sup> Few Paragraphs/Pages of Report)

1. Date Prepared: 20120807
2. Names (and Company Name) of Personnel Conducting Industrial Hygiene Site Assistance Visit: DEt 31115<sup>th</sup> Transportation Company
3. Facility Name and Brief Summary of Primary Activities Conducted at Facility:  
1115<sup>th</sup> Transportation Company, Truck Driving and Admin Activities.
4. Facility Address: PO Box 1367, Espanola, NM 87532
5. Primary Unit Assigned to Facility (Ensure to capture and provide Unit Identification Code (UIC)): **Non-Responsive**
6. Co-Tenant Units Assigned or Working Within Facility (LIST ALL): NONE
7. Square Ft. Area of Facility:
8. Work Schedule: Monday – Friday 0700-1700
9. Number of work bays: 1
10. Equipment Density and Type:
  - a. List Equipment Nomenclature Serviced or Maintained at Facility:
    - 10 ea 915A3
    - 20 ea 872A2
    - 1 ea LMTV
11. Total Number of Personnel: 2
12. No. of Admin. Personnel (Include Status – AGR, Fed. Tech., IDT, State or Contract Employee): 2 AGR
13. No. of Maintenance Personnel (Include Status – AGR, Fed. Tech., IDT, State or Contract Employee): 2 State Contract employees
14. Total Number of Personnel Enrolled in the Hearing Conservation Program: none
15. Total Number of Personnel Enrolled in the Respiratory Protection Program: none
16. Total Number of Personnel Enrolled in the Medical Surveillance Program: none



ESPAÑOLA ARMORY

PAGE 1 of 2

17. Total Number of Personnel Enrolled in the Vision Program: none

18. Facility Commander:

a. Email address, Commercial Telephone Number and Unit Assigned to:

**Non-Responsive**

DET 3 1115<sup>th</sup> Transportation Company

19. Safety Officer:

a. Email Address, Commercial Telephone Number and Unit Assigned to:

**Non-Responsive**

(505)474-2676

DET 3 1115<sup>th</sup> Transportation Company

20. Facility Telephone Number: (505)474-2676



## ***Technical Services Division***

### **Certificate of Calibration**

The following equipment was calibrated to manufacturer's specification with instrumentation whose accuracies are traceable to the *National Institute of Standards and Technology*.

Manufacturer: MSA  
Model: Sound Level Meter Type 2  
Serial Number: 00035  
Calibration Date: February 10, 2012  
Calibrated By: **Non-Responsive**

1111 South 27th Street Billings, Montana 59101  
1-800-947-7120





THE INDUSTRIAL DISTRIBUTION EXPERTS

## ***Technical Services Division***

### **Certificate of Calibration**

The following equipment was calibrated to manufacturer's specification with instrumentation whose accuracies are traceable to the *National Institute of Standards and Technology*.

Manufacturer: MSA

Model: Sound Level Calibrator 6950

Serial Number: 07349

Calibration Date: February 10, 2012

Calibrated By: **Non-Responsive**

1111 South 27th Street Billings, Montana 59101  
1-800-947-7120





# CERTIFICATE OF CALIBRATION AND TESTING

TSI Incorporated, 500 Cardigan Road, Shoreview, MN 55126 USA  
Tel: 1-800-874-2811 1-651-490-2811 Fax: 1-651-490-3824 <http://www.tsi.com>

ENVIRONMENT CONDITION			MODEL	7565-X
TEMPERATURE	66.9 (19.4)	°F (°C)	SERIAL NUMBER	7565X0812016
RELATIVE HUMIDITY	21	%RH		
BAROMETRIC PRESSURE	28.60 (968.5)	inHg (hPa)		

☒ AS LEFT  
☐ AS FOUND

☒ IN TOLERANCE  
☐ OUT OF TOLERANCE

## - CALIBRATION VERIFICATION RESULTS -

THERMO COUPLE				SYSTEM PRESSURE01-02			Unit: °F (°C)
#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	MEASURED	ALLOWABLE RANGE
1	72.3 (22.4)	72.3 (22.4)	70.3~74.3 (21.3~23.5)				

BAROMETRIC PRESSURE				SYSTEM PRESSURE01-02			Unit: inHg (hPa)
#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	MEASURED	ALLOWABLE RANGE
1	28.68 (971.2)	28.68 (971.2)	28.11~29.25 (951.9~990.5)				

TSI does hereby certify that the above described instrument conforms to the original manufacturer's specification (not applicable to As Found data) and has been calibrated using standards whose accuracies are traceable to the United States National Institute of Standards and Technology (NIST) or has been verified with respect to instrumentation whose accuracy is traceable to NIST, or is derived from accepted values of physical constants. TSI's calibration system is registered to ISO-9001:2008 and meets the requirements of ISO 10012:2003.

Measurement Variable	System ID	Last Cal.	Cal. Due	Measurement Variable	System ID	Last Cal.	Cal. Due
Temperature	E002416	03-25-11	03-25-12	Pressure	E003984	10-06-11	10-06-12
Pressure	E003982	10-03-11	04-03-12	DC Voltage	E003493	01-05-11	01-05-12

**Non-Responsive**

November 15, 2011

DATE

Doc. ID: CERT\_GEN\_WCC





# CERTIFICATE OF CALIBRATION AND TESTING

TSI Incorporated, 500 Cardigan Road, Shoreview, MN 55126 USA  
Tel: 1-800-874-2811 1-651-490-2811 Fax: 1-651-490-3824 <http://www.tsi.com>

ENVIRONMENT CONDITION			MODEL	7565-X
TEMPERATURE	67.1 (19.5)	°F (°C)	SERIAL NUMBER	7565X0812016
RELATIVE HUMIDITY	21	%RH		
BAROMETRIC PRESSURE	28.60 (968.5)	inHg (hPa)		

☐ AS LEFT  
☒ AS FOUND

☒ IN TOLERANCE  
☐ OUT OF TOLERANCE

## - CALIBRATION VERIFICATION RESULTS -

THERMO COUPLE				SYSTEM PRESSURE01-02			Unit: °F (°C)
#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	MEASURED	ALLOWABLE RANGE
1	72.3 (22.4)	72.1 (22.3)	70.3~74.3 (21.3~23.5)				

BAROMETRIC PRESSURE				SYSTEM PRESSURE01-02			Unit: inHg (hPa)
#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	MEASURED	ALLOWABLE RANGE
1	28.67 (970.9)	28.65 (970.2)	28.10~29.24 (951.6~990.2)				

TSI does hereby certify that the above described instrument conforms to the original manufacturer's specification (not applicable to As Found data) and has been calibrated using standards whose accuracies are traceable to the United States National Institute of Standards and Technology (NIST) or has been verified with respect to instrumentation whose accuracy is traceable to NIST, or is derived from accepted values of physical constants. TSI's calibration system is registered to ISO-9001:2008 and meets the requirements of ISO 10012:2003.

Measurement Variable	System ID	Last Cal.	Cal. Due	Measurement Variable	System ID	Last Cal.	Cal. Due
Temperature	E002416	03-25-11	03-25-12	Pressure	E003984	10-06-11	10-06-12
Pressure	E003982	10-03-11	04-03-12	DC Voltage	E003493	01-05-11	01-05-12

**Non-Responsive**

November 15, 2011

DATE

Doc ID: CERT\_GEN\_WCC





# CERTIFICATE OF CALIBRATION AND TESTING

TSI Incorporated, 500 Cardigan Road, Shoreview, MN 55126 USA  
Tel: 1-800-874-2811 1-651-490-2811 Fax: 1-651-490-3824 http://www.tsi.com

ENVIRONMENT CONDITION			MODEL	982
TEMPERATURE	66.7 (19.3)	°F (°C)	SERIAL NUMBER	P08100015
RELATIVE HUMIDITY	22	%RH		
BAROMETRIC PRESSURE	28.60 (968.5)	inHg (hPa)		

☐ AS LEFT  
☒ AS FOUND

☐ IN TOLERANCE  
☒ OUT OF TOLERANCE

## - CALIBRATION VERIFICATION RESULTS -

GAS CO2 AS FOUND				SYSTEM G-101				Unit: ppm
#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	MEASURED	ALLOWABLE RANGE	
1	0	0	0-50	4	2999	3063	2909-3089	
2	513.4	* 350.5	463.4-563.4	5	4934	* 5115.4	4786-5082	
3	1009.6	* 914.7	959.6-1059.6					

GAS CO AS FOUND				SYSTEM G-101				Unit: ppm
#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	MEASURED	ALLOWABLE RANGE	
1	35	35	32~38	2	100.1	* 95.6	97.1~103.1	

TEMPERATURE AS FOUND				SYSTEM T-101			Unit: °F (°C)
#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	MEASURED	ALLOWABLE RANGE
1	32.0 (0.0)	32.5 (0.3)	31.0~33.0 (-0.6~0.6)	2	140.0 (60.0)	140.5 (60.3)	139.0~141.0 (59.4~60.6)

HUMIDITY AS FOUND				SYSTEM H-102			Unit: %RH
#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	MEASURED	ALLOWABLE RANGE
1	10.0	9.7	7.0-13.0	4	70.0	68.3	67.0-73.0
2	30.0	29.6	27.0-33.0	5	90.0	87.4	87.0-93.0
3	50.0	49.3	47.0-53.0				

\*Indicates Out-of-Tolerance Condition

TSI does hereby certify that the above described instrument conforms to the original manufacturer's specification (not applicable to As Found data) and has been calibrated using standards whose accuracies are traceable to the United States National Institute of Standards and Technology (NIST) or has been verified with respect to instrumentation whose accuracy is traceable to NIST, or is derived from accepted values of physical constants. TSI's calibration system is registered to ISO-9001:2008 and meets the requirements of ISO 10012:2003.

Measurement Variable	System ID	Last Cal.	Cal. Due
5000 CO <sub>2</sub>	EB0021287	08-03-11	08-02-14
N <sub>2</sub>	K100246116	11-04-11	10-26-16
Flow	E003297	04-20-11	04-20-12
Flow	E003501	06-08-11	06-08-12
2000 C4H8	CC314662	06-04-09	06-04-12
Temperature	E003986	10-24-11	04-24-12
Humidity	E003539	08-30-11	02-29-12

Measurement Variable	System ID	Last Cal.	Cal. Due
200 CO	CC188518	07-28-11	07-27-14
Air	HP-T-098370	10-11-11	09-16-14
Flow	E003298	04-22-11	04-22-12
Flow	E003980	08-17-11	08-17-12
100 C4H8	EB0014789	05-06-09	05-06-12
Temperature	E003967	10-24-11	04-24-12

Non-Responsive

November 15, 2011

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TSI Incorporated, 500 Cardigan Road, Shoreview, MN 55126 USA  
Tel: 1-800-874-2811 1-651-490-2811 Fax: 1-651-490-3824 http://www.tsi.com

ENVIRONMENT CONDITION			MODEL	982
TEMPERATURE	70.2 (21.2)	°F (°C)	SERIAL NUMBER	P08100015
RELATIVE HUMIDITY	16	%RH		
BAROMETRIC PRESSURE	28.87 (977.7)	in-Hg (hPa)		
<input checked="" type="checkbox"/> AS LEFT <input type="checkbox"/> AS FOUND			<input checked="" type="checkbox"/> IN TOLERANCE <input type="checkbox"/> OUT OF TOLERANCE	

## - CALIBRATION VERIFICATION RESULTS -

TEMPERATURE VERIFICATION				SYSTEM T-101				Unit: °F (°C)	
#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	MEASURED	ALLOWABLE RANGE		
1	32.0 (0.0)	32.1 (0.0)	31.0-33.0 (-0.6-0.6)	2	140.0 (60.0)	140.1 (60.0)	139.0-141.0 (59.4-60.6)		

HUMIDITY VERIFICATION				SYSTEM H-102				Unit: %RH	
#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	MEASURED	ALLOWABLE RANGE		
1	10.0	9.4	7.8-12.2	4	70.0	69.8	67.8-72.2		
2	30.0	29.9	27.8-32.2	5	90.0	89.2	87.8-92.2		
3	50.0	50.2	47.8-52.2						

CO2 GAS VERIFICATION				SYSTEM G-101				Unit: ppm	
#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	MEASURED	ALLOWABLE RANGE		
1	0	0	0-50	4	3001	2993	2911-3091		
2	512	507	462-562	5	4926	4918	4778-5074		
3	1010	1010	960-1060						

CO GAS VERIFICATION				SYSTEM G-101				Unit: ppm	
#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	MEASURED	ALLOWABLE RANGE		
1	35	35	32-38	2	100	99	97-103		

TSI does hereby certify that the above described instrument conforms to the original manufacturer's specification (not applicable to As Found data) and has been calibrated using standards whose accuracies are traceable to the United States National Institute of Standards and Technology (NIST) or has been verified with respect to instrumentation whose accuracy is traceable to NIST, or is derived from accepted values of physical constants. TSI's calibration system is registered to ISO-9001:2008 and meets the requirements of ISO 10012:2003.

Measurement Variable	System ID	Last Cal.	Cal. Due
Temperature	E003986	10-24-11	04-24-12
Humidity	E003539	08-30-11	02-29-12
200 CO	CC188518	07-28-11	07-27-14
Air	HP-T-098370	10-11-11	09-16-14
Flow	E003298	04-22-11	04-22-12
Flow	E003980	08-17-11	08-17-12
100 C4H8	EB0014789	05-06-09	05-06-12

Measurement Variable	System ID	Last Cal.	Cal. Due
Temperature	B003987	10-24-11	04-24-12
5000 CO2	EB0015430	08-03-11	03-04-12
N2	K100246116	11-04-11	10-26-16
Flow	E003297	04-20-11	04-20-12
Flow	E003501	05-08-11	05-08-12
2000 C4H8	CC114662	06-04-09	05-04-12

**Non-Responsive**

November 16, 2011

DATE

Doc. ID: CERT\_GEN\_WCC





# CERTIFICATE OF CALIBRATION AND TESTING

TSI Incorporated, 500 Cardigan Road, Shoreview, MN 55126 USA  
Tel: 1-800-874-2811 1-651-490-2811 Fax: 1-651-490-3824 http://www.tsi.com

ENVIRONMENT CONDITION			MODEL	9515
TEMPERATURE	66.7 (19.3)	°F (°C)	SERIAL NUMBER	T95151103007
RELATIVE HUMIDITY	58	%RH		
BAROMETRIC PRESSURE	28.78 (974.6)	inHg (hPa)		

<input type="checkbox"/> AS LEFT	<input checked="" type="checkbox"/> IN TOLERANCE
<input checked="" type="checkbox"/> AS FOUND	<input type="checkbox"/> OUT OF TOLERANCE

## - CALIBRATION VERIFICATION RESULTS -

TEMPERATURE AS FOUND				SYSTEM T-101			Unit: °F (°C)
#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	MEASURED	ALLOWABLE RANGE
1	32.0 (0.0)	32.1 (0.1)	31.5-32.5 (-0.3-0.3)	2	140.0 (60.0)	139.7 (59.8)	139.5-140.5 (59.7-60.3)

VELOCITY VERIFICATION				SYSTEM V-107			Unit: ft/min (m/s)
#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	MEASURED	ALLOWABLE RANGE
1	0 (0.00)	0 (0.00)	-5-5 (-0.03-0.03)	7	700 (3.55)	686 (3.49)	665-735 (3.38-3.73)
2	30 (0.15)	26 (0.13)	25-35 (0.13-0.18)	8	1198 (6.09)	1195 (6.07)	1138-1258 (5.78-6.39)
3	61 (0.31)	61 (0.31)	56-66 (0.28-0.33)	9	1922 (9.76)	1915 (9.73)	1826-2018 (9.28-10.25)
4	100 (0.51)	99 (0.50)	95-104 (0.48-0.53)	10	2711 (13.77)	2724 (13.84)	2576-2847 (13.08-14.46)
5	200 (1.02)	199 (1.01)	190-210 (0.97-1.07)	11	3791 (19.26)	3818 (19.39)	3601-3980 (18.29-20.22)
6	406 (2.06)	407 (2.07)	386-427 (1.96-2.17)				

TSI does hereby certify that the above described instrument conforms to the original manufacturer's specification (not applicable to As Found data) and has been calibrated using standards whose accuracies are traceable to the United States National Institute of Standards and Technology (NIST) or has been verified with respect to instrumentation whose accuracy is traceable to NIST, or is derived from accepted values of physical constants. TSI's calibration system is registered to ISO-9001:2008 and meets the requirements of ISO 10012:2003.

Measurement Variable	System ID	Last Cal.	Cal. Due	Measurement Variable	System ID	Last Cal.	Cal. Due
Temperature	E003986	04-17-12	10-17-12	Temperature	E003987	04-17-12	10-17-12
DC Voltage	E001653	06-24-11	12-24-12	Barometric Pressure	E001992	04-06-12	04-06-13
Temperature	E001643	02-16-12	08-16-12	Pressure	E001718	12-07-11	06-07-12
Pressure	E002389	03-06-12	09-06-12	Velocity	E003327	09-19-07	09-19-12

**Non-Responsive**

May 3, 2012

VERIFIED

DATE

DOC ID: CERT\_GEN\_WCC





# CERTIFICATE OF CALIBRATION AND TESTING

TSI Incorporated, 500 Cardigan Road, Shoreview, MN 55126 USA  
Tel: 1-800-874-2811 1-651-490-2811 Fax: 1-651-490-3824 <http://www.tsi.com>

ENVIRONMENT CONDITION		MODEL	9515
TEMPERATURE	66.7 (19.3) °F (°C)	SERIAL NUMBER	T95151103007
RELATIVE HUMIDITY	58 %RH		
BAROMETRIC PRESSURE	28.78 (974.6) inHg (hPa)		

☒ IN TOLERANCE  
☐ OUT OF TOLERANCE  
☒ AS LEFT  
☐ AS FOUND

## - CALIBRATION VERIFICATION RESULTS -

TEMPERATURE VERIFICATION				SYSTEM T-101		Unit: °F (°C)
#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	MEASURED
1	32.0 (0.0)	32.1 (0.1)	31.5-32.5 (-0.3-0.3)	2	140.0 (60.0)	139.7 (59.8)
						ALLOWABLE RANGE
						139.5-140.5 (59.7-60.3)

VELOCITY VERIFICATION				SYSTEM V-111		Unit: ft/min (m/s)
#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	MEASURED
1	0 (0.00)	0 (0.00)	-5-5 (-0.03-0.03)	7	699 (3.55)	698 (3.55)
2	30 (0.15)	30 (0.15)	25-35 (0.13-0.18)	8	1203 (6.11)	1206 (6.12)
3	60 (0.30)	61 (0.31)	55-65 (0.28-0.33)	9	1901 (9.66)	1897 (9.64)
4	101 (0.51)	102 (0.52)	96-106 (0.49-0.54)	10	2705 (13.74)	2720 (13.82)
5	200 (1.01)	198 (1.01)	190-210 (0.96-1.07)	11	3804 (19.32)	3815 (19.38)
6	397 (2.02)	399 (2.03)	377-417 (1.91-2.12)			
						ALLOWABLE RANGE
						664-734 (3.37-3.73)
						1143-1263 (5.81-6.42)
						1806-1996 (9.18-10.14)
						2570-2841 (13.06-14.43)
						3614-3994 (18.36-20.29)

TSI does hereby certify that the above described instrument conforms to the original manufacturer's specification (not applicable to As Found data) and has been calibrated using standards whose accuracies are traceable to the United States National Institute of Standards and Technology (NIST) or has been verified with respect to instrumentation whose accuracy is traceable to NIST, or is derived from accepted values of physical constants. TSI's calibration system is registered to ISO-9001:2008 and meets the requirements of ISO 10012:2003.

Measurement Variable	System ID	Last Cal.	Cal. Due
Temperature	E003986	04-17-12	10-17-12
Barometric Pressure	E001992	04-06-12	04-06-13
Temperature	E001644	01-20-12	07-20-12
Pressure	E001058	01-18-12	01-18-13

Measurement Variable	System ID	Last Cal.	Cal. Due
Temperature	E003987	04-17-12	10-17-12
DC Voltage	E004398	12-08-11	06-08-12
Pressure	E004041	03-30-12	09-30-12
Velocity	E003327	09-19-07	09-19-12

May 3, 2012

DATE

**Non-Responsive**

CALIBRATION

Doc. ID: CERT\_GEN\_WCC



**Lead Wipe Sample Results**

Sample Number	Collection Date	Location	Result $\mu\text{g}/\text{ft}^2$
6242-01	8/7/2012	Drill Hall, S.E.	<23
6242-02	8/7/2012	Drill Hall, S.W.	<23
6242-03	8/7/2012	Drill Hall, N.W.	<23
6242-04	8/7/2012	Drill Hall, N.E.	<23
6242-05	8/7/2012	Drill Hall, center	34
6242-06	8/7/2012	Kitchen	<23
6242-07	8/7/2012	South office, desk top	<23
6242-08	8/7/2012	Orderly room	<23
6242-09	8/7/2012	Gun vault	31
6242-10	8/7/2012	Supply room, counter	<23
6242-11	8/7/2012	North classroom, South side	<23





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ANALYTICAL REPORT

Report Date: August 28, 2012

**Non-Responsive**

640 East Wilmington Avenue  
Salt Lake City, UT 84106

Phone: (801) 466-2223

Fax: (801) 466-9616

**Non-Responsive**

Workorder: **34-1223443**

Client Project ID: 12U-I6242/Espanola Armory

Purchase Order: 12U-I6242

Project Manager: **Non-Responsive**

**Analytical Results**

Sample ID: 6242-1		Media: Lead Dust Wipe		Collected: 08/07/2012
Lab ID: 1223443001		Sampling Location: Espanola Armory		Received: 08/21/2012
Method: NIOSH 7300 Mod.		Sampling Parameter: Area 100 cm²		Prepared: 08/24/2012 Analyzed: 08/27/2012
Analyte	ug/sample	ug/ft²	RL (ug/sample)	
Lead	<2.5	<23	2.5	

Sample ID: <b>6242-2</b>	Media: Lead Dust Wipe	Collected: 08/07/2012	
Lab ID: 1223443002	Sampling Location: Espanola Armory	Received: 08/21/2012	
Method: NIOSH 7300 Mod.	Sampling Parameter: Area 100 cm <sup>2</sup>	Prepared: 08/24/2012 Analyzed: 08/27/2012	
Analyte	ug/sample	ug/ft <sup>2</sup>	RL (ug/sample)
Lead	<2.5	<23	2.5

Sample ID: 6242-3		Media: Lead Dust Wipe		Collected: 08/07/2012
Lab ID: 1223443003		Sampling Location: Espanola Armory		Received: 08/21/2012
Method: NIOSH 7300 Mod.		Sampling Parameter: Area 100 cm²		Prepared: 08/24/2012
				Analyzed: 08/27/2012
Analyte	ug/sample	ug/ft²	RL (ug/sample)	
Lead	<2.5	<23	2.5	

Sample ID: <b>6242-4</b>	Media: Lead Dust Wipe	Collected: 08/07/2012
Lab ID: 1223443004	Sampling Location: Espanola Armory	Received: 08/21/2012
Method: NIOSH 7300 Mod.	Sampling Parameter: Area 100 cm²	Prepared: 08/24/2012 Analyzed: 08/27/2012
Analyte	ug/sample	ug/ft²      RL (ug/sample)
Lead	<2.5	<23      2.5

ADDRESS 960 West LeVoy Drive, Salt Lake City, Utah, USA 84123 | PHONE +1 801 266 7700 | FAX +1 801 268 9992  
ALS GROUP USA, CORP. Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental

[www.alsglobal.com](http://www.alsglobal.com)

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ANALYTICAL REPORT

Workorder: **34-1223443**  
Client Project ID: 12U-I6242/Espanola Armory  
Purchase Order: 12U-I6242  
Project Manager: **Non-Responsive**

**Analytical Results**

Sample ID: <b>6242-5</b>		Media: Lead Dust Wipe		Collected: 08/07/2012
Lab ID: 1223443005		Sampling Location: Espanola Armory		Received: 08/21/2012
Method: NIOSH 7300 Mod.		Sampling Parameter: Area 100 cm <sup>2</sup>		Prepared: 08/24/2012 Analyzed: 08/27/2012
Analyte	ug/sample	ug/ft <sup>2</sup>	RL (ug/sample)	
Lead	3.7	34	2.5	

Sample ID: <b>6242-6</b>		Media: Lead Dust Wipe		Collected: 08/07/2012
Lab ID: 1223443006		Sampling Location: Espanola Armory		Received: 08/21/2012
Method: NIOSH 7300 Mod.		Sampling Parameter: Area 100 cm <sup>2</sup>		Prepared: 08/24/2012 Analyzed: 08/27/2012
Analyte	ug/sample	ug/ft <sup>2</sup>	RL (ug/sample)	
Lead	<2.5	<23	2.5	

Sample ID: <b>6242-7</b>		Media: Lead Dust Wipe		Collected: 08/07/2012
Lab ID: 1223443007		Sampling Location: Espanola Armory		Received: 08/21/2012
Method: NIOSH 7300 Mod.		Sampling Parameter: Area 100 cm <sup>2</sup>		Prepared: 08/24/2012 Analyzed: 08/27/2012
Analyte	ug/sample	ug/ft <sup>2</sup>	RL (ug/sample)	
Lead	<2.5	<23	2.5	

Sample ID: <b>6242-8</b>		Media: Lead Dust Wipe		Collected: 08/07/2012
Lab ID: 1223443008		Sampling Location: Espanola Armory		Received: 08/21/2012
Method: NIOSH 7300 Mod.		Sampling Parameter: Area 100 cm <sup>2</sup>		Prepared: 08/24/2012 Analyzed: 08/27/2012
Analyte	ug/sample	ug/ft <sup>2</sup>	RL (ug/sample)	
Lead	<2.5	<23	2.5	

Sample ID: <b>6242-9</b>		Media: Lead Dust Wipe		Collected: 08/07/2012
Lab ID: 1223443009		Sampling Location: Espanola Armory		Received: 08/21/2012
Method: NIOSH 7300 Mod.		Sampling Parameter: Area 100 cm <sup>2</sup>		Prepared: 08/24/2012 Analyzed: 08/27/2012
Analyte	ug/sample	ug/ft <sup>2</sup>	RL (ug/sample)	
Lead	3.4	31	2.5	





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Workorder: **34-1223443**  
Client Project ID: 12U-I6242/Espanola Armory  
Purchase Order: 12U-I6242  
Project Manager: **Non-Responsive**

**Analytical Results**

Sample ID: <b>6242-10</b>	Media: Lead Dust Wipe	Collected: 08/07/2012
Lab ID: 1223443010	Sampling Location: Espanola Armory	Received: 08/21/2012
Method: NIOSH 7300 Mod.	Sampling Parameter: Area 100 cm <sup>2</sup>	Prepared: 08/24/2012 Analyzed: 08/27/2012
Analyte	ug/sample	ug/ft <sup>2</sup> RL (ug/sample)
Lead	<2.5	<23 2.5

Sample ID: <b>6242-11</b>	Media: Lead Dust Wipe	Collected: 08/07/2012
Lab ID: 1223443011	Sampling Location: Espanola Armory	Received: 08/21/2012
Method: NIOSH 7300 Mod.	Sampling Parameter: Area 100 cm <sup>2</sup>	Prepared: 08/24/2012 Analyzed: 08/27/2012
Analyte	ug/sample	ug/ft <sup>2</sup> RL (ug/sample)
Lead	<2.5	<23 2.5

Sample ID: <b>6242-12</b>	Media: Lead Dust Wipe	Collected: 08/07/2012
Lab ID: 1223443012	Sampling Location: Espanola Armory	Received: 08/21/2012
Method: NIOSH 7300 Mod.	Sampling Parameter: Area 100 cm <sup>2</sup>	Prepared: 08/24/2012 Analyzed: 08/27/2012
Analyte	ug/sample	ug/ft <sup>2</sup> RL (ug/sample)
Lead	<2.5	<23 2.5

Sample ID: <b>6242-13</b>	Media: Lead Dust Wipe	Collected: 08/07/2012
Lab ID: 1223443013	Sampling Location: Espanola Armory	Received: 08/21/2012
Method: NIOSH 7300 Mod.	Sampling Parameter: Area 100 cm <sup>2</sup>	Prepared: 08/24/2012 Analyzed: 08/27/2012
Analyte	ug/sample	ug/ft <sup>2</sup> RL (ug/sample)
Lead	<2.5	<23 2.5

Sample ID: <b>6242-14</b>	Media: Lead Dust Wipe	Collected: 08/07/2012
Lab ID: 1223443014	Sampling Location: Espanola Armory	Received: 08/21/2012
Method: NIOSH 7300 Mod.	Sampling Parameter: Area 100 cm <sup>2</sup>	Prepared: 08/24/2012 Analyzed: 08/27/2012
Analyte	ug/sample	ug/ft <sup>2</sup> RL (ug/sample)
Lead	<2.5	<23 2.5

**Report Authorization**

Method	Analyst	Peer Review
NIOSH 7300 Mod.	<b>Non-Responsive</b>	<b>Non-Responsive</b>





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ANALYTICAL REPORT

Workorder: **34-1223443**  
Client Project ID: 12U-I6242/Espanola Armory  
Purchase Order: 12U-I6242  
Project Manager: **Non-Responsive**

### Laboratory Contact Information

ALS Environmental  
960 W Levoy Drive  
Salt Lake City, Utah 84123

Phone: (801) 266-7700  
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### General Lab Comments

The results provided in this report relate only to the items tested.  
Samples were received in acceptable condition unless otherwise noted.  
Samples have not been blank corrected unless otherwise noted.  
This test report shall not be reproduced, except in full, without written approval of ALS.

ALS provides professional analytical services for all samples submitted. ALS is not in a position to interpret the data and assumes no responsibility for the quality of the samples submitted.

All quality control samples processed with the samples in this report yielded acceptable results unless otherwise noted.

ALS is accredited for specific fields of testing (scopes) in the following testing sectors. The quality system implemented at ALS conforms to accreditation requirements and is applied to all analytical testing performed by ALS. The following table lists testing sector, accreditation body, accreditation number and website. Please contact these accrediting bodies or your ALS project manager for the current scope of accreditation that applies to your analytical testing.

Testing Sector	Accreditation Body (Standard)	Certificate Number	Website
Environmental	ACCLASS (DoD ELAP)	ADE-1420	<a href="http://www.aiclasscorp.com">http://www.aiclasscorp.com</a>
	Utah (NELAC)	DATA1	<a href="http://health.utah.gov/lab/labimp/">http://health.utah.gov/lab/labimp/</a>
	Nevada	UT00009	<a href="http://ndep.nv.gov/bsdwl/labservice.htm">http://ndep.nv.gov/bsdwl/labservice.htm</a>
	Oklahoma	UT00009	<a href="http://www.deq.state.ok.us/CSDnew/">http://www.deq.state.ok.us/CSDnew/</a>
	Iowa	IA# 376	<a href="http://www.iowadnr.gov/InsideDNR/RegulatoryWater.aspx">http://www.iowadnr.gov/InsideDNR/RegulatoryWater.aspx</a>
	Florida (TNI)	E871067	<a href="http://www.dep.state.fl.us/labs/bars/sas/qa/">http://www.dep.state.fl.us/labs/bars/sas/qa/</a>
	Texas (TNI)	T104704456-11-1	<a href="http://www.tceq.texas.gov/field/qa/lab_accred_certif.html">http://www.tceq.texas.gov/field/qa/lab_accred_certif.html</a>
Industrial Hygiene	AIHA (ISO 17025 & AIHA IHLAP/ELLAP)	101574	<a href="http://www.aihaaccreditedlabs.org">http://www.aihaaccreditedlabs.org</a>
Lead Testing:			
CPSC	ACCLASS (ISO 17025, CPSC)	ADE-1420	<a href="http://www.aiclasscorp.com">http://www.aiclasscorp.com</a>
Soil, Dust, Paint, Air	AIHA (ISO 17025, AIHA ELLAP and NLLAP)	101574	<a href="http://www.aihaaccreditedlabs.org">http://www.aihaaccreditedlabs.org</a>
Dietary Supplements	ACCLASS (ISO 17025)	ADE-1420	<a href="http://www.aiclasscorp.com">http://www.aiclasscorp.com</a>

### Definitions

LOD = Limit of Detection = MDL = Method Detection Limit, A statistical estimate of method/media/instrument sensitivity.

LOQ = Limit of Quantitation = RL = Reporting Limit, A verified value of method/media/instrument sensitivity.

ND = Not Detected, Testing result not detected above the LOD or LOQ.

\*\* No result could be reported, see sample comments for details.

< This testing result is less than the numerical value.

( ) This testing result is between the LOD and LOQ and has higher analytical uncertainty than values at or above the LOQ.





# Industrial Hygiene Southwest

## Violation Inventory Log

### LOG OF SCHEDULE OF CORRECTIVE ACTION - COMPLIANCE WITH SAFETY AND HEALTH STANDARDS Espanola Armory, New Mexico

CONTROL NUMBER	HAZARD DESCRIPTION	SITE	RAC	CORRECTIVE ACTIONS (Abatement Plan)	SUSPENSE DATE	ACTION OIC/NCOIC	Estimated Cost(s)	DATE CORRECTED	REFERENCES
EA-080712-4.4.1 <input type="checkbox"/>	An asbestos survey could not be located during this IH Assistance Visit.	Espanola Armory	3	Either locate the asbestos survey for this building or contract with a licensed firm to perform an asbestos survey and assessment.					29 CFR 1910.1001(j)(3)(i)
EA-080712-4.4.2 <input type="checkbox"/>	Personnel have not been provided with asbestos awareness training.	Espanola Armory	4	Based on the findings of this survey, provide awareness training to assigned personnel for the specific types of asbestos in this Armory.					29 CFR 1910.1001(j)(3)(iii)
EA-080712-4.6.2 <input type="checkbox"/>	The flammable cabinet is not marked with the OSHA mandated warning label.	POL Room	4	Mark the storage cabinet as follows: "Flammable-Keep Fire Away."					Uniform Fire Code 79.201
EA-080712-4.8 <input type="checkbox"/>	The exhaust fan located along the west wall of the scullery and the kitchen exhaust fan did not have estimated duct velocities at a minimum of 500 fpm.	Scullery and Kitchen	4	Upgrade the duct velocity of the kitchen exhaust fan to at least 500 fpm.					NFPA, Standard 96, Section 8.2.1.1 (2011)
EA-080712-4.10.3 <input type="checkbox"/>	Fire extinguishers are strategically located throughout the armory. However, monthly inspections on all of the extinguishers were not current.	Espanola Armory	4	Perform and document monthly inspections on all fire extinguishers in the facility.					29 CFR 1910.157 (e) (2)
EA-080712-4.10.4 <input type="checkbox"/>	There is one emergency eyewash/shower located in the motor pool bay. This device was reported to be functional but leaking; as such, its use has been restricted with barriers.	Maintenance Bay	4	Repair the emergency eyewash/shower in the maintenance bay.					Recommended Practice



# Industrial Hygiene Southwest

## Violation Inventory Log

### LOG OF SCHEDULE OF CORRECTIVE ACTION - COMPLIANCE WITH SAFETY AND HEALTH STANDARDS Espanola Armory, New Mexico

CONTROL NUMBER	HAZARD DESCRIPTION	SITE	RAC	CORRECTIVE ACTIONS (Abatement Plan)	SUSPENSE DATE	ACTION OIC/NCOIC	Estimated Cost(s)	DATE CORRECTED	REFERENCES
EA-080712-4, 10.7 <input type="checkbox"/>	There are no ground fault circuit interrupter (GFCI) installed on the outlets within six feet of water sources in the scullery and kitchen.	Scullery and Kitchen	4	Install GFCI receptacles for all outlets located within six feet of a water source.					1910.303(b)(1) & NFPA 70, Article 210-8



## Summary of Recommendations for the Espanola Armory

### 4.4 Asbestos Management

#### Recommendations

1. Locate the asbestos survey for this building or contract with a licensed firm to perform an asbestos survey and assessment.
2. Once asbestos-containing materials have been identified and assessed, provide awareness training to assigned personnel for the specific material types and locations of asbestos in this armory.

### 4.6.2 Flammable Storage Cabinets

#### Recommendation

Mark the storage cabinet as follows: "Flammable-Keep Fire Away."

### 4.8 Kitchen Ventilation Survey

#### Recommendation

Upgrade the kitchen exhaust ventilation hood duct velocity to at least 500 fpm.

### 4.10 General Safety Walk-Through

#### Recommendations

1. Perform and document monthly inspections on all fire extinguishers in the facility.
2. Repair the emergency eyewash/shower in the motor pool.
3. Install GFCI receptacles for all outlets located within six feet of a water source.

# NOISE SURVEY

(Sound Level Meter Survey)

1. DATE (YYYYMMDD) 20120807				2. TYPE SURVEY (Enter code) 1 1 - INITIAL SURVEY 2 - RE-SURVEY 3 - OTHER				
3. SOUND LEVEL METER		4. MICROPHONE		5. CALIBRATOR				
a. MANUFACTURER MSA		a. MANUFACTURER MSA		a. MANUFACTURER MSA				
b. MODEL Type 2	c. SERIAL NO. 00035	b. MODEL Type 2	c. SERIAL NO. 00035	b. MODEL 6950	c. SERIAL NO. 07349			
d. LAST ELECTROACOUSTIC CALIB DATE (YYYYMMDD) 20120210		d. LAST ELECTROACOUSTIC CALIB DATE (YYYYMMDD) 20120210		d. LAST ELECTROACOUSTIC CALIB DATE (YYYYMMDD) 20120210				
6. WIND SCREEN (X one) <input checked="" type="checkbox"/> USED <input type="checkbox"/> NOT USED				7. MEASUREMENTS OBTAINED (X one) <input checked="" type="checkbox"/> INDOORS <input type="checkbox"/> OUTDOORS				
8. DESCRIPTION OF AREAS/DUTIES WHERE NOISE SURVEY CONDUCTED (Illustrate on additional sheet and attach to form) Espanola Armory Kitchen				9. PRIMARY SOURCE OF NOISE See 11a. column below				
				10. SECONDARY SOURCE OF NOISE				
11. SOUND LEVEL DATA					12. PROTECTION REQUIRED (re: dBA - Level)			
a. LOCATION	b. METER ACTION	c. dBC	d. dBA	e. RISK ASSESSMENT CODE	a. NONE (Less than 85)	b. PLUG OR MUFF (85-108)	c. PLUG AND MUFF (108-118)	d. PLUG + MUFF + TIME LIMIT (Greater than 118)
Exhaust fan over west sink	S	82	76	IVD	<input checked="" type="checkbox"/>			
Exhaust fan over dish washer	S	88	70	IVD	<input checked="" type="checkbox"/>			
					<input checked="" type="checkbox"/>			
					<input checked="" type="checkbox"/>			
					<input checked="" type="checkbox"/>			
					<input checked="" type="checkbox"/>			
NOTES: Range of levels noted by /; i.e., 102/109. At operator stations, measure at ear level. METER ACTION: Enter F for fast meter action and S for slow meter action.								
13. REMARKS (i.e., Area and equipment posted, hearing protection in use, etc.) Food mixer, dish washer, garbage disposa could not be surveyed because they were not functional on the day of the survey.								
14. MORE DETAILED NOISE EVALUATION REQUIRED:					<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO (If "YES," identify type evaluation needed.)			
15. NAME(S) OF PERSON(S) IDENTIFIED FOR AUDIOMETRIC MONITORING (Use additional sheet if more space is needed and attach to form)								
16. SUPERVISOR OF NOISE-HAZARDOUS AREA OR OPERATION								
a. NAME (Last, First, Middle Initial)			b. TELEPHONE (Include area code)			c. ORGANIZATION		
						RNG		
TION MONITOR (Last Name, First Name, MI)								

# Non-Responsive



NOISE SURVEY (Sound Level Meter Survey)									
1. DATE (YYYYMMDD) 20120807				2. TYPE SURVEY (Enter code) 1 1 - INITIAL SURVEY 2 - RE-SURVEY 3 - OTHER					
3. SOUND LEVEL METER			4. MICROPHONE			5. CALIBRATOR			
a. MANUFACTURER MSA			a. MANUFACTURER MSA			a. MANUFACTURER MSA			
b. MODEL Type 2		c. SERIAL NO. 00035	b. MODEL Type 2		c. SERIAL NO. 00035	b. MODEL 6950		c. SERIAL NO. 07349	
d. LAST ELECTROACOUSTIC CALIB DATE (YYYYMMDD) 20120210			d. LAST ELECTROACOUSTIC CALIB DATE (YYYYMMDD) 20120210			d. LAST ELECTROACOUSTIC CALIB DATE (YYYYMMDD) 20120210			
6. WIND SCREEN (X one) <input checked="" type="checkbox"/> USED <input type="checkbox"/> NOT USED				7. MEASUREMENTS OBTAINED (X one) <input checked="" type="checkbox"/> INDOORS <input type="checkbox"/> OUTDOORS					
8. DESCRIPTION OF AREAS/DUTIES WHERE NOISE SURVEY CONDUCTED (Illustrate on additional sheet and attach to form) Espanola Armory Kitchen						9. PRIMARY SOURCE OF NOISE See 11a. column below			
						10. SECONDARY SOURCE OF NOISE			
11. SOUND LEVEL DATA						12. PROTECTION REQUIRED (re: dBA - Level)			
a. LOCATION	b. METER ACTION	c. dBC	d. dBA	e. RISK ASSESSMENT CODE	a. NONE (Less than 85)	b. PLUG OR MUFF (85-108)	c. PLUG AND MUFF (108-118)	d. PLUG + MUFF + TIME LIMIT (Greater than 118)	
Scotsman ice machine (storage area)	S	82	78	IVD	X				
RTF Manufacturing refrigerator	S	80	74	IVD	X				
True refrigerator	S	73	66	IVD	X				
McCall refrigerator	S	80	66	IVD	X				
Gaylord exhaust fan over stove oven	S	83	71	IVD	X				
Kitchen exhaust fan over stove oven	S	81	70	IVD	X				
NOTES: Range of levels noted by /; i.e., 102/109. At operator stations, measure at ear level. METER ACTION: Enter F for fast meter action and S for slow meter action.									
13. REMARKS (i.e., Area and equipment posted, hearing protection in use, etc.)									
14. MORE DETAILED NOISE EVALUATION REQUIRED: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO (If "YES," identify type evaluation needed.)									
15. NAME(S) OF PERSON(S) IDENTIFIED FOR AUDIOMETRIC MONITORING (Use additional sheet if more space is needed and attach to form)									
16. SUPERVISOR OF NOISE-HAZARDOUS AREA OR OPERATION									
a. NAME (Last, First, MI)					b. TELEPHONE (Include area code)				
c. ORGANIZATION					d. AUDIOMETRIC MONITOR (Last Name, First Name, MI)				

# Non-Responsive

Adobe Professional 7.0

Oct 17, 2014



# ARMY NATIONAL GUARD INDUSTRIAL HYGIENE - SOUTHWEST

Guam • Hawaii • California • Oregon • Washington • Nevada • Arizona • Idaho • Utah • Wyoming • Montana • New Mexico • Nebraska

## Industrial Hygiene Site Assistance Visit

**Espanola Armory**  
2011 Industrial Park Road  
Espanola, NM 87532

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10510 Superfortress Avenue, Suite C, Mather, CA 95655 (916) 854-1494





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INDUSTRIAL HYGIENE SOUTHWEST  
10510 Superfortress Ave, Ste. C  
Mather, CA 95655

ARNG-CSG-P

16 NOV 2014

MEMORANDUM THRU **Non-Responsive** SOHM, 600 Wyoming Blvd, NE, Albuquerque, NM 87123

FOR Commander, Espanola Armory 2011 Industrial Park Rd, Espanola, NM 87523

**SUBJECT:** Executive Summary for a Site Assistant Visit (IHSAV) for Espanola Armory 2011 Industrial Park Rd, Espanola, NM on 17 OCT 2014.

1. References. See survey report.

2. General.

a. At the request of the NGB Industrial Hygiene, Southwest (IHSW) Region, an Industrial Hygiene Site Assistance Visit and cursory review of safety related items and programs was conducted at the Espanola Armory 2011 Industrial Park Rd, Espanola, NM on 17 OCT 2014.

b. The findings and recommendations in this Executive Summary are controlling and supersede all recommendations within the attached Industrial Hygienist report. However, IHSW concurs with the observations and findings within the attached Industrial Hygiene report.

c. Risk Assessment Codes (RAC) provided in this report have been derived from two sources: Deriving Risk Assessment Codes (RAC's) for Health Hazards (Ref: DOD Instruction 6055.1) and AR 385-10, The Army Safety Program.

d. Use of trademark names in the attached report, or this Executive Summary, does not imply Army National Guard endorsement of any product.

3. Findings. See survey report.

4. General Observations.

a. The armory does not have an Indoor Firing Range.

5. Observations / Recommendations.

**NOTE:** This section provides conclusions and recommendations for the findings and observations made within the attached contractors report. The paragraphs are numbered to correspond to the sections where they were first noted. (i.e., paragraph 2.1a represents the 2.1a located within the contractors report.

a. Check ceiling tile areas for water intrusion. Repair any areas where water intrusion has occurred

**SUBJECT:** Executive Summary for a Site Assistant Visit (IHSAV) of Espanola Armory 2011 Industrial Park Rd, Espanola, NM on 17 OCT 2014.

and remove water damaged materials and replace. (para. 3.3) (RAC 4)

b. Properly inspect fire extinguishers every month and document inspection on inspection tag attached to extinguisher. (para. 3.5) (RAC 3)

c. Update MSDSs to SDS format and add table of contents to help utilize index easier. Update by June 2016. (para. 3.5) (RAC 4)

#### **6. Violation Correction Log.**

a. IHSW has provided a Violation Correction Log derived from the observations from this visit. IHSW recommends the following:

(1) Commander(s) assign an Action OIC/NCOIC, Suspense Date for completion, and Estimated Cost(s) to ensure item completion and corrective status is briefed during quarterly (or monthly) Safety Meetings/Councils until resolved.

(2) Corrective measures should be implemented and accomplished at the lowest levels possible. Hazards and Corrective Measures that cannot be corrected at the facility level, and require assistance from higher headquarters or from the state level, should be elevated to the Quarterly State/BN Safety Council Meeting for resolution.

(3) Recommend a representative from the facility attend all quarterly/monthly meetings to ensure the appropriate emphasis and corrective actions are followed for hazard resolution and abatement of the observations made during this visit.

(4) Retain entries of the items corrected, or closed, for future reference. This may be accomplished by posting completed items within the Corrected Hazard Sheet portion of the Excel Violation Correction Log Workbook we've provided.

(5) The preferred method to document and track identified hazards for resolution is for their entry into the Reserve Component Automation System – Safety and Occupational Health (RCAS-SOH) Program.

b. IHSW recommends further program refinement through written documentation for standardized guidance to the personnel performing the processes. Conducting Hazard Assessments consistent with 29 Code of Federal Regulations (CFR) 1910.132, General Requirements for Personal Protective equipment and AR 40-5, Preventive Medicine, would provide this continued program refinement.

#### **7. Hazard Assessment/Job Safety Analysis (JSA).**

a. Documenting the Hazard Assessments provides a method to obtain initial and periodic review from the Industrial Hygiene, Occupational Health and Safety Professions located at the JFHQ/HQ/state level.

b. The Hazard Assessments should be used as written training materials for the new, transfer and unit personnel working under the auspice of the facility.



**SUBJECT:** Executive Summary for a Site Assistant Visit (IHSAB) of Espanola Armory 2011 Industrial Park Rd, Espanola, NM on 17 OCT 2014.

c. IHSW recommends facility supervisory staff and facility personnel conduct initial Hazard Assessments outlined in AR 40-5, Army Preventive Medicine (Section V) and 29 CFR 1910.132 and submit for review and obtain approval from the state Industrial Hygiene, Occupational Health and Safety Professions.

d. We have not provided an appendix with Hazard Assessments (HA) examples of some of this facilities operations. Additional operations can utilize this format to design HA not observed during this IHSAB.

e. An integral and important factor of the Hazard Assessment/JSA process is for the review and guidance from qualified Safety, Occupational Health and Industrial Hygiene professions located at the higher headquarters level or state level. For this reason, the Hazard Assessments (to include all pertinent and supporting documents) should be completed by the facility personnel and forward to the New Mexico Army National Guard Industrial Hygiene, Occupational Health and Safety Office for final review and approval (signature).

f. Job Safety Analysis (JSA's)/Hazard Assessments.

**NOTE:** The Hazard Assessments can be used for monthly meetings to brief/train, and document large group training events and activities.

8. IHSW recommends the Senior Unit Commander of this Facility and any Co-Tenant Organizations or Units, review and provide assistance with implementation of these recommendations. This will educate the chain of command and allow the unit or co-tenant organizations to take any necessary precautions or actions required by them and their personnel.

9. To assist you with execution of your responsibilities in correcting the observations noted, we encourage you to consult with the State Safety Manager, Occupational Health Manager and Industrial Hygiene professions located and/or authorized within the State Safety and Occupational Health Office.

10. For additional information please contact the NGB-IHSW office at (916) 854-1491 or via email at

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NGB, IHSW, CIV  
Regional Industrial  
Hygiene Manager

**Industrial Hygiene Southwest**

*Violation Inventory Log*

**LOG OF SCHEDULE OF CORRECTIVE ACTION - COMPLIANCE WITH SAFETY AND HEALTH STANDARDS  
ESPANOLA ARMORY, NEW MEXICO 87532**



CONTROL NUMBER	HAZARD DESCRIPTION	SITE	RAC	CORRECTIVE ACTIONS (Abatement Plan)	SUSPENSE DATE	ACTION OIC/NCOIC	Estimated Cost(s)	DATE CORRECTED	REFERENCES
CLOSED									
NMEA-10172014-3.3 <input type="checkbox"/>	There were ceiling tiles damaged from water intrusion.	Armory	4	Check ceiling tile areas for water intrusion. Repair any areas where water intrusion has occurred and remove water damaged materials and replace					General Duty Clause 5 (a)(1)
NMEA-10172014-3.6	The SDS file is still listed as MSDS since the Globally Harmonized System (GHS) Classification of Labeling Chemicals has just taken effect this year and the documents are still MSDS documents.	Armory	4	Update all MSDS for the facility with the new SDS format by June 2016					29 CFR 1910.1200(g)(8)
NMEA-10172014-3.6	Fire extinguishers, throughout the facility, were not being inspected monthly.	Armory	3	Annual and monthly inspection of fire extinguishers should be accomplished and recorded on fire extinguisher. Also, have kitchen suppression system checked and inspected annually.					29 CFR 1910.157(b)(1).



## *ARMORY*

### CLEANUP & FOLLOW-UP HOUSEKEEPING RECOMMENDATIONS

#### Materials Needed:

1. Cloth Mop head (s) & Mop head holder(s) with handle.
2. Mop bucket (s) with wringer.
3. Clean cotton rags and sponges.
4. Disposable gloves
5. Large barrel (55 gal.) to store wastewater in after changing out of dirty scrub water. Waste water containers.
6. Disposable overshoes or rubber boots. Personnel conducting cleaning operations should not take clothes, boots, etc., home for laundering.
7. HEPA vacuum
8. Six (6) mill plastic bags to dispose of waste.
9. Detergent with surfactant, e.g., Spic-N-Span, Mr. Clean, etc.

#### Disposal of Waste Water and Cleaning Materials:

1. *NOTE:* Consult with Local Army National Guard Environmental Office prior to taking any collection, disposal or wiping activities commence. Each state and territory may have additional regulatory guidance on collection, storage and disposal of wastewater.
2. Mop heads should be disposed of after initial cleanup, unless otherwise advised by Environmental office personnel. Note: thorough cleaning of mop heads may be sufficient enough to reuse on future Armory cleanups but check with local Environmental Office.
3. Disposable gloves should be treated as hazardous waste.
4. Soiled cotton rags should be treated as hazardous waste.
5. Wash water contaminated with Lead can be collected and allowed to slowly evaporate leaving Lead deposits/sludge that may be collected in plastic containers, placed in metal drums, and stored for future delivery to an authorized hazardous waste disposal site.

- a. Drums shall be properly labeled to identify contents In-Accordance With (IAW) Federal, State and local regulatory guidance.
- b. Disposal of containerized waste shall be coordinated IAW State hazardous waste program requirements.
- c. The Environmental Office shall coordinate removal and disposal of all containerized hazardous waste through established waste streams.

#### Post-Cleanup Precautionary Measures:

1. Thoroughly wash hands with soap and water.
2. Rinse off rubber boots with soap and water, capturing wastewater for collection into established waste stream. If personnel choose to use over shoes for protection, dispose of overshoes into waste stream. NOTE: This recommendation is for initial clean up activities and PPE requirements may be reduced after it has been determined non-hazardous levels have been achieved.
3. Wash BDU's or personal clothing separately from children's clothes.

*NOTE:* No eating, drinking or cosmetics allowed during cleanup procedures (these may be allowed after washing of hands/face and done outside of cleanup area)

*NOTE:* Avoid blowing, shaking or like actions which could potentially disperses lead dust. Dry sweeping, dusting, wiping or blowing with compressed air shall not be permitted

#### Initial Armory Cleanup:

1. Use a vacuum cleaner equipped with a HEPA exhaust filter. HEPA vacuum all surfaces in the room (ceiling, walls trim, and floors). Start with the ceiling and work down, moving toward the entry door. Completely clean each room before moving on.
2. Prepare water and detergent for the wipe down phase, according to manufactures recommendations.



3. Wet wipe, with cotton rags or sponge, any horizontal, diagonal or vertical surfaces up six (6) feet from floor surfaces using hot water and "Spic-n-Span" or an equivalent product.
  - a. Rinse out cleaning cloths thoroughly and frequently.
  - b. Change out cleaning water as necessary.

**NOTE: If walls to be cleaned show signs of deterioration, e.g., chipping or crumbling paint, in which wiping, scrubbing, or disrupting might potentially increase or spread contamination, then this portion of the clean up should be avoided.**

4. Now prepare water and detergent (e.g. Spic N Span, Mr. Clean, Pine Sol) for the mopping phase, according to manufactures recommendations, which should be found on the products label for general clean up.
  - a. Change out water frequently (when water appears dirty)
  - b. Rinse out mop heads frequently to prevent contamination of dirty water.
5. Cover entire drill floor surface with above prescribed water and detergent.
6. Final rinse should be with clean water only - -after mop heads have been cleaned.

**Recommended Follow-up Housekeeping Practices** *after Clearance sampling of cleaned area is performed by certified personnel:*

1. Floor cleaning and dusting should be accomplished using the wet method described in Initial Armory Cleanup SOP.

**Note:** Only exception to these wet cleaning procedures would be the use of a chemically treated dust floor mop. This can be used for follow-up armory cleaning by sweeping of large particles of dirt and paper.

- a. Pre-treated (chemically treated) dust floor mop will limit dust particles from being disbursed into the surround atmosphere.

- b. If treated dust mop is used - -Do Not Shake Mop head - - have mop head laundered after use. Always keep used dust mop heads in sealed double plastic bags when stored at armory/facility. Shaking of mop head could release unwanted contaminants into surrounding atmosphere.
2. Frequency of Cleanup- Armories will vary, according to usage and how often they should be cleaned. The following general cleaning schedule is provided:
- a. Only full-time technicians and traditional soldiers using facility during the month. (*Cleaned Monthly*)
  - b. Occasional activities taking place during the month, e.g., 1-2 classes or volleyball games, etc. (*Cleaned 2x's Monthly*)
  - c. Used regularly by soldiers or outside agencies/personnel. (*Cleaned Regularly - -at least Weekly*)

*NOTE:* Armories with adjoining Indoor Firing Ranges (IFR) should be cleaned more than weekly, again depending on use of Armory and IFR.

*NOTE:* Clearance sampling/testing is to be accomplished by certified personnel after these cleanup procedures are followed. If the area is an average Armory, occupied by adults only, for which you are cleaning and is **not a Converted IFR space**, you may continue to utilize the Armory space before the officials re-test this space. Please notify your Safety and/or Occupational Health personnel of the completion of this cleaning regime and they will notify the proper officials of the sampling/testing requirements needed.

If work is contracted out, a third party should do the clearance sampling.

Young children and females who are pregnant, there should be posted signs on all facilities, warning of the potential danger of exposure to lead dust.



# NEW MEXICO ARMY NATIONAL GUARD

## ESPANOLA ARMORY

2011 Industrial Park Rd  
Espanola, NM 87532  
(505) 474 2676



**Submitted to:**

**Non-Responsive**

National Guard Bureau  
Southwest Region Industrial Hygiene Office  
10510 Superfortress Avenue  
Suite C  
Mather, CA 95655

## Table of Contents

- 1.0 Introduction and Background
- 2.0 Survey Procedures and Equipment Used
- 3.0 Findings and Recommendations
  - 3.1 Lead Wipe Sampling
  - 3.2 Asbestos Survey
  - 3.3 Indoor Air Quality and HVAC Systems
  - 3.4 Exhaust and Ventilation Systems
  - 3.5 Hazardous Materials Use and Storage
  - 3.6 Physical Safety and Condition of Facility
  - 3.7 Sound Level Survey
  - 3.8 Illumination Survey
  - 3.9 Safety Policies, Training, and Record Keeping
  - 3.10 Recurring event
- 4.0 Industrial Hygienist Certification and Project limitations
- 5.0 Technical Assistance

### Appendices

Appendix A	References
Appendix B	Assessment Criteria
Appendix C	Photograph Log
Appendix D	Floor Plans / Illumination Survey
Appendix E	Lab Analysis / Sampling Location & Log
Appendix F	ARNG Armory Survey Checklist
Appendix G	Chemical List
Appendix H	Recommendations
Appendix I	Violation Inventory Log

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## INDUSTRIAL HYGIENE ASSISTANCE VISIT ESPANOLA ARMORY ESPANOLA, NEW MEXICO



### 1.0. Introduction and Background

1.1. This report summarizes the results of the Industrial Hygiene (IH) Survey conducted at the Espanola Armory in Espanola, NM on October 17, 2014. The Army National Guard of Industrial Hygiene Southwest Regional Manager (ARNG-IHSW) requested **Non-Responsive** to visit the Espanola Armory to evaluate ventilation, lighting, noise, and verify vehicle and hazardous materials inventories. The IH Survey also included an interview with **Non-Responsive** regarding industrial hygiene, OSHA training compliance, personnel Federal Employees Compensation Act (FECA) claims, as well as safety standards in the work area. Finally, the IH Assessment included the development of employee profiles as baseline administrative occupational health records for employees. **Non-Responsive** completed this survey.

1.2. The following sections will provide details on how the IH Survey was conducted. A drawing showing the facility layout and sampling locations is included as **Attachment E**. The most stringent OSHA, ARNG, Corps of Engineers (COE), American National Standards Institute (ANSI), American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) and Design Guide standards in effect at the time of the survey were used to assess the workplace.

1.3. The Espanola Armory supports the 1115<sup>th</sup> Detachment Taos. The Armory has 1 full time guard member, **Non-Responsive** and approximately 54 guardsmen and women on drill weekend. This armory was constructed in 1992. The armory has offices that are used for administrative purposes and also contains a drill floor, arms room, supply room, classrooms and an industrial kitchen.

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There is not a Converted Indoor Firing Range (CIFR) in this facility. There is a maintenance bay at this facility. However, it is primarily used for storage at this time. All vehicle maintenance is done at the CSMS in Santa Fe.

## 2.0. Survey Procedures

2.1. Lead wipe samples were collected on dusty horizontal floor surfaces in the facility including but not limited to the drill floor, maintenance bay and supply room. "Ghost Wipe" brand wipes was used with a 16 square inch template. The wipes used conform to American Standards for Testing Materials E1792-96A, *Standard Specification for Wipe Sampling Materials for Lead in Surface Dust*. The collected wipe samples were placed in clean, labeled centrifuge tubes. Samples were submitted to Reservoir Environmental Services, Inc for analysis via Flame Atomic Absorption, USEPA Method SW846 3050B. Laboratory results are listed in micrograms of lead per square foot ( $\mu\text{g}/\text{ft}^2$ ). Copies of the raw analytical data are presented in **Appendix E**.

A visual inspection of materials utilized in this 1992 constructed building was performed. All accessible areas of the facility were visually inspected to identify suspect asbestos-containing materials (ACM).

Illumination measurements were taken in several areas of the armory using a Konica Minolta Light Meter, Model TL1. Measurements in the office and classroom areas were taken at typical work locations, such as the tops of desks and near computer workstations.

### Equipment Used

Type	Model Number	Serial Number	Calibration Date
Konica Minolta	TL1	00279029	September 2014

## 3.0. Findings and Recommendations

**Lead wipe sampling-** Analytical results from the lead wipe sampling obtained from the armory are found in Table 3.1.A. A graphical and written representation of sampling locations can be found in Appendix E along with analytical reports. Photographs were taken of each sample point and are presented in Appendix C. There are currently no standards that dictate what a safe level of lead is from a wipe sample. Lead sampling results can be compared to the protocol outlined in the U.S. Department of Housing and Urban Development's (HUD's) *Guidelines For The Evaluation And Control Of Lead-Based Paint Hazards In Housing*, June 1997. HUD currently recommends an exposure limit of  $40 \mu\text{g}/\text{ft}^2$ . This guideline was established to prevent lead exposure to children in domestic homes, along with females who are pregnant. Areas that have levels that exceed  $40 \mu\text{g}/\text{ft}^2$  should be thoroughly cleaned and employees that may come into contact with those areas should be properly trained in the hazards of lead exposure.

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Industrial Hygiene Survey  
Espanola Armory

**Lead Wipe**  
**Table 3.1.A.**

<i>Sample ID</i>	<i>AREA</i>	<i>Photo #</i>	<i>Result ug/ft2</i>
101814-1	Control	NA	BDL
101814-2	North drill hall	2	BDL
101814-3	Center drill hall	3	BDL
101814-4	South drill hall	4	BDL
101814-5	West drill hall	5	BDL
101814-6	East drill hall	6	BDL
101814-7	Kitchen	7	BDL
101814-8	Maintenance bay north	8	BDL
101814-9	Maintenance bay south	9	24.5

BDL= Below Detection Limits

ug/ ft2= Micrograms per Square Foot

**NOTE:** Please continue the cleaning of working environment throughout the armory, especially in weapons cleaning areas. Please utilize the attached SOP and general information paper provided for cleaning procedures.

3.2. **Asbestos Survey-** Non-Responsive was asked during this survey about the presence of asbestos and he advised no asbestos has ever been found or suspected in the armory.

Asbestos is regulated as a hazardous air pollutant by the Environmental Protection Agency (EPA) under the authority of the Clean Air Act. The asbestos regulations are included in the National Emissions Standards for Hazardous Air Pollutants (NESHAPS) and are referenced as 40 CFR 61, Subpart M.

ACM is defined by the EPA, as any material containing greater than one percent of asbestos. ACMs are categorized as being either friable or non-friable. Friable ACMs are those materials that can be easily crumbled, pulverized, or otherwise broken up using hand or finger pressure when dry, and are materials considered more likely to produce airborne asbestos fibers. Non-friable ACMs are materials that do not meet the above test, and are considered less likely to produce airborne asbestos fibers. Non-friable ACMs are further categorized into Category I non-friable ACM (packing's, gaskets, resilient floor coverings, and asphalt roofing products) and Category II non-friable ACM (materials not included in Category I).

### **Limitations and Exclusions of Findings**

This asbestos survey and assessment was performed using procedures and a level of diligence typically exercised by professional performing similar services. However, asbestos-containing material (ACM) can be present in a structure, but not identified using ordinary investigative procedures.

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No asbestos survey can completely eliminate uncertainty regarding the presence of ACM. The level of diligence and investigative procedures are intended to reduce, but not eliminate, potential uncertainty regarding the presence of ACM.

The only way to tell if an object contains asbestos by looking at it is if the material is labeled. Otherwise, you should have it sampled and analyzed by a qualified professional. Until you receive the results, treat the material as if it contains asbestos. Samples should be extracted only by qualified professionals. If improperly done, extracting samples can be more hazardous than leaving the material undisturbed.

**3.3 Indoor air quality and HVAC Systems-** The armory is heated and cooled through a central air system. The Department of Military Affairs (DMA) maintains the HVAC system.

Building air temperature, within this facility, was in the comfort range for the occupants during this survey period. The day of the survey it was 68 degrees Fahrenheit outside. Inside air temperature is recommended to be between 68-75 degrees Fahrenheit and the relative humidity is to range from 30-60%. The indoor temperature was 70-72 degrees Fahrenheit. Humidity levels above 60 percent can result in proliferation of bacteria and fungi, while levels below 30 percent can cause dry eyes, skin, and mucous membranes. There were water stains on ceiling tiles.

**Recommendation:** Check ceiling for water leakage. Repair all leaks and replace water damaged materials, e.g., ceiling tile, sheet rock, etc.

**3.4. Exhaust and Ventilation Systems-** The Espanola Armory has a maintenance bay that is now used as storage. All vehicle maintenance is done at the CSMS in Santa Fe. Oil changes are occasionally done on drill weekend. The eye wash station is checked on all drill weekends and documented.

Air flow was not measured in the industrial kitchen under the hood of the oven. The kitchen is not being used because they are not current on their fire suppression inspection. Therefore, the exhaust system has been turned off and will be turned back on once it passes inspection.

**3.5. Hazardous Materials Use and Storage-** All Hazmat and POL's are stored and maintained in a hazmat storage room adjacent to the maintenance bay. Only a few containers of gasoline were in the closet at the time of inspection.

Small quantities of cleaning products, utilized by the workers, were located in the janitors' closet. Arms custodians, for cleaning purposes, should be utilizing user and environmental friendly products, while the more harmful products should be properly disposed of. A well-ventilated area should be utilized when using any solvent products, along with the appropriate Personal Protective Equipment (PPE) as designated on the MSDS information sheets. The MSDS needs to be updated with a table of contents so that chemical products are easy to find and updated to the new SDS.

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Industrial Hygiene Survey  
Espanola Armory

**Recommendation:** Update all MSDS for the facility with the new SDS format by June 2016 CFR 1910.1200(g)(8)

**3.6. Physical Safety and Condition of Facility-** A physical walk through of the facility was conducted. Overall, housekeeping was found to be in above average condition. Electrical breaker boxes were properly labeled and accessible.

This 1992 building is of concrete block and brick construction with a concrete roof over the drill hall, tar and rock composite on remaining roof area.

The fire extinguishers within this facility are part of the fire suppression available and should be tested annually and inspected monthly. NFPA 10, 27-3.4.1 addresses alarm systems and 29 CFR 1910.157 addresses inspection requirements for fire extinguishers. Annual inspections should be accomplished by a qualified organization, e.g., fire department, and checked and documented monthly by the facilities personnel. The fire extinguishers were found to be up to date on annual inspections but behind on monthly inspections.

**Recommendation:** The Fire extinguishers were found to be behind on monthly inspections and the kitchen suppression system is behind on its annual inspection. Properly inspect all fire extinguishers on an annual and monthly basis. [29 CFR 1910.157(b)(1)].

**3.7. Sound Level Survey-** A noise survey was not conducted in the Armory. No noise hazards were noted in the facility.

**3.8. Illumination Survey-** Illumination levels that were measured throughout the armory office and classroom areas can be found on the floor plan in Appendix D. The numbers represent the illumination level in foot-candles (FC). In general, the measurements were taken at task surface level, such as on desks. Measurements not taken on a desk were taken at waist level.

Illumination measurements were compared with recommendations made by the Industrial Engineering Society (IES)/American National Standards Institute (ANSI) RP7-1991. In general, IES recommends a range of 50 to 100 foot-candles as the minimum lighting requirements for performance of visual tasks of medium contrast or small size, such as would typically occur in an office area.

Based on these criteria, the general lighting appears to be adequate in the offices and classrooms. Inadequate light levels may place strain on the eyes and cause headaches or vision problems. With an aging work force in place, task lighting can help reduce the vision problems associated with inadequate lighting.

**3.9. Safety Policies, Training, and Record Keeping –** The following safety policies and procedures were found at this site: Hazmat and joint readiness training.

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#### 4.0 Industrial Hygienist Certification and Project Limitations

All Industrial Hygiene Assessment techniques and tests used in the Industrial Hygiene survey of the Army National Guard Armories were reviewed by **Non-Responsive** Industrial Hygiene Southwest, National Guard Bureau at (916) 854-1492.

This Project was performed using, as a minimum, practices consistent with standards acceptable within the industry at this time, and a level of diligence typically exercised by industrial hygiene and environmental consultants performing similar services.

The procedures used in this investigation attempt to establish a balance between the competing goals of limiting investigative and reporting costs and time, and reducing the uncertainty about unknown conditions. Therefore, because the findings of this report were derived from the scope, costs, time, and other limitations, the conclusions should not be construed as a guarantee that all environmental or occupational hazards have been identified and fully evaluated. Where sample collection and testing have been performed, Aloha World's professional opinions are based in part on the interpretation of data from discrete sampling locations that may not represent conditions at non-sampled locations. Aloha World assumes no responsibility for omissions or errors resulting from inaccurate information or data provided by sources outside of Aloha World, or from omissions or errors in public records.

Furthermore, it is emphasized that the final decision on how much risk to accept always remains with the client since Aloha World is not in a position to fully understand all of the client's needs. Clients with a greater aversion to risk may want to take additional actions while others, with less aversion to risk, may want to take no further action.

#### 5.0. Technical Assistance

For technical assistance regarding information found in this report or the performed survey, please contact **Non-Responsive** of the Southwest Regional Industrial Hygiene Office-(916) 854 1492. Contact the State Safety, State Industrial Hygiene and Occupational Health Office and/or the Regional Industrial Hygienist should any of the operations change, or should the personnel become incapable of following the previous recommendations and subsequent recommendations that are needed.

**Non-Responsive** IH Tech  
Aloha World Environmental

Aloha World



## Appendix A: References

American Conference of Governmental Industrial Hygienists (ACGIH), Industrial Ventilation, A Manual of Recommended Practice, 23 Edition, 1998.

American Conference of Governmental Industrial Hygienists (ACGIH), Threshold Limit Values for Chemical Substances and Physical Agents and Biological Indices for 1998.

American National Standards Institute (ANSI)/Illuminating Engineering Society (IES), Industrial Lighting 1991.

American National Standards Institute, Z358. 1-1998. Emergency Eyewash and Shower Equipment 1998.

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AR 385-10, The Army Safety Program, 23 May 1988.

Corps of Engineers Guide Specification, CEGS-1585 1, Overhead vehicle tailpipe (and welding fume) Exhaust Systems, May 1984.

DA PAM 40-ERG, Ergonomics

DA PAM 40-501, Hearing Conservation, 27 August 1991.

National Safety Council, Fundamentals of Industrial Hygiene, 4<sup>th</sup> edition, 1996.

NOR 385-10, Army National Guard Safety and Occupational Health Program, 29 December 1989.

TB MED 503, The Army Industrial Hygiene Program, February 1985.

TG022, US Army Environmental Hygiene Agency (USAEHA), Industrial Hygiene Evaluation Guide, October 1975

TG 141, US Army for Health Promotion and Preventive Medicine (USACHPPM) Industrial Hygiene Air Sampling Guide, Nov. 1997

Title 29, Code of Federal Regulations (CFR), 1998, revision Part 1910, Occupational Safety and Health Standards

Title 29, Code of Federal Regulations (CFR), 1998, revision Part 1926, Construction Standards

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## **Appendix B: Assessment Criteria**

### **A. Ventilation Standards**

Ventilation rates were compared to recommendations made in the ACGIH Industrial Ventilation Manual and Corps of Engineers specifications. See Appendix A for reference information.

### **B. Illumination Standards**

Illumination measurements were compared with recommendations made by the Industrial Engineering Society (IES)/American National Standards Institute (ANSI) RP7-1991 Standard and MIL-STD1472E.

### **C. Noise**

Noise measurements were taken and compared with OSHA Standard 29 CFR 1910.95 and Department of the Army Pamphlet 40-501.

### **D. Air Sampling**

Personal air sampling, if conducted, was in compliance with applicable NIOSH Analytical Methods. Sampling results were compared to relevant Occupational Safety and Health Administration (OSHA) Permissible Exposure Limits (PEL), American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLV), or National Institute of Occupational Safety and Health (NIOSH) Recommended Exposure Limits (REL).

### **E. Risk Assessment Codes**

Risk Assessment Codes (RACs) are included in this report to quantify the risk of particular operations to employees and to establish funding priorities for corrective actions. RACs are assigned with regard to hazard severity and mishap probability. The type, length, and route of exposure are taken into consideration, as are the medical effects that would occur with such exposures.

Aloha World



## Appendix C

### Photograph Log

Aloha World

Photo Log



Photo #1 – Espanola Armory

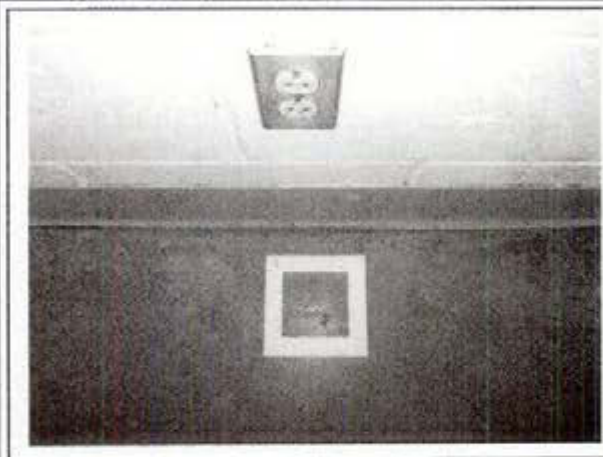


Photo #2- North drill hall wipe

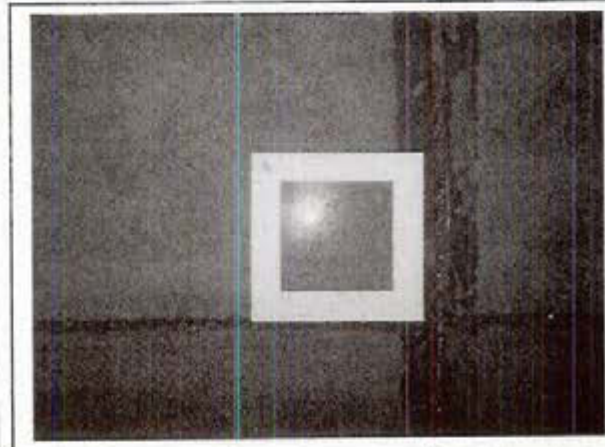


Photo #3- Center drill hall wipe

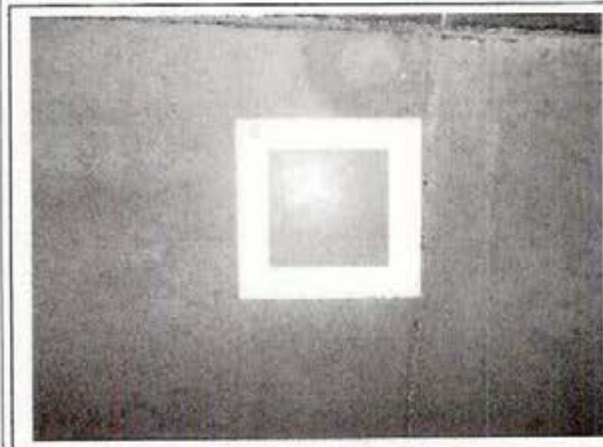


Photo #4- South drill hall wipe

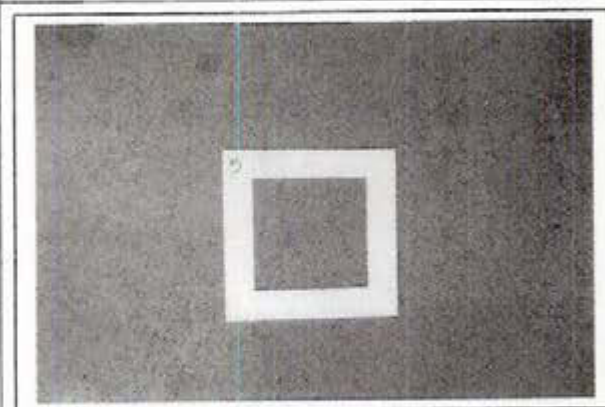


Photo #5 –West drill hall wipe



Photo #6 – East drill hall wipe



Photo Log

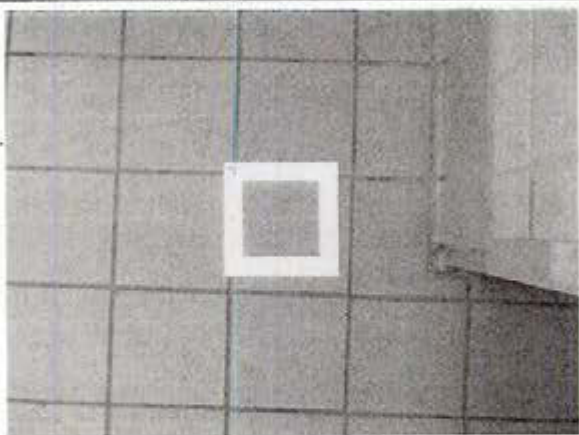


Photo #7 – Kitchen wipe

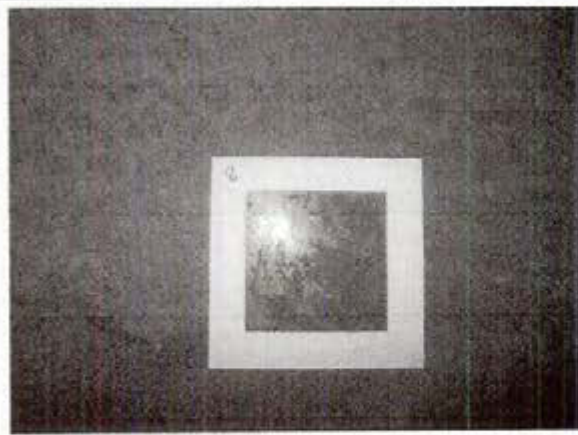


Photo #8- North maintenance bay wipe

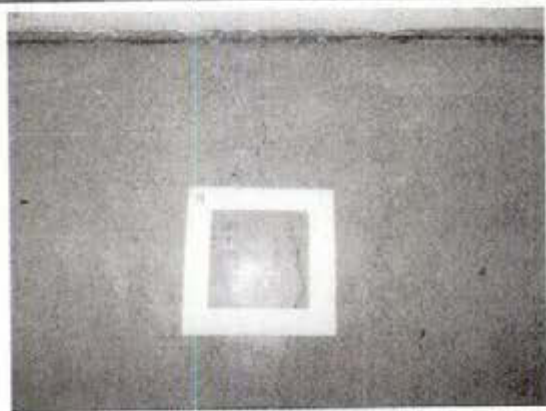


Photo #9 – South maintenance bay wipe

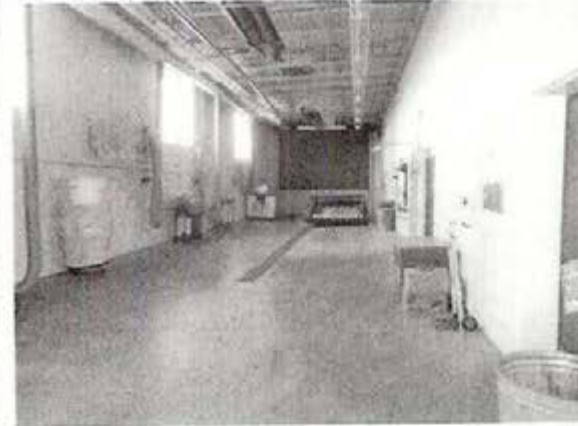


Photo #10 – Maintenance bay

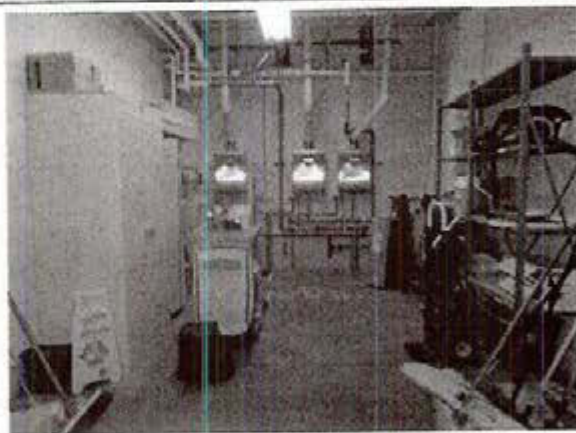


Photo #11 –Janitor closet



Photo #12 –Drill hall

**Photo Log**

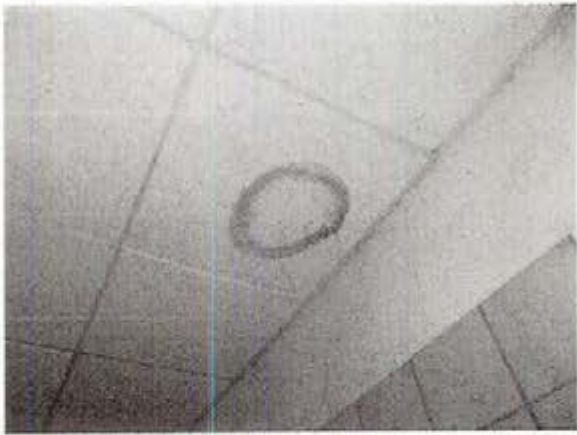


Photo #13 – Water damage



Photo #14- Janitor storage

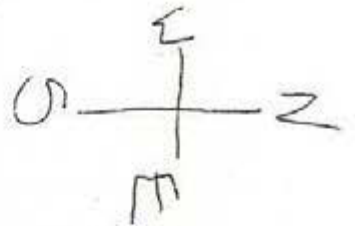


## Appendix D

### Floor Plan/Illumination Survey

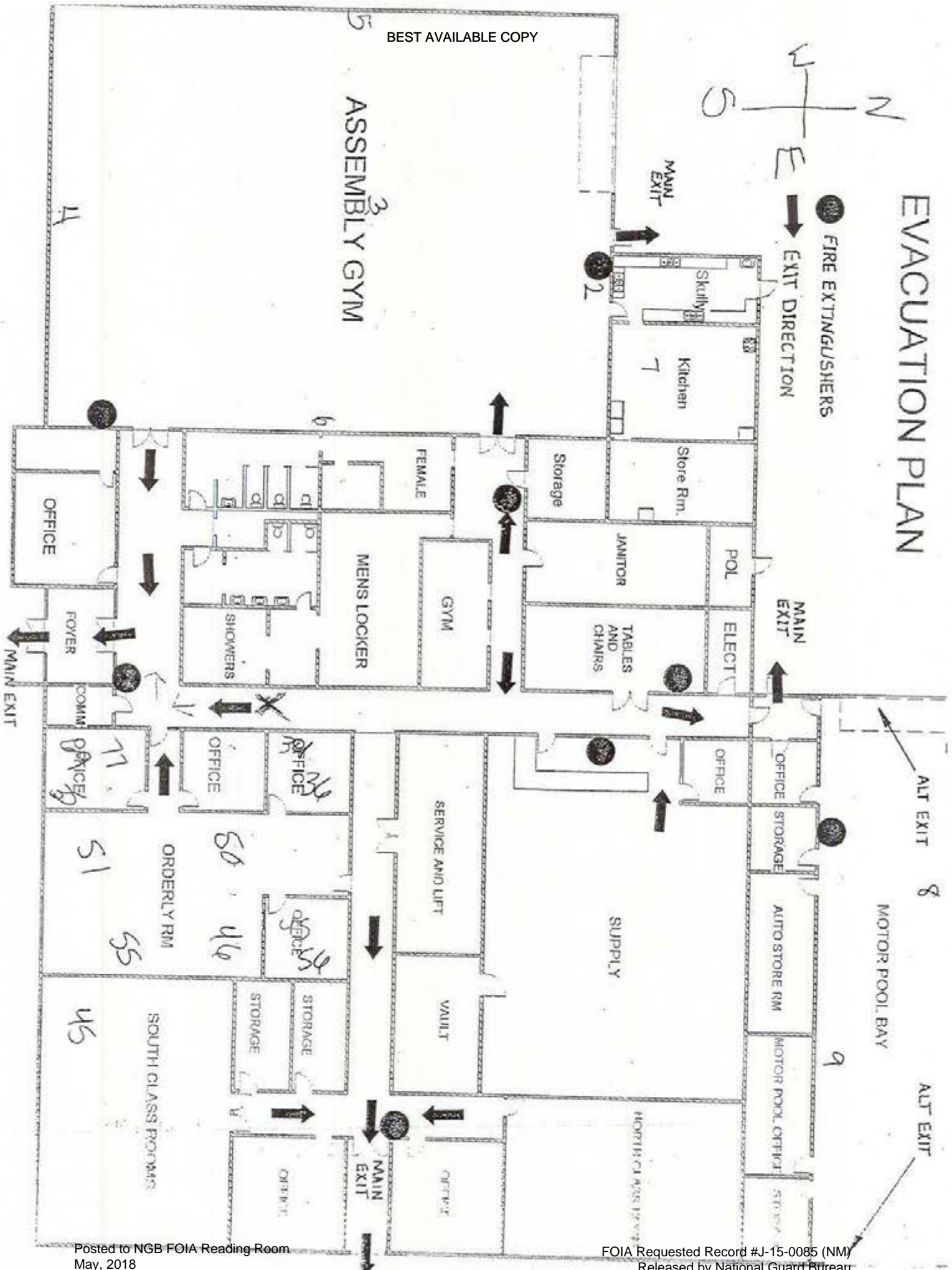
Aloha World

# EVACUATION PLAN



● FIRE EXTINGUISHERS

➔ EXIT DIRECTION





## Appendix E

### Laboratory Analysis Reports Sample Location & Log

Aloha World

## RESERVOIRS ENVIRONMENTAL, INC.

5801 Logan St., Suite 100  
Denver CO 80216

### TABLE ANALYSIS: LEAD BY WIPE SAMPLING

RES Job Number: RES 303552-1  
Client: Aloha World  
Client Project Number / P.O.: 101814  
Client Project Description: Espanola Armory  
Date Samples Received: October 21, 2014  
Analysis Type: USEPA SW846 3050B / AA (7420)  
Turnaround: 3-5 Day  
Date Samples Analyzed: October 28, 2014

Client ID Number	Lab ID Number	Sample Area (sq.ft.)	LEAD (µg)	Reporting Limit (µg/ft <sup>2</sup> )	LEAD CONCENTRATION (µg/ft <sup>2</sup> )
101814-1	EM 1280888	0.11	BRL	22.7	BRL
101814-2	EM 1280889	0.11	BRL	22.7	BRL
101814-3	EM 1280890	0.11	BRL	22.7	BRL
101814-4	EM 1280891	0.11	BRL	22.7	BRL
101814-5	EM 1280892	0.11	BRL	22.7	BRL
101814-6	EM 1280893	0.11	BRL	22.7	BRL
101814-7	EM 1280894	0.11	BRL	22.7	BRL
101814-8	EM 1280895	0.11	BRL	22.7	BRL
101814-9	EM 1280896	0.11	2.7	22.7	24.5

\* Calculations Based On A 1 sq.ft. Sample Area Unless Otherwise Noted

\* Unless otherwise noted all quality control samples performed within specifications established by the laboratory.

BRL = Below Reporting Limit

Data Q

P: 303-964-1986  
F: 303-477-4275

5801 Logan Street, Suite 100 Denver, CO 80216

Page 2 of 2  
BEST AVAILABLE COPY

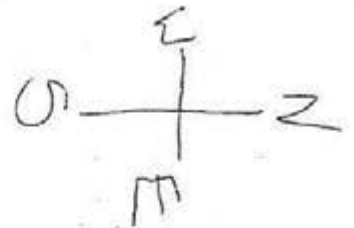
FOIA Requested Record #J-15-0085 (NM)  
Released by National Guard Bureau  
Page 671 of 1628

Non-Responsive

Photo-RES-ENV  
www.rellab.com

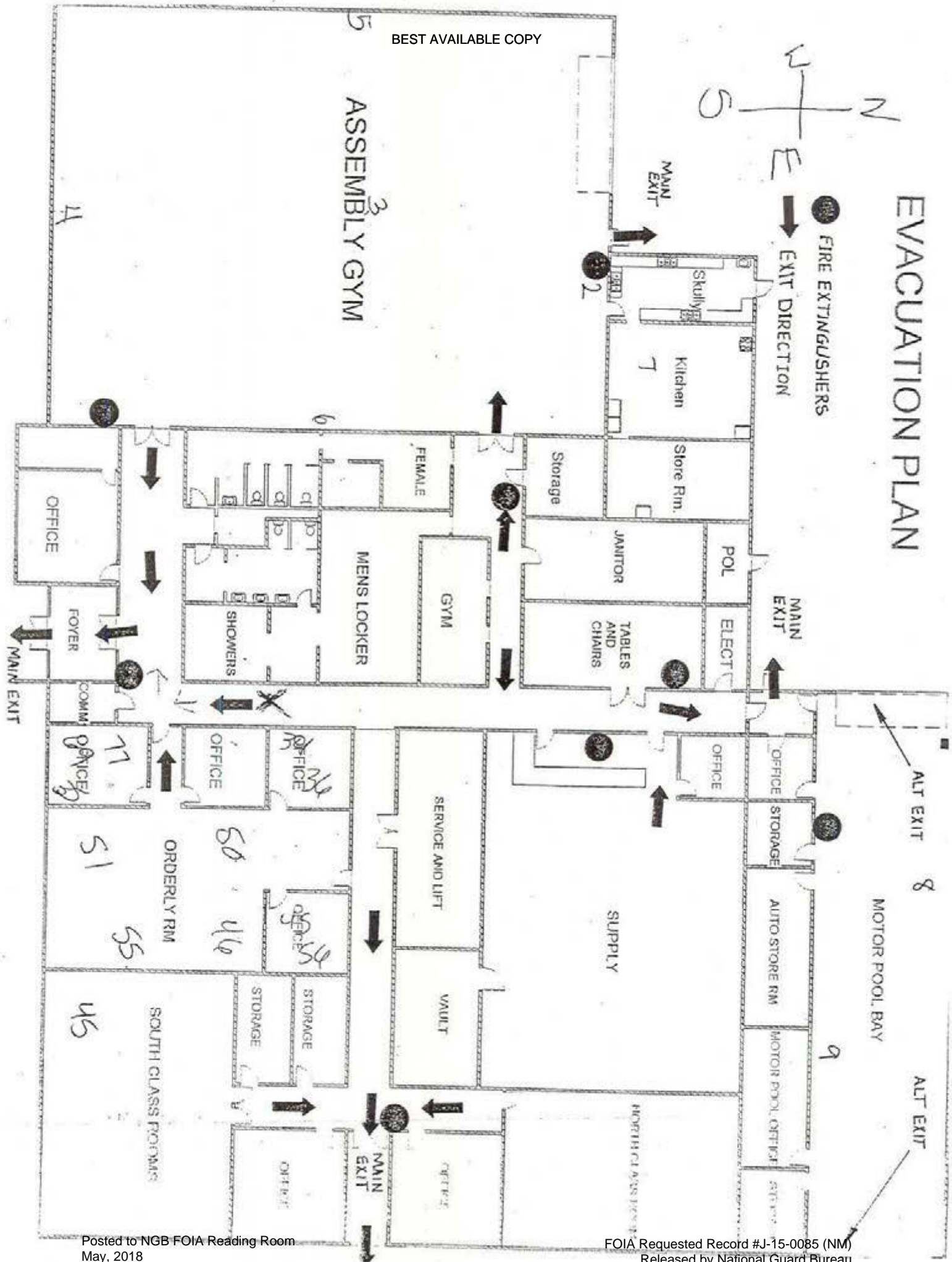


# EVACUATION PLAN



● FIRE EXTINGUISHERS

➔ EXIT DIRECTION



## Appendix F

### ARNG Survey Checklist

Aloha World



Fire alarm in working condition - -not usually in place in older armories	yes
Fire extinguishers in place and properly identified and mounted	yes
Evidence of monthly fire extinguisher inspections	no
Annual fire extinguisher inspections tags current	yes
Are eye wash stations available in areas where hazardous materials are used and are they inspected weekly (inspections must be documented)	not used - no maint FMS 6
Egress routes accessible and properly marked - -noted on <u>Fire Evacuation Plan</u>	yes
Training programs in place; Hazcom, Respiratory Protection, Confined Spaces, Hearing conservation, PPE (if applicable)	no
Any Photo labs	✓
Any hazardous noise sources	✓
Light levels checked throughout building	✓
Breaker panels properly labeled with no exposed wiring	✓
Check building occupancy 1. How many military personnel, how many civilian personnel 2. What types of units occupy facility, i.e. Administrative, Maintenance, etc.?	1
Any civilian activities in armory (cub scouts, classes, day care, parties etc)	yes
Obtain two lead air samples	On IHSW Request Only

# **Army National Guard Armory Survey** **(To Be Included In Report)**

Five <b>lead wipe</b> samples collected from drill floor (take samples from dusty horizontal floor surfaces)	✓
Are any <b>weapons cleaned</b> in the facility, if yes where are they cleaned?	yes
Additional <b>lead wipe</b> samples taken from 25% of the rest of the building - (on floor areas only)	✓
Is there a <b>converted indoor firing range</b> ? If so collect additional wipe samples IAW the SOW.	no
Is there any <b>peeling paint</b> ? Take bulk sample if able.	✓
Are there any signs of water damage or mold?	yes
Any suspected <b>ACM</b> ? Where and what condition is it in. Bulk sample if able.	none
Quality of housekeeping	good
HVAC maintenance plan in place?	central DMTA
<b>Overall condition</b> of HVAC system	good
Obtained <b>CO2, Temp, RH</b> monitoring	good
<b>HAZMAT inventory</b> on hand (make copies for the report), <b>MSDS</b> available for all materials.	table of contents
<b>HAZMAT storage</b> , Condition of lockers, if outside storage building is used is it ventilated and does it meet OSHA standards.	✓



Evaluate Kitchen Stove Hood Flow if Present IAW NFPA Standard 96.	fire suppression due
Collect Source Noise Measurements of Kitchen Appliances and Document Using DD 2214	n/a
Conduct a safety walkthrough of entire facility document any safety deficiencies found.	✓
<b>Take photos</b> of outside of building, all sample points and any pertinent hazards or concerns.	✓
Name of Armory, POC, phone #, address and organizations in Armory	✓
(Add Checklist to Report)	(Add Checklist to Report)

## Appendix G

### Chemical List

Aloha World



## Appendix H

### Recommendations

Aloha World

## RECOMMENDATIONS

1. Check ceiling for water leakage. OSHA requires that safeguards designed to protect employees during an emergency, including displaced ceiling tile, must be in proper working order at all times; General Duty Clause 5(a)(1).
2. Update all MSDS for the facility with the new SDS format by June 2016 CFR 1910.1200(g)(8).
3. The Fire extinguishers were found to be behind on monthly inspections and the kitchen suppression system is behind on its annual inspection. Properly inspect all fire extinguishers on an annual and monthly basis. [29 CFR 1910.157(b)(1)].

Aloha World



# Industrial Hygiene Southwest

## Violation Inventory Log

### LOG OF SCHEDULE OF CORRECTIVE ACTION - COMPLIANCE WITH SAFETY AND HEALTH STANDARDS ESPANOLA ARMORY, NEW MEXICO 87532



CONTROL NUMBER	HAZARD DESCRIPTION	SITE	RAC	CORRECTIVE ACTIONS (Abatement Plan)	SUSPENSE DATE	ACTION OIC/NCOIC	Estimated Cost(s)	DATE CORRECTED	REFERENCES
CLOSED <input checked="" type="checkbox"/> NMEA-10172014-3.3 <input type="checkbox"/>	There were ceiling tiles damaged from water intrusion.	Armory	4	Check ceiling tile areas for water intrusion. Repair any areas where water intrusion has occurred and remove water damaged materials and replace					General Duty Clause 5 (a)(1)
NMEA-10172014-3.5	The SDS file is still listed as MSDS since the Globally Harmonized System (GHS) Classification of Labeling Chemicals has just taken effect this year and the documents are still MSDS documents.	Armory	4	Update all MSDS for the facility with the new SDS format by June 2016					29 CFR 1910.1200(g)(8)
NMEA-10172014-3.6	Fire extinguishers, throughout the facility, were not being inspected monthly.	Armory	3	Annual and monthly inspection of fire extinguishers should be accomplished and recorded on fire extinguisher. Also, have kitchen suppression system checked and inspected annually					29 CFR 1910.157(b)(1)



## ARMY NATIONAL GUARD INDUSTRIAL HYGIENE - SOUTHWEST

Guam • Hawaii • California • Oregon • Washington • Nevada • Arizona • Idaho • Utah • Wyoming • Montana • New Mexico • Nebraska

# Industrial Hygiene Site Assistance Visit

## Hobbs Armory

502 Jack Gomez Blvd.

Hobbs, NM 88240

26 July 2012

10510 Superfortress Avenue, Suite C, Mather, CA 95655 (916) 854-1491

31





DEPARTMENT OF THE ARMY AND AIRFORCE  
NATIONAL GUARD BUREAU  
INDUSTRIAL HYGIENE SOUTHWEST  
10510 Superfortress Ave, Ste. C  
Mather, CA 95655

ARNG-CSG-IHSW

31 January 2012

MEMORANDUM THRU New Mexico Army National Guard, Deputy State Surgeon (DSS), 47 Bataan Blvd., Santa Fe, NM 87505

FOR Commander, Hobbs Armory, 502 Jack Gomez Blvd., Hobbs, NM 88240

SUBJECT: Executive Summary for Industrial Hygiene Site Assistance Visit (IHSAV) and Indoor Firing Range Lead Dust Follow-Up for the Hobbs Armory, 502 Jack Gomez Blvd., Hobbs, NM on 26 July 2012.

1. References. See survey report.

2. General.

a. At the request of the NGB Industrial Hygiene, Southwest (IHSW), an Industrial Hygiene Site Assistance Visit and Indoor Firing Range Lead Dust Follow-Up was conducted at the Hobbs Armory, 502 Jack Gomez Blvd. Hobbs, NM 88240 on 26 July 2011.

b. The findings and recommendations in this Executive Summary are controlling and supersede all recommendations in the contractor report (reference Attachment II). However, IHSW concurs with the observations and findings within the attached contractor report.

c. Risk Assessment Codes (RAC) provided in this report have been derived from two sources: Deriving Risk Assessment Codes (RAC's) for Health Hazards (Ref: DOD Instruction 6055.1) and AR 385-10, The Army Safety Program.

d. Use of trademark names in the attached report, or this Executive Summary, does not imply Army National Guard endorsement of any product.

3. Findings. See survey report.

4. Commendable. None mentioned.

5. Observations / Recommendations.

**NOTE:** This section provides conclusions and recommendations for the findings and observations made within the attached contractors report. The paragraphs are numbered to correspond to the sections where they were first noted. (i.e., paragraph 2.1a represents the 2.1a located within the contractors report.

a. General clean-up of IFR area should be addressed ASAP and the Armory Clean-up SOP, included

**ARNG-CSG-IHSW**

**SUBJECT:** Executive Summary for Industrial Hygiene Site Assistance Visit (IHSAV) and Indoor Firing Range Lead Dust Follow-Up for the Hobbs Armory, 502 Jack Gomez Blvd., Hobbs, NM on 26 July 2012.

8. To assist you with execution of your responsibilities in correcting the observations noted, we encourage you to consult with the State Safety Manager, Occupational Health Manager and Industrial Hygiene professions located and/or authorized within the State Safety and Occupational Health Office.

9. For additional information please contact the undersigned at (916) 804-1707 or via email at

**Non-Responsive**

**Non-Responsive**

NGB, IHSW, CIV  
Industrial Hygiene





# Industrial Hygiene Southwest

## Violation Inventory Log

### LOG OF SCHEDULE OF CORRECTIVE ACTION - COMPLIANCE WITH SAFETY AND HEALTH STANDARDS

ARNG Hobbs Armory

CONTROL NUMBER	HAZARD DESCRIPTION	SITE	RAC	CORRECTIVE ACTIONS (Abatement Plan)	SUSPENSE DATE	ACTION OIG/NCOIC	Estimated Cost(s)	DATE CORRECTED	REFERENCES
<input type="checkbox"/> CLOSED									
Carlsbad- NM 072611- Executive Summary	Weapons are being cleaned throughout the Armory, on floor, on tables, etc.	Armory	3	Weapons should be cleaned on surfaces, e.g. tables, desks that are designated "for weapons cleaning only" and all surfaces should be cleaned after this event is completed.					General Duty Clause 5(a)(1)
Hobbs-NM- 072811-Exec. Summary	No Significant Adverse Observations noted during this Industrial Hygiene Site Assistant Visit	Armory	None	Continue Sound Safety and Housekeeping Practices					NGB, OSHA Regulations

## ***ARMORY***

### **CLEANUP & FOLLOW-UP HOUSEKEEPING RECOMMENDATIONS**

#### **Materials Needed:**

1. Cloth Mop head (s) & Mop head holder(s) with handle.
2. Mop bucket (s) with wringer.
3. Clean cotton rags and sponges.
4. Disposable gloves
5. Large barrel (55 gal.) to store wastewater in after changing out of dirty scrub water. Waste water containers.
6. Disposable overshoes or rubber boots. Personnel conducting cleaning operations should not take clothes, boots, etc., home for laundering.
7. HEPA vacuum
8. Six (6) mill plastic bags to dispose of waste.
9. Detergent with surfactant, e.g., Spic-N-Span, Mr. Clean, etc.

#### **Disposal of Waste Water and Cleaning Materials:**

1. *NOTE:* Consult with Local Army National Guard Environmental Office prior to taking any collection, disposal or wiping activities commence. Each state and territory may have additional regulatory guidance on collection, storage and disposal of wastewater.
2. Mop heads should be disposed of after initial cleanup, unless otherwise advised by Environmental office personnel. Note: thorough cleaning of mop heads may be sufficient enough to reuse on future Armory cleanups but check with local Environmental Office.
3. Disposable gloves should be treated as hazardous waste.
4. Soiled cotton rags should be treated as hazardous waste.
5. Wash water contaminated with Lead can be collected and allowed to slowly evaporate leaving Lead deposits/sludge that may be collected in plastic containers, placed in metal drums, and stored for future delivery to an authorized hazardous waste disposal site.



3. Wet wipe, with cotton rags or sponge, any horizontal, diagonal or vertical surfaces up six (6) feet from floor surfaces using hot water and "Spic-n-Span" or an equivalent product.
  - a. Rinse out cleaning cloths thoroughly and frequently.
  - b. Change out cleaning water as necessary.

**NOTE: If walls to be cleaned show signs of deterioration, e.g., chipping or crumbling paint, in which wiping, scrubbing, or disrupting might potentially increase or spread contamination, then this portion of the clean up should be avoided.**

4. Now prepare water and detergent (e.g. Spic N Span, Mr. Clean, Pine Sol) for the mopping phase, according to manufactures recommendations, which should be found on the products label for general clean up.
  - a. Change out water frequently (when water appears dirty)
  - b. Rinse out mop heads frequently to prevent contamination of dirty water.
5. Cover entire drill floor surface with above prescribed water and detergent.
6. Final rinse should be with clean water only - -after mop heads have been cleaned.

**Recommended Follow-up Housekeeping Practices** *after Clearance sampling of cleaned area is performed by certified personnel:*

1. Floor cleaning and dusting should be accomplished using the wet method described in Initial Armory Cleanup SOP.

**Note:** Only exception to these wet cleaning procedures would be the use of a chemically treated dust floor mop. This can be used for follow-up armory cleaning by sweeping of large particles of dirt and paper.

- a. Pre-treated (chemically treated) dust floor mop will limit dust particles from being disbursed into the surround atmosphere.

FY 2011 Follow-up Armory's SAV Lead Wipes Report  
For  
Hobbs Armory National Guard  
(NM ARNG)  
At  
502 Jack Gomez Blvd., Hobbs New Mexico 88240



Prepared for:

Department of the Army National Guard Bureau  
Region Southwest Industrial Hygiene Office  
NGB-AVN-S1  
20,000 Aviation Drive  
Reno Nevada, 89506-1200

By:

**Non-Responsive**

Armor Environmental Services, Inc.  
4442 Inverrary Blvd,  
Fort Lauderdale FL. 33319

14 Jan 2012

**Non-Responsive**

**Non-Responsive**





## FY 2011 Hobbs Armory Site Assistant Visit (SAV) Follow-Up Lead Wipe Sampling

### 1.0 INTRODUCTION

On July 26<sup>th</sup>, 2011, [Non-Responsive] Certified Industrial Hygienist (CIH); Certified Hazardous Materials Manager (CHMM), and [Non-Responsive] Senior Industrial Hygiene Technician, both of Armor Environmental Services, Inc (Armor), conducted a FY 2011 Follow-Up Armory Site Assistant Visit Lead Wipes inspection and sample collection (F/U Lead Wipe Survey) at the Army National Guard (ARNG) Armory located at 502 Jack Gomez Blvd., Hobbs N.M. 88240. The primary and local points of contact (POC) for information gathered during this F/U Lead Wipe Survey were [Non-Responsive] NMANG, NC Occupational Health Program, New Mexico Army National Guard. Phone: 505-271-7179; e-mail: [Non-Responsive] and [Non-Responsive] 502 Jack Gomez Blvd., Hobbs N.M. 88240; e-mail: [Non-Responsive] Phone: 505- 474-2684.

### SCOPE OF VISIT

The FY 2011 Follow-Up Armory Lead Wipes sampling was conducted at the direction of the National Guard Bureau Southwest Regional Industrial Hygiene Office, 10150 Superfortress Ave. Ste C, and Mather CA. 95655.

SAV purposes were to:

1. Conduct follow-up Armory SAV inspections and conduct lead wipe sampling of surfaces that either by virtue of historical and/or present uses, had the potential for elevated levels of residual lead contamination. Included in this task were inspections and lead wipe sample collection from locations previously identified as having elevated surface lead levels;
2. Conduct interviews to determine the status of the armory's indoor firing range with regards to its usage. Where on site are weapons broken-down or cleaned? Who uses the armory? As well as its occupancy; and civilian access/public usage of the facility;
3. Inspect each armory and report potential or physical hazards observed; and,
4. Deploy Radon Monitor: RADTRAK SN 4829066 @ 03:30 P.M. MCT in room 115 (Appendix 1, photo # 1).

### 3.0 FACILITY DESCRIPTION

The Hobbs armory was reportedly constructed sometime in 1985. Its construction is 1 storey (Appendix 1, photo #s 2 & 3) with brick exterior; and slab concrete floor, and a kitchen that has not been used since 1999.

According to [Non-Responsive] of the Hobbs armory, the space occupied by the former indoor firing range (IFR) was converted into a storage location and a maintenance bay (Appendix 1, photo # 4); and the former IFR was never used as a firing range. Consequently its closure per NGP 420-15, "Guidelines and Procedures for Rehabilitation and Conversion of Indoor Firing Ranges" was not required.



Weapons are reportedly cleaned in the drill hall and the maintenance bay; and the vault and supply room on site were not accessed.

A schematic of the facility's layout is enclosed as Appendix 2.

#### 4.0 BUILDING OCCUPANCY/USES

The armory's full time occupancy is 3 NM ARNG personnel who are assigned to the DET 2 920<sup>th</sup> unit; and here are no civilian employees at this armory. Weekend occupancy is 46 NM ARNG personnel; and civilian rent the drill hall twice monthly for activities such as weddings and birthday parties.

#### 5.0 SURVEY PROCEDURES

Ghost Wipe sample media were used for sample collection. Wipe sampling was accomplished following the American Standard for Testing and Materials (ASTM) E1792-96A, "Standard Specification for Wipe Sampling Materials for Lead in Surface Dust" protocol. A 12 X 12 inch square paper template was used to collect each sample, after which it was discarded; and a new unused similar template used to collect each additional sample.

Each collected wipe sample was placed in a clean zip-lock bag, and shipped via FedEx to Galson Laboratories (Galson), East Syracuse, NY ([www.galsonlabs.com](http://www.galsonlabs.com)) for analysis for its lead content utilizing the modified NIOSH 9102/SW846 6010 B/C; ICP; GHOSTW.

For the purposes of this survey, the 200  $\mu\text{g}/\text{ft}^2$  standard was applied to all lead wipe sample locations within this armory; and 40  $\mu\text{g}/\text{ft}^2$  for break rooms, floor surfaces or any area that the public might possibly use for non-military functions.

Some former IFR occupied spaces provide direct access into drill halls or indoor walkways; so some samples were collected at these locations to indicate whether or not elevated surface lead levels exist in each, or were being inadvertently transported into, or out of either location.

Lead wipe samples were collected from the following horizontal surfaces:

- Hobbs-01: IFR floor-south end of range at center (Appendix 1, photo # 6);
- Hobbs-02: IFR floor-north end of range at center (Appendix 1, photo # 7);
- Hobbs-03: Drill hall floor- center of N.W. corner (Appendix 1, photo # 8);
- Hobbs-04: Drill hall floor-center N.W. quadrant (Appendix 1, photo #9);
- Hobbs-05: Drill hall floor-S.W. corner (Appendix 1, photo # 10);
- Hobbs-06: Drill hall floor-N.E. corner (Appendix 1, photo # 11);
- Hobbs-07: Drill hall floor-center of S.E. quadrant (Appendix 1, photo # 12);

#### 6.0 OBSERVATIONS

Unusually heavy dust loading was not observed on horizontal surfaces in the spaces inspected inside the Hobbs armory. No health and/or safety infractions were noted or observed.



## 7.0 FINDINGS and RECOMMENDATIONS

### a. Laboratory Report

Laboratory results of samples collected from horizontal surfaces in the Hobbs Armory are enclosed as Appendix 3: and summarized in Table 1 below. Surface lead levels are reported in  $\mu\text{g}/\text{ft}^2$ .

**Table 1: Summarized Laboratory report: Horizontal Surfaces Lead Concentration: Hobbs Armory, NM**

Sample I.D.	Sample Locations	Lead
Pb-Blank # 3	Blank	<10
Hobbs-01	IFR floor-south end of range at center	40
Hobbs-02	IFR floor-north end of range at center	<23
Hobbs-03	Drill hall floor- center of N.W. corner	<23
Hobbs-04	Drill hall floor-center N.W. quadrant	<23
Hobbs-05	Drill hall floor-S.W. corner	<23
Hobbs-06	Drill hall floor-N.E. corner Floor	<23
Hobbs-07	Drill hall floor-center of S.E. quadrant	<23

As can be seen in Table 1, the laboratory analytical report identified lead concentrations that were less than the  $200 \mu\text{g}/\text{ft}^2$  clearance criteria outlined in NGP 420-15, *Guidelines and Procedures for Rehabilitation and Conversion of Indoor Firing Ranges*. Furthermore surface lead concentrations on at this armory did not exceed HUD's  $40 \mu\text{g}/\text{ft}^2$  criteria that IHSW applied surface locations outside of the converted IFR that the public might possibly use for non-military functions

## 8.0 TECHNICAL ASSISTANCE

For technical assistance regarding information found in this report, please contact:

**Non-Responsive** Industrial Hygienist  
 NGB, IHSW  
 1050 Superfortress Ave., Ste C,  
 Mather, CA 95655

**Non-Responsive** (Voice)  
 Fax: 916-290-0177



# Industrial Hygiene Southwest

## Violation Inventory Log

### LOG OF SCHEDULE OF CORRECTIVE ACTION - COMPLIANCE WITH SAFETY AND HEALTH STANDARDS

#### ARNG Hobbs Armory

CONTROL NUMBER	HAZARD DESCRIPTION	SITE	RAC	CORRECTIVE ACTIONS (Abatement Plan)	SUSPENSE DATE	ACTION OIC/NCOIC	Estimated Cost(s)	DATE CORRECTED	REFERENCES
CLOSED <input type="checkbox"/>									
Carlsbad- NM 072611- Executive Summary	Weapons are being cleaned throughout the Armory, on floor, on tables, etc.	Armory	3	Weapons should be cleaned on surfaces, e.g. tables, desks that are designated "for weapons cleaning only" and all surfaces should be cleaned after this event is completed.					General Duty Clause 5(a)(1)
Hobbs-NM- 072811-Exec. Summary	No Significant Adverse Observations noted during this Industrial Hygiene Site Assistant Visit	Armory	None	Continue Sound Safety and Housekeeping Practices					NGB, OSHA Regulations



# **APPENDICES & ATTACHMENT**



Photo # 1



Photo # 2



Photo # 3



Photo # 4



Photo # 5



Photo # 6



Photo # 7



Photo # 8



Photo # 9



Photo # 10



Photo # 11

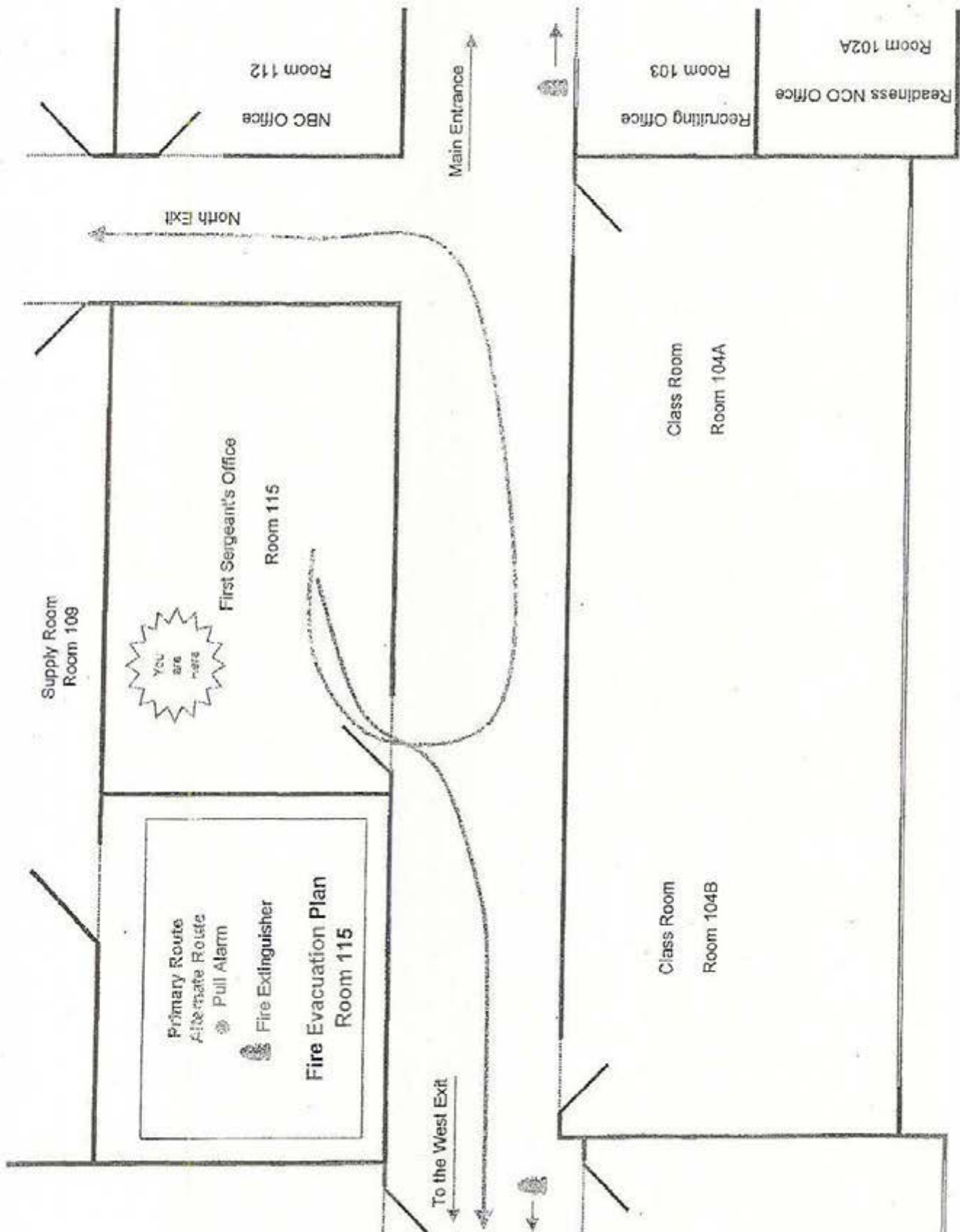


Photo # 12



## **APPENDIX 2**

### **Facility Layout Schematic**





## **APPENDIX 3**

### **Laboratory Report & Chain-of-Custody Form**



Non-Responsive

August 08, 2011

Armor Environmental Services, Inc.  
4448 Inverrary Blvd.  
Fort Lauderdale, FL 33319

DOH ELAP# 11626

Non-Responsive

Non-Responsive

Non-Responsive

Enclosed are the analytical results for the samples received by our laboratory on August 01, 2011. All test results meet the quality control requirements of AIHA and NELAC unless otherwise stated in this report. All samples on the chain of custody were received in good condition unless otherwise noted.

Results in this report are based on the sampling data provided by the client and refer only to the samples as they were received at the laboratory. Unless otherwise requested, all samples will be discarded 14 days from the date of this report.

Please contact **Non-Responsive** at (888) 432-5227, if you would like any additional information regarding this report.

Thank you for using Galson Laboratories.

Sincerely,

Galson Laboratories

Non-Responsive

Non-Responsive

Enclosure(s)





## LABORATORY ANALYSIS REPORT

6601 Kirkville Road  
 East Syracuse, NY 13057  
 (315) 432-5227  
 FAX: (315) 437-0571  
 www.galsonlabs.com

Client : Armor Environmental Services, Inc.  
 Site : Hobbs Armory NM  
 Project No. : NM F U Lead Wipes  
 Date Sampled : 26-JUL-11  
 Date Received : 01-AUG-11  
 Date Analyzed : 03-AUG-11  
 Report ID : 702099

Account No.: 18228  
 Login No. : L245679

**Lead**

<u>Sample ID</u>	<u>Lab ID</u>	<u>Area</u> <u>ft2</u>	<u>Total</u> <u>ug</u>	<u>Conc</u> <u>ug/ft2</u>
HOBBS-01	L245679-1	0.111104	<10	<90
HOBBS-02	L245679-2	0.111104	<10	<90
HOBBS-03	L245679-3	0.111104	<10	<90
HOBBS-04	L245679-4	0.111104	<10	<90
HOBBS-05	L245679-5	0.111104	<10	<90
HOBBS-06	L245679-6	0.111104	<10	<90
HOBBS-07	L245679-7	0.111104	<10	<90

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Level of quantitation: 10. ug

Analytical Method : mod. NIOSH 9102/SW846 6010C;ICP;GHOSTW

OSHA PEL (TWA) : NA

Collection Media : Ghost

Submitted by: Non-Response

Approved by :

Date : 05-AUG-11 NYS DOH # : 11626

QC by: Karen Becker

< -Less Than	mg -Milligrams	m3 -Cubic Meters	kg -Kilograms
> -Greater Than	ug -Micrograms	l -Liters	NS -Not Specified
NA -Not Applicable	ND -Not Detected	ppm -Parts per Million	



## LABORATORY FOOTNOTE REPORT

6601 Kirkville Road  
 East Syracuse, NY 13057  
 (315) 432-5227  
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Client Name : Armor Environmental Services, Inc.  
 Site : Hobbs Armory NM  
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Date Sampled : 26-JUL-11  
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Unless otherwise noted below, all quality control results associated with the samples were within established control limits.

Unrounded results are carried through the calculations that yield the final result and the final result is rounded to the number of significant figures appropriate to the accuracy of the analytical method. Please note that results appearing in the columns preceeding the final result column may have been rounded in order to fit the report format and therefore, if carried through the calculations, may not yield an identical final result to the one reported.

The stated LOQs for each analyte represent the demonstrated LOQ concentrations prior to correction for desorption efficiency (if applicable).


L245679 (Report ID: 702099):

Reported results reflect elemental analysis of the requested metals. Certain compounds may not be solubilized during digestion, resulting in data that is biased low.

SOPs: MT-SOP-9(14), im-mwvghost(10)

< -Less Than	mg -Milligrams	m3 -Cubic Meters	kg -Kilograms
> -Greater Than	ug -Micrograms	l -Liters	NS -Not Specified
NA -Not Applicable	ND -Not Detected	ppm -Parts per Million	



 <p>6601 Kirkville Rd East Syracuse, NY 13057 Tel: 315-432-5227 888-432-5227 Fax: 315-437-0571 www.galsonlabs.com</p>		<p>Report To: <b>Armor Environmental Services, Inc</b> 4448 Inverrary Blvd Fort Lauderdale, FL 33319</p>		<p>Invoice To: <b>Armor Environmental Services, Inc</b> 4448 Inverrary Blvd Fort Lauderdale, FL 33319</p>	
<p>Check if change of address <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>New Client? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>		<p>Phone No.: 954-578-7401 Fax No.: 954-572-3136</p>		<p>Phone No.: 954-578-7401 Fax/Email: 954-572-3136</p>	
<p>Site Name: <b>Hobbs Hammer? NM</b> Project: <b>ESSE F/U Lead Wipes</b></p>		<p>Site Name: <b>Hobbs Hammer? NM</b> Project: <b>ESSE F/U Lead Wipes</b></p>		<p>Site Name: <b>Hobbs Hammer? NM</b> Project: <b>ESSE F/U Lead Wipes</b></p>	
<p><input type="checkbox"/> Samples submitted using the FreePumpLoan™ Program</p> <p>Client Account No.: Customer</p> <p>Purchase Order No.: 0018228</p> <p>Credit Card: <input type="checkbox"/> Credit Card on File <input type="checkbox"/> Will Phone in Credit Card Information</p> <p>Email Results To: <b>Leon Lobban</b></p> <p>Email Address: <b>llobban@aol.com</b></p>		<p><input type="checkbox"/> Samples submitted using the FreeSamplingBadges™ Program</p> <p>Client Account No.: Customer</p> <p>Purchase Order No.: 0018228</p> <p>Credit Card: <input type="checkbox"/> Credit Card on File <input type="checkbox"/> Will Phone in Credit Card Information</p> <p>Email Results To: <b>Leon Lobban</b></p> <p>Email Address: <b>llobban@aol.com</b></p>		<p>Please indicate which OEL this data will be used for:</p> <p><input type="checkbox"/> OSHA PEL <input type="checkbox"/> ACGIH TLV <input type="checkbox"/> Cal OSHA <input checked="" type="checkbox"/> Other (please specify)</p>	
<p>Need Results By* (surcharge)</p> <p><input checked="" type="checkbox"/> 5 Business Days 0%</p> <p><input type="checkbox"/> 4 Business Days 35%</p> <p><input type="checkbox"/> 3 Business Days 50%</p> <p><input type="checkbox"/> 2 Business Days 75%</p> <p><input type="checkbox"/> Next Day by 8pm 100%</p> <p><input type="checkbox"/> Next Day by Noon 150%</p> <p><input type="checkbox"/> Same Day 200%</p>		<p>Sample Identification*</p> <p><b>HOBBS -01</b></p> <p><b>-02</b></p> <p><b>-03</b></p> <p><b>-04</b></p> <p><b>-05</b></p> <p><b>-06</b></p> <p><b>-07</b></p>		<p>Date Sampled</p> <p><b>7/26/11</b></p>	
<p>Collection Medium</p> <p><b>Ghost wipes</b></p>		<p>Sample Volume, Sample Time, or Sample Area*</p> <p><b>16 IN<sup>2</sup></b></p>		<p>Sample Units* (L, ml, min, in<sup>2</sup>, cm<sup>2</sup>, ft<sup>2</sup>)</p> <p><b>MS/Ft<sup>2</sup></b></p>	
<p>Analysis Requested*</p> <p><b>Surface Lead</b></p>		<p>Method Reference*</p> <p><b>NIOSH 9102/SW84-6</b></p>		<p>Metals Technique Required, ICAP or ICPMS* (Additional Cost)</p> <p><b>HUB</b></p>	
<p>For Hexavalent Chromium: process must be listed for each sample submitted (eg., welding, plating, painting, etc.):</p>					
<p>For Crystalline Silica: form(s) of silica needed must be indicated (Quartz, Cristobalite, and/or Tridymite)*:</p>					
<p>List description of industry or process/interferences present in sampling area:</p>					
<p>Comments:</p>					
<p>Chain of Custody</p>					
<p>Relinquished by</p>					
<p>Received by LAB</p>					
<p>Samples received after 3pm will be considered as next day's business</p>					
<p>Required fields; failure to complete these items may result in a delay in your samples being processed.</p>					
<p>Page 1 of 1</p>					



Mr. Leon Lobban  
Armor Environmental Services, Inc.  
4448 Inverrary Blvd.  
Fort Lauderdale, FL 33319

August 25, 2011

DOH ELAP# 11626

Account# 18228

Login# L245679

**Non-Responsive**

Enclosed are the revised analytical results for the samples received by our laboratory on August 01, 2011. All test results meet the quality control requirements of AIHA and NELAC unless otherwise stated in this report. All samples on the chain of custody were received in good condition unless otherwise noted.

Per your request, all seven samples submitted for Lead were subcontracted to Environmental Hazards Services, L.L.C. to achieve a lower Level of Quantitation (LOQ). Their report is enclosed in its entirety.

Results in this report are based on the sampling data provided by the client and refer only to the samples as they were received at the laboratory. Unless otherwise requested, all samples will be discarded 14 days from the date of this report.

Please contact John Bailey at (888) 432-5227, if you would like any additional information regarding this report.

Thank you for using Galson Laboratories.

Sincerely,

**Non-Responsive**

Laboratory Director

Enclosure(s)





Environmental Hazards Services, L.L.C.

7469 Whitepine Rd

Richmond, VA 23237

Telephone: 800.347.4010

## Wipe Metals Analysis Report

**Client:** Galson Laboratories  
6601 Kirkville Rd  
East Syracuse, NY 13057

**Report Number:** 11-08-03225**Received Date:** 08/23/2011**Analyzed Date:** 08/24/2011**Reported Date:** 08/24/2011**Project/Test Address:** L245679**Client Number:**

200869

**Fax Number:**

## Laboratory Results

Lab Sample Number	Client Sample Number	Analyte:	Wipe Area (ft <sup>2</sup> )	Total Metal (ug)	Concentration (ug/ft <sup>2</sup> )	Narrative ID
11-08-03225-001	HOBBS-01	Lead (Pb)	0.111104	<2.50	<23	
11-08-03225-002	HOBBS-02	Lead (Pb)	0.111104	4.48	40	
11-08-03225-003	HOBBS-03	Lead (Pb)	0.111104	<2.50	<23	
11-08-03225-004	HOBBS-04	Lead (Pb)	0.111104	<2.50	<23	
11-08-03225-005	HOBBS-05	Lead (Pb)	0.111104	<2.50	<23	
11-08-03225-006	HOBBS-06	Lead (Pb)	0.111104	<2.50	<23	
11-08-03225-007	HOBBS-07	Lead (Pb)	0.111104	<2.50	<23	

## Environmental Hazards Services, L.L.C

Client Number: 200869  
Project/Test Address: L245679

Report Number: 11-08-03225

---

**Sample Narratives:**

---

Analyst:

**Non-Responsive**

Method:

NIOSH 7300M

Reviewed By Authorized Signator

**Non-Responsive**

QA/QC Clerk

Sample Results denoted with a "less than" (<) sign contains less than the reporting limit for each particular metal, based on a 50mL volume. The reporting limit for Mercury is 0.10ug and 2.5ug for all other metals.

The condition of the samples analyzed was acceptable upon receipt per laboratory protocol unless otherwise noted on this report. Results represent the analysis of samples submitted by the client. Sample location, description, area, volume, etc., was provided by the client. If the report does not contain the result for a field blank, it is due to the fact that the client did not include a field blank with their samples. EHS sample results do not reflect blank correction. This report shall not be reproduced except in full, without the written consent of the Environmental Hazards Service, L.L.C. California Certification #2319 NY ELAP #11714.

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Legend	ug = microgram	ug/ft <sup>2</sup> = micrograms per square foot
	mL = milliliter	ft <sup>2</sup> = square foot

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11-08-03225



Environmental Hazardous Services, LLC

www.leadlab.com  
(800) 347-4010  
(804) 275-4907 (fax) 23237

# Lead Chain-of-Custody

11-08-03225



Due Date:  
08/25/2011  
(Thursday)  
E

Company Name: Galson Labs  
Address: 6601 Kirkville Rd  
City/State/Zip: E. Syracuse NY 13057  
Phone ( ) 888-432-5227  
Fax ( )  
Project Name / Testing Address: L245679  
Acct Number:

City/State (Required): 18228  
Purchase Order Number:  
Certification Number:  
\* Do wipe samples submitted meet ASTM E1792 requirements? ☒ Yes ☐ No

BEST AVAILABLE COPY

Turn Around Time (TAT)  
☒ 1-Day  
☐ 3-Day  
Results to by 8/25-8/26  
☐ Same Day (Must Call Ahead)  
☐ Weekend (Must Call Ahead)  
If no TAT is specified, sample(s) will be processed and charged as 3-Day TAT.

Sample Type  
Single Dust Wipe = DW Soil = S  
Paint Chip = PC Air = A  
Composite Soil = CS

Abbreviations  
FR = Family Room  
LR = Living Room  
DN = Den  
DR = Dining Room  
I = (Is F)  
F = Front  
R = Rear  
LI = Left  
RT = Right  
2 = 2nd Fl  
0 = Room  
KT = Kitchen  
BA = Bath  
BR = Bedroom


Surface Type for Dust Wipe  
FL = Floor  
CP = Carpet  
SL = Window Sill  
WW = Window Well

No.	Sample Type	Date Collected	Client Sample ID	Collection Location (I.R. KT, LTR, RTR, etc.)	Surface Type	Area Length X Width in inches (Divide paint chip area only if collecting imp. only)	Paint Chip	Flow Rate (1/2 min)	Air Total Time (minutes)	Volume (Total Liters)	Comments
1	DW	7/26/2011	HOBBS-01	0% HNO3/4% HCL-50mL Final Volume		.111104ft2 X					need 100 of subpht2
2	DW	7/26/2011	HOBBS-02			.111104ft2 X					for all samples in set
3	DW	7/26/2011	HOBBS-03			.111104ft2 X					
4	DW	7/26/2011	HOBBS-04			.111104ft2 X					
5	DW	7/26/2011	HOBBS-05			.111104ft2 X					
6	DW	7/26/2011	HOBBS-06			.111104ft2 X					
7	DW	7/26/2011	HOBBS-07			.111104ft2 X					
8						X					
9						X					
10						X					
Released											
Received											

Non-Responsive

Non-Responsive



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<p>Site Name: <b>Hobbs Ramsey: NY Project: FUI Lead Wipes</b></p>		<p>Site Name: <b>Hobbs Ramsey: NY Project: FUI Lead Wipes</b></p>		<p>Site Name: <b>Hobbs Ramsey: NY Project: FUI Lead Wipes</b></p>	
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<p>Sample Identification*</p> <p><b>HOBBS -01</b></p> <p><b>-02</b></p> <p><b>-03</b></p> <p><b>-04</b></p> <p><b>-05</b></p> <p><b>-06</b></p> <p><b>-07</b></p>		<p>Sample Identification*</p> <p><b>HOBBS -01</b></p> <p><b>-02</b></p> <p><b>-03</b></p> <p><b>-04</b></p> <p><b>-05</b></p> <p><b>-06</b></p> <p><b>-07</b></p>		<p>Sample Identification*</p> <p><b>HOBBS -01</b></p> <p><b>-02</b></p> <p><b>-03</b></p> <p><b>-04</b></p> <p><b>-05</b></p> <p><b>-06</b></p> <p><b>-07</b></p>	
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<p>Collection Medium</p> <p><b>Ghost wipes</b></p> <p><b>Ghost wipes</b></p> <p><b>Ghost wipes</b></p> <p><b>Ghost wipes</b></p> <p><b>Ghost wipes</b></p> <p><b>Ghost wipes</b></p>		<p>Collection Medium</p> <p><b>Ghost wipes</b></p> <p><b>Ghost wipes</b></p> <p><b>Ghost wipes</b></p> <p><b>Ghost wipes</b></p> <p><b>Ghost wipes</b></p> <p><b>Ghost wipes</b></p>		<p>Collection Medium</p> <p><b>Ghost wipes</b></p> <p><b>Ghost wipes</b></p> <p><b>Ghost wipes</b></p> <p><b>Ghost wipes</b></p> <p><b>Ghost wipes</b></p> <p><b>Ghost wipes</b></p>	
<p>Sample Volume, Sample Time, or Sample Area*</p> <p><b>16 IN<sup>2</sup></b></p> <p><b>16 IN<sup>2</sup></b></p> <p><b>16 IN<sup>2</sup></b></p> <p><b>16 IN<sup>2</sup></b></p> <p><b>16 IN<sup>2</sup></b></p> <p><b>16 IN<sup>2</sup></b></p>		<p>Sample Volume, Sample Time, or Sample Area*</p> <p><b>16 IN<sup>2</sup></b></p> <p><b>16 IN<sup>2</sup></b></p> <p><b>16 IN<sup>2</sup></b></p> <p><b>16 IN<sup>2</sup></b></p> <p><b>16 IN<sup>2</sup></b></p> <p><b>16 IN<sup>2</sup></b></p>		<p>Sample Volume, Sample Time, or Sample Area*</p> <p><b>16 IN<sup>2</sup></b></p> <p><b>16 IN<sup>2</sup></b></p> <p><b>16 IN<sup>2</sup></b></p> <p><b>16 IN<sup>2</sup></b></p> <p><b>16 IN<sup>2</sup></b></p> <p><b>16 IN<sup>2</sup></b></p>	
<p>Sample Units* (L, ml, min, in<sup>2</sup>, cm<sup>2</sup>, ft<sup>2</sup>)</p> <p><b>16 IN<sup>2</sup></b></p> <p><b>16 IN<sup>2</sup></b></p> <p><b>16 IN<sup>2</sup></b></p> <p><b>16 IN<sup>2</sup></b></p> <p><b>16 IN<sup>2</sup></b></p> <p><b>16 IN<sup>2</sup></b></p>		<p>Sample Units* (L, ml, min, in<sup>2</sup>, cm<sup>2</sup>, ft<sup>2</sup>)</p> <p><b>16 IN<sup>2</sup></b></p> <p><b>16 IN<sup>2</sup></b></p> <p><b>16 IN<sup>2</sup></b></p> <p><b>16 IN<sup>2</sup></b></p> <p><b>16 IN<sup>2</sup></b></p> <p><b>16 IN<sup>2</sup></b></p>		<p>Sample Units* (L, ml, min, in<sup>2</sup>, cm<sup>2</sup>, ft<sup>2</sup>)</p> <p><b>16 IN<sup>2</sup></b></p> <p><b>16 IN<sup>2</sup></b></p> <p><b>16 IN<sup>2</sup></b></p> <p><b>16 IN<sup>2</sup></b></p> <p><b>16 IN<sup>2</sup></b></p> <p><b>16 IN<sup>2</sup></b></p>	
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<p>Method Reference*</p> <p><b>NIOSH 9102/SW84-6</b></p> <p><b>NIOSH 9102/SW84-6</b></p> <p><b>NIOSH 9102/SW84-6</b></p> <p><b>NIOSH 9102/SW84-6</b></p> <p><b>NIOSH 9102/SW84-6</b></p> <p><b>NIOSH 9102/SW84-6</b></p>		<p>Method Reference*</p> <p><b>NIOSH 9102/SW84-6</b></p> <p><b>NIOSH 9102/SW84-6</b></p> <p><b>NIOSH 9102/SW84-6</b></p> <p><b>NIOSH 9102/SW84-6</b></p> <p><b>NIOSH 9102/SW84-6</b></p> <p><b>NIOSH 9102/SW84-6</b></p>		<p>Method Reference*</p> <p><b>NIOSH 9102/SW84-6</b></p> <p><b>NIOSH 9102/SW84-6</b></p> <p><b>NIOSH 9102/SW84-6</b></p> <p><b>NIOSH 9102/SW84-6</b></p> <p><b>NIOSH 9102/SW84-6</b></p> <p><b>NIOSH 9102/SW84-6</b></p>	
<p>Metals Technique Required, ICAP or ICPMs* (Additional Cost)</p> <p><b>HUD</b></p> <p><b>HUD</b></p> <p><b>HUD</b></p> <p><b>HUD</b></p> <p><b>HUD</b></p> <p><b>HUD</b></p>		<p>Metals Technique Required, ICAP or ICPMs* (Additional Cost)</p> <p><b>HUD</b></p> <p><b>HUD</b></p> <p><b>HUD</b></p> <p><b>HUD</b></p> <p><b>HUD</b></p> <p><b>HUD</b></p>		<p>Metals Technique Required, ICAP or ICPMs* (Additional Cost)</p> <p><b>HUD</b></p> <p><b>HUD</b></p> <p><b>HUD</b></p> <p><b>HUD</b></p> <p><b>HUD</b></p> <p><b>HUD</b></p>	

Please indicate which OEL this data will be used for:

☐ OSHA PEL ☐ ACGIH TLV ☐ Other (please specify)

☐ Cal OSHA ☒

For Hexavalent Chromium: process must be listed for each sample submitted (eg., welding, plating, painting, etc.). \*

For Crystalline Silica: form(s) of silica needed must be indicated (Quartz, Cristobalite, and/or Tridymite)\*.

List description of industry or process/interferences present in sampling area:

Comments:

Chain of Custody

Relinquished by: **AMYA JOHNSON / Leon Lobban**

Received by LAB: **m. Krause**

Signature: **AMYA JOHNSON**

Print Name: **AMYA JOHNSON**

Date/Time: **7/29/11 5:30 PM**

Signature: **m. Krause**

Print Name: **m. Krause**

Date/Time: **8/1/11 1:00 PM**

Samples received after 3pm will be considered as next day's business

\* Required fields, failure to complete these fields may result in a delay in your samples being processed.

Page 1 of 1



## Attachment 1

7/26/11 Hobbs Primary N.M.

Range never used but open clean inside before.

building constructed in 1985

- Kitchen stop use in 1999

- Weapons clean in drill room

	Samples	Photo	Location
IFA	01	63	Centre S
	02	64	Centre N
Drill Rm.	03	69	NW corner
	04	70	NW Centre
	05	71	SW corner
	06	72	NE corner
	07	73	SE centre

\*Raden Passive dosimeter S/N 4829066 Deployed 7/26/11  
in Room 115 @ 3:50 M.T. Photo # 74 (39)





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**ARMY NATIONAL GUARD  
INDUSTRIAL HYGIENE – SOUTHWEST**

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## **Industrial Hygiene Site Assistance Visit**

**Las Cruces Armory**  
249 N. Armory Road  
Las Cruces, NM 88007

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10510 Superfortress Avenue, Suite C, Mather, CA 95655 (916) 854-1491



**Industrial Hygiene Southwest's mission is to ensure all military personnel and military leadership is provided the specialized technical expertise, consultation and assistance to ensure all military operations and processes are conducted in a healthy manner**

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10510 Superfortress Avenue, Suite C, Mather, CA 95655 (916) 854-1491





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INDUSTRIAL HYGIENE SOUTHWEST  
10510 Superfortress Ave, Ste. C  
Mather, CA 95655

ARNG-CSG-IHSW

21 February 2013

MEMORANDUM THRU New Mexico Army National Guard, ATTN **Non-Responsive** (DHN), 600 Wyoming Blvd NE, Albuquerque, NM 87123-1038

FOR Commander, Las Cruces Armory 249 N. Armory Rd, Las Cruces, NM 88007

SUBJECT: Executive Summary for Industrial Hygiene Site Assistance Visit (IHSAV) for the Las Cruces Armory, 249 N. Armory Rd, Las Cruces, NM conducted on 10 September 2012.

1. **References.** See survey report.

2. **General.**

a. At the request of the NGB Industrial Hygiene, Southwest (IHSW) Region, an Industrial Hygiene Site Assistance Visit and cursory review of safety related items and programs was conducted at the Las Cruces Armory 249 N. Armory Rd., Las Cruces, NM on 10 SEP 2012.

b. The findings and recommendations in this Executive Summary are controlling and supersede all recommendations in the contractor report (reference Attachment II). However, IHSW concurs with the observations and findings within the attached contractor report.

c. Risk Assessment Codes (RAC) provided in this report have been derived from two sources: Deriving Risk Assessment Codes (RAC's) for Health Hazards (Ref: DOD Instruction 6055.1) and AR 385-10, The Army Safety Program.

d. Use of trademark names in the attached report, or this Executive Summary, does not imply Army National Guard endorsement of any product.

3. **Findings.** See survey report.

4. **Commendable.**

a. The facility personnel were helpful during this SAV.

5. **Observations / Recommendations.**

**NOTE:** This section provides conclusions and recommendations for the findings and observations made within the attached contractors report. The paragraphs are numbered to correspond to the sections where they were first noted. (i.e., paragraph 2.1a represents the 2.1a located within the contractors report.

a. Ensure annual and monthly fire extinguisher checks are maintained on the tag found on the extinguisher and they are current. (para. 4.10) (RAC 4)

**SUBJECT:** Executive Summary for Industrial Hygiene Site Assistance Visit (IHSW) for the Las Cruces Armory, 249 N. Armory Rd, Las Cruces, NM conducted on 10 September 2012.

b. Locate the asbestos survey for this building or contract to have a licensed firm to perform an asbestos survey and assessment. This should be part of the NM ARNG Asbestos Management Plan. (para. 4.4) (RAC 3)

c. Provide personnel with asbestos awareness training to help prevent them from contaminating others, the building or themselves. (para. 4.4) (RAC 4)

d. Secure compressed gas cylinders to prevent potential missile hazards. (para. 4.3)

#### **6. Violation Correction Log.**

a. IHSW has provided a Violation Correction Log derived from the observations from this visit. IHSW recommends the following:

1. Commander(s) assign an Action OIC/NCOIC, Suspense Date for completion, and Estimated Cost(s) to ensure item completion and corrective status is briefed during quarterly (or monthly) Safety Meetings/Councils until resolved.

2. Corrective measures should be implemented and accomplished at the lowest levels possible. Hazards and Corrective Measures that cannot be corrected at the facility level, and require assistance from higher headquarters or from the state level, should be elevated to the Quarterly State/BN Safety Council Meeting for resolution.

3. Recommend a representative from the facility attend all quarterly/monthly meetings to ensure the appropriate emphasis and corrective actions are followed for hazard resolution and abatement of the observations made during this visit.

4. Retain entries of the items corrected, or closed, for future reference. This may be accomplished by posting completed items within the Corrected Hazard Sheet portion of the Excel Violation Correction Log Workbook we've provided.

5. The preferred method to document and track identified hazards for resolution is for their entry into the Reserve Component Automation System – Safety and Occupational Health (RCAS-SOH) Program.

b. IHSW recommends further program refinement through written documentation for standardized guidance to the personnel performing the processes. Conducting Hazard Assessments consistent with 29 Code of Federal Regulations (CFR) 1910.132, General Requirements for Personal Protective Equipment and AR 40-5, Preventive Medicine, would provide this continued program refinement.

#### **7. Hazard Assessment/Job Safety Analysis (JSA).**

a. Documenting the Hazard Assessments provides a method to obtain initial and periodic review from the Industrial Hygiene, Occupational Health and Safety Professions located at the JFHQ/HQ/state level.

b. The Hazard Assessments should be used as written training materials for the new, transfer and unit personnel working under the auspice of the facility.



**SUBJECT:** Executive Summary for Industrial Hygiene Site Assistance Visit (IHSAV) for the Las Cruces Armory, 249 N. Armory Rd, Las Cruces, NM conducted on 10 September 2012.

c. IHSW recommends facility supervisory staff and facility personnel conduct initial Hazard Assessments outlined in AR 40-5, Army Preventive Medicine (Section V) and 29 CFR 1910.132 and submit for review and obtain approval from the state Industrial Hygiene, Occupational Health and Safety Professions.

d. We have provided an appendix with Hazard Assessments (HA) examples of some of this facilities operations. Additional operations can utilize this format to design HA not observed during this SAV.

e. An integral and important factor of the Hazard Assessment/JSA process is for the review and guidance from qualified Safety, Occupational Health and Industrial Hygiene professions located at the higher headquarters level or state level. For this reason, the Hazard Assessments (to include all pertinent and supporting documents) should be completed by the facility personnel and forward to the New Mexico Army National Guard Industrial Hygiene, Occupational Health and Safety Office for final review and approval (signature).

f. Job Safety Analysis (JSA's)/Hazard Assessments.

**NOTE:** The Hazard Assessments can be used for monthly meetings to brief/train, and document large group training events and activities.

8. IHSW recommends the **Senior Unit Commander of this Facility and any Co-Tenant Organizations or Units, review and provide assistance with implementation of these recommendations.** This will educate the chain of command and allow the unit or co-tenant organizations to take any necessary precautions or actions required by them and their personnel.

9. To assist you with execution of your responsibilities in correcting the observations noted, we encourage you to consult with the State Safety Manager, Occupational Health Manager and Industrial Hygiene professions located and/or authorized within the State Safety and Occupational Health Office.

10. For additional information please contact the undersigned at (916) 854-1491 or via email at

**Non-Responsive**

*FOR*  
*2*

**Non-Responsive**

NGB, IHSW, CIV  
Industrial Hygiene



**Industrial Hygiene Southwest**  
**Violation Inventory Log**

**LOG OF SCHEDULE OF CORRECTIVE ACTION - COMPLIANCE WITH SAFETY AND HEALTH STANDARDS**  
**Las Cruces Armory, NM**

CONTROL NUMBER	HAZARD DESCRIPTION	SITE	RAC	CORRECTIVE ACTIONS (Abatement Plan)	SUSPENSE DATE	ACTION OIC/NCOIC	Estimated Cost(s)	DATE CORRECTED	REFERENCES
<input type="checkbox"/> CLOSED NMLCA-101012-4.8 <input type="checkbox"/>	The kitchen hood was not able to be tested for duct velocity due to an electrical shut down in the kitchen.	Las Cruces Armory	4	Measure the duct velocity of the kitchen hood when the power is restored to ensure the velocity exceeds the 500 fpm requirement outlined in the 2011 National Fire Protection Association Standard 96, Section 8.2.1.1.					2011 National Fire Protection Association Standard 96, Section 8.2.1.1.
NMLCA-101012-4.4 <input type="checkbox"/>	An asbestos survey could not be located during this IH Assistance Visit.	Las Cruces Armory	3	Either locate the asbestos survey for this building or contract with a licensed firm to perform an asbestos survey and assessment.					1910.1001(j)(3)(i)
NMLCA-101012-4.4 <input type="checkbox"/>	Personnel have not been provided with asbestos awareness training.	Las Cruces Armory	4	Based on the findings of this survey, provide awareness training to assigned personnel for the specific types of asbestos in this Armory.					29 CFR 1910.1001 or 1101 or AR 40-5
NMLCA-101012-4.10 <input type="checkbox"/>	All extinguishers except two in the kitchen and office areas were current on their annual and monthly inspections.	Las Cruces Armory	4	Ensure all fire extinguishers are provided a monthly inspection and document these inspections on the attached inspection cards.					29 CFR 1910.157 (c)(1)
NMLCA-101012-4.10 <input type="checkbox"/>	The GFCI outlet located in the men's restroom did not trip at 7 mA.	Las Cruces Armory	4	Repair or replace the GFCI outlet in the men's bathroom.					NFPA 70, Article 210-8
NMLCA-101012-4.10 <input type="checkbox"/>	An emergency eyewash/shower in the maintenance bay has not been inspected or tested.	Las Cruces Armory	4	Ensure the emergency eyewash/showers undergo a weekly operational test and document the results of these tests.					ANSI Z358.1-2009
NMLCA-101012-4.10 <input type="checkbox"/>	Compressed gas cylinders are not secured from tipping within the storage cage.	Las Cruces Armory	3	Firmly secure compressed gas cylinders against accidental dislodgement					1910.253 (b) (2) (ii)



## ***ARMORY***

### **CLEANUP & FOLLOW-UP HOUSEKEEPING RECOMMENDATIONS**

#### **Materials Needed:**

1. Cloth Mop head (s) & Mop head holder(s) with handle.
2. Mop bucket (s) with wringer.
3. Clean cotton rags and sponges.
4. Disposable gloves
5. Large barrel (55 gal.) to store wastewater in after changing out of dirty scrub water. Waste water containers.
6. Disposable overshoes or rubber boots. Personnel conducting cleaning operations should not take clothes, boots, etc., home for laundering.
7. HEPA vacuum
8. Six (6) mill plastic bags to dispose of waste.
9. Detergent with surfactant, e.g., Spic-N-Span, Mr. Clean, etc.

#### **Disposal of Waste Water and Cleaning Materials:**

1. *NOTE:* Consult with Local Army National Guard Environmental Office prior to taking any collection, disposal or wiping activities commence. Each state and territory may have additional regulatory guidance on collection, storage and disposal of wastewater.
2. Mop heads should be disposed of after initial cleanup, unless otherwise advised by Environmental office personnel. Note: thorough cleaning of mop heads may be sufficient enough to reuse on future Armory cleanups but check with local Environmental Office.
3. Disposable gloves should be treated as hazardous waste.
4. Soiled cotton rags should be treated as hazardous waste.
5. Wash water contaminated with Lead can be collected and allowed to slowly evaporate leaving Lead deposits/sludge that may be collected in plastic containers, placed in metal drums, and stored for future delivery to an authorized hazardous waste disposal site.

- a. Drums shall be properly labeled to identify contents In-Accordance With (IAW) Federal, State and local regulatory guidance.
- b. Disposal of containerized waste shall be coordinated IAW State hazardous waste program requirements.
- c. The Environmental Office shall coordinate removal and disposal of all containerized hazardous waste through established waste streams.

**Post-Cleanup Precautionary Measures:**

1. Thoroughly wash hands with soap and water.
2. Rinse off rubber boots with soap and water, capturing wastewater for collection into established waste stream. If personnel choose to use over shoes for protection, dispose of overshoes into waste stream. NOTE: This recommendation is for initial clean up activities and PPE requirements may be reduced after it has been determined non-hazardous levels have been achieved.
3. Wash BDU's or personal clothing separately from children's clothes.

**NOTE:** No eating, drinking or cosmetics allowed during cleanup procedures (these may be allowed after washing of hands/face and done outside of cleanup area)

**NOTE:** Avoid blowing, shaking or like actions which could potentially disperses lead dust. Dry sweeping, dusting, wiping or blowing with compressed air shall not be permitted

**Initial Armory Cleanup:**

1. Use a vacuum cleaner equipped with a HEPA exhaust filter. HEPA vacuum all surfaces in the room (ceiling, walls trim, and floors). Start with the ceiling and work down, moving toward the entry door. **Completely clean each room before moving on.**
2. Prepare water and detergent for the wipe down phase, according to manufactures recommendations.



3. Wet wipe, with cotton rags or sponge, any horizontal, diagonal or vertical surfaces up six (6) feet from floor surfaces using hot water and "Spic-n-Span" or an equivalent product.
  - a. Rinse out cleaning cloths thoroughly and frequently.
  - b. Change out cleaning water as necessary.

**NOTE: If walls to be cleaned show signs of deterioration, e.g., chipping or crumbling paint, in which wiping, scrubbing, or disrupting might potentially increase or spread contamination, then this portion of the clean up should be avoided.**

4. Now prepare water and detergent (e.g. Spic N Span, Mr. Clean, Pine Sol) for the mopping phase, according to manufactures recommendations, which should be found on the products label for general clean up.
  - a. Change out water frequently (when water appears dirty)
  - b. Rinse out mop heads frequently to prevent contamination of dirty water.
5. Cover entire drill floor surface with above prescribed water and detergent.
6. Final rinse should be with clean water only - -after mop heads have been cleaned.

**Recommended Follow-up Housekeeping Practices** *after Clearance sampling of cleaned area is performed by certified personnel:*

1. Floor cleaning and dusting should be accomplished using the wet method described in Initial Armory Cleanup SOP.

**Note:** Only exception to these wet cleaning procedures would be the use of a chemically treated dust floor mop. This can be used for follow-up armory cleaning by sweeping of large particles of dirt and paper.

- a. Pre-treated (chemically treated) dust floor mop will limit dust particles from being disbursed into the surround atmosphere.

- b. If treated dust mop is used - -Do Not Shake Mop head - - have mop head laundered after use. **Always keep used dust mop heads in sealed double plastic bags when stored at armory/facility.** Shaking of mop head could release unwanted contaminants into surrounding atmosphere.
2. Frequency of Cleanup- Armories will vary, according to usage and how often they should be cleaned. The following general cleaning schedule is provided:
- a. Only full-time technicians and traditional soldiers using facility during the month. (*Cleaned Monthly*)
  - b. Occasional activities taking place during the month, e.g., 1-2 classes or volleyball games, etc. (*Cleaned 2x's Monthly*)
  - c. Used regularly by soldiers or outside agencies/personnel. (*Cleaned Regularly - -at least Weekly*)

**NOTE:** Armories with adjoining Indoor Firing Ranges (IFR) should be cleaned more than weekly, again depending on use of Armory and IFR.

**NOTE:** Clearance sampling/testing is to be accomplished by certified personnel after these cleanup procedures are followed. If the area is an average Armory, occupied by adults only, for which you are cleaning and **is not a Converted IFR space**, you may continue to utilize the Armory space before the officials re-test this space. Please notify your Safety and/or Occupational Health personnel of the completion of this cleaning regime and they will notify the proper officials of the sampling/testing requirements needed.

If work is contracted out, a third party should do the clearance sampling.

**Young children and females who are pregnant, there should be posted signs on all facilities, warning of the potential danger of exposure to lead dust.**





**IH ASSISTANCE VISIT**

**New Mexico Army National Guard  
Las Cruces Armory  
249 North Armory Road  
Las Cruces, New Mexico 88007**

**December 14, 2012**

**Prepared for:**

**Industrial Hygiene Southwest  
10510 Superfortress Avenue, Suite C  
Mather, California 95655**

**Prepared by:**

**Non-Responsive**

**Industrial Hygiene Technician**

**Reviewed by:**

**Non-Responsive**

**Industrial Hygiene Program Manager**

**Project #AL127213**

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SEATTLE

## TABLE OF CONTENTS

## EXECUTIVE SUMMARY

<b>1.0</b>	<b>INTRODUCTION .....</b>	<b>1</b>
1.1	Objectives .....	1
1.2	Scope of Work .....	1
<b>2.0</b>	<b>PROCESS DESCRIPTION .....</b>	<b>1</b>
<b>3.0</b>	<b>METHODS AND APPLICABLE REGULATIONS AND STANDARDS .....</b>	<b>2</b>
3.1	Lead Wipe Sampling .....	2
3.2	Painted Surface Evaluation .....	2
3.3	Moisture Intrusion and Limited Visual Fungal Growth Evaluation .....	2
3.4	Asbestos Management .....	3
3.5	Heating, Ventilation, and Air-Conditioning Systems and Indoor Air Quality .....	3
3.6	Hazard Communication and Hazardous Material Storage .....	3
3.7	Safety Training and Record Keeping .....	4
3.8	Kitchen Ventilation Survey .....	4
3.9	Kitchen Appliance Sound-Level Measurements .....	4
3.10	General Safety Walk-Through .....	4
3.11	Equipment Used .....	4
3.12	Quality Assurance .....	5
<b>4.0</b>	<b>FINDINGS AND RECOMMENDATIONS .....</b>	<b>5</b>
4.1	Lead Wipe Sampling .....	5
4.2	Painted Surface Evaluation .....	5
4.3	Moisture Intrusion and Limited Visual Fungal Growth Evaluation .....	5
4.4	Asbestos Management .....	6
4.5	Heating, Ventilation, and Air-Conditioning Systems and Indoor Air Quality .....	6
4.6	Hazard Communication and Hazardous Material Storage .....	7
	4.6.1 Hazardous Materials Inventory and Material Safety Data Sheets (MSDS) .....	7
	4.6.2 Flammable Storage Cabinets .....	7
4.7	Safety Training and Record Keeping .....	7
4.8	Kitchen Ventilation Survey .....	8
4.9	Kitchen Appliance Sound-Level Measurements .....	8
4.10	General Safety Walk-Through .....	8
<b>5.0</b>	<b>PROJECT LIMITATIONS .....</b>	<b>9</b>
<b>6.0</b>	<b>PROJECT APPROVAL .....</b>	<b>10</b>



APPENDICES

Appendix A	References
Appendix B	Assessment Criteria
Appendix C	Photo Log
Appendix D	Chemical Inventory
Appendix E	Floor Plan/IAQ - Temp, RH, & CO <sub>2</sub> Monitoring
Appendix F	Ventilation Data
Appendix G	Field Notes
Appendix H	Calibration Certificates
Appendix I	Lead Wipe & Lead Paint Chip Table and Drawing
Appendix J	Laboratory Reports
Appendix K	IHSW Violation Inventory Log
Appendix L	Recommendations
Appendix M	DD Forms 2214

## EXECUTIVE SUMMARY

On September 10, 2012, **Non-Responsive** f IHI Environmental (IHI) conducted an IH Assistance Visit at the Las Cruces Armory. The primary point of contact for information gathered during this survey was **Non-Responsive** (575) 474-2426,

**Non-Responsive**

The objectives of this IH Assistance Visit were to perform the following activities:

- collect lead wipe samples;
- evaluate the condition of painted surfaces and collect paint chip samples for lead analysis where painted surfaces are peeling;
- inspect the interior rooms of the armory for water damage and the presence of fungal growth;
- review asbestos survey and assessment files and determine if documentation of asbestos awareness training is current;
- evaluate the condition of the Heating, Ventilation, and Air-Conditioning system, and collect indoor air quality data;
- review hazardous material storage and use procedures;
- review safety training and record keeping;
- perform a ventilation survey on the kitchen stove hood (if present);
- perform a noise survey on the kitchen appliances; and
- conduct a safety walk-through evaluation and note any existing safety hazards.

Significant findings for this IH Assistance Visit can be found in the Industrial Hygiene Southwest – Violation Inventory Log, located in Appendix K of this report.

The report that follows this Executive Summary should be read in its entirety because it includes important information not included in this summary, such as task descriptions, work space locations, regulatory requirements, and additional recommendations.



## 1.0 INTRODUCTION

On September 10, 2012, **Non-Responsive** f IHI Environmental (IHI) conducted an IH Assistance Visit at the Las Cruces Armory located at 249 North Armory Road, Las Cruces, New Mexico 88007. The primary point of contact for information gathered during this survey was **Non-Responsive**

### 1.1 Objectives

Evaluate the occupational environment of the administrative areas in the armory to determine the presence of operational health and safety risks, and make recommendations for corrective actions or follow-up work to manage those risks.

### 1.2 Scope of Work

To achieve the above objectives at this facility, the survey included the following work:

- collect lead wipe samples;
- evaluate the condition of painted surfaces and collect paint chip samples for lead analysis where painted surfaces are peeling;
- inspect the interior rooms of the armory for water damage and the presence of fungal growth;
- review asbestos survey and assessment files and determine if documentation of asbestos awareness training is current;
- evaluate the condition of the Heating, Ventilation, and Air-Conditioning system and collect indoor air quality data;
- review hazardous material storage and use procedures;
- review safety training, and record keeping;
- perform a ventilation survey on the kitchen stove hood (if present);
- perform a noise survey on the kitchen appliances; and
- conduct a safety walk-through evaluation and note any existing safety hazards.

## 2.0 PROCESS DESCRIPTION

The Las Cruces Armory has thirty-eight full-time guard members. The armory has offices used for administrative purposes, a training area, drill floor, supply rooms and vaults, restrooms and locker rooms, kitchen, maintenance bay, converted indoor firing range, and a mechanical room. There are six state maintenance personnel and 22 participants in the Sheriff's Academy who also work in this facility. Civilian activities carried out in this armory include the Sheriff's Academy and the drill hall is rented out by family readiness for shows.

Army National Guard members clean weapons on the drill hall floor quarterly.

### **3.0 METHODS AND APPLICABLE REGULATIONS AND STANDARDS**

#### **3.1 Lead Wipe Sampling**

Lead residue (dust) wipe samples were collected on horizontal surfaces, such as the drill floor, kitchen, administrative areas, and indoor firing ranges (where present) to determine housekeeping standards. Lead Wipe™ brand wipes were used with a 100-square-centimeter template. The wipes used conform to American Society for Testing and Materials (ASTM) E1792, *Standard Specification for Wipe Sampling Materials for Lead in Surface Dust*. The collected wipe samples were placed in clean and labeled plastic containers. Samples were submitted to ALS Laboratories for analysis, using National Institute for Occupational Safety and Health (NIOSH) Method 7300. See Appendix I for sample locations and Appendix J for laboratory results.

The Mather, California, office of Industrial Hygiene Southwest has developed a Standard Operating Procedure (SOP) for lead, which is a blend of Occupational Safety and Health Administration (OSHA), U.S. Department of Housing and Urban Development (HUD), and Army regulations. Essentially, this SOP sets forth a criterion of 40 micrograms of lead per square foot ( $\mu\text{g}/\text{ft}^2$ ) for converted indoor firing ranges, break rooms, floor surfaces, or any area that might be used for non-military functions. A 200- $\mu\text{g}/\text{ft}^2$  criterion has been established for tool rooms, maintenance bays, furnace rooms, boiler rooms, storage closets, and other areas where the general public is not expected to visit.

#### **3.2 Painted Surface Evaluation**

The interior of the armory was visually inspected for peeling paint on the walls and ceilings.

#### **3.3 Moisture Intrusion and Limited Visual Fungal Growth Evaluation**

The interior of the armory was visually inspected for signs of moisture intrusion that could result in fungal growth. Any signs of moisture intrusion (e.g., discoloration, staining, blistering) were noted and documented on a drawing for a follow-up evaluation.



### 3.4 Asbestos Management

Armory personnel were asked if an asbestos survey and assessment had been conducted and whether there was a written Operations and Maintenance Program for the facility. IHI also reviewed any asbestos awareness training records.

### 3.5 Heating, Ventilation, and Air-Conditioning Systems and Indoor Air Quality

The heating, ventilation, and air-conditioning (HVAC) systems that serve the armory were evaluated. This evaluation consisted of a visual inspection of the system to note any obvious problems, and a review of the facility maintenance plan, if one was available.

Carbon dioxide (CO<sub>2</sub>), temperature, and relative humidity were measured throughout the armory using a TSI Model 8762 IAQ-Calc™ Monitor. The unit was calibrated before use with certified zero gas and 1,000-ppm CO<sub>2</sub> span gas. See Appendix E for IAQ data.

Carbon dioxide is a normal constituent of exhaled breath and is commonly measured as a screening tool to evaluate whether adequate fresh, outdoor air is being provided. If typical CO<sub>2</sub> levels within a fully occupied building are maintained at or less than 1,000 ppm, with appropriate temperature and humidity levels, complaints about indoor air quality should be minimal (American Society for Testing and Materials (ASTM) – International D6245-12, *Using Indoor Carbon Dioxide Concentrations to Evaluate Indoor Air Quality*). If a building exceeds this guideline, it should not be interpreted as an unhealthy or hazardous situation. An elevated CO<sub>2</sub> level is only an indication that the amount of outside air being brought into a building may be inadequate for the number of people present, or is poorly distributed, and further investigation may be warranted.

In building areas where there are potential sources of CO<sub>2</sub> other than exhaled breath, the guidelines above cannot be used. The OSHA standard for CO<sub>2</sub> should be used in these instances. The OSHA standard is an eight-hour time-weighted average (TWA) of 5,000 ppm with a short-term 15-minute average limit of 30,000 ppm.

### 3.6 Hazard Communication and Hazardous Material Storage

A review of the armory's chemical inventory and Material Safety Data Sheet (MSDS) file was accomplished. Chemical storage areas, i.e., flammable storage cabinets/rooms, were also inspected.

### 3.7 Safety Training and Record Keeping

A review of safety training programs and documentation was performed to determine if the armory's site-specific training programs and annual documentation were current.

### 3.8 Kitchen Ventilation Survey

Duct velocity measurements were collected on facility kitchen exhaust hoods (when present), using a TSI VelociCalc, Model 9515.

The 2011 National Fire Protection Association Standard 96, Section 8.2.1.1, requires exhaust fan ducts used in commercial cooking equipment to have a duct velocity of not less than 500 feet per minute (fpm).

### 3.9 Kitchen Appliance Sound-Level Measurements

Sound-pressure levels of the kitchen appliances (when present) were measured using a Sound Level Meter in the dBA and dBC ranges, with the meter set on slow response.

DD Forms 2214 are provided in Appendix M.

### 3.10 General Safety Walk-Through

A limited Fire Life Safety Code walk-through evaluation of the armory was performed to:

- document the presence of a fire alarm,
- determine if fire extinguishers are properly mounted and current on their monthly and annual inspections,
- determine if eyewash station inspections are current, and
- document any fire or safety hazards in the armory.

### 3.11 Equipment Used

The following equipment was used for this survey.

Type	Model Number	Serial Number	Calibration Date
TSI VelociCalc™ Meter	9515	T95150720007	10/13/2011
TSI IAQ Calc™	8732	02100504	03/19/2012
3M™ Sound Level Meter	SM-200	SD20010465	09/12/2011

The calibration certificates for these instruments are attached in Appendix H.



### 3.12 Quality Assurance

IHI employs, at a minimum, the following methods to help assure quality of field investigations and reports:

- Use of appropriately educated and experienced personnel;
- Documentation of pertinent field and sampling information
- Continuing education of technical personnel through attendance at training sessions and conferences, and literature review;
- Peer and supervisory review of sampling strategy, field methods, calculations, and reports;
- Strict adherence to method requirements, in particular to NIOSH and OSHA standard methods, including strict chain-of-custody protocol;
- Use of accredited laboratories, or, in cases where specific accreditation is not available, choice of laboratories of good reputation, having strong QA/QC programs.
- Calibration of instruments, including field calibration via manufacturers' recommended procedures and routine (typically annual) off-site calibration of equipment via certified third parties.

## 4.0 FINDINGS AND RECOMMENDATIONS

### 4.1 Lead Wipe Sampling

Analytical results for lead wipe sampling indicate all locations were below the analytical criterion outlined in the IHSW SOP. See Appendix I for a data table and a drawing showing sample locations and Appendix J for the laboratory reports. Photographs were taken of each sampling point and are presented in Appendix C.

#### Recommendation

None

### 4.2 Painted Surface Evaluation

Peeling or damaged paint was not observed in this armory.

#### Recommendation

None

### 4.3 Moisture Intrusion and Limited Visual Fungal Growth Evaluation

Moisture intrusion, water damage, and fungal growth were not observed in this facility.

**Recommendation**

None

**4.4 Asbestos Management**

An asbestos survey could not be located for this armory. Personnel have not been provided with asbestos awareness training.

**Recommendations**

1. Contract with a licensed firm to perform an asbestos survey and assessment of this armory.
2. Once asbestos-containing materials have been identified and assessed, provide awareness training to assigned personnel for the specific material types and locations of asbestos in this armory.

**4.5 Heating, Ventilation, and Air-Conditioning Systems and Indoor Air Quality**

The armory is heated by four roof-mounted combination units and four roof-mounted heat vent units with individual smaller heaters in the maintenance bay and former indoor firing range (IFR). Air conditioning is provided by four roof-mounted swamp coolers.

The average outdoor CO<sub>2</sub> concentration at the time of the survey was 330 parts per million (ppm). The highest CO<sub>2</sub> concentration measured inside the building was 538 ppm, which should not result in indoor air quality complaints.

Building air temperatures ranged from about 71 to 74°F and relative humidity was between 43 and 51 percent during the testing period. Air temperatures were within the recommended comfort range of 68-75°F and the relative humidity was within the recommended comfort range of between 30 and 60 percent. Low relative humidity is common in New Mexico the majority of the year. Humidity levels above 60 percent can result in proliferation of bacteria and fungi, while levels below 30 percent can cause dry eyes, skin, and mucous membranes.

New Mexico State maintenance personnel maintain all HVAC units in the armory.

**Recommendation**

None



**Note:** IHI did not conduct a thorough evaluation of the contents or quality of any of the documents identified during this visit.

#### **Recommendation**

None

#### **4.8 Kitchen Ventilation Survey**

There is one exterior ceiling-mounted exhaust fan that serves the kitchen appliances. Duct velocity measurements were not able to be obtained since the power was isolated in the kitchen by an electrical contractor.

#### **Recommendation**

1. Measure the duct velocity of the kitchen hood when the power is restored to ensure the velocity meets the 500-fpm requirement outlined in the 2011 National Fire Protection Association Standard 96, Section 8.2.1.1.

#### **4.9 Kitchen Appliance Sound-Level Measurements**

All of the kitchen appliances measured produce noise levels well below the hazardous noise criterion of 85 dBA. Based on this information, there is no need for noise reduction measures or additional noise dosimetry surveys for this area.

#### **Recommendation**

None

#### **4.10 General Safety Walk-Through**

1. Housekeeping throughout the facility was good.
2. There is a fire alarm in this facility. Simple-Grinnell performs the inspections on this system.
3. Fire extinguishers are strategically located throughout the armory. All extinguishers except two were current on their annual and monthly inspections.
4. There is one eyewash/shower station in this facility, but no chemical use that would require one. Weekly inspections are not performed on this eyewash.
5. Fire evacuation routes are posted in most rooms of this armory.
6. Electrical panel boxes were inspected and were found to contain no exposed wiring or openings in the panel.

7. The GFCI outlet located on the wall to the left of the sinks in the men's restroom did not trip at 7 milliamps.
8. Compressed gas cylinders located in storage in the former indoor firing range were not secured.

### Recommendations

1. Repair or replace the GFCI outlet in the men's restroom.
2. Ensure the emergency eyewash/showers undergo a weekly operational test and document the results of these tests.
3. Ensure all fire extinguishers are provided a monthly inspection and document these inspections on the attached inspection cards.
4. Firmly secure compressed gas cylinders against accidental dislodgement.

## 5.0 PROJECT LIMITATIONS

This Project was performed using, as a minimum, practices consistent with standards acceptable within the industry at this time, and a level of diligence typically exercised by industrial hygiene and environmental consultants performing similar services.

The procedures used in this investigation attempt to establish a balance between the competing goals of limiting investigative and reporting costs and time, and reducing the uncertainty about unknown conditions. Therefore, because the findings of this report were derived from the scope, costs, time, and other limitations, the conclusions should not be construed as a guarantee that all environmental or occupational hazards have been identified and fully evaluated. Where sample collection and testing have been performed, IHI's professional opinions are based in part on the interpretation of data from discrete sampling locations that may not represent conditions at non-sampled locations. IHI assumes no responsibility for omissions or errors resulting from inaccurate information or data provided by sources outside of IHI, or from omissions or errors in public records.

Furthermore, it is emphasized that the final decision on how much risk to accept always remains with the client since IHI is not in a position to fully understand all of the client's needs. Clients with a greater aversion to risk may want to take additional actions while others, with less aversion to risk, may want to take no further action.



## 6.0 PROJECT APPROVAL

This IH Assistance Visit was reviewed and approved by:

**Non-Responsive**

November 30, 2012

Date

Industrial Hygiene Services Manager

Technical Assistance: For technical assistance regarding information found in this report or the performed survey, please contact **Non-Responsive** at 801-466-2223, or **Non-Responsive** of the Southwest Regional Industrial Hygiene Office at 916-804-1707.

Contact the State Safety and Occupational Health Office and/or the Regional Industrial Hygienist should any of the operations change, or should the personnel become incapable of following the previous recommendations and subsequent recommendations are needed.

## Appendix A

### References

- American Conference of Governmental Industrial Hygienists (ACGIH), Industrial Ventilation, A Manual of Recommended Practice
- American Conference of Governmental Industrial Hygienists (ACGIH), Threshold Limit Values for Chemical Substances and Physical Agents and Biological Indices
- American National Standards Institute (ANSI)/Illuminating Engineering Society (IES); Industrial Lighting.
- American National Standards Institute, Z358. 1-1998. Emergency Eyewash and Shower Equipment
- AR 40-5, Preventative Medicine
- AR 40-10, Appendix B – Health Hazard Assessment Program in Support of Army Material Acquisition Decision Process
- AR 385-10, The Army Safety Program
- Corps of Engineers Guide Specification, CEGS-1585 1, Overhead vehicle tailpipe (and welding fume) Exhaust Systems
- DA PAM 40-ERG, Ergonomics
- DA PAM 40-501, Hearing Conservation.
- National Safety Council, Fundamentals of Industrial Hygiene
- NOR 385-10, Army National Guard Safety and Occupational Health Program
- TB MED 503, The Army Industrial Hygiene Program
- TG022, US Army Environmental Hygiene Agency (USAEHA), Industrial Hygiene Evaluation Guide
- TG 141, US Army for Health Promotion and Preventive Medicine (USACHPPM) Industrial Hygiene Air Sampling Guide, Nov. 1997
- Title 29, Code of Federal Regulations (CFR), 2011, revision Part 1910, Occupational Safety and Health Standards



## Appendix B

### Assessment Criteria

#### A. Ventilation Standards

Ventilation rates were compared to recommendations made in 29 CFR 1910, ACGIH Industrial Ventilation Manual, and Corps of Engineers specifications. See Appendix A for reference information.

#### B. Illumination Standards

Illumination measurements were compared with recommendations made by the Industrial Engineering Society (IES)/American National Standards Institute (ANSI) RP7-1991 Standard and MIL-STD-1472E.

#### C. Noise

Noise measurements were taken and compared with OSHA Standard 29 CFR 1910.95 and Department of the Army Pamphlet 40-501.

#### D. Air Sampling

Personal air sampling was conducted in compliance with applicable NIOSH Analytical Methods. Sampling results were compared to relevant Occupational Safety and Health Administration (OSHA) Permissible Exposure Limits (PEL), American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLV), or National Institute of Occupational Safety and Health (NIOSH) Recommended Exposure Limits (REL).

#### Occupational Safety and Health Administration (OSHA)

OSHA has established Permissible Exposure Limits (PELs) for workplace toxic and hazardous substances listed in 29 CFR 1910.1000 Table Z-1. Most OSHA PELs are based on 8-hour time weighted averages (TWAs); when sampling periods differ from 8 hours, the result must first be converted to an 8-hour TWA before comparing it to the OSHA PEL. Some OSHA PELs are based on Short Term Exposure Limits (STEL) of 15 minutes of worst case exposure or Ceiling Limits of worst case peak exposures (sampled as a 15 minute exposure if direct-reading methods are not available).

OSHA regulations are legally enforceable. Employers are required to maintain employee exposures below PELs. The best practice is to eliminate hazards and use safer substitutes. Alternatively, engineering and/or administrative (work practice) controls may reduce exposures to acceptable levels. Personal protective equipment should be the solution of last resort, implemented after all other efforts to eliminate the hazard have been exhausted or deemed infeasible. OSHA 29 CFR 1910.134 covers the use of respiratory protection in the work place.

#### American Conference of Governmental Industrial Hygienists (ACGIH)

Unlike the OSHA PELs, the ACGIH TLVs are not consensus standards; however, TLVs represent a scientific opinion based on a review of existing peer-reviewed scientific literature by committees of experts in public health and related sciences.

**Occupational Exposure Limit**

In accordance with the Department of the Army (DA) Pamphlet 40-503, Industrial Hygiene Program (DA PAM 40-503), "The DA mandates the use of ACGIH TLVs when they are more stringent than OSHA regulations or when there is no PEL." The DA defines the resulting exposure limit as the Occupational Exposure Limit (OEL).



**Appendix C**

**Photo Log**



**Photograph 1**  
Las Cruces Armory, Front, Exterior



**Photograph 2**  
Las Cruces Armory, Rear, Exterior



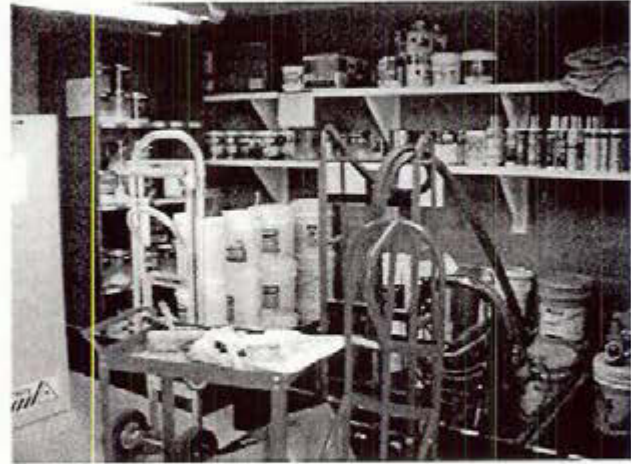
**Photograph 3**  
Las Cruces Armory, General View, Interior



**Photograph 4**  
Las Cruces Armory, Maintenance Bay



**Photograph 5**  
Flammable Storage Room



**Photograph 6**  
Flammable Storage Room





**Photograph 7**  
Flammable Storage Cabinet closed



**Photograph 8**  
Flammable Storage Cabinet open



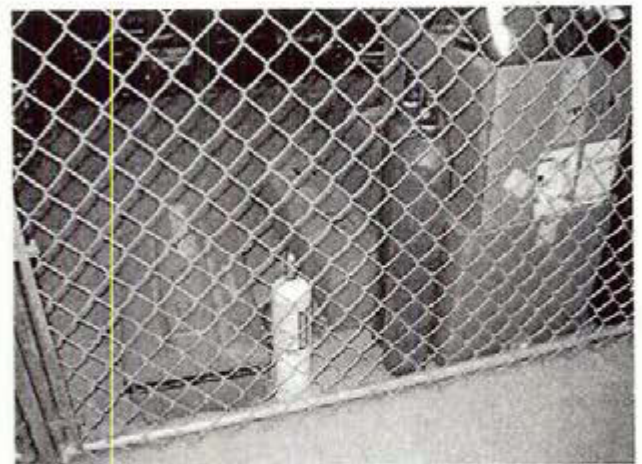
**Photograph 9**  
Flammable Storage Cabinets closed



**Photograph 10**  
Flammable Storage Cabinets open



**Photograph 11**  
Converted Indoor Firing Range



**Photograph 12**  
Unsecured Gas Cylinders in Converted IFR

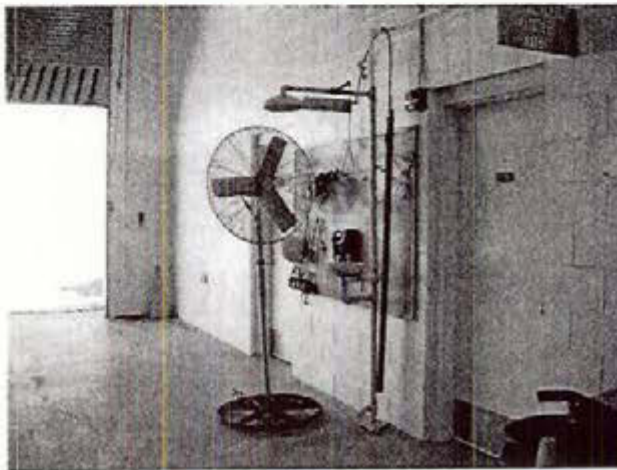




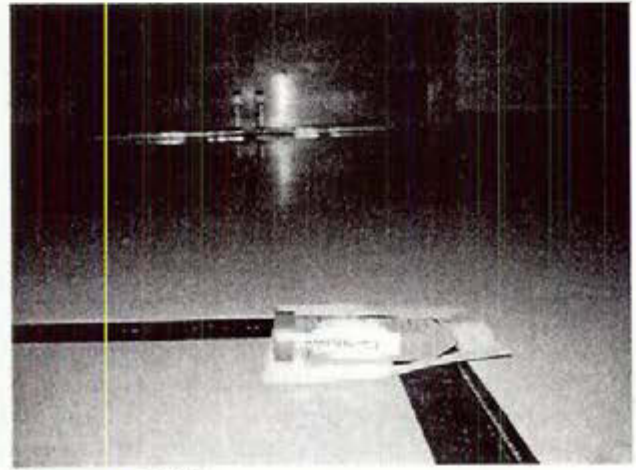
**Photograph 13**  
Fire extinguisher in kitchen without inspections



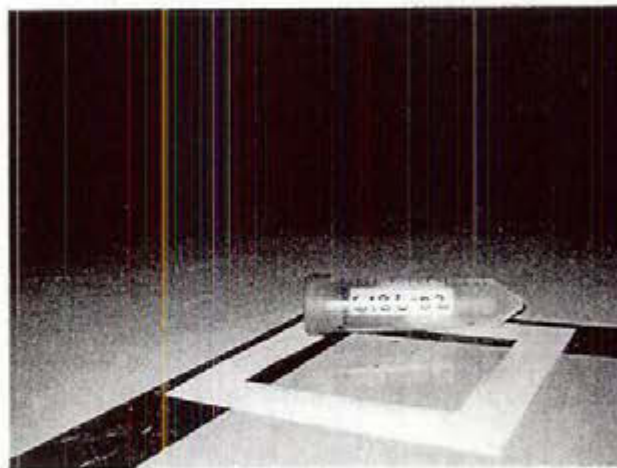
**Photograph 14**  
Non-working GFCI outlet in restroom



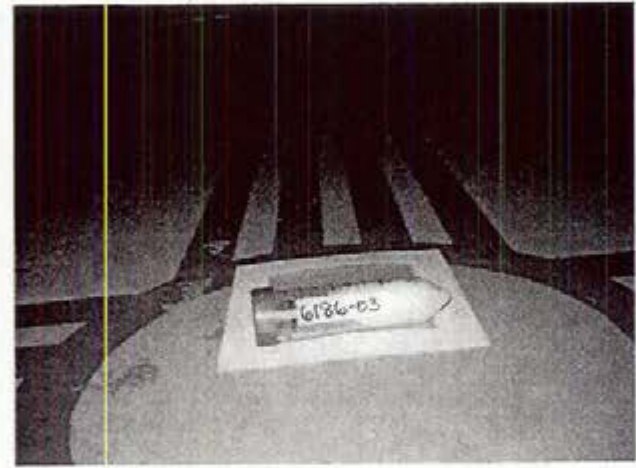
**Photograph 15**  
Emergency eyewash/shower station without inspections



**Photograph 16**  
Location of lead wipe sample number 6186-01

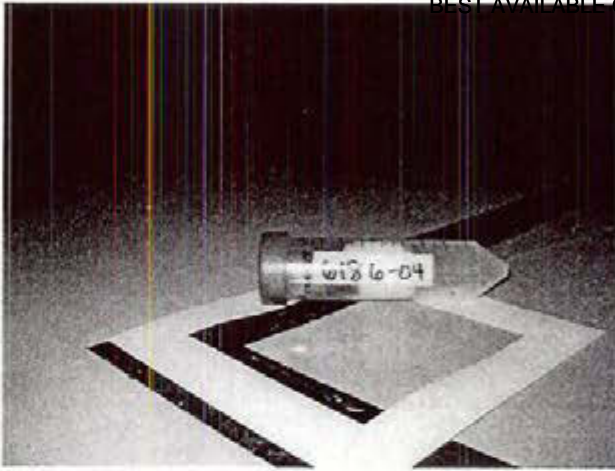


**Photograph 17**  
Location of lead wipe sample number 6186-02



**Photograph 18**  
Location of lead wipe sample number 6186-03





**Photograph 19**  
Location of lead wipe sample number 6186-04



**Photograph 20**  
Location of lead wipe sample number 6186-05



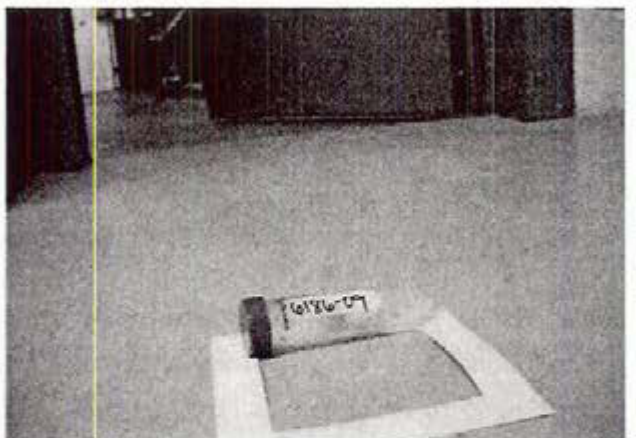
**Photograph 21**  
Location of lead wipe sample number 6186-06



**Photograph 22**  
Location of lead wipe sample number 6186-07



**Photograph 23**  
Location of lead wipe sample number 6186-08



**Photograph 29**  
Location of lead wipe sample number 6186-09

**Appendix D**  
**Chemical Inventory**



HAZARDOUS MATERIAL INVENTORY  
CABINET 1

Item #	PRODUCT NAME	Manufacture	NSN	UI	QTY	MSDS BOOK LOCATION
1	PVC Primer	Oatey	LB	8 oz.	2	
2	PVC Cement	IPS	LB	16 oz.	1	
3	Body Filler	Bondo	LB	14 oz.	2	
4	Ice Machine Cleaner	NV calgon	LB	16 oz.	2	
5	Sanitizing Concentrate	NV calgon	LB	16 oz.	3	
6	Pipe Thread Sealant	Rector Seal	LB	4 oz.	1	
7	solder paste Flux	Oatey	LB	8 Oz	2	
8	Plumbers Putty	Oatey	LB	14 oz.	2	
9	Fast and Final	DAP	LB	16 oz.	0	
10	Gloss off	Krud Kutter	LB	32 oz	1	
11	Stripper Qk53	WM Barrlo	LB	1 Qt	1	
12	SAE 15-40 engine oil	Bob Cat (exxon)	LB	32 Oz	10	
13	SAE 10-30 synthetic oil	Vavoline	LB	32 oz.	1	
15	Zoom Spout oiler	Passage	LB	4 oz.	1	
16	Grade Athread Locker	Adhesive systems	Mil	.338 oz.	4	
17	DOT 3 Brake Fluid	Balkamp	LB	32 oz.	2	
19	2 cycle oil Mix	Stihl	LB	2 oz.	2	
21	Ice Machine Cleaner	Manitowoc	LB	gallon	2	
22	Foam Brite Coil Cleaner	Nu calgon	LB	gallon	1	
23	Bar Oil	Stihl	LB	gallon	2	
24	Widshield wash	Napa	LB	Gallon	1	
25	Hydraulic oil	Bob Cat	LB	1 gallon and 2.5 gal	1	
27	Vynl cove Base Adhesive	Armstrong	LB	30 oz tubes	2	

DATE: APR 24, 2017  
Inventory Performed by [REDACTED]  
Address 9 Armory Rd. Las Cruces NM 88007  
Storage Location POL Room

HAZARDOUS MATERIAL INVENTORY  
CABINET 2

BEST AVAILABLE COPY

Item #	PRODUCT NAME	Manufacture	NSN	UI	QTY	MSDS BOOK LOCATION
1	XIM Primer	XIM Products Inc.	LB	12 oz.	6	
2	Semi Gloss White	Rust Olem Corp.	LB	15 oz.	3	
3	Primer	Rust Olem Corp.	LB	15 oz.	2	
4	Painters Touch	Rust Olem Corp.	LB	12 oz.	1	
5	Gumout Carb Cleaner	ITW Global	LB	19 oz.	4	
6	Esmalte	Rust Olem Corp.	LB	15 oz.	3	
8	Clean Metal Primer	Rust Olem Corp.	LB	12 oz.	3	
10	Controls Rust	Sherwin Williams	LB	12 oz.	3	
11	Gloss Protective Enamel	Rust Olem Corp.	LB	12 oz.	2	
12	Enamel Gloss Black	Rust Olem Corp.	LB	12 oz.	2	
13	P touch x2 gloss brown	Rust Olem Corp.	LB	12 oz.	2	
14	Gloss Clear wood finish	Deft Inc.	LB	11 oz.	2	
15	Satin Clear wood finish	Deft Inc.	LB	11 oz.	1	
16	Electro contact cleaner	LPS Laboratories	LB	11 oz.	1	
17	Insect Repellant	Chemsica	LB	6.5 oz.	3	
18	Industrial Touch up Paint	CR Laurence	LB	11 oz.	3	
19	Chisel Paint Stripper	Loctite	LB	18 oz.	1	
20	Polyurethane clear semigloss	Midway Corp.	LB	11.5 oz.	1	
21	Screwloose Super Penetrant	CRC Industries	LB	11 oz.	2	
22	WD 40	WD 40	LB	11 oz.	1	
23	Tar Gone	Arrow Magnolia	LB	16 oz.	5	
24	Evap Foam No Rinse	Nu Calgon	LB	18 oz.	2	
25	3M-Hi Strength 90	3M	LB		2	
26	Great Stuff Foam	Dow Chemical Corp.	LB	16 oz.	3	
27	Top coats Gloss White	ROC Sales Inc.	LB	10 oz.	2	

DATE: 3/27/12  
Inventory Performed by [REDACTED]  
Address: 9 Armory Rd. Las Cruces NM 88007  
Storage Location: POL Room



CABINET 2 sheet 2

BEST AVAILABLE COPY

DATE: 3/27/12  
Inventory Performed by [REDACTED]  
Address: 9 Armory Rd. Las Cruces NM 88007  
Storage Location: POL Room

HAZARDOUS MATERIAL INVENTORY  
Fire Cabinet # 3

Item #	PRODUCT NAME	Manufacture	NSN	UI	QTY	MSDS BOOK LOCATION
1	Paint thinner	Startex	LB	2.5 gallon	3	FC 3
2			LB			
3	Xylene	Startex	LB	1 gallon	6	FC 3
4			LB			
5	WM&R Naptha	Startex	LB	1 gallon	1	FC 3
6	Laquer Thinner	Startex	LB	1 gallon	6	FC 3
7	GR1699	Gaco western	LB	5 Gallon	5	FC 3
8			LB			
9			LB			
10			LB			
11			LB			
12			LB			
13			LB			
14			LB			
15			LB			
16			LB			
17			LB			
18			LB			
19			LB			
20			LB			
21			LB			
22			LB			
23			LB			
24			LB			
25			LB			

DATE: April 26, 2012  
 Inventory Performed by [REDACTED]  
 Address: 19 Armory Rd. Las Cruces NM 88007  
 Storage Location: POL Room



## HAZARDOUS MATERIAL INVENTORY

## CABINET 4

BEST AVAILABLE COPY

Item #	PRODUCT NAME	Manufacture	NSN	UI	QTY	MSDS BOOK LOCATION
1	Epoxy Enamel	KWAL Paint	LB	1 gallon	1	
2	Epoxy Enamel	KWAL Paint	LB	1 gallon	1	
3	Epoxy Enamel	KWAL Paint	LB	1 gallon	17	
4	Epoxy Enamel	KWAL Paint	LB	1 gallon	1	
5	Epoxy Enamel	KWAL Paint	LB	1 gallon	1	
6			LB			
7	Protective Enamel	Rust Oleum	LB	32 oz.	1	
8	Door Paint	Rust Oleum	LB	32 oz.	1	
9	Rusty Metal Primer	Rust Oleum	LB	32 oz.	1	
10			LB			
11			LB			
12			LB			
13			LB			
14			LB			
15			LB			
16	Corotile Urethane	coronado Ind.	LB	1 gallon	6	
17			LB			
18	KILZ	Master Chem Industries	LB	1 gallon	2	
19	high Gloss enamel	KWAL Paint	LB	1 gallon	3	
20	Rust Inhibitive Primer	KWAL Paint	LB	1 gallon	1	
21	Polyurethane wood finish	KWAL Paint	LB	1 gallon	1	
23	Syn Lustrro Enamel	Dunn Edwards	LB	1 gallon	1	
24	Galv. Alum Primer	Dunn Edwards	LB	1 gallon	2	
25	Poly shades wood stain	Min wax	LB	32 oz.	1	
27	Antifreeze	Bob Cat Co.	LB	1 gallon	1	

DATE: April 4, 2018  
 Inventory Performed by [Redacted]  
 Address: 9 Armory Rd. Las Cruces NM 88007  
 Storage Location: POL Room

## HAZARDOUS MATERIAL INVENTORY

AC1-1

BEST AVAILABLE COPY

Item #	PRODUCT NAME	Manufacture	NSN	UI	QTY	MSDS BOOK LOCATION
1	G-Prime acrylic primer	KWAL Paint	LB	1 gal	4	
2	Ambassador high gloss enamel	KWAL Paint	LB	1 gal	5	
3	Accupro 5141 curb paint	KWAL Paint	LB	1 gal	5	
4			LB	1 gal		
5	Accupro 9210	KWAL Paint	LB	1 gal	2	
6	Accupro 3210	KWAL Paint	LB	1 gal	4	
7	Accupro 3210	KWAL Paint	LB	1 gal	4	
8	Accupro 3210	KWAL Paint	LB	1 gal	2	
9	Ambassador 3220	KWAL Paint	LB	1 gal	3	
10	Ambassador 3220	KWAL Paint	LB	1 gal	6	
11	Ambassador 3250	KWAL Paint	LB	1 gal	4	
12	Ambassador 3250	KWAL Paint	LB	1 gal	3	
13			LB	1 gal		
14			LB	1 gal		
15			LB			
16	Joint Compound	USC	LB	50 lb	3	
17	Easy sand 20 joint compound	USG	LB	18 lb	2	
18			LB			
19			LB			
20			LB			
21			LB			
22			LB			
23			LB			
24			LB			
25			LB			

DATE: April 11, 2018  
 Inventory Performed by [REDACTED]  
 Address 19 Armory Rd. Las Cruces NM 88007  
 Storage Location POL Room



## HAZARDOUS MATERIAL INVENTORY

AC-2

BEST AVAILABLE COPY

Item #	PRODUCT NAME	Manufacture	NSN	UI	QTY	MSDS BOOK LOCATION
1	Striping Paint	Rust Oleum	LB	1 gal	1	
2	Promar 400	Sherwin Williams	LB	1 gal	1	
3	Pro Classic	Sherwin Williams	LB	1 gal	1	
4	Pro Mar	Sherwin Williams	LB	1 gal	1	
5	A-100	Sherwin Williams	LB	1 gal	3	
6	Wall & Ceiling Texture	Sheet Rock VSO	LB	50 lb. Bags	2	
7			LB			
8			LB			
9			LB			
10			LB			
11	Henry 430 Tile Adhesive	Henry	LB	4 gal Pail	1	
12			LB			
13			LB			
14			LB			
15			LB			
16			LB			
17			LB			
18			LB			
19			LB			
20			LB			
21			LB			
22			LB			
23			LB			
24			LB			
25			LB			

DATE: April 4, 2012  
 Inventory Performed by [REDACTED]  
 Address: 19 Armory Rd. Las Cruces, NM 88007  
 Storage Location: POL Room

## HAZARDOUS MATERIAL INVENTORY

AC-3

Item #	PRODUCT NAME	Manufacture	NSN	UI	QTY	MSDS BOOK LOCATION
1	Multi Surface Cleaner	Southwest Distributing	LB	32 Oz.	0	
2	Windex	Johnson	LB	32 oz.	3	
3	409	Clorox Co.	LB	32 oz.	1	
4	Clear Glide	Ideal Industries	LB	1 pt.	2	
5	DAWN	Proctor & Gamble	LB	18 oz.	1	
6	Disinfectant	ZEP Manufacture	LB	24 oz.	2	
7			LB			
8			LB			
9			LB			
10			LB			
11			LB			
12			LB			
13			LB			
14			LB			
15			LB			
16			LB			
17			LB			
18			LB			
19			LB			
20			LB			
21			IR			
22			LB			
23			LB			
24			LB			
25			LB			

DATE: Apr 12 4:24 PM  
Inventory Performed by [REDACTED] NM 88007  
Address: 9 Armory Rd.  
Storage Location: POL Room



## HAZARDOUS MATERIAL INVENTORY

Sif 1

Item #	PRODUCT NAME	Manufacture	NSN	UI	QTY	MSDS BOOK LOCATION
1	Break free	Break free inc.	LB	3.72 oz	150	
2	Rock Tite	Hartline Products	LB	25 Lb Box	2	
3			LB			
4	Embassy WB 3860	KWAL Paints	LB	1 gal	1	
5	Ter Polymear Sealent	VIP Lighthouse products	LB	100L	3	
6	Aqua Plastic	Coronado Paints	LB	1'gal	4	
7	Versa Grip	Hardcast	LB	1 gal	2	
8	Kr Polymear Sealent	GE	LB	1 gal	1	
9	Concrete Patch	Custom Building Prod.	LB	1 gal	1	
10			LB			
11			LB			
12			LB			
13			LB			
14			LB			
15			LB			
16			LB			
17			LB			
18			LB			
19			LB			
20			LB			
21			LB			
22			LB			
23			LB			
24			LB			
25			LB			

DATE: April 4, 2012  
 Inventory Performed by  
 Address: 9 Armory Rd. Las Cruces NM 88007  
 Storage Location: POL Room

HAZARDOUS MATERIAL INVENTORY  
SLF #2

Item #	PRODUCT NAME	Manufacture	NSN	UI	QTY	MSDS BOOK LOCATION
1			LB			
2	Acrylic Enamel 8420	Kwal	LB	1 gallon	1	
3	Acrylic Enamel 8430	Kwal	LB	1 gallon	1	
4	Acrylic Enamel 8441	Kwal	LB	1 gallon	1	
5	Acrylic Enamel 8450	Kwal	LB	1 gallon	2	
6	Acrylic Enamel 3110	Kwal	LB	1 gallon	1	
7	Acrylic Enamel 3230	Kwal	LB	1 gallon	1	
8	O voc acrylic	Sherwin williams	LB	1 gallon	2	
9	Augua Loc	Inst-X	LB	1 gallon	2	
10	Window door silicone	GE	LB	9.8oz.	2	
11			LB			
12	950 A Caulk	Sherwin Williams	LB	10.1 oz tube	3	
13	Quick Gun Caulk	Comex Group	LB	10.1 oz tube	2	
14	Advance Kitchen & Bath	DAP Inc.	LB	9 oz. tube	1	
15	VIP elastomeric sealant	performance Materials	LB	10.1 oz tube	2	
16	Master Choice Caulk White	Master choice	LB		3	
17	Elasto Patch	DAP inc.	LB	10.1 oz tube	2	
18	FB136 Fire Block	3m	LB	10.1 oz tube	3	
19	Alex Plus white 35 yr caulk	DAP inc.	LB	10.1 oz tube	2	
20	Alex Plus Clear 35 yr caulk	DAP inc.	LB	10.1 oz tube	1	
21	Alex Plus Grey 35 yr. Caulk	Dep inc.	LB	10.1 oz tube	2	
22	Floetrol	Akzo Nobel Paints	LB	quarts & Gal.	1	
23			LB			
24			LB			
25			LB			

DATE:

Inventory Performed by

Address 19 Armory Rd. Las Cruces NM 88007

Storage Location POL Room



## HAZARDOUS MATERIAL INVENTORY

Tray # 1,2,3

BEST AVAILABLE COPY

Item #	PRODUCT NAME	Manufacture	NSN	UI	QTY	LOCATION
1	Acrylic Enamel 3210	KWAL Paint	LB	5-gallon	9	Tray 1-1
2	Accu pro 5160	KWAL Paint	LB	5-gallon	1	Tray 2-2
3	Acrylic Stripping Paint 5715	KWAL Paint	LB	5-gallon	2	Tray 2-3
4	Set Fast Traffic Paint	Sherwin Williams	LB	5-gallon	2	Tray 2-4
5	Pro X PVA Primer	KILZ	LB	5-gallon	1	Tray 3-1
6	HI Build	Hanley	LB	5-gallon	1	Tray 3-2
7			LB			
8			LB			
9			LB			
10			LB			
11			LB			
12			LB			
13			LB			
14			LB			
15			LB			
16			LB			
17			LB			
18			LB			
19			LB			
20			LB			
21			LB			
22			LB			
23			LB			
24			LB			
25			LB			

DATE: April 4, 2012  
Inventory Performed by [REDACTED]  
Address: 19 Armory Rd. Las Cruces, NM 88007  
Storage Location: POL Room

[illegible]

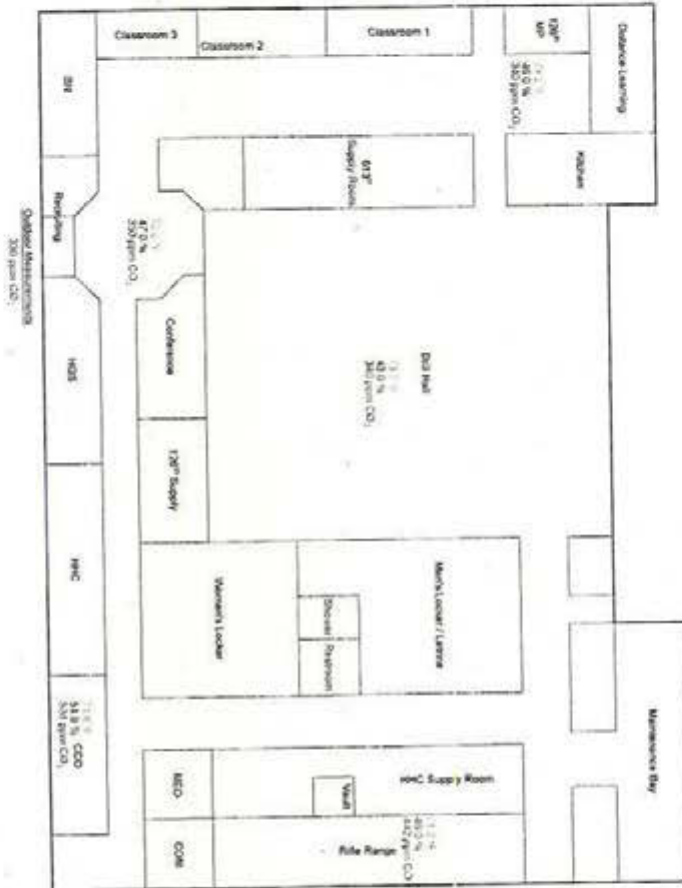


[illegible]

## Appendix E

### Floor Plan/IAQ - Temp, RH, & CO<sub>2</sub> Monitoring





Expenditure  
100' 1.1% 350 ppm CO<sub>2</sub>  
100' 1.1% 350 ppm CO<sub>2</sub>  
100' 1.1% 350 ppm CO<sub>2</sub>

		<p><b>New Mexico Army National Guard</b>  <b>Las Cruces Armory</b>  <b>249 North Armory Road</b>  <b>Las Cruces, New Mexico</b></p>		
<p>PROJECT No. 12L6188</p>		<p><b>Indoor Air Quality Sample Locations</b></p>		
<p>SHEET 2 of 3</p>				
<p>DRAWN BY: NASH</p>				
<p>DATE: 09-17-2012</p>				
<p>REVIEWED BY:</p>				
<p>DATE:</p>				
<p>REVIEWED BY:</p>				
<p>DATE:</p>				

**Appendix F**  
**Ventilation Data**



The kitchen hood in the Las Cruces Armory was not working on the day of the IH Assistance Visit due to electrical work that was performed the day before in the kitchen. Therefore, a kitchen ventilation survey was not performed on the day of the survey.

## Appendix G

### Field Notes



9/10/12

# **Army National Guard Armory Survey** (To Be Included In Report)

Five lead wipe samples collected from drill floor (take samples from dusty horizontal floor surfaces)	yes
Are any weapons cleaned in the facility, if yes where are they cleaned?	yes - Drill Hall Floor quarterly
Additional lead wipe samples taken from 25% of the rest of the building - (on floor areas only)	yes
Is there a converted indoor firing range? If so collect additional wipe samples IAW the SOW.	yes - took 5 in IFR, 1 in entrance 3 in Drill Hall
Is there any peeling paint? Take bulk sample if able.	no.
Are there any signs of water damage or mold?	no.
Any suspected ACM? Where and what condition is it in. Bulk sample if able.	could not locate a asbestos survey.
Quality of housekeeping	good.
HVAC maintenance plan in place?	State Maintenance Personnel yes.
Overall condition of HVAC system	good. 4 combo units 4 heat vent units
Obtained CO2, Temp, RH monitoring	yes. swamp cooler
HAZMAT inventory on hand (make copies for the report), MSDS available for all materials.	yes - good
HAZMAT storage, Condition of lockers, if outside storage building is used is it ventilated and does it meet OSHA standards.	yes - good - 4 flam cabinets in exterior flam room.

Fire alarm in working condition --not usually in place in older armories	yes - Simplex
Fire extinguishers in place and properly identified and mounted	yes.
Evidence of monthly fire extinguisher inspections	done by armory personnel - one in flam room not on monthly - one in kitchen.
Annual fire extinguisher inspections tags current	Central Fire & Safety
Are eye wash stations available in areas where hazardous materials are used and are they inspected weekly (inspections must be documented)	yes - not used - no chemicals in the area to warrant it being there. no inspections on it - proper drainage does not exist.
Egress routes accessible and properly marked - -noted on <u>Fire Evacuation Plan</u>	yes.
Training programs in place; Hazcom, Respiratory Protection, Confined Spaces, Hearing conservation, PPE (if applicable)	yes
Any Photo labs	N/A
Any hazardous noise sources	yes - garbage disposal
Light levels checked throughout building	N/A
Breaker panels properly labeled with no exposed wiring	yes.
Check building occupancy 1. How many military personnel, how many civilian personnel 2. What types of units occupy facility, i.e. Administrative, Maintenance, etc.?	(44) 16 - AGF 22 - Sheriffs Academy 6 - State maintenance.
Any civilian activities in armory (cub scouts, classes, day care, parties etc)	Sheriffs academy, Family Readiness Rental of Drill Hall for shows
Obtain two lead air samples	On IHSW Request Only



Evaluate Kitchen Stove Hood Flow if Present IAW NEPA Standard 96.	not able to get hood to work - had just done work to Ansul Fire suppression system - which is on same electrical circuit.
Collect Source Noise Measurements of Kitchen Appliances and Document Using DD 2214	yes
Conduct a safety walkthrough of entire facility document any safety deficiencies found.	yes - gas cylinders not properly contained in
Take photos of outside of building, all sample points and any pertinent hazards or concerns.	yes.
Name of Armory, POC, phone #, address and organizations in Armory	Non-Responsive
(Add Checklist to Report)	249 North Armory Rd. LAS CRUCES, NM 88007
(Add Checklist to Report)	(Add Checklist to Report)

### **FACILITY INFORMATION**

(Information listed in First Section)  
(1<sup>st</sup> Few Paragraphs/Pages of Report)

1. Date Prepared: **9/10/2012**
2. Names (and Company Name) of Personnel Conducting Industrial Hygiene Site Assistance Visit: **Non-Responsive** **HI Environmental**
3. Facility Name and Brief Summary of Primary Activities Conducted at Facility: **Las Cruces Armory**
4. Facility Address: **249 Armory Road, Las Cruces, NM 88007**
5. Primary Unit Assigned to Facility: **C CO – Non-Responsive** **HHC CO – WP8KT0**
6. Co-Tenant Units Assigned or Working Within Facility (LIST ALL): **126<sup>th</sup> MP CODC 3/140<sup>th</sup> AL**
7. Square Ft. Area of Facility: **~44,177 sq ft**
8. Work Schedule: **M-T/F 0700-1700**
9. Number of work bays: **1**
10. Equipment Density and Type: **None**
  - a. List Equipment Nomenclature Serviced or Maintained at Facility: **None**
  - b. List Total # for Each Nomenclature Serviced or Maintained at Facility: **None**
11. Total Number of Personnel: **44**
12. No. of Admin. Personnel (Include Status – AGR, Fed. Tech., IDT, State or Contract Employee): **16 AGR, 22 Sherriff's Academy**
13. No. of Maintenance Personnel (Include Status – AGR, Fed. Tech., IDT, State or Contract Employee): **6 State Personnel**
14. Total Number of Personnel Enrolled in the Hearing Conservation Program: **0**



15. Total Number of Personnel Enrolled in the Respiratory Protection Program: 0

16. Total Number of Personnel Enrolled in the Medical Surveillance Program: 0

17. Total Number of Personnel Enrolled in the Vision Program: 0

18. Facility Commander **Non-Responsive**

a. Email address, Commercial Telephone Number and Unit Assigned to:  
N/A

19. Safety Officer: **Non-Responsive**

a. Email Address, Commercial Telephone Number and Unit Assigned to:  
N/A

20. Facility Telephone Number: 575 647 2401

**Appendix H**  
**Calibration Certificates**





## Certificate of Calibration

Certificate Number: 265801SD20010465

Model: SD-200 Class 2 Integrating SLM

Date Issued: 12-Sep-2011

S/N: SD20010465

On this day of manufacture and calibration 3M certifies that the above listed product meets or exceeds the performance requirements of the following acoustic standard(s)

ANSI S1.4 1983 (R 2006) - Type 2 / Specification for Sound Level Meters

ANSI S1.43 1997 (R 2007) - Type 2 / Integrating-Averaging Sound Level Meter

IEC 61672-1 (2002) - Class 2/Electro Acoustics - SLMs - Pt1: Specifications

Test Conditions: Temp: 18-25°C Humidity: 20-80% R.H. Barometer: 950-1050 mBar

Test Procedure: S053-771

### Reference Standard(s):

Device	Ref Standard Cal Due	Uncertainty - Estimated at 95% Confidence Level (k=2)
B&K Ensemble	10/7/2011	+/- 2.2% Acoustic (0.19dB)

Calibrated By:

**Non-Responsive**

In order to maintain best instrument performance over time, we recommend the instrument be recalibrated annually. Any number of factors may cause the calibration to drift before the recommended interval has expired. See user manual for more information.

All test equipment used in the test and calibration of this instrument is traceable to NIST, and applies only to the unit identified above. This report must not be reproduced except in its entirety without the written approval of 3M, Inc.



## Declaration of Conformity

**Product/Model:** SD-200 / Sound Detector - Class 2 Integrating SLM

**Directives Covered:**

- > EMC / Council Directive 2004/108/EC on Electromagnetic Compatibility.
- > Safety / Council Directive 2006/95/EC on Low Voltage Equipment Safety.
- > RoHS / Council Directive 2002/95/EC Restriction of Hazardous Substances.
- > WEEE / Council Directive 2002/96/EC Waste electrical and electronic equipment.
- > Performance / Council Directive 2004/22/EC Measuring Instruments.

**The basis on which conformity is declared:**

EN 61326-1 (2005) Electrical equipment for measurement, control and laboratory use  
EMC requirements, Group 1, Class B Equipment (emissions)

CFR:47 (2008) Code of Federal Regulations: Part 15 Subpart B - Radio Frequency Devices - Unintentional Radiators.

EN 61326-1 (2005) Electrical equipment for measurement, control and laboratory use  
EMC requirements, Industrial Location Immunity.

ANSI S1.4 1983 (R 2006) - Type 2 / Specification for Sound Level Meters

ANSI S1.43 1997 (R 2007) - Type 2 / Integrating-Averaging Sound Level Meter

IEC 61672-1 (2002) - Class 2/Electro Acoustics - SLMs - Pt1: Specifications

IEC 61010-1 (2010) Safety requirements for electrical equipment for measurement, control and laboratory use  
Part 1: General Requirements

This instrument is considered WEEE Category 6 (Electrical and electronic tools), and therefore falls within the scope of the  
RoHS Directive. These units are RoHS compliant.

Note: This certification applies to all standard options and accessories supplied with the SD-200.

At the end of its life cycle, this product and internal power cell must be sent to a WEEE recycling center,  
and is marked accordingly.

The technical construction file required by this directive is maintained in Oconomowoc, WI USA

**Non-Responsive**



# TSI CERTIFICATE OF CALIBRATION AND TESTING

TSI Model 8732

TSI Serial No. 02100504

Description IAQ Meter with CO2

Calibration Standard Multi-Gas Calibration Bench #127

## CALIBRATION VERIFICATION RESULTS

Calibration Standard	Instrument Output	Difference	Tolerance Limit-	Error Compared to Tolerance	Tolerance Limit+
5001 PPM	4990 PPM	-0.2 %		0	
3000 PPM	3012 PPM	0.4 %		*	
1000 PPM	1001 PPM	1 PPM		*	
500 PPM	496 PPM	-4 PPM		*	
0 PPM	-15 PPM	-15 PPM		*	

Tolerance Limits:  
CO2: 50PPM or 3% of reading

TSI Incorporated does hereby certify that all materials, components, and workmanship used in the manufacture of this equipment are in strict accordance with the applicable specifications agreed upon by TSI and the customer and with all published specifications. All performance and acceptance tests required under this contract were successfully conducted according to required specifications. Furthermore, all test and calibration data supplied by TSI has been obtained using standards whose accuracies are traceable to the National Institute of Standards and Technology (NIST) or has been verified with respect to instrumentation whose accuracy is traceable to NIST, or is derived from accepted values of physical constants. Calibration procedures for this instrument comply with MIL-STD-45662A. The accuracy of the calibration facilities is greater than a ratio of 1:1 with respect to the accuracy specifications of the instrument being calibrated.

### Applicable Test Report

DC Voltage  
Barometric Pressure  
Pure Nitrogen  
CO2 1000 PPM in N2  
CO2 5000 PPM in N2

### Report Number

E002415  
E001992  
UT-230  
EB0013815  
EB0020543

### Date Last Verified

06-21-11  
04-08-11  
03-02-12  
01-21-10  
02-01-12

**Non-Responsive**

☒ Final  
Function Check

Mar 19, 2012  
Calibration Date

TSI Incorporated, 500 Cardigan Road, Shoreview, MN 55126 USA  
Tel: 800-874-2811 651-490-2874 FAX: 651-490-2121 www.tsi.com



**TSI** **CERTIFICATE OF CALIBRATION AND TESTING**
TSI Model 8732TSI Serial No. 02100504Description IAQ Meter with CO2Calibration Standard Multi-Gas Calibration Bench #127**CALIBRATION VERIFICATION RESULTS**

Calibration Standard	Instrument Output	Difference	Tolerance Limit-	Error Compared to Tolerance 0	Tolerance Limit+
5001 PPM	5895 PPM	17.9 %			X
3000 PPM	3762 PPM	25.4 %			X
1000 PPM	1243 PPM	243 PPM			X
500 PPM	614 PPM	114 PPM			X
0 PPM	-15 PPM	-15 PPM			

\*\*\*\*\* AS FOUND DATA \*\*\*\*\*  
(INITIAL CALIBRATION CHECK)

**Tolerance Limits:**  
CO2: 50PPM or 3% of reading

TSI Incorporated does hereby certify that all materials, components, and workmanship used in the manufacture of this equipment are in strict accordance with the applicable specifications agreed upon by TSI and the customer and with all published specifications. All performance and acceptance tests required under this contract were successfully conducted according to required specifications. Furthermore, all test and calibration data supplied by TSI has been obtained using standards whose accuracies are traceable to the National Institute of Standards and Technology (NIST) or has been verified with respect to instrumentation whose accuracy is traceable to NIST, or is derived from accepted values of physical constants. Calibration procedures for this instrument comply with MIL-STD-45662A. The accuracy of the calibration facilities is greater than a ratio of 1:1 with respect to the accuracy specifications of the instrument being calibrated.

**Applicable Test Report**

DC Voltage  
Barometric Pressure  
Pure Nitrogen  
CO2 1000 PPM in N2  
CO2 5000 PPM in N2

**Report Number**

E002415  
E001992  
UT-230  
EB0013815  
EB0020543

**Date Last Verified**

06-21-11  
04-08-11  
03-02-12  
01-21-10  
02-01-12

**Non-Responsive**

☐ Final  
Function Check

Mar 19, 2012  
Calibration Date

TSI Incorporated, 500 Cardigan Road, Shoreview, MN 55126 USA  
Tel: 800-874-2811 651-490-2874 FAX: 651-490-2121 www.tsi.com





# CERTIFICATE OF CALIBRATION AND TESTING

TSI Incorporated, 500 Cardigan Road, Shoreview, MN 55126 USA  
Tel: 1-800-874-2811 1-651-490-2811 Fax: 1-651-490-3824 <http://www.tsi.com>

ENVIRONMENT CONDITION			MODEL	8345
TEMPERATURE	68.5 (20.3)	°F (°C)	SERIAL NUMBER	98060408
RELATIVE HUMIDITY	53	%RH		
BAROMETRIC PRESSURE	28.95 (980.4)	inHg (hPa)		
<input checked="" type="checkbox"/> AS LEFT <input checked="" type="checkbox"/> IN TOLERANCE <input type="checkbox"/> AS FOUND <input type="checkbox"/> OUT OF TOLERANCE				

## - CALIBRATION VERIFICATION RESULTS -

VELOCITY VERIFICATION				SYSTEM V-110			Unit: ft/min (m/s)
#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	MEASURED	ALLOWABLE RANGE
1	0 (0.00)	0 (0.00)	-3~3 (-0.02~0.02)	7	648 (3.29)	644 (3.27)	628~667 (3.19~3.39)
2	35 (0.18)	34 (0.17)	32~38 (0.16~0.19)	8	996 (5.06)	991 (5.03)	965~1026 (4.91~5.21)
3	65 (0.33)	65 (0.33)	62~68 (0.32~0.35)	9	1473 (7.48)	1476 (7.50)	1428~1517 (7.26~7.70)
4	99 (0.50)	98 (0.50)	96~102 (0.49~0.52)	10	2473 (12.56)	2484 (12.62)	2399~2547 (12.18~12.94)
5	160 (0.81)	158 (0.80)	155~165 (0.79~0.84)	11	4493 (22.82)	4514 (22.93)	4358~4627 (22.14~23.51)
6	334 (1.70)	333 (1.69)	324~344 (1.64~1.75)	12	5903 (29.99)	5902 (29.98)	5726~6080 (29.09~30.89)

TEMPERATURE VERIFICATION				SYSTEM T-119			Unit: °F (°C)
#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	MEASURED	ALLOWABLE RANGE
1	32.0 (0.0)	32.1 (0.1)	31.5~32.5 (-0.3~0.3)	2	140.0 (60.0)	140.2 (60.1)	139.5~140.5 (59.7~60.3)

TSI does hereby certify that the above described instrument conforms to the original manufacturer's specification (not applicable to As Found data) and has been calibrated using standards whose accuracies are traceable to the United States National Institute of Standards and Technology (NIST), or has been verified with respect to instrumentation whose accuracy is traceable to NIST, or is derived from accepted values of physical constants. TSI's calibration system is registered to ISO-9001:2008 and meets the requirements of ISO 10012:2003.

Measurement Variable	System ID	Last Cal.	Cal. Due	Measurement Variable	System ID	Last Cal.	Cal. Due
Temperature	E001800	01-19-12	07-19-12	Temperature	E001799	01-19-12	07-19-12
DC Voltage	E001653	06-28-11	12-28-12	Temperature	E004402	12-08-11	06-08-12
Pressure	E001719	12-13-11	06-13-12	Pressure	E001721	12-13-11	06-13-12
Barometric Pressure	E001992	04-06-12	04-06-13	Velocity	E003327	09-19-07	09-19-12

**Non-Responsive**

June 5, 2012

DATE

Doc ID: CERT\_DEFAULT





# CERTIFICATE OF CALIBRATION AND TESTING

TSI Incorporated, 500 Cardigan Road, Shoreview, MN 55126 USA  
Tel: 1-800-874-2811 1-651-490-2811 Fax: 1-651-490-3824 http://www.tsi.com

ENVIRONMENT CONDITION			MODEL	8345
TEMPERATURE	67.8 (19.9)	°F (°C)	SERIAL NUMBER	98060408
RELATIVE HUMIDITY	53	%RH		
BAROMETRIC PRESSURE	28.93 (979.7)	inHg (hPa)		

☐ AS LEFT  
☒ AS FOUND

☐ IN TOLERANCE  
☒ OUT OF TOLERANCE

## - CALIBRATION VERIFICATION RESULTS -

VELOCITY VERIFICATION				SYSTEM V-106			Unit: ft/min ( m/s )
#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	MEASURED	ALLOWABLE RANGE
1	0 (0.00)	0 (0.00)	-3~3 (-0.02~0.02)	7	645 (3.28)	626 (3.18)	626~664 (3.18~3.37)
2	35 (0.18)	36 (0.18)	32~38 (0.16~0.19)	8	996.5 (5.062)	* 961.5 (4.884)	966.6~1026.4 (4.91~5.214)
3	65 (0.33)	66 (0.33)	62~68 (0.31~0.34)	9	1473.3 (7.484)	* 1386.8 (7.045)	1429.1~1517.5 (7.26~7.709)
4	100 (0.51)	101 (0.51)	97~103 (0.49~0.52)	10	2503.6 (12.718)	* 2344.6 (11.911)	2428.5~2578.7 (12.337~13.10)
5	160 (0.81)	160 (0.81)	155~164 (0.79~0.84)	11	4484 (22.78)	4451 (22.61)	4350~4619 (22.10~23.46)
6	328 (1.67)	326 (1.65)	318~338 (1.62~1.72)	12	5908 (30.01)	5884 (29.89)	5731~6085 (29.11~30.91)

TEMPERATURE VERIFICATION				SYSTEM T-119			Unit: °F (°C)
#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	MEASURED	ALLOWABLE RANGE
1	32.0 (0.0)	* 32.7 (0.39)	31.5~32.5 (-0.28~0.28)	2	140.0 (60.0)	140.0 (60.0)	139.5~140.5 (59.7~60.3)

\* Indicates Out-of-Tolerance Condition

TSI does hereby certify that the above described instrument conforms to the original manufacturer's specification (not applicable to As Found data) and has been calibrated using standards whose accuracies are traceable to the United States National Institute of Standards and Technology (NIST) or has been verified with respect to instrumentation whose accuracy is traceable to NIST, or is derived from accepted values of physical constants. TSI's calibration system is registered to ISO 9001:2008 and meets the requirements of ISO 10012:2003.

Measurement Variable	System ID	Last Cal.	Cal. Due	Measurement Variable	System ID	Last Cal.	Cal. Due
DC Voltage	E004477	12-15-11	12-15-12	Temperature	E001644	01-20-12	07-20-12
Pressure	E001558	12-12-11	06-12-12	Pressure	E001560	12-12-11	06-12-12
Velocity	E003327	09-19-07	09-19-12	Barometric Pressure	E001992	04-06-12	04-06-13
Temperature	E001800	01-19-12	07-19-12	Temperature	E001799	01-19-12	07-19-12

**Non-Responsive**

June 5, 2012

DATE

Doc ID: CERT\_DEFAULT





## TSI - Customer Service report

Thank you for the opportunity to service your instrument.

**RMA Number: 800245509**

Ship-to party 17032  IHI ENVIRONMENTAL 640 E WILMINGTON AVE SALT LAKE CITY UT USA	Sold-to party 17032  IHI ENVIRONMENTAL 640 E WILMINGTON AVE SALT LAKE CITY UT USA
--	--

**Service Information:**

Purchase Order 12U-I6001TSIJCH  
Purchase Order Date 06/05/2012

Description Calibration of VelociCalc 8345

Equipment 98060408  
Serial Number 98060408  
Material 8345

**Service Description:**

**Return Reason:**  
ANNUAL CALIBRATION

**Findings:**  
Unit sent in for clean and calibration. The unit failed as found.

**Action:**  
The unit was cleaned, calibrated, and a complete operational checkout was performed.

## **Appendix I**

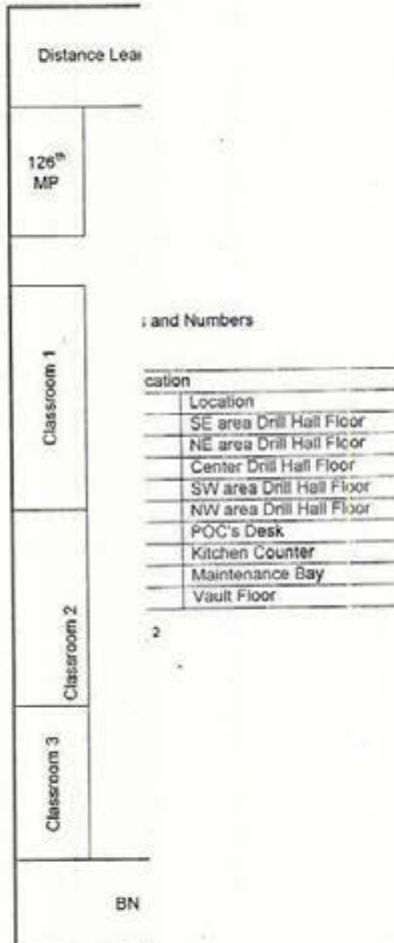
### **Lead Wipe and Lead Paint Chip Table and Drawing**



**Lead Wipe Sample Results**

Sample Number	Collection Date	Location	Result $\mu\text{g}/\text{ft}^2$
6186-01	10/10/2012	SE Corner of Drill Floor	<23
6186-02	10/10/2012	NE Corner of Drill Floor	<23
6186-03	10/10/2012	Center of Drill Floor	<23
6186-04	10/10/2012	SW Corner of Drill Floor	<23
6186-05	10/10/2012	NW Corner of Drill Floor	<23
6186-06	10/10/2012	POC's Desk	<23
6186-07	10/10/2012	Kitchen Counter	<23
6186-08	10/10/2012	Maintenance Bay Floor	<23
6186-09	10/10/2012	Weapons Vault Floor	50

S:\12 Projects\12-10166\12-10166-05W- Las Cruces, NM Armory\Drawings\12U0186.dwg, wjw, 8/17/2012 11:12:07 AM, xplot, ANGLE full bleed B (17.00 x 11.00 inches)



**IHI**  
 ENVIRONMENTAL  
 840 E. Wilmington Ave.  
 Salt Lake City, UT 84108  
 801 466 2223  
 info@ihi-env.com

**New Mexico Army National Guard**  
**Las Cruces Armory**  
**249 North Armory Road**  
**Las Cruces, New Mexico**  
**Lead Wipe Sample Locations**



PROJECT No: 12U-16186  
 SHEET: 1 of 3  
 DRAWN BY: Keith  
 DATE: 09-17-2012  
 REVISED BY:  
 DATE:  
 REVIEWED BY:  
 DATE:



**Appendix J**  
**Laboratory Reports**



BEST AVAILABLE COPY  
ANALYTICAL REPORT

Report Date: September 19, 2012

**Non-Responsive**

IHI Environmental  
640 East Wilmington Avenue  
Salt Lake City, UT 84106

Phone: (801) 466-2223

Fax: (801) 466-9616

**Non-Responsive**

Workorder: 34-1225682

Client Project ID: 12U-I6186/Armory-Las Cruces,  
N

Purchase Order: 12U-I6186

Project Manager: **Non-Responsive**

**Analytical Results**

Sample ID: 6186-01	Media: Lead Dust Wipe	Collected: 09/10/2012
Lab ID: 1225682001	Sampling Location: Armory-Las Cruces, N	Received: 09/12/2012
Method: NIOSH 7300 Mod.	Sampling Parameter: Area 100 cm <sup>2</sup>	Prepared: 09/14/2012
		Analyzed: 09/18/2012
Analyte	ug/sample	ug/ft <sup>2</sup> RL (ug/sample)
Lead	<2.5	<23 2.5

Sample ID: 6186-02	Media: Lead Dust Wipe	Collected: 09/10/2012
Lab ID: 1225682002	Sampling Location: Armory-Las Cruces, N	Received: 09/12/2012
Method: NIOSH 7300 Mod.	Sampling Parameter: Area 100 cm <sup>2</sup>	Prepared: 09/14/2012
		Analyzed: 09/18/2012
Analyte	ug/sample	ug/ft <sup>2</sup> RL (ug/sample)
Lead	<2.5	<23 2.5

Sample ID: 6186-03	Media: Lead Dust Wipe	Collected: 09/10/2012
Lab ID: 1225682003	Sampling Location: Armory-Las Cruces, N	Received: 09/12/2012
Method: NIOSH 7300 Mod.	Sampling Parameter: Area 100 cm <sup>2</sup>	Prepared: 09/14/2012
		Analyzed: 09/18/2012
Analyte	ug/sample	ug/ft <sup>2</sup> RL (ug/sample)
Lead	<2.5	<23 2.5

Sample ID: 6186-04	Media: Lead Dust Wipe	Collected: 09/10/2012
Lab ID: 1225682004	Sampling Location: Armory-Las Cruces, N	Received: 09/12/2012
Method: NIOSH 7300 Mod.	Sampling Parameter: Area 100 cm <sup>2</sup>	Prepared: 09/14/2012
		Analyzed: 09/18/2012
Analyte	ug/sample	ug/ft <sup>2</sup> RL (ug/sample)
Lead	<2.5	<23 2.5

ADDRESS 960 West LeVoy Drive, Salt Lake City, Utah, USA 84123 | PHONE +1 801 266 7700 | FAX +1 801 268 9992  
ALS GROUP USA, CORP. Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental

[www.alsglobal.com](http://www.alsglobal.com)

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ANALYTICAL REPORT

Workorder: **34-1225682**  
Client Project ID: 12U-I6186/Armory-Las Cruces,  
N  
Purchase Order: 12U-I6186  
Project Manager: **Non-Responsive**

**Analytical Results**

Sample ID: 6186-05	Media: Lead Dust Wipe	Collected: 09/10/2012
Lab ID: 1225682005	Sampling Location: Armory-Las Cruces, N	Received: 09/12/2012
Method: NIOSH 7300 Mod.	Sampling Parameter: Area 100 cm <sup>2</sup>	Prepared: 09/14/2012 Analyzed: 09/18/2012
Analyte	ug/sample	ug/ft <sup>2</sup> RL (ug/sample)
Lead	<2.5	<23 2.5

Sample ID: 6186-06	Media: Lead Dust Wipe	Collected: 09/10/2012
Lab ID: 1225682006	Sampling Location: Armory-Las Cruces, N	Received: 09/12/2012
Method: NIOSH 7300 Mod.	Sampling Parameter: Area 100 cm <sup>2</sup>	Prepared: 09/14/2012 Analyzed: 09/18/2012
Analyte	ug/sample	ug/ft <sup>2</sup> RL (ug/sample)
Lead	<2.5	<23 2.5

Sample ID: 6186-07	Media: Lead Dust Wipe	Collected: 09/10/2012
Lab ID: 1225682007	Sampling Location: Armory-Las Cruces, N	Received: 09/12/2012
Method: NIOSH 7300 Mod.	Sampling Parameter: Area 100 cm <sup>2</sup>	Prepared: 09/14/2012 Analyzed: 09/18/2012
Analyte	ug/sample	ug/ft <sup>2</sup> RL (ug/sample)
Lead	<2.5	<23 2.5

Sample ID: 6186-08	Media: Lead Dust Wipe	Collected: 09/10/2012
Lab ID: 1225682008	Sampling Location: Armory-Las Cruces, N	Received: 09/12/2012
Method: NIOSH 7300 Mod.	Sampling Parameter: Area 100 cm <sup>2</sup>	Prepared: 09/14/2012 Analyzed: 09/18/2012
Analyte	ug/sample	ug/ft <sup>2</sup> RL (ug/sample)
Lead	<2.5	<23 2.5

Sample ID: 6186-09	Media: Lead Dust Wipe	Collected: 09/10/2012
Lab ID: 1225682009	Sampling Location: Armory-Las Cruces, N	Received: 09/12/2012
Method: NIOSH 7300 Mod.	Sampling Parameter: Area 100 cm <sup>2</sup>	Prepared: 09/14/2012 Analyzed: 09/18/2012
Analyte	ug/sample	ug/ft <sup>2</sup> RL (ug/sample)
Lead	5.3	50 2.5



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## ANALYTICAL REPORT

Workorder: **34-1225682**

Client Project ID: 12U-I6186/Armory-Las Cruces,  
N

Purchase Order: 12U-I6186

Project Manager: **Non-Responsive**

### Analytical Results

Sample ID: <b>6186-10</b>	Media: Lead Dust Wipe	Collected: 09/10/2012
Lab ID: 1225682010	Sampling Location: Armory-Las Cruces, N	Received: 09/12/2012
Method: <b>NIOSH 7300 Mod.</b>	Sampling Parameter: Area 100 cm <sup>2</sup>	Prepared: 09/14/2012 Analyzed: 09/18/2012
Analyte	ug/sample	ug/ft <sup>2</sup> RL (ug/sample)
Lead	<2.5	<23 2.5

### Comments

Quality Control: NIOSH 7300 Mod. - (HBN: 93952)

Baby wipes were used as the media for the QC samples in HBN 93663 as they appeared to most closely resemble the samples of unknown wipe type for the field samples in HBN 93663.

### Report Authorization

Method	Analyst	Peer Review
NIOSH 7300 Mod.	<b>Non-Responsive</b>	<b>Non-Responsive</b>

### Laboratory Contact Information

ALS Environmental  
960 W Levoe Drive  
Salt Lake City, Utah 84123

Phone: (801) 266-7700  
Email: [alslt.lab@ALSGlobal.com](mailto:alslt.lab@ALSGlobal.com)  
Web: [www.alssic.com](http://www.alssic.com)





## ANALYTICAL REPORT

Workorder: **34-1225682**Client Project ID: 12U-I6186/Armory-Las Cruces,  
N

Purchase Order: 12U-I6186

Project Manager: **Non-Responsive**

## General Lab Comments

The results provided in this report relate only to the items tested.  
Samples were received in acceptable condition unless otherwise noted.  
Samples have not been blank corrected unless otherwise noted.  
This test report shall not be reproduced, except in full, without written approval of ALS.

ALS provides professional analytical services for all samples submitted. ALS is not in a position to interpret the data and assumes no responsibility for the quality of the samples submitted.

All quality control samples processed with the samples in this report yielded acceptable results unless otherwise noted.

ALS is accredited for specific fields of testing (scopes) in the following testing sectors. The quality system implemented at ALS conforms to accreditation requirements and is applied to all analytical testing performed by ALS. The following table lists testing sector, accreditation body, accreditation number and website. Please contact these accrediting bodies or your ALS project manager for the current scope of accreditation that applies to your analytical testing.

Testing Sector	Accreditation Body (Standard)	Certificate Number	Website
Environmental	ACLASS (DoD ELAP)	ADE-1420	<a href="http://www.aiclasscorp.com">http://www.aiclasscorp.com</a>
	Utah (NELAC)	DATA1	<a href="http://health.utah.gov/lab/labimp/">http://health.utah.gov/lab/labimp/</a>
	Nevada	UT00009	<a href="http://ndep.nv.gov/bsdwlabservice.htm">http://ndep.nv.gov/bsdwlabservice.htm</a>
	Oklahoma	UT00009	<a href="http://www.deq.state.ok.us/CSDnew/">http://www.deq.state.ok.us/CSDnew/</a>
	Iowa	IA# 376	<a href="http://www.iowadnr.gov/InsideDNR/RegulatoryWater.aspx">http://www.iowadnr.gov/InsideDNR/RegulatoryWater.aspx</a>
	Florida (TNI)	E871067	<a href="http://www.dep.state.fl.us/labs/bars/sas/qa/">http://www.dep.state.fl.us/labs/bars/sas/qa/</a>
	Texas (TNI)	T104704456-11-1	<a href="http://www.tceq.texas.gov/field/qa/lab_accred_certif.html">http://www.tceq.texas.gov/field/qa/lab_accred_certif.html</a>
Industrial Hygiene	AIHA (ISO 17025 & AIHA IHLAP/ELLAP)	101574	<a href="http://www.aihaaccreditedlabs.org">http://www.aihaaccreditedlabs.org</a>
Lead Testing:			
CPSC	ACLASS (ISO 17025, CPSC)	ADE-1420	<a href="http://www.aiclasscorp.com">http://www.aiclasscorp.com</a>
Soil, Dust, Paint, Air	AIHA (ISO 17025, AIHA ELLAP and NLLAP)	101574	<a href="http://www.aihaaccreditedlabs.org">http://www.aihaaccreditedlabs.org</a>
Dietary Supplements	ACLASS (ISO 17025)	ADE-1420	<a href="http://www.aiclasscorp.com">http://www.aiclasscorp.com</a>

## Definitions

LOD = Limit of Detection = MDL = Method Detection Limit, A statistical estimate of method/media/instrument sensitivity.

LOQ = Limit of Quantitation = RL = Reporting Limit, A verified value of method/media/instrument sensitivity.

ND = Not Detected, Testing result not detected above the LOD or LOQ.

\*\* No result could be reported, see sample comments for details.

< This testing result is less than the numerical value.

( ) This testing result is between the LOD and LOQ and has higher analytical uncertainty than values at or above the LOQ.

**Appendix K**  
**IHSW Violation Inventory Log**





# Industrial Hygiene Southwest

## Violation Inventory Log

### LOG OF SCHEDULE OF CORRECTIVE ACTION - COMPLIANCE WITH SAFETY AND HEALTH STANDARDS

Las Cruces Armory, NM

CONTROL NUMBER	HAZARD DESCRIPTION	SITE	RAC	CORRECTIVE ACTIONS (Abatement Plan)	SUSPENSE DATE	ACTION OIC/NOIC	Estimated Cost(s)	DATE CORRECTED	REFERENCES
NMLCA-101012-4.8 <input type="checkbox"/>	The kitchen hood was not able to be tested for duct velocity due to an electrical shut down in the kitchen.	Las Cruces Armory	4	Measure the duct velocity of the kitchen hood when the power is restored to ensure the velocity exceeds the 500 fpm requirement outlined in the 2011 National Fire Protection Association Standard 96, Section 8.2.1.1.					2011 National Fire Protection Association Standard 96, Section 8.2.1.1.
NMLCA-101012-4.4 <input type="checkbox"/>	An asbestos survey could not be located during this IH Assistance Visit.	Las Cruces Armory	3	Either locate the asbestos survey for this building or contract with a licensed firm to perform an asbestos survey and assessment.					1910.1001(j)(3)(i)
NMLCA-101012-4.4 <input type="checkbox"/>	Personnel have not been provided with asbestos awareness training.	Las Cruces Armory	4	Based on the findings of this survey, provide awareness training to assigned personnel for the specific types of asbestos in this Armory.					29 CFR 1910.1001 or 1101 or AR 40-5
NMLCA-101012-4.10 <input type="checkbox"/>	All extinguishers except two in the kitchen and office areas were current on their annual and monthly inspections.	Las Cruces Armory	4	Ensure all fire extinguishers are provided a monthly inspection and document these inspections on the attached inspection cards.					29 CFR 1910.157 (c)(1)
NMLCA-101012-4.10 <input type="checkbox"/>	The GFCI outlet located in the men's restroom did not trip at 7 mA.	Las Cruces Armory	4	Repair or replace the GFCI outlet in the men's bathroom.					NFPA 70, Article 210-8
NMLCA-101012-4.10 <input type="checkbox"/>	An emergency eyewash/shower in the maintenance bay has not been inspected or tested.	Las Cruces Armory	4	Ensure the emergency eyewash/showers undergo a weekly operational test and document the results of these tests.					ANSI Z358.1-2009
NMLCA-101012-4.10 <input type="checkbox"/>	Compressed gas cylinders are not secured from tipping within the storage cage.	Las Cruces Armory	3	Firmly secure compressed gas cylinders against accidental dislodgement.					1910.253 (b) (2) (ii)

## **Appendix L**

### **Recommendations**



## Summary of Recommendations for NMARNG Armory, Las Cruces, New Mexico

### 4.4 Asbestos Management

1. Contract with a licensed firm to perform an asbestos survey and assessment of this armory.
2. Once asbestos-containing materials have been identified and assessed, provide awareness training to assigned personnel for the specific material types and locations of asbestos in this armory.

### 4.8 Kitchen Ventilation Survey

1. Measure the duct velocity of the kitchen hood when the power is restored to ensure the velocity meets the 500-fpm requirement outlined in the 2011 National Fire Protection Association Standard 96, Section 8.2.1.1.

### 4.10 General Safety Walk-Through

1. Repair or replace the GFCI outlet in the men's restroom.
2. Ensure the emergency eyewash/showers undergo a weekly operational test and document the results of these tests.
3. Ensure all fire extinguishers are provided a monthly inspection and document these inspections on the attached inspection cards.
4. Firmly secure compressed gas cylinders against accidental dislodgement.

**Appendix M**

**DD Form 2214**



NOISE SURVEY (Sound Level Meter Survey)									
1. DATE (YYYYMMDD) 20121010				2. TYPE SURVEY (Enter code) 1 - INITIAL SURVEY    2 - RE-SURVEY    3 - OTHER					
3. SOUND LEVEL METER			4. MICROPHONE			5. CALIBRATOR			
a. MANUFACTURER 3M			a. MANUFACTURER 3M			a. MANUFACTURER 3M			
b. MODEL SD-100		c. SERIAL NO. SD20010465		b. MODEL SD-100		c. SERIAL NO. SD20010465		b. MODEL QC-10	
								c. SERIAL NO. QIA120222	
d. LAST ELECTROACOUSTIC CALIB DATE (YYYYMMDD) 20111012			d. LAST ELECTROACOUSTIC CALIB DATE (YYYYMMDD) 20111012			d. LAST ELECTROACOUSTIC CALIB DATE (YYYYMMDD) 20111012			
6. WIND SCREEN (X one) <input checked="" type="checkbox"/> USED <input type="checkbox"/> NOT USED					7. MEASUREMENTS OBTAINED (X one) <input checked="" type="checkbox"/> INDOORS <input type="checkbox"/> OUTDOORS				
8. DESCRIPTION OF AREAS/DUTIES WHERE NOISE SURVEY CONDUCTED (Illustrate on additional sheet and attach to form) Kitchen						9. PRIMARY SOURCE OF NOISE See 11a. column below			
						10. SECONDARY SOURCE OF NOISE			
11. SOUND LEVEL DATA						12. PROTECTION REQUIRED (re: dBA - Level)			
a. LOCATION	b. METER ACTION	c. dBC	d. dBA	e. RISK ASSESSMENT CODE	a. NONE (Less than 85)	b. PLUG OR MUFF (85-108)	c. PLUG AND MUFF (108-118)	d. PLUG + MUFF + TIME LIMIT (Greater than 118)	
Garbage Disposal	S	82.3	81.9	IVD	X				
Exhaust Fan	S	74.8	66.3	IVD	X				
					X				
					X				
					X				
					X				
NOTES: Range of levels noted by /; i.e., 102/109. At operator stations, measure at ear level. METER ACTION: Enter F for fast meter action and S for slow meter action.									
13. REMARKS (i.e., Area and equipment posted, hearing protection in use, etc.)									
14. MORE DETAILED NOISE EVALUATION REQUIRED: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO (If "YES," identify type evaluation needed.)									
15. NAME(S) OF PERSON(S) IDENTIFIED FOR AUDIOMETRIC MONITORING (Use additional sheet if more space is needed and attach to form)									
16. SUPERVISOR OF NOISE-HAZARDOUS AREA OR OPERATION									
Non-Responsive				b. TELEPHONE (Include area code) (575)474-2426		c. ORGANIZATION NMARNG			
				18. HEARING CONSERVATION MONITOR (Last Name, First Name, MI) Non-Responsive					



## INSTRUCTIONS

(Refer to DoD Component Instructions for Additional Guidance)

**PURPOSE:** This form is intended to record noise survey results for the identification of potentially noise-hazardous environments.

**GENERAL:** Print all information in ink. Only medical, industrial hygiene, safety, or engineering personnel who meet training requirements specified by the DOD components will make sound level measurements.

1. Date - Enter date noise survey conducted (e.g., if Jan. 14, 1999, enter 19990114).

2. Type, Survey - Enter appropriate numeric code in box (e.g., enter "1" if area or operation not surveyed before or no available records of previous survey; enter "2" if resurvey conducted at regular intervals (such as once each 12 months); or enter "3" if noise being reevaluated to confirm validity of previously obtained measurements or for purposes other than indicated).

3. Sound Level Meter:

- a. Mfg - Enter name of company that produced sound level meter.
- b. Model - Enter manufacturer's designation.
- c. Serial No. - Enter manufacturer's serial number.
- d. Last Electroacoustic Calib Date - Enter year, month, day (see item 1) of last comprehensive calibration required by DOD component. Not to include calibration checks made with acoustical calibrator.

4. Microphone (Fill in this section if microphone is detachable from sound level meter)

- a. Manufacturer - Enter name of company that produced microphone.
- b. Model - Enter manufacturer's designation.
- c. Serial No. - Enter manufacturer's serial number.
- d. Last Electroacoustic Calib Date - Enter year, month, and day (see item 1) of last comprehensive calibration as required by DOD component.

5. Calibrator:

- a. Manufacturer - Enter name of company that produced calibrator.
- b. Model - Enter manufacturer's designation.
- c. Serial Number. Enter manufacturer's serial number.
- d. Last Electroacoustic Calib Date. Enter year, month, and day (see item 1) of last comprehensive calibration as required by DoD component.

6. Wind Screen - Check appropriate box indicating if manufacturer's device to reduce wind noise is mounted over microphone assembly.

7. Measurements Obtained - Check appropriate box indicating if measurements obtained indoors or outdoors.

8. Description of Areas/Duties Where Noise Survey Conducted - Include building number(s), name of activity and/or operation, identify specific microphone locations, performance conditions and descriptions of machinery (e.g., rpm, load, etc). Where applicable, include noise-hazard contours of area. On additional sheet make simple line drawing of area and identify noise sources and locations of measurement.

9. Primary Source of Noise - If possible, identify the location(s) of the highest dBA value.

10. Secondary Source of Noise - If possible, identify all other noise sources when the primary noise source is off (e.g. background noise sources and other noise sources that may or may not be noise hazardous).

11. Sound Level Data

- a. Location - Position where measurement is obtained should correspond with those identified, or illustrated on form.
- b. Meter Action - See Notes in Sound Level Data Sec. levels measured with weighting switch of meter in "C" position.
- c. dBC - If required by DOD component, enter sound levels measured with weighting switch of meter in "C" position.
- d. dBA - Enter sound levels measured with weighting switch of meter in "A" position. See NOTES in Sound Level Data Section.

e. Risk Assessment Code - Enter expression of risk that combines elements of hazard severity and mishap probability. Hazard severity categories shall be assigned by roman numeral as follows:

- (1) Category I - Catastrophic: May cause death or loss of a facility (Code I).
- (2) Category II - Critical: May cause severe injury, e.g., severe occupational illness, or major property damage (Code II).
- (3) Category III - Marginal: May cause minor injury, e.g., minor occupational illness, or minor property damage (Code III).
- (4) Category IV - Negligible: Probably would not affect personnel safety or health, but is nevertheless in violation of specific criteria (Code IV). Mishap probability shall be assigned capital letter according to following criteria:
  - (a) Subcategory A: Likely to occur immediately or within a short period of time (Code A).
  - (b) Subcategory B: Probably will occur in time (Code B).
  - (c) Subcategory C: May occur in time (Code C).
  - (d) Subcategory D: Unlikely to occur (Code D).

Enter codes as IIB, IIIC, etc. Refer to DOD Instruction 6055.1/DOD component instructions for specific definitions and guidance.

12. Protection Required (re: dBA Level)

- a. None (less than 85: If dBA levels less than 85, check this column. No hearing protectors required.
- b. Plug or Muff (85 - 108): If dBA levels 85 - 108 inclusive, check this column. Earplugs, ear muffs, ear-canal caps, or noise-attenuating helmet required.
- c. Plug and Muff (108 - 118): If dBA levels over 108 to 118 inclusive, check this column. Earplugs worn in combination with ear muffs or noise-attenuating helmet required.
- d. Plug, Muff & Time: If dBA levels over 118, check this column. Earplugs worn in combination with ear muffs or noise-attenuating helmet and time limit (to be determined by DOD component) required.

13. Remarks - Enter type of hearing protection in use, whether area and equipment posted with appropriate caution signs, etc.

14. More Detailed Noise Evaluation Required - Check "yes" box if more detailed noise evaluation is required; check "no" box if not. Specify the type of evaluation needed (e.g., octave band analysis, etc.).

15. Name(s) of Persons Identified for Audiometric Monitoring - List names of individuals routinely exposed to noise in preceding locations.

16. Supervisor of Noise - Hazardous Area or Operation - Enter name (surname, given name, & middle initial) of the first-echelon (immediate) supervisor of the location (and personnel) surveyed.

17. Survey Performed by - Enter name (surname, given name & middle initial) of individual performing survey & signature.

18. Hearing Conservation Monitor - Enter name of individual reviewing survey results & signature. Usually local surgeon or designated representative.



14 Oct 14



# ARMY NATIONAL GUARD INDUSTRIAL HYGIENE - SOUTHWEST

Guam • Hawaii • California • Oregon • Washington • Nevada • Arizona • Idaho • Utah • Wyoming • Montana • New Mexico • Nebraska

## Industrial Hygiene Site Assistance Visit

**Las Cruces Armory**  
249 N. Armory Road  
Las Cruces, NM 88007

---

10510 Superfortress Avenue, Suite C, Mather, CA 95655 (915) 854-1494

35



DEPARTMENT OF THE ARMY AND AIRFORCE  
NATIONAL GUARD BUREAU  
INDUSTRIAL HYGIENE SOUTHWEST  
10510 Superfortress Ave, Ste. C  
Mather, CA 95655

ARNG-CSG-P

8 OCT 2015

MEMORANDUM THRU New Mexico Army National Guard, ATTN: **Non-Responsive**  
Archibeque, SOHM, 600 Wyoming Blvd, NE, Albuquerque, NM 87123

FOR Commander, 613th FSC, Las Cruces Armory, 249 N. Armory Road, Las Cruces, NM 88007

SUBJECT: Executive Summary for Site Assistant Visit (IHSAV) for Las Cruces Armory, 249 N. Armory Road, Las Cruces, NM on 14 OCT 2014.

1. References.

a. ARNG-CSG All States Memorandum, SUBJECT: Possible Lead Dust Hazard in Army National Guard (ARNG) Readiness Centers, dated 23 September 2015.

b. Conducting Industrial Hygienist Report, attached.

2. General.

a. At the request of the NGB Industrial Hygiene, Southwest (IHSW) Region, an Industrial Hygiene Site Assistance Visit (IHSAV) was conducted at the Las Cruces Armory, 249 N. Armory Road, Las Cruces, NM 87123, conducted on 14 OCT 2014.

b. The findings and recommendations in this Executive Summary are controlling and supersede all recommendations within the attached Industrial Hygiene report. However, IHSW concurs with the observations and findings within the attached report.

c. Risk Assessment Codes (RAC) provided in this report have been derived from two sources: Deriving Risk Assessment Codes (RAC's) for Health Hazards (Ref: DOD Instruction 6055.1) and AR 385-10, The Army Safety Program.

d. Use of trademark names in the attached report, or this Executive Summary, does not imply Army National Guard endorsement of any product.

3. Findings. Attached industrial hygiene report.

4. General Observations.

a. Personnel interviews indicate there is a space identified as an IFR within the facility. As noted by the conducting industrial hygienist, the ventilation systems, firing lines, lighting and



**SUBJECT:** Executive Summary for Site Assistant Visit (IHS AV) for Las Cruces Armory, 249 N. Armory Road, Las Cruces, NM on 14 OCT 2014.

bullet stop have either been removed or were never installed. Given the definitions for IFR spaces provided within the ARNG-CSG All States Memorandum, recommend the classification for this IFR space be carried as a Closed IFR. Note, the NM ARNG command closed this and several other IFR spaces within the state until assessments to identify potential elevated lead levels and to employ control measures to ensure occupant health and property integrity/serviceability as necessary.

b. The observations and data collected during this evaluation indicate the elevated lead particulate levels are attributed from multiple factors arising from maintenance and/or weapons cleaning activities.

c. The HHC and the 126th MP were identified as co-tenant occupancies during this IHS AV.

5. **Commendable.** The facility was generally clean and orderly throughout.

#### 6. **Observations / Recommendations.**

**NOTE:** This section provides conclusions and recommendations for the findings and observations made within the attached contractors report. The paragraphs are numbered to correspond to the sections where they were first noted. (i.e., paragraph 2.1a represents the 2.1a located within the contractors report.

a. Wipe sampling collected from within the space identified as an IFR returned with elevated (> 40 ug/ft<sup>2</sup>) lead levels. Although the lead levels reported for the other areas of the facility are Below Detection limits (BDL), the levels observed do raise concerns regarding the origin and activities generating the lead. It's presumed the lead is introduced to the facility by weapons cleaning and/or maintenance related activities. **(RAC 3)**

##### (1) **Medical Surveillance.**

(a) It is important for the State Occupational Health, or Medical Service Corp, determine the medical surveillance requirements based on occupancy type and occupancy responsibilities, i.e. administrative personnel, state maintenance workers, contract personnel, civilian population, and personnel who maintain or support IFR operations.

(2) **Occupant Notifications.** Recommend the State ARNG make appropriate notifications to all occupants outlining the potential hazards, measures persons must take to ensure their health, and to outline the State ARNG's plan to remediate (abate), if necessary, the elevated lead levels within the facility as required by Federal, State, and local laws, regulations, and requirements. At the minimum, the following occupancy groups should be included within the notifications: AGR, IDT personnel, state employees, contract employees, youth program personnel, and all civilians. Note, the attached report may provide co-tenant organizations for inclusion of notifications. Documentation of notifications should be maintained by the facility command for future reference. (reference 29 CFR 1910.1025 as a resource guide)



**SUBJECT:** Executive Summary for Site Assistant Visit (IHS AV) for Las Cruces Armory, 249 N. Armory Road, Las Cruces, NM on 14 OCT 2014.

b. Although the area wipe samples collected returned results below the 40 ug/ft<sup>2</sup> threshold, prevention efforts should continue to ensure the workplace is as free as practical from lead. **(RAC NOT ASSIGNED)**

(1) Recommend continued cleaning within the administrative offices, kitchen, and communal areas to maintain lead particulate concentrations below the ARNG standard of 40ug/ft<sup>2</sup>. Utilize the enclosed Clean-up SOP as a guide to assist with the prevention efforts. Ensure personnel clean-up area(s) and tables after weapons cleaning activities. Tables used for weapons cleaning should be marked, "For Weapons Cleaning Only," when utilized as such. (DODI 6055.01 Appendix to Enclosure 4, date 14 OCT 2014)

c. Although the Armory was believed to be built approximately 1990, during this IHS AV an Asbestos Containing Material (ACM) Management Plan could not be located. (para 3.2) **(RAC 4)**

(1) Conduct a facility survey to identify Asbestos Containing Material (ACM) within the facility and develop ACM Management Plan. Conduct awareness training to all personnel who occupy, or frequent the facility as it relates to the findings and the ACM Management Plan. The survey may have been completed, however, at the time of this assistance visit, awareness training, ACM identification, or an ACM Management Plan was not available.

d. The facility has an Emergency Eyewash/Deluge Shower System. Documentation could not be located to determine if inspected/checked weekly. (reference paragraph 3.4) **(RAC 4)**

(1) Inspect the system weekly and ensure checks/inspection records are maintained at the location of the system.

e. The Hazard Communication Program, or Material Safety Data Sheet (MSDS), was very well organized. However, MSDS's are still used at the facility listing the harmful chemicals/products within the facility. The new format, Safety Data Sheets (SDS), should be utilized to comply with the current Hazard Communication Program requirements. (para. 3.5 and 29 Code of Federal Regulations (CFR) 1910.1200) **(RAC 4)**

(1) Update current chemical inventory list and acquire all current SDS's for the hazardous materials used/maintained in this facility.

## **7. Violation Correction Log.**

a. IHSW has provided a Violation Correction Log derived from the observations from this visit. IHSW recommends the following:

(1) Commander(s) assign an Action OIC/NCOIC, Suspense Date for completion, and Estimated Cost(s) to ensure item completion and corrective status is briefed during quarterly (or monthly) Safety Meetings/Councils until resolved.



**SUBJECT:** Executive Summary for Site Assistant Visit (IHS AV) for Las Cruces Armory, 249 N. Armory Road, Las Cruces, NM on 14 OCT 2014.

personnel and forward to the New Mexico Army National Guard Industrial Hygiene, Occupational Health and Safety Office for final review and approval (signature).

NOTE: The Hazard Assessments can be used for monthly meetings to brief/train, and document large group training events and activities.

9. IHSW recommends the Senior Unit Commander of this Facility and any Co-Tenant Organizations or Units, review and provide assistance with implementation of these recommendations. This will educate the chain of command and allow the unit or co-tenant organizations to take any necessary precautions or actions required by them and their personnel.
10. To assist you with execution of your responsibilities in correcting the observations noted, we encourage you to consult with the State Safety Manager, Occupational Health Manager and Industrial Hygiene professions located and/or authorized within the State Safety and Occupational Health Office.
11. For additional information please contact the NGB-IHSW office at (916) 854-1491 or via email at **Non-Responsive**

**Non-Responsive**

NGB, IHSW, CIV  
Regional Industrial  
Hygiene Manager



# Industrial Hygiene Southwest

## Violation Inventory Log

### LOG OF SCHEDULE OF CORRECTIVE ACTION - COMPLIANCE WITH SAFETY AND HEALTH STANDARDS LAS CRUCES ARMORY, NEW MEXICO 88007

CONTROL NUMBER	HAZARD DESCRIPTION	SITE	RAC	CORRECTIVE ACTIONS (Abatement Plan)	SUSPENSE DATE	ACTION OIC/NCOIC	Estimated Cost(s)	DATE CORRECTED	REFERENCES
NMLCA-10142014-3.1 <input type="checkbox"/>	Wipe sampling collected from within the space identified as an IFR returned with elevated (> 40 ug/ft2) lead levels.	IFR	3	Occupational Safety and Health Administration (OSHA) standard for lead, 1910.1025 (h)(1) require that all surfaces shall be maintained as free as practicable of accumulations of lead. Any area that exceeds 40 ug/ft2 should be thoroughly decontaminated. Utilize Clean-Up SOP provided in the report for future cleaning episodes.					Occupational Safety and Health Administration (OSHA) standard for lead, 1910.1025 (h)(1)
NMLCA-10142014-3.0	Wipe samples collected in other areas of the facility returned results below the 40 ug/ft2 threshold.	Armory	RAC NOT ASSIGNED	Recommend continued cleaning within the administrative offices, kitchen, and communal areas to maintain lead particulate concentrations below the ARNG standard of 40ug/ft2. Utilize the enclosed Clean-up SOP as a guide to assist with the prevention efforts. Ensure personnel clean-up area(s) and tables after weapons cleaning activities. Tables used for weapons cleaning should be marked, "For Weapons Cleaning Only," when utilized as such.					DODI 6055.01 Appendix to Enclosure 4 date 14 OCT 2014





## Industrial Hygiene Southwest

### Violation Inventory Log

#### LOG OF SCHEDULE OF CORRECTIVE ACTION - COMPLIANCE WITH SAFETY AND HEALTH STANDARDS LAS CRUCES ARMORY, NEW MEXICO 88007

CONTROL NUMBER	HAZARD DESCRIPTION	SITE	RAC	CORRECTIVE ACTIONS (Abatement Plan)	SUSPENSE DATE	ACTION OIC/NCOIC	Estimated Cost(s)	DATE CORRECTED	REFERENCES
NMLCA-10142014-3.2	During this IHSAV an Asbestos Containing Material (ACM) Management Plan could not be located.	Armory	4	Conduct a facility survey to identify Asbestos Containing Material (ACM) within the facility and develop ACM Management Plan. Conduct awareness training to all personnel who occupy, or frequent the facility as it relates to the findings and the ACM Management Plan. The survey may have been completed, however, at the time of this assistance visit, awareness training, ACM identification, or an ACM Management Plan was not available.					29 CFR 1910.1001
NMLCA-10142014-3.4	Documentation could not be located to determine if the Emergency Eyewash/Deluge Shower system is being inspected/checked weekly.	Armory	4	Document on inspection tag and check eye wash on a weekly basis					ANSI Z358.1-2009
NMLCA-10142014-3.5	MSDS's are still used at the facility listing the harmful chemicals/products within the facility. The new format, Safety Data Sheets (SDS), should be utilized to comply with the current Hazard Communication Program requirements.	Armory	4	Update current chemical inventory list and acquire all current SDS's for the hazardous materials used/maintained in this facility					29 CFR 1910.1200

## ***ARMORY***

### **CLEANUP & FOLLOW-UP HOUSEKEEPING RECOMMENDATIONS**

#### **Materials Needed:**

1. Cloth Mop head (s) & Mop head holder(s) with handle.
2. Mop bucket (s) with wringer.
3. Clean cotton rags and sponges.
4. Disposable gloves
5. Large barrel (55 gal.) to store wastewater in after changing out of dirty scrub water. Waste water containers.
6. Disposable overshoes or rubber boots. Personnel conducting cleaning operations should not take clothes, boots, etc., home for laundering.
7. HEPA vacuum
8. Six (6) mill plastic bags to dispose of waste.
9. Detergent with surfactant, e.g., Spic-N-Span, Mr. Clean, etc.

#### **Disposal of Waste Water and Cleaning Materials:**

1. *NOTE:* Consult with Local Army National Guard Environmental Office prior to taking any collection, disposal or wiping activities commence. Each state and territory may have additional regulatory guidance on collection, storage and disposal of wastewater.
2. Mop heads should be disposed of after initial cleanup, unless otherwise advised by Environmental office personnel. Note: thorough cleaning of mop heads may be sufficient enough to reuse on future Armory cleanups but check with local Environmental Office.
3. Disposable gloves should be treated as hazardous waste.
4. Soiled cotton rags should be treated as hazardous waste.
5. Wash water contaminated with Lead can be collected and allowed to slowly evaporate leaving Lead deposits/sludge that may be collected in plastic containers, placed in metal drums, and stored for future delivery to an authorized hazardous waste disposal site.



- a. Drums shall be properly labeled to identify contents In-Accordance With (IAW) Federal, State and local regulatory guidance.
- b. Disposal of containerized waste shall be coordinated IAW State hazardous waste program requirements.
- c. The Environmental Office shall coordinate removal and disposal of all containerized hazardous waste through established waste streams.

#### **Post-Cleanup Precautionary Measures:**

1. Thoroughly wash hands with soap and water.
2. Rinse off rubber boots with soap and water, capturing wastewater for collection into established waste stream. If personnel choose to use over shoes for protection, dispose of overshoes into waste stream. NOTE: This recommendation is for initial clean up activities and PPE requirements may be reduced after it has been determined non-hazardous levels have been achieved.
3. Wash BDU's or personal clothing separately from children's clothes.

**NOTE:** No eating, drinking or cosmetics allowed during cleanup procedures (these may be allowed after washing of hands/face and done outside of cleanup area)

**NOTE:** Avoid blowing, shaking or like actions which could potentially disperses lead dust. Dry sweeping, dusting, wiping or blowing with compressed air shall not be permitted

#### **Initial Armory Cleanup:**

1. Use a vacuum cleaner equipped with a HEPA exhaust filter. HEPA vacuum all surfaces in the room (ceiling, walls trim, and floors). Start with the ceiling and work down, moving toward the entry door. **Completely clean each room before moving on.**
2. Prepare water and detergent for the wipe down phase, according to manufactures recommendations.

3. Wet wipe, with cotton rags or sponge, any horizontal, diagonal or vertical surfaces up six (6) feet from floor surfaces using hot water and "Spic-n-Span" or an equivalent product.
  - a. Rinse out cleaning cloths thoroughly and frequently.
  - b. Change out cleaning water as necessary.

**NOTE: If walls to be cleaned show signs of deterioration, e.g., chipping or crumbling paint, in which wiping, scrubbing, or disrupting might potentially increase or spread contamination, then this portion of the clean up should be avoided.**

4. Now prepare water and detergent (e.g. Spic N Span, Mr. Clean, Pine Sol) for the mopping phase, according to manufactures recommendations, which should be found on the products label for general clean up.
  - a. Change out water frequently (when water appears dirty)
  - b. Rinse out mop heads frequently to prevent contamination of dirty water.
5. Cover entire drill floor surface with above prescribed water and detergent.
6. Final rinse should be with clean water only - -after mop heads have been cleaned.

**Recommended Follow-up Housekeeping Practices** *after Clearance sampling of cleaned area is performed by certified personnel:*

1. Floor cleaning and dusting should be accomplished using the wet method described in Initial Armory Cleanup SOP.

**Note:** Only exception to these wet cleaning procedures would be the use of a chemically treated dust floor mop. This can be used for follow-up armory cleaning by sweeping of large particles of dirt and paper.

- a. Pre-treated (chemically treated) dust floor mop will limit dust particles from being disbursed into the surround atmosphere.



- b. If treated dust mop is used - -Do Not Shake Mop head - - have mop head laundered after use. **Always keep used dust mop heads in sealed double plastic bags when stored at armory/facility.** Shaking of mop head could release unwanted contaminants into surrounding atmosphere.
2. Frequency of Cleanup- Armories will vary, according to usage and how often they should be cleaned. The following general cleaning schedule is provided:
  - a. Only full-time technicians and traditional soldiers using facility during the month. (*Cleaned Monthly*)
  - b. Occasional activities taking place during the month, e.g., 1-2 classes or volleyball games, etc. (*Cleaned 2x's Monthly*)
  - c. Used regularly by soldiers or outside agencies/personnel. (*Cleaned Regularly - -at least Weekly*)

**NOTE:** Armories with adjoining Indoor Firing Ranges (IFR) should be cleaned more than weekly, again depending on use of Armory and IFR.

**NOTE:** Clearance sampling/testing is to be accomplished by certified personnel after these cleanup procedures are followed. If the area is an average Armory, occupied by adults only, for which you are cleaning and **is not a Converted IFR space**, you may continue to utilize the Armory space before the officials re-test this space. Please notify your Safety and/or Occupational Health personnel of the completion of this cleaning regime and they will notify the proper officials of the sampling/testing requirements needed.

If work is contracted out, a third party should do the clearance sampling.

**Young children and females who are pregnant, there should be posted signs on all facilities, warning of the potential danger of exposure to lead dust.**

# NEW MEXICO ARMY NATIONAL GUARD

## LAS CRUCES ARMORY

249 N Armory Rd.  
Las Cruces, NM 88007  
(576) 647 2404



**Submitted to:**

**Non-Responsive**

National Guard Bureau  
Southwest Region Industrial Hygiene Office  
10510 Superfortress Avenue  
Suite C  
Mather, CA 95655



## Table of Contents

- 1.0 Introduction and Background
- 2.0 Survey Procedures and Equipment Used
- 3.0 Findings and Recommendations
  - 3.1 Lead Wipe Sampling
  - 3.2 Asbestos Survey
  - 3.3 Indoor Air Quality and HVAC Systems
  - 3.4 Exhaust and Ventilation Systems
  - 3.5 Hazardous Materials Use and Storage
  - 3.6 Physical Safety and Condition of Facility
  - 3.7 Sound Level Survey
  - 3.8 Illumination Survey
  - 3.9 Safety Policies, Training, and Record Keeping
  - 3.10 Recurring event
- 4.0 Industrial Hygienist Certification and Project limitations
- 5.0 Technical Assistance

### Appendices

Appendix A	References
Appendix B	Assessment Criteria
Appendix C	Photograph Log
Appendix D	Floor Plans / Illumination Survey
Appendix E	Lab Analysis / Sampling Location & Log
Appendix F	Personnel List
Appendix G	ARNG Armory Survey Checklist
Appendix H	Chemical List
Appendix I	Recommendations
Appendix J	Violation Inventory Log

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## INDUSTRIAL HYGIENE ASSISTANCE VISIT LAS CRUCES ARMORY LAS CRUCES, NEW MEXICO



### 1.0. Introduction and Background

1.1. This report summarizes the results of the Industrial Hygiene (IH) Survey conducted at the Las Cruces Armory in Las Cruces, New Mexico on October 14, 2014. The Army National Guard of Industrial Hygiene Southwest Regional Manager (ARNG-IHSW) requested Aloha World to visit the Las Cruces Armory to evaluate ventilation, lighting, noise, and verify vehicle and hazardous materials inventories. The IH Survey also included an interview with **Non-Responsive** **Non-Responsive** regarding industrial hygiene, OSHA training compliance, personnel Federal Employees Compensation Act (FECA) claims, as well as safety standards in the work area. Finally, the IH Assessment included the development of employee profiles as baseline administrative occupational health records for employees. **Non-Responsive** from Aloha World completed this survey.

1.2. The following sections will provide details on how the IH Survey was conducted. A drawing showing the facility layout and sampling locations is included as Attachment E. The most stringent OSHA, ARNG, Corps of Engineers (COE), American National Standards Institute (ANSI), American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) and Design Guide standards in effect at the time of the survey were used to assess the workplace.

1.3. The Las Cruces Armory supports the HHC 1200, 613<sup>th</sup> FSC and the 126<sup>th</sup> MP. The Armory has 22 full time guard members (**Appendix F**) and approximately 300 guardsmen and women on drill weekend. This armory was constructed in the early 1990's. The armory has offices used for administrative purposes and also contains a drill floor, arms room, supply room, classroom and weight room.

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Las Cruces Armory**

There is a Converted Indoor Firing Range (CIFR) in this facility. The CIFR was never used as a firing range. It has always been the supply room. Weapons are cleaned in the armory.

Vehicle preventive maintenance is done at this armory on drill weekend. Most maintenance is done at FMS 2, directly next door.

## **2.0. Survey Procedures**

2.1. Lead wipe samples were collected on dusty horizontal floor surfaces in the facility including but not limited to the drill floor and supply room, the CIFR. "Ghost Wipe" brand wipes was used with a 16 square inch template. The wipes used conform to American Standards for Testing Materials E1792-96A, *Standard Specification for Wipe Sampling Materials for Lead in Surface Dust*. The collected wipe samples were placed in clean, labeled centrifuge tubes. Samples were submitted to Reservoir Environmental Services, Inc for analysis via Flame Atomic Absorption, USEPA Method SW846 3050B. Laboratory results are listed in micrograms of lead per square foot ( $\mu\text{g}/\text{ft}^2$ ). Copies of the raw analytical data are presented in **Appendix E**.

A visual inspection of materials utilized in this 1990's constructed building was performed. All accessible areas of the facility were visually inspected to identify suspect asbestos-containing materials (ACM).

Illumination measurements were taken in several areas of the armory using a Konica Minolta Light Meter, Model TL-1. Measurements in the office and classroom areas were taken at typical work locations, such as the tops of desks and near computer workstations.

Air ventilation was measured on the industrial kitchen hood but not in the maintenance bay, there was no ventilation system in the bay.

### **Equipment Used**

Type	Model Number	Serial Number	Calibration Date
VelociCalc	8386A	54110581	March, 2014
Type	Model Number	Serial Number	Calibration Date
Konica Minolta	TL1	00279029	September 2014

## **3.0. Findings and Recommendations**

**Lead wipe sampling-** Analytical results from the lead wipe sampling obtained from the armory are found in Table 3.1.A. A graphical and written representation of sampling locations can be found in Appendix E along with analytical reports. Photographs were taken of each sample point and are presented in Appendix C. There are currently no standards that dictate what a safe level of lead is from a wipe sample. Lead sampling results can be compared to the protocol

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Industrial Hygiene Survey  
Las Cruces Armory

outlined in the U.S. Department of Housing and Urban Development's (HUD's) *Guidelines For The Evaluation And Control Of Lead-Based Paint Hazards In Housing*, June 1997. HUD currently recommends an exposure limit of 40 ug/ft<sup>2</sup>. This guideline was established to prevent lead exposure to children in domestic homes, along with females who are pregnant. Areas that have levels that exceed 40 ug/ft<sup>2</sup> should be thoroughly cleaned and employees that may come into contact with those areas should be properly trained in the hazards of lead exposure.

**Lead Wipe  
Table 3.1.A.**

<i>Sample ID</i>	<i>AREA</i>	<i>Photo #</i>	<i>Result ug/ft2</i>
101114-1	Control	NA	BDL
101114-2	North drill hall	2	BDL
101114-3	Center drill hall	3	BDL
101114-4	South drill hall	4	BDL
101114-5	West drill hall	5	BDL
101114-6	East drill hall	6	BDL
101114-7	North CFR	7	66.4
101114-8	Center CFR	8	BDL
101114-9	South CFR	9	33.6
101114-10	West CFR	10	46.4
101114-11	East CFR	11	BDL

**BDL= Below Detection Limits**

**ug/ ft2= Micrograms per Square Foot**

**NOTE:** Please continue the cleaning of working environment throughout the armory, especially in weapons cleaning areas and the supply room. Please utilize the attached SOP and general information paper provided for cleaning procedures.

**Recommendation:** Dry sweeping should be restricted in areas where accumulations of dust are present to prevent toxic metals on surfaces from becoming airborne. The cleaning of loose material from horizontal surfaces should be conducted with HEPA (High Efficiency Particulate Air) vacuums and/or wet mopping. Any area that exceeds 40 ug/ft<sup>2</sup> should be thoroughly decontaminated

**3.2. Asbestos Survey-** **Non-Responsive** was asked during this survey about the presence of asbestos and he advised no asbestos has ever been found or suspected in the armory.

All accessible areas of the facility were visually inspected to identify suspect ACM. All accessible surfaces, structures, and mechanical systems within these areas were examined and all suspected ACM was inspected to determine friability. No bulk samples were taken during this survey period.

Asbestos is regulated as a hazardous air pollutant by the Environmental Protection Agency (EPA) under the authority of the Clean Air Act. The asbestos regulations are included in the

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Las Cruces Armory

National Emissions Standards for Hazardous Air Pollutants (NESHAPS) and are referenced as 40 CFR 61, Subpart M.

ACM is defined by the EPA, as any material containing greater than one percent of asbestos. ACMs are categorized as being either friable or non-friable. Friable ACMs are those materials that can be easily crumbled, pulverized, or otherwise broken up using hand or finger pressure when dry, and are materials considered more likely to produce airborne asbestos fibers. Non-friable ACMs are materials that do not meet the above test, and are considered less likely to produce airborne asbestos fibers. Non-friable ACMs are further categorized into Category I non-friable ACM (packing's, gaskets, resilient floor coverings, and asphalt roofing products) and Category II non-friable ACM (materials not included in Category I).

### **Limitations and Exclusions of Findings**

This asbestos survey and assessment was performed using procedures and a level of diligence typically exercised by professional performing similar services. However, asbestos-containing material (ACM) can be present in a structure, but not identified using ordinary investigative procedures.

No asbestos survey can completely eliminate uncertainty regarding the presence of ACM. The level of diligence and investigative procedures are intended to reduce, but not eliminate, potential uncertainty regarding the presence of ACM.

The only way to tell if an object contains asbestos by looking at it is if the material is labeled. Otherwise, you should have it sampled and analyzed by a qualified professional. Until you receive the results, treat the material as if it contains asbestos. Samples should be extracted only by qualified professionals. If improperly done, extracting samples can be more hazardous than leaving the material undisturbed.

**3.3 Indoor air quality and HVAC Systems-** The armory is heated and cooled through a central air system. The Department of Military Affairs (DMA) maintains the HVAC system.

Building air temperature, within this facility, was in the comfort range for the occupants during this survey period. The day of the survey it was 62 degrees Fahrenheit outside. Inside air temperature is recommended to be between 68-75 degrees Fahrenheit and the relative humidity is to range from 30-60%. The indoor temperature was 72-75 degrees Fahrenheit. Humidity levels above 60 percent can result in proliferation of bacteria and fungi, while levels below 30 percent can cause dry eyes, skin, and mucous membranes. There were no signs of water leakage.

**3.4. Exhaust and Ventilation Systems-** The Las Cruces Armory maintenance bay is only used on drill weekend for preventive maintenance. All vehicle maintenance is done in FMS 2, located next door. They do not have an exhaust system in the maintenance bay. The eye wash is tested on drill weekend but is not documented.

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Las Cruces Armory**

**Recommendation:** Document and check eye wash on a weekly basis (ANSI Z87.1)

Air flow was measured in the industrial kitchen under the hood of the oven. Air flow was measured at 860 fpm. This kitchen exhaust duct meets the 2011 National Fire Protection Association Standard 96, Section 8.2.1.1, which requires exhaust fan ducts used in commercial cooking equipment to have a duct velocity of not less than 500 fpm.

**3.5. Hazardous Materials Use and Storage-** All Hazmat and POL's are stored and maintained at FMS 2, located next door to the armory.

Small quantities of cleaning products, utilized by the workers, were located in the janitors' closet. Arms custodians, for cleaning purposes, should be utilizing user and environmental friendly products, while the more harmful products should be properly disposed of. A well-ventilated area should be utilized when using any solvent products, along with the appropriate Personal Protective Equipment (PPE) as designated on the MSDS information sheets. The MSDS was updated and very well organized. However, it has not yet been updated to the new SDS format.

**Recommendation:** Update all MSDS for the facility with the new SDS format by June 2016 (CFR 1910.120)

**3.6. Physical Safety and Condition of Facility-** A physical walk through of the facility was conducted. Overall, housekeeping was found to be in above average condition. Electrical breaker boxes were properly labeled and accessible.

This 1990's building is of concrete block and brick construction with a concrete roof over the drill hall, tar and rock composite on remaining roof area.

The fire extinguishers within this facility are part of the fire suppression available and should be tested annually and inspected monthly. NFPA 10, 27-3.4.1 addresses alarm systems and 29 CFR 1910.157 addresses inspection requirements for fire extinguishers. Annual inspections should be accomplished by a qualified organization, e.g., fire department, and checked and documented monthly by the facilities personnel. The fire extinguishers were found to be up to date on annual and monthly inspections.

**3.7. Sound Level Survey-** A noise survey was not conducted in the Richfield Armory. No noise hazards were noted in the facility.

**3.8. Illumination Survey-** Illumination levels that were measured throughout the armory office and classroom areas can be found on the floor plan in Appendix D. The numbers represent the illumination level in foot-candles (FC). In general, the measurements were taken at task surface level, such as on desks. Measurements not taken on a desk were taken at waist level.

Illumination measurements were compared with recommendations made by the Industrial Engineering Society (IES)/American National Standards Institute (ANSI) RP7-1991. In general,

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**Las Cruces Armory**

IES recommends a range of 50 to 100 foot-candles as the minimum lighting requirements for performance of visual tasks of medium contrast or small size, such as would typically occur in an office area.

Based on these criteria, the general lighting appears to be adequate in most of the office spaces. Inadequate light levels may place strain on the eyes and cause headaches or vision problems. With an aging work force in place, task lighting can help reduce the vision problems associated with inadequate lighting.

**3.9. Safety Policies, Training, and Record Keeping** – The following safety policies and procedures were found at this site: Hazcom, OSHA compliance, SDS, bi annual fire drill and emergency evacuation.

#### **4.0 Industrial Hygienist Certification and Project Limitations**

All Industrial Hygiene Assessment techniques and tests used in the Industrial Hygiene survey of the Army National Guard Armories were reviewed by Non-Responsive Industrial Hygiene Southwest National Guard Bureau at (916) 854-1492.

This Project was performed using, as a minimum, practices consistent with standards acceptable within the industry at this time, and a level of diligence typically exercised by industrial hygiene and environmental consultants performing similar services.

The procedures used in this investigation attempt to establish a balance between the competing goals of limiting investigative and reporting costs and time, and reducing the uncertainty about unknown conditions. Therefore, because the findings of this report were derived from the scope, costs, time, and other limitations, the conclusions should not be construed as a guarantee that all environmental or occupational hazards have been identified and fully evaluated. Where sample collection and testing have been performed, Aloha World's professional opinions are based in part on the interpretation of data from discrete sampling locations that may not represent conditions at non-sampled locations. Aloha World assumes no responsibility for omissions or errors resulting from inaccurate information or data provided by sources outside of Aloha World, or from omissions or errors in public records.

Furthermore, it is emphasized that the final decision on how much risk to accept always remains with the client since Aloha World is not in a position to fully understand all of the client's needs. Clients with a greater aversion to risk may want to take additional actions while others, with less aversion to risk, may want to take no further action.

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## 5.0. Technical Assistance

For technical assistance regarding information found in this report or the performed survey, please contact **Non-Responsive** of the Southwest Regional Industrial Hygiene Office-(916) 854 1492. Contact the State Safety, State Industrial Hygiene and Occupational Health Office and/or the Regional Industrial Hygienist should any of the operations change, or should the personnel become incapable of following the previous recommendations and subsequent recommendations that are needed.

**Non-Responsive** IH Tech  
Aloha World Environmental

Aloha World



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Industrial Hygiene Survey  
Las Cruces Armory

## Appendix A: References

American Conference of Governmental Industrial Hygienists (ACGIH), Industrial Ventilation, A Manual of Recommended Practice, 23 Edition, 1998.

American Conference of Governmental Industrial Hygienists (ACGIH), Threshold Limit Values for Chemical Substances and Physical Agents and Biological Indices for 1998.

American National Standards Institute (ANSI)/Illuminating Engineering Society (IES), Industrial Lighting 1991.

American National Standards Institute, Z358. 1-1998. Emergency Eyewash and Shower Equipment 1998.

AR 40-5, Preventative Medicine, 15 October 1990.

AR 385-10, The Army Safety Program, 23 May 1988.

Corps of Engineers Guide Specification, CEGS-1585 1, Overhead vehicle tailpipe (and welding fume) Exhaust Systems, May 1984.

DA PAM 40-ERG, Ergonomics

DA PAM 40-501, Hearing Conservation, 27 August 1991.

National Safety Council, Fundamentals of Industrial Hygiene, 4~ edition, 1996.

NOR 385-10, Army National Guard Safety and Occupational Health Program, 29 December 1989.

TB MED 503, The Army Industrial Hygiene Program, February 1985.

TG022, US Army Environmental Hygiene Agency (USAEHA), Industrial Hygiene Evaluation Guide, October 1975

TG 141, US Army for Health Promotion and Preventive Medicine (USACHPPM) Industrial Hygiene Air Sampling Guide, Nov. 1997

Title 29, Code of Federal Regulations (CFR), 1998, revision Part 1910, Occupational Safety and Health Standards

Title 29, Code of Federal Regulations (CFR), 1998, revision Part 1926, Construction Standards

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## **Appendix B: Assessment Criteria**

### **A. Ventilation Standards**

Ventilation rates were compared to recommendations made in the ACGIH Industrial Ventilation Manual and Corps of Engineers specifications. See Appendix A for reference information.

### **B. Illumination Standards**

Illumination measurements were compared with recommendations made by the Industrial Engineering Society (IES)/American National Standards Institute (ANSI) RP7-1991 Standard and MIL-STD1472E.

### **C. Noise**

Noise measurements were taken and compared with OSHA Standard 29 CFR 1910.95 and Department of the Army Pamphlet 40-501.

### **D. Air Sampling**

Personal air sampling, if conducted, was in compliance with applicable NIOSH Analytical Methods. Sampling results were compared to relevant Occupational Safety and Health Administration (OSHA) Permissible Exposure Limits (PEL), American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLV), or National Institute of Occupational Safety and Health (NIOSH) Recommended Exposure Limits (REL).

### **E. Risk Assessment Codes**

Risk Assessment Codes (RACs) are included in this report to quantify the risk of particular operations to employees and to establish funding priorities for corrective actions. RACs are assigned with regard to hazard severity and mishap probability. The type, length, and route of exposure are taken into consideration, as are the medical effects that would occur with such exposures.

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**Photo Log**



Photo #1 – Las Cruces Armory



Photo #2- North drill hall wipe



Photo #3- Center drill hall wipe



Photo #4- South drill hall wipe



Photo #5 – West drill hall wipe



Photo #6 – East drill hall wipe

**Photo Log**



Photo #7 – North CIFR wipe

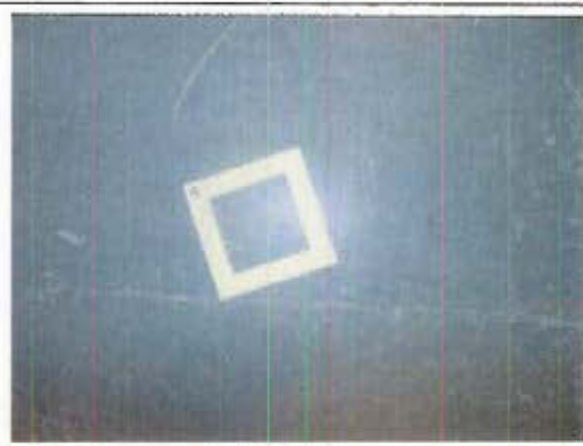


Photo #8- Center CIFR wipe



Photo #9 – South CIFR wipe



Photo #10 – West CIFR wipe



Photo #11 –East CIFR wipe



Photo #12 –Drill Hall



**Photo Log**



Photo #13 – Maintenance bay



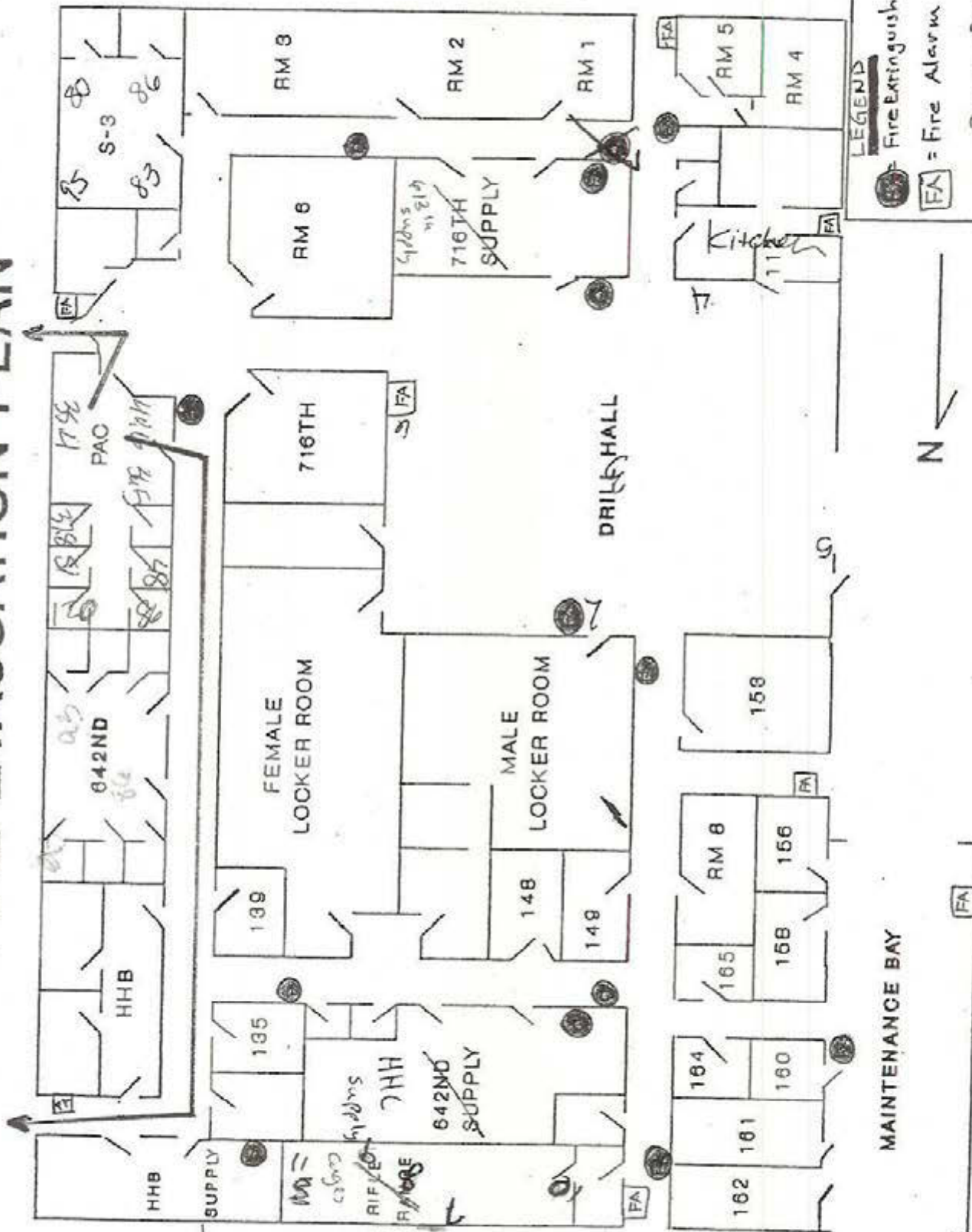
Photo #14-Janitorial closet



Photo #15 – SDS

# FIRE EVACUATION PLAN

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1. Last person leaving room close door.



**RESERVOIRS ENVIRONMENTAL, INC.**  
**5801 Logan St., Suite 100**  
**Denver CO 80216**

**TABLE ANALYSIS: LEAD BY WIPE SAMPLING**

RES Job Number: RES 303545-1  
Client: Aloha World  
Client Project Number / P.O.: 101114  
Client Project Description: Las Cruces Armory  
Date Samples Received: October 21, 2014  
Analysis Type: USEPA SW846 3050B / AA (7420)  
Turnaround: 3-5 Day  
Date Samples Analyzed: October 23, 2014

Client ID Number	Lab ID Number	Sample Area (sq.ft.)	LEAD (µg)	Reporting Limit (µg/ft <sup>2</sup> )	LEAD CONCENTRATION (µg/ft <sup>2</sup> )
101114-1 Bathroom	EM 1280820	0.11	BRL	22.7	BRL
101114-2 North Drill Hall	EM 1280821	0.11	BRL	22.7	BRL
101114-3 Center Drill Hall	EM 1280822	0.11	BRL	22.7	BRL
101114-4 South Drill Hall	EM 1280823	0.11	BRL	22.7	BRL
101114-5 West Drill Hall	EM 1280824	0.11	BRL	22.7	BRL
101114-6 East Drill Hall	EM 1280825	0.11	BRL	22.7	BRL
101114-7 North CIFR	EM 1280826	0.11	7.3	22.7	66.4
101114-8 Center CIFR	EM 1280827	0.11	BRL	22.7	BRL
101114-9 South CIFR	EM 1280828	0.11	3.7	22.7	33.6
101114-10 West CIFR	EM 1280829	0.11	5.1	22.7	46.4
101114-11 East CIFR	EM 1280830	0.11	BRL	22.7	BRL

\*Calculations Based On A 1 sq.ft. Sample Area Unless Otherwise Noted

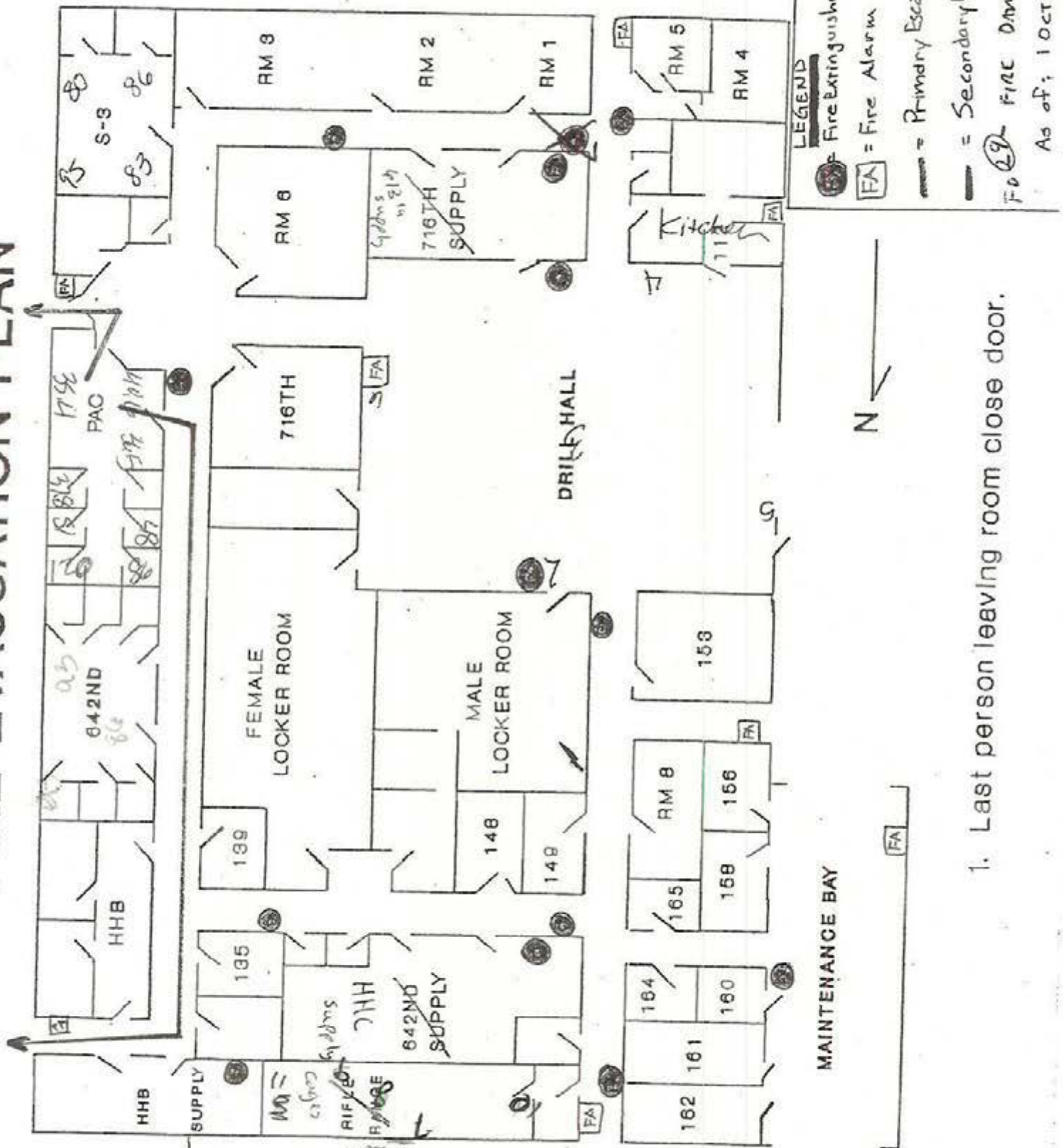
\* Unless otherwise noted all quality control samples performed within specifications established by the laboratory.

BRL = Below Reporting Limit

Data QA

Non-Responsive

# FIRE EVACUATION PLAN





**LAS CRUCES ARMORY**  
**Las Cruces, New Mexico**

**PERSONNEL**

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Non-Responsive

# **Army National Guard Armory Survey** **(To Be Included In Report)**

Five lead wipe samples collected from drill floor (take samples from dusty horizontal floor surfaces)	✓
Are any weapons cleaned in the facility, if yes where are they cleaned?	yes
Additional lead wipe samples taken from 25% of the rest of the building - (on floor areas only)	✓
Is there a converted indoor firing range? If so collect additional wipe samples IAW the SOW.	yes - never used
Is there any peeling paint? Take bulk sample if able.	no
Are there any signs of water damage or mold?	none
Any suspected ACM? Where and what condition is it in. Bulk sample if able.	no
Quality of housekeeping	good
HVAC maintenance plan in place?	state maintenance
Overall condition of HVAC system	good
Obtained CO2, Temp, RH monitoring	60° out 73° in kitchen - swamp cooler - hot
HAZMAT inventory on hand (make copies for the report), MSDS available for all materials.	<div>✓</div> <div>MSDS organized</div>
HAZMAT storage, Condition of lockers, if outside storage building is used is it ventilated and does it meet OSHA standards.	<div>none all</div> <div>FMS #2</div>



Fire alarm in working condition - -not usually in place in older armories	yes
Fire extinguishers in place and properly identified and mounted	yes
Evidence of monthly fire extinguisher inspections	yes
Annual fire extinguisher inspections tags current	yes
Are eye wash stations available in areas where hazardous materials are used and are they inspected weekly (inspections must be documented)	maint only used on drill - checked weekly @ drill
Egress routes accessible and properly marked - -noted on <u>Fire Evacuation Plan</u>	yes
Training programs in place; Hazcom, Respiratory Protection, Confined Spaces, Hearing conservation, PPE (if applicable)	hazcom, OSHA comp., SDS, biannual fire drill & emerg evac.
Any Photo labs	✓
Any hazardous noise sources	no
Light levels checked throughout building	✓
Breaker panels properly labeled with no exposed wiring	good
Check building occupancy 1. How many military personnel, how many civilian personnel 2. What types of units occupy facility, i.e. Administrative, Maintenance, etc.?	
Any civilian activities in armory (cub scouts, classes, day care, parties etc)	sherriffs dept academy - drill halls & parties restrooms
Obtain two lead air samples	On IHSW Request Only

Evaluate Kitchen Stove Hood Flow if Present IAW NFPA Standard 96.	860
Collect Source Noise Measurements of Kitchen Appliances and Document Using DD 2214	n/a
Conduct a safety walkthrough of entire facility document any safety deficiencies found.	✓
<b>Take photos</b> of outside of building, all sample points and any pertinent hazards or concerns.	✓
Name of Armory, POC, phone #, address and organizations in Armory	Non-Responsive
(Add Checklist to Report)	(Add Checklist to Report)



## Table of Contents (MSDS)

1. Buffer Pads
2. Prime Source/Shine-On Spray Buff *\*Carrot Spray Buff*
3. Simple Green
4. Paper Towels
5. Toilet Paper
6. Citrus Solv- Degreaser
7. Frequency 64- Neutral Disinfectant
8. Johnson Wax Professional- floor wax
9. Power Green
10. Reflecta- Neutral Floor Cleaner
11. Ajax
12. Glass cleaner
13. Toilet Bowl Cleaner
14. Aerosol Oxide Plus Disinfectant
15. Mop heads
16. Gloves
17. Toilet blocks
18. Urinal screens
19. Abrasive pads
20. Scouring bricks
21. Trash Bags
22. Hand Soap
23. Solar Crystals/ Water Softening Salt



**Industrial Hygiene Southwest**  
**Violation Inventory Log**  
**LOG OF SCHEDULE OF CORRECTIVE ACTION - COMPLIANCE WITH SAFETY AND HEALTH STANDARDS**  
**LAS CRUCES ARMORY, NEW MEXICO 88007**

CONTROL NUMBER	HAZARD DESCRIPTION	SITE	RAC	CORRECTIVE ACTIONS (Abatement Plan)	SUSPENSE DATE	ACTION OIC/NCOIC	Estimated Cost(s)	DATE CORRECTED	REFERENCES
<input checked="" type="checkbox"/> NMLCA-10142014-3.1	Wipe sampling collected from within the space identified as an IFR returned with elevated (> 40 ug/ft2) lead levels.	IFR	3	Occupational Safety and Health Administration (OSHA) standard for lead: 1910.1025 (h)(1) require that all surfaces shall be maintained as free as practicable of accumulations of lead. Any area that exceeds 40 ug/ft2 should be thoroughly decontaminated. Utilize Clean-Up SOP provided in the report for future cleaning episodes.					Occupational Safety and Health Administration (OSHA) standard for lead: 1910.1025 (h)(1)
<input type="checkbox"/> NMLCA-10142014-3.0	Wipe samples collected in other areas of the facility returned results below the 40 ug/ft2 threshold.	Armory	RAC NOT ASSIGNED	Recommend continued cleaning within the administrative offices, kitchen, and communal areas to maintain lead particulate concentrations below the ARNG standard of 40ug/ft2. Utilize the enclosed Clean-up SOP as a guide to assist with the prevention efforts. Ensure personnel clean-up area(s) and tables after weapons cleaning activities. Tables used for weapons cleaning should be marked, "For Weapons Cleaning Only," when utilized as such.					DDOI 6055.01 Appendix to Enclosure 4 date 14 OCT 2014





**Industrial Hygiene Southwest**  
***Violation Inventory Log***  
 LOG OF SCHEDULE OF CORRECTIVE ACTION - COMPLIANCE WITH SAFETY AND HEALTH STANDARDS  
 LAS CRUCES ARMORY, NEW MEXICO 88007

CONTROL NUMBER	HAZARD DESCRIPTION	SITE	RAC	CORRECTIVE ACTIONS (Abatement Plan)	SUSPENSE DATE	ACTION OIC/NCIC	Estimated Cost(s)	DATE CORRECTED	REFERENCES
NMCA-10142014 3.2	During this IHSAV an Asbestos Containing Material (ACM) Management Plan could not be located.	Armory	4	Conduct a facility survey to identify Asbestos Containing Material (ACM) within the facility and develop ACM Management Plan. Conduct awareness training to all personnel who occupy, or frequent the facility as it relates to the findings and the ACM Management Plan. The survey may have been completed, however, at the time of this assistance visit, awareness training, ACM identification, or an ACM Management Plan was not available.					29 CFR 1910.1001
NMCA-10142014-3.4	Documentation could not be located to determine if the Emergency Eyewash/Deluge Shower system is being inspected/checked weekly.	Armory	4	Document on inspection tag and check eye wash on a weekly basis					ANSI Z358.1-2009
NMCA-10142014-3.5	MSDS's are still used at the facility listing the harmful chemicals/products within the facility. The new format, Safety Data Sheets (SDS), should be utilized to comply with the current Hazard Communication Program requirements.	Armory	4	Update current chemical inventory list and acquire all current SDS's for the hazardous materials used/maintained in this facility.					29 CFR 1910.1200

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