



Manufacturer: KONICA MINOLTA
 Serial Number: 00279019

Model Number TL-1
 Calibration Date: 6/22/14

Function / Range	Nominal Value	As Found	Result	As Left	Result	Min	Max	Units	UNC
ILLUMINANCE									
	10	10.04	Pass	Same	Pass	9.49	10.51	fc	
	100	100.10	Pass	Same	Pass	94.9	105.1	fc	
	1000	950.00	Pass	Same	Pass	950	1060	fc	

Datasheets may contain measurements that are not covered by the Scope of Accreditation. These measurements are indicated by a pound sign (#).

*****END OF MEASUREMENT REPORT*****



Certificate of Calibration

Certificate No: 1103361QI9010057

Submitted By: IHSW-NGB
10510 SUPERFORTRESS AVE
MATHER, CA 95655

Serial Number: QI9010057
Customer ID:
Model: QC-10 CALIBRATOR
Test Conditions:

Date Received: 5/21/2013
Date Issued: 6/3/2013
Valid Until: 6/3/2014

Model Conditions:

Temperature: 18°C to 29°C
Humidity: 20% to 80%
Barometric Pressure: 890 mbar to 1050 mbar

As Found: IN TOLERANCE
As Left: IN TOLERANCE

SubAssemblies:

Description:

Serial Number:

Calibration Procedure: 56V981

Reference Standard(s):

I.D. Number	Device
ET0000556	B&K ENSEMBLE
T00230	FLUKE 45 MULTIMETER

Last Calibration	Date Calibration Due
6/24/2012	6/24/2013
2/2/2012	2/2/2014

Measurement Uncertainty:

+/- 1.1% ACOUSTIC (0.1DB) +/- 1.4% VAC +/- 0.012% HZ
Estimated at 95% Confidence Level (k=2)

Calibrated By:

Non-Responsive

5/3/2013

Reviewed/Approved By:

5/3/2013

This report certifies that all calibration equipment used in the test is traceable to NIST or other NMI, and applies only to the unit identified under equipment above. This report must not be reproduced except in its entirety without the written approval of 3M Detection Solutions.



Certificate of Calibration

Certificate No: 1104381DCF010012

Submitted By: IHSW-NGB
10510 SUPERFORTRESS AVE
MATHER, CA 95655

Serial Number: DCF010012
Customer ID:
Model: 210 SLM

Date Received: 7/1/2013
Date Issued: 7/12/2013
Valid Until: 7/12/2014

Test Conditions:

Temperature: 18°C to 29°C
Humidity: 20% to 80%
Barometric Pressure: 890 mbar to 1050 mbar

Model Conditions:

As Found: OUT OF TOLERANCE
As Left: IN TOLERANCE

SubAssemblies:

Description:

Serial Number:

Calibration Procedure: 53V904

Reference Standard(s):

I.D. Number	Device
ET0000453	FLUKE 45 MULTIMETER
ET0000556	B&K ENSEMBLE

Last Calibration Date	Calibration Due
2/18/2013	2/18/2015
10/13/2012	10/13/2013

Measurement Uncertainty:

+/- 2.2% ACOUSTIC (0.19DB) +/- 1.4% VAC +/- 0.1% VDC
Estimated at 95% Confidence Level (k=2)

Calibrated By:

Reviewed/Approved By:



7/12/2013

7/12/2013

This report certifies that all calibration equipment used in the test is traceable to NIST or other NMI, and applies only to the unit identified under equipment above. This report must not be reproduced except in its entirety without the written approval of 3M Detection Solutions.



MICRO PRECISION CALIBRATION
22835 INDUSTRIAL PLACE
GRASS VALLEY CA 95949
530-268-1860

Certificate of Calibration

Date: Oct 10, 2013

Cert No. 220081202166631

Customer:

NETWORK ENVIRONMENTAL
1141 SIBLEY STREET
FOLSOM CA 95630

Work Order #: SAC-70062158

MPC Control #: CD3921
Asset ID: 1245
Gage Type: IAQ METER W/PROBE
Manufacturer: TSI
Model Number: 8551
Size: N/A
Temp/RH: 68.8°F / 34.5 %

Serial Number: 51380
Department: N/A
Performed By: BARRY MORRIS
Received Condition: IN TOLERANCE
Returned Condition: IN TOLERANCE
Cal. Date: October 10, 2013
Cal. Interval: 12 MONTHS
Cal. Due Date: October 10, 2014

Calibration Notes:

Standards Used to Calibrate Equipment

I.D.	Description.	Model	Serial	Manufacturer	Cal. Due Date	Traceability #
AV2338	GAS TEST KIT	58L-400	BAL-400-2	GASCO AFFILIATES LLC	Nov 1, 2013	914776
AV5000	ENVIRONMENTAL CHAMBER	BTX-475	0612421	ESPEC	Nov 26, 2013	2008120224653

Procedures Used in this Event

Procedure Name
MANUFACTURER

Description
MANUAL REV CONTROL

Calibrating Technician:

Non-Responsive

QC Approval:

Non-Responsive

The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor $k=2$, which for normal distribution corresponds to a coverage probability of approximately 95%. The standard uncertainty of measurement has been determined in accordance with EA's Publication and NIST Technical Note 1297, 1994 Edition. Services rendered comply with ISO 17025:2005, ISO 9001:2008, ANSI/NCCL Z540-1, MPC Quality Manual, MPC CSD and with customer purchase order instructions.

Calibration cycles and resulting due dates were submitted/approved by the customer. Any number of factors may cause an instrument to drift out of tolerance before the next scheduled calibration. Recalibration cycles should be based on frequency of use, environmental conditions and customer's established systematic accuracy. The information on this report, pertains only to the instrument identified.

All standards are traceable to SI through the National Institute of Standards and Technology (NIST) and/or recognized national or international standards laboratories. Services rendered include proper manufacturer's service instruction and are warranted for no less than thirty (30) days. This report may not be reproduced in part or in a whole without the prior written approval of the issuing MPC lab.



Certificate of Calibration



7535560

Certificate Page 1 of 1

Instrument Identification

Company ID: 607229

PO Number: **Non-Responsive**

INDUSTRIAL HYGIENE SW

Non-Responsive

10510 SUPERFORTRESS AVE

SUITE C

MATHER, CA 95655

Instrument ID: 97100136

Model Number: 8360

Manufacturer: TSI

Serial Number: 97100136

Description: AIR VELOCITY METER

Certificate Information

Reason For Service: CALIBRATION

Type of Cal: NORMAL

As Found Condition: IN TOLERANCE

As Left Condition: IN TOLERANCE

Procedure: 33K6-4-1769-1 AIR VELOCITY, TEMPERATURE, FLOW METERS

Remarks: A test uncertainty ratio (TUR) of 3:1 was maintained for air velocity.

Technician: DANIEL OLSEN

Cal Date 03Jul2013

Cal Due Date: 03Jul2014

Interval: 12 MONTHS

Temperature: 23.0 C

Humidity: 55.0 %

Tektronix certifies the performance of the above instrument has been verified using test equipment of known accuracy, which is traceable to National Metrology Institutes (NIST, NPL, PTB) that are linked to the International System of Units (SI). The policies and procedures used comply with ANSI/NCCL Z540.1-1994 (R2002).

This certificate shall not be reproduced, except in full, without the written permission of Tektronix.

Approved By: **Non-Responsive**
Service Representative

Calibration Standards

NIST Traceable#	Inst. ID#	Description	Manufacturer	Model	Cal Date	Date Due
7407100	38-1004139	AIR VELOCITY SYSTEM	OMEGA	WT4401-S	01Jun2012	01Jun2015
7439884	38-1005714	DATA ACQUISITION/SWITCH UNIT	AGILENT / HP	34970A	05Jun2013	05Jun2014
7444490	38-1018828	TEMP/HUMIDITY PROBE	VAISALA	HMP45A	06Jun2013	06Jun2014
7449074	38-1037024	BAROMETRIC TRANSDUCER	OMEGA	PK02K1-28A5T	07Jun2013	07Jun2014

9639 Interocean Drive • Cincinnati, OH 45246 • Phone: 513-870-4730 • Fax: 513-874-7752

TABLE 1
LEAD WIPE SAMPLE RESULTS
READINESS CENTER
ROSWELL, NM
JUNE 12, 2014

Sample Number	Sample Area	Sample Location	Results ($\mu\text{g}/\text{ft}^2$)	ARNG Standard ($\mu\text{g}/\text{ft}^2$)
61214-32-A	Drill Floor	Southeast corner, floor	< 1.3	≤ 40
61214-32-B	Drill Floor	Southwest corner, floor	< 1.3	≤ 40
61214-32-C	Drill Floor	Center, floor	1.5	≤ 40
61214-32-D	Drill Floor	Northeast corner, floor	1.4	≤ 40
61214-32-E	Drill Floor	Northwest corner, floor	< 1.3	≤ 40

$\mu\text{g}/\text{ft}^2$ = micrograms per square foot

ARNG = Army National Guard

Bold = Above ARNG Standard limit



BEST AVAILABLE COPY

ANALYTICAL REPORT

Report Date: June 24, 2014

Non-Responsive

Network Environmental Systems, Inc.
1141 Sibley Street
Folsom, CA 95630

Phone: (916) 353-2370 x 20

Fax: (916) 353-2375

Non-Responsive

Workorder: 34-1416949

Client Project ID: 013.IH1716.32/Roswell NM

Purchase Order: 013.IH1716.32

Project Manager: **Non-Responsive**

Analytical Results

Sample ID: 61214-32-A		Collected: 06/12/2014	
Lab ID: 1416949001		Received: 06/18/2014	
Method: NIOSH 7300 Mod.		Media: Ghost Wipe	
		Sampling Parameter: Area 1 ft ²	
Prepared: 06/20/2014		Analyzed: 06/23/2014	
Analyte	ug/sample	ug/ft ²	RL (ug/sample)
Lead	<1.3	<1.3	1.3

Sample ID: 61214-32-B		Collected: 06/12/2014	
Lab ID: 1416949002		Received: 06/18/2014	
Method: NIOSH 7300 Mod.		Media: Ghost Wipe	
		Sampling Parameter: Area 1 ft ²	
Prepared: 06/20/2014		Analyzed: 06/23/2014	
Analyte	ug/sample	ug/ft ²	RL (ug/sample)
Lead	<1.3	<1.3	1.3

Sample ID: 61214-32-C		Collected: 06/12/2014	
Lab ID: 1416949003		Received: 06/18/2014	
Method: NIOSH 7300 Mod.		Media: Ghost Wipe	
		Sampling Parameter: Area 1 ft ²	
Prepared: 06/20/2014		Analyzed: 06/23/2014	
Analyte	ug/sample	ug/ft ²	RL (ug/sample)
Lead	1.5	1.5	1.3

Sample ID: 61214-32-D		Collected: 06/12/2014	
Lab ID: 1416949004		Received: 06/18/2014	
Method: NIOSH 7300 Mod.		Media: Ghost Wipe	
		Sampling Parameter: Area 1 ft ²	
Prepared: 06/20/2014		Analyzed: 06/23/2014	
Analyte	ug/sample	ug/ft ²	RL (ug/sample)
Lead	1.4	1.4	1.3

ADDRESS 960 West LeVoy Drive, Salt Lake City, Utah, 84123 USA PHONE +1 801 266 7700 FAX +1 801 268 9992

ALS GROUP USA, CORP. An ALS Limited Company

Environmental

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Posted to NGB FOIA Reading Room

BEST AVAILABLE COPY

FOIA Requested Record #J-15-0085 (NM)

IHREP-V11.2

Page 1 of 4 May, 2018

Tue, 06/24/14 10:59 AM

Released by National Guard Bureau
Page 1237 of 1628



BEST AVAILABLE COPY

ANALYTICAL REPORT

Workorder: 34-1416949

Client Project ID: 013.IH1716.32/Roswell NM

Purchase Order: 013.IH1716.32

Project Manager: Non-Responsive

Analytical Results

Sample ID: 61214-32-E		Collected: 06/12/2014	
Lab ID: 1416949005		Received: 06/18/2014	
Method: NIOSH 7300 Mod.		Media: Ghost Wipe	
		Sampling Parameter: Area 1 ft ²	
Prepared: 06/20/2014		Analyzed: 06/23/2014	
Analyte	ug/sample	ug/ft ²	RL (ug/sample)
Lead	<1.3	<1.3	1.3

Sample ID: 61214-32-F		Collected: 06/12/2014	
Lab ID: 1416949006		Received: 06/18/2014	
Method: NIOSH 7300 Mod.		Media: Ghost Wipe	
		Sampling Parameter: Area 1 ft ²	
Prepared: 06/20/2014		Analyzed: 06/23/2014	
Analyte	ug/sample	ug/ft ²	RL (ug/sample)
Lead	4.1	4.1	1.3

Sample ID: 61314-32-G		Collected: 06/13/2014	
Lab ID: 1416949007		Received: 06/18/2014	
Method: NIOSH 7300 Mod.		Media: Ghost Wipe	
		Sampling Parameter: Area 4 in ²	
Prepared: 06/20/2014		Analyzed: 06/23/2014	
Analyte	ug/sample	ug/ft ²	RL (ug/sample)
Lead	4.2	150	1.3

Sample ID: 61314-32-H		Collected: 06/13/2014	
Lab ID: 1416949008		Received: 06/18/2014	
Method: NIOSH 7300 Mod.		Media: Ghost Wipe	
		Sampling Parameter: Area 4 in ²	
Prepared: 06/20/2014		Analyzed: 06/23/2014	
Analyte	ug/sample	ug/ft ²	RL (ug/sample)
Lead	1.3	48	1.3

Sample ID: 61314-32-I		Collected: 06/13/2014	
Lab ID: 1416949009		Received: 06/18/2014	
Method: NIOSH 7300 Mod.		Media: Ghost Wipe	
		Sampling Parameter: Area 4 in ²	
Prepared: 06/20/2014		Analyzed: 06/23/2014	
Analyte	ug/sample	ug/ft ²	RL (ug/sample)
Lead	76	2700	1.3

Sample ID: 61314-32-J		Collected: 06/13/2014	
Lab ID: 1416949010		Received: 06/18/2014	
Method: NIOSH 7300 Mod.		Media: Ghost Wipe	
		Sampling Parameter: Area 4 in ²	
Prepared: 06/20/2014		Analyzed: 06/23/2014	
Analyte	ug/sample	ug/ft ²	RL (ug/sample)
Lead	56	2000	3.8



BEST AVAILABLE COPY

ANALYTICAL REPORT

Workorder: **34-1416949**
Client Project ID: 013.IH1716.32/Roswell NM
Purchase Order: 013.IH1716.32
Project Manager: **Non-Responsive**

Analytical Results

Sample ID: 61314-32-K		Collected: 06/13/2014	
Lab ID: 1416949011		Received: 06/18/2014	
Method: NIOSH 7300 Mod.		Media: Ghost Wipe	
		Sampling Parameter: Area 4 in ²	
		Prepared: 06/20/2014	
		Analyzed: 06/23/2014	
Analyte	ug/sample	ug/ft ²	RL (ug/sample)
Lead	60	2200	3.8

Sample ID: 61314-32-L		Collected: 06/13/2014	
Lab ID: 1416949012		Received: 06/18/2014	
Method: NIOSH 7300 Mod.		Media: Ghost Wipe	
		Sampling Parameter: Area 1 ft ²	
		Prepared: 06/20/2014	
		Analyzed: 06/23/2014	
Analyte	ug/sample	ug/ft ²	RL (ug/sample)
Lead	7.6	7.6	1.3

Sample ID: 61314-32-M		Collected: 06/13/2014	
Lab ID: 1416949013		Received: 06/18/2014	
Method: NIOSH 7300 Mod.		Media: Ghost Wipe	
		Sampling Parameter: Area 1 ft ²	
		Prepared: 06/20/2014	
		Analyzed: 06/23/2014	
Analyte	ug/sample	ug/ft ²	RL (ug/sample)
Lead	14	14	1.3

Comments

Sample: 1416949010

Lead was reported from 3X dilution data for this sample because of interferences. The reporting limit was raised proportionately to the reported dilution level.

Sample: 1416949011

Lead was reported from 3X dilution data for this sample because of interferences. The reporting limit was raised proportionately to the reported dilution level.

Report Authorization

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

Laboratory Contact Information

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

Phone: (801) 266-7700
Email: als@lab@ALSGlobal.com
Web: www.alssc.com



ANALYTICAL REPORT

Workorder: 34-1416949

Client Project ID: 013.IH1716.32/Roswell NM

Purchase Order: 013.IH1716.32

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

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.

NA = Not Applicable.

** 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.



1416949



ANALYTICAL REQUEST FORM

1. ☒ REGULAR Status
☐ RUSH Status Requested - ADDITIONAL CHARGE
 RESULTS REQUIRED BY _____ DATE _____

CONTACT ALS SALT LAKE PRICE

Non-Responsive2. Date 6-12-14 Purchase Order No. 013.1H1716.323. Company Name NESAddress 1141 Sibley St.
Folsom Ca 95630

Person to Contact

Telephone

Fax Telephone

E-mail Address

Billing Address (if different from above)

Same

4. Quote No. _____

ALS Project Manager _____

5. Sample Collection

Sampling Site Roswell NMIndustrial Process Readiness CenterDate of Collection 6-12-14Time Collected 4pmDate of Shipment 6-16-14Chain of Custody No. Same

6. How did you first learn about ALS? _____

7. REQUEST FOR ANALYSES

Laboratory Use Only	Client Sample Number	Matrix	Sample Volume	ANALYSES REQUESTED - Use method number if known	Units**
	61214-32-A	Wipe Area	1ft ²	Lead by 7300	
	61214-32-B				
	61214-32-C				
	61214-32-D				
	61214-32-E				
	61214-32-F				
	61314-32-G		4in ²		
	61314-32-H		4in ²		
	61314-32-I		4in ²		
	61314-32-J		4in ²		
	61314-32-K		4in ²		
	61314-32-L		1ft ²		
	61314-32-M		1ft ²		

* Specify: Solid sorbent tube, e.g. Charcoal; Filter type; Impinger solution; Bulk sample; Blood; Urine; Tissue; Soil; Water; Other

** 1. µg/sample 2. mg/m³ 3. ppm 4. % 5. µg/m³ 6. _____ (other) Please indicate one or more units in the column entitled Units**

Comments _____

Possible Contaminants

7. Chain of Custody

Relinquished by

Date/Time

Received by

Date/Time

Relinquished by

Date/Time

Received by

Date/Time

960 West LeVoy Drive / Salt Lake City, UT 84123

800-356-9135 or 801-266-7700 / FAX: 801-268-9992

ALS Environmental



Industrial Hygiene Southwest

Violation Inventory Log

LOG OF SCHEDULE OF CORRECTIVE ACTION - COMPLIANCE WITH SAFETY AND HEALTH STANDARDS Readiness Center - Roswell, New Mexico

BEST AVAILABLE COPY

CONTROL NUMBER CLOSED <input type="checkbox"/>	HAZARD DESCRIPTION	SITE	RAC	CORRECTIVE ACTIONS (Abatement Plan)	SUSPENSE DATE	ACTION OIC/NCOIC	Estimated Cost(s)	DATE CORRECTED	REFERENCES
NMRR- 06122014-4.7	Hazardous noise was identified in the kitchen, but no hazard postings were present	Kitchen	4	Research / implement means to reduce the noise of the range canopy hood - OR - post warning signage on the exhaust hood of noise levels exceeding 85 dBA					DA PAM 40-501 Ch 1-4(f)(1)
NMRR- 06122014-4.8	Illumination levels were insufficient for activities performed	Facility - multiple locations	4	Increase lighting to provide the necessary 50 foot candles in areas requiring reading & 30 foot candles in the Assembly Hall					ANSI RP7-1991 Standard and MIL-STD-1472E
NMRR- 06122014-5.3	Suspected asbestos containing building materials; inspection, re-inspection, & Hazard Management Plan	Facility	3	Conduct a facility survey to identify & assess extent of asbestos hazards; develop & implement an Asbestos Hazard Management Plan					AR 420-1, 5-24b, c, & d
NMRR- 06122014-6.1	Written Bloodborne Pathogens (BBP) Program was not available	Facility	4	Develop & implement a written Exposure Control Plan (e.g. BBP Program)					29 CFR 1910.1030 (c)(1) & AR 385-10, 16-2d(6)
NMRR- 06122014-6.1	Written Hazard Communication (HAZCOM) Program was not available	Facility	4	Develop & implement a written HAZCOM Program					29 CFR 1910.1200 (e)(1) & AR 385-10, 16-2d(2)
NMRR- 06122014-6.2	Emergency Action Plan / evacuation training was not provided / documented	Facility	4	Ensure site personnel receive emergency preparedness training & maintain documentation indicating this training has been conducted					29 CFR 1910.38 (e)&(f) & AR 385-10, 16-2d(8)



Industrial Hygiene Southwest

Violation Inventory Log

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

Readiness Center - Roswell, New Mexico

CONTROL NUMBER	HAZARD DESCRIPTION	SITE	RAC	CORRECTIVE ACTIONS (Abatement Plan)	SUSPENSE DATE	ACTION OIC/NCOIC	Estimated Cost(s)	DATE CORRECTED	REFERENCES
NMRRC- 06122014-7.1	The facility did not have a copy of Safety Data Sheets (SDS) for chemicals corresponding with the chemical inventory	Facility	4	Obtain and maintain a copy of SDS for each chemical listed in the chemical inventory					29 CFR 1910.1200 (g)(3)(8)
NMRRC- 06122014-7.1	NFPA diamond placarding was missing on entrance door to chemical storage area	Flammable Materials Storage	4	Label chemical storage areas properly with NFPA diamond placards indicating the corresponding safety hazards					NFPA 704-4.3(1)
NMRRC- 06122014-7.1	Missing emergency eyewash station	Flammable Materials Storage	3	Provide an emergency eyewash station within ten (10) seconds travel from chemical storage/use areas					ANSI Z358.1- 2009-5.4.2
NMRRC- 06122014-7.4.1	Unlabeled electrical panel	Boiler Room	4	Complete the electrical panel schedule to indicate the equipment or locations assigned to each breaker					NEC Article 408.4(A)

BEST AVAILABLE COPY

APPENDIX-N: CONCLUSIONS AND RECOMMENDATIONS

- N.1 Introduction** – This section provides conclusions and recommendations for the findings and observations described in the previous sections of the IHS AV report for the Roswell Readiness Center. The paragraphs are numbered to correspond to the sections where first noted. (i.e., N.4.2 describes the following: the N is Conclusions & Recommendations and the 4.2 corresponds back to Section 4.0 – Sampling Results; Item 2 - Indoor Air Quality).
- N4.2 Indoor Air Quality** – Decrease temperatures throughout the facility to fall within the ASHRAE recommended range of 68-79°F, unless occupants are comfortable at the temperatures measured.
- N4.7 Sound Level Measurement** – A more detailed noise evaluation should be performed on the range canopy hood located in the kitchen, to assess potential for hazardous noise exposure over an eight (8) hour time weighted average (TWA). Research / implement ways to reduce the noise of the range canopy hood, or post hazardous noise placards in the kitchen area.
- N4.8 Illumination Level Monitoring** – Increase the lighting in the EST Office #104, State Guard Office, 920th Dispatch Office, computer kiosk, computer room, and the Assembly Hall #132 to provide the necessary illumination levels within each space.
- N5.3 Asbestos Management** – Conduct an asbestos survey to identify and assess extent of suspected asbestos containing materials present at the facility and to evaluate any hazards posed by these materials. Implement an Asbestos Hazard Management Plan if asbestos is found to be present within the facility.
- N6.1 Written Programs** - Develop and implement written site specific Bloodborne Pathogens and Hazard Communications Programs.
- N6.2 Safety Training and Record Keeping** – Perform and document training for the facility's Emergency Preparedness Program.
- N7.1 Hazardous Materials Storage** – Post a NFPA diamond placard on the Flammable Materials Storage Room to properly identify the associated hazards. Provide an emergency eyewash in areas where chemicals are handled. Develop and maintain a Safety Data Sheet (SDS) binder for the chemicals stored and handled onsite.
- N7.4 Safety Walk-Through**
1. Complete the electrical panel schedule to indicate the equipment or locations assigned to each breaker.

NOISE SURVEY (SOUND LEVEL METER SURVEY)									
1. DATE (YYYYMMDD) 20140612				2. TYPE SURVEY (ENTER CODE)					
				1 1 - INITIAL SURVEY 2 - RE-SURVEY 3 - OTHER					
3. SOUND LEVEL METER			4. MICROPHONE			5. CALIBRATOR			
A. MANUFACTURE QUEST			A. MANUFACTURE ATTACHED TO SOUND LEVEL METER			A. MANUFACTURE QUEST			
B. MODEL 210 SLM		C. SERIAL NO. DCF010012	B. MODEL		C. SERIAL NO.	B. MODEL QC-10		C. SERIAL NO. QIF010094	
D. LAST ELECTROACOUSTIC CALIB. DATE (YYYYMMDD) 20130712			D. LAST ELECTROACOUSTIC CALIB. DATE (YYYYMMDD)			D. LAST ELECTROACOUSTIC CALIB. DATE (YYYYMMDD) 20130712			
6. WIND SCREEN (X ONE)						7. MEASUREMENTS OBTAINED (X ONE)			
<input type="checkbox"/> USED		<input checked="" type="checkbox"/> X		<input type="checkbox"/> NOT USED		<input checked="" type="checkbox"/> X		<input type="checkbox"/> INDOORS <input type="checkbox"/> OUTDOORS	
8. DESCRIPTION OF AREA/DUTIES WHERE NOISE SURVEY CONDUCTED						9. PRIMARY SOURCE OF NOISE			
Noise measurements were collected from each of the three (3) kitchen canopy hoods.						Canopy Hoods			
						10. SECONDARY SOURCE OF NOISE			
						None			
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 (<85 dBA)	B. PLUG OR MUFF (85-108)	C. PLUG AND MUFF (108-118)	D. PLUG + MUFF + TIME LIMIT (>118)
Canopy hood over range at the operator hearing level (OHL)	S		86				X		
Canopy hood over sink at OHL	S		79			X			
Canopy hood over dishwasher at OHL	S		81			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: No hazardous noise warning placards were posted. Recommend to perform Dosimetry for canopy hood operation to assess potential hazardous noise exposure.									
14. MORE DETAILED NOISE EVALUATION REQUIRED:						<input checked="" type="checkbox"/> X YES <input type="checkbox"/> NO (if "Yes," identify type evaluation needed.)			
						NOISE DOSIMETRY OVER AN 8 HOUR TWA			
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 OF OPERATION									
Non-Responsive			B. TELEPHONE (Include area code) (505) 474-2501			C. ORGANIZATION Roswell Readiness Center, NM			
			Name, First, MI)			18. HEARING CONVERSATION MONITOR (Last Name, First, MI)			

DD FORM 2214, JAN 2000

FY 14 Installation Status Report (ISR) Services Documentation	Intellicode	Q1	Q2	Q3	Q4 Annual
Breathing Zone samples collected above Occupational Exposure Limit (OEL), with no controls	953-01-04			0	
Breathing Zone samples collected above Occupational Exposure Limit (OEL)	953-01-04			0	
Number of Personal Noise Dosimetry samples collected >= 85 dBA with no controls	953-01-05			0	
Number of Personal Noise Dosimetry samples collected >= 85 dBA	953-01-05			0	
Number of Noise Sound Level samples collected >= 140 dBP with no controls	953-01-06			0	
Number of Noise Sound Level samples collected >= 140 dBP	953-01-06			0	
Number of Noise Sound Level samples collected >= 140 dBP not controlled, that are recommended for control	953-01-07			0	
Number of Noise Sound Level samples collected >= 140 dBP not controlled	953-01-07			0	
Number of Breathing Zone samples collected above Occupational Exposure Limit (OEL) not controlled, that are recommended for control	953-01-08			0	
Number of Breathing Zone samples collected above Occupational Exposure Limit (OEL) not controlled	953-01-08			0	
Number of Personal Noise Dosimetry samples collected >= 85 dBA not controlled, that are recommended for control	953-01-09			0	
Number of Personal Noise Dosimetry samples collected >= 85 dBA not controlled	953-01-09			0	
Total number of DOEHS-IH shops coded as Priority 1 which have at least one task performed in the past 12 months	953-02-10	IHT	IHT	IHT	IHT
Total number of DOEHS-IH shops coded as Priority 1	953-02-10	IHT	IHT	IHT	IHT
Number of buildings for which all processes requiring a basic industrial hygiene characterization have received one within the last 12 months	953-02-11	IHT	IHT	IHT	IHT
Number of buildings requiring a basic industrial hygiene characterization within the last 12 months	953-02-11	IHT	IHT	IHT	IHT
Number of buildings for which all processes requiring a basic industrial hygiene characterization have received one within the last 12 months	953-02-12	IHT	IHT	IHT	IHT
Number of buildings requiring an industrial hygiene exposure assessment within the last 12 months	953-02-12	IHT	IHT	IHT	IHT
Number of processes that were assessed for potential inhalation exposure to employees during this IH Visit	953-02-13	IHT	IHT	IHT	IHT
Number of processes that require an assessment for potential inhalation exposure to employees during this IH Visit	953-02-13	IHT	IHT	IHT	IHT



BEST AVAILABLE COPY
Facility Information Form
Revised: December 4, 2013



General Facility Information

Date(s) of Previous IHSAs: July 10, 2012

IH(s): **Non-Responsive**

Date(s) of IHSAs: June 12/13, 2014

Facility Name: Roswell Readiness Center & Converted Indoor Firing Range

Address: 1 Earl Cummings Loop, Roswell NM 88203

Facility Commander: _____

Non-Responsive

Name / Phone Number / email

Safety Officer: _____

Non-Responsive

T-F

No Person(s): 18 Admin: 18 Maint: 0 Work Sched: 0830-1630 Size of Facility: 44,676 ft²

(Include status—AGR, Fed, Tech., IDR, State or Contract Employee)

Unit(s): BSB **Non-Responsive** 920th EN Co **Non-Responsive** Co-Tenant(s): N/A

Build Date: Unknown

Include UIC if available

List All

Renovation: _____

Primary work
activities at
Facility:

This facility serves as the BN headquarters and is mainly used for administrative purposes. The FMS shop to the rear of this facility supports all maintenance activities.

Written Health & Safety Programs / SOPs

Program	Program Needed	Have Program	Date of Last Training	# Enrolled	Comments
Confined Space	N	N			
Emergency Preparedness	Y	Y			Training Records Not Available
Hazard Communication	Y	Y	Dec 1, 2012	55	
Hearing Conservation	Y	N			Need to develop
PPE	N	N			
Respiratory Protection	N	N			
Others (Bloodborne Pathogens, Lock Out / Tag Out, Lifting Devices, Radiation, SOPs, etc.) – List on back					

Y = Yes N = No NA = Not Applicable to this site

Documents / Records to Obtain

- ☒ Facility floor plan / evacuation map
☐ List of equipment serviced / maintained
☒ Previous IH reports

NA = Not Applicable to this site

- ☒ Hazardous Materials inventory
☒ Personnel list
☒ Others (List): IHI Targeted Site Visit Report (2012)

Non – DoD Contractors

Service	Provider	Service	Provider
Oil / Water Separator	<u>None</u>	Laundry	<u>None</u>
Tools	<u>None</u>	Pest Control	<u>New Mexico State</u>
Rags	<u>None</u>	Hazardous Waste	<u>None</u>
Refuse	<u>City of Roswell</u>	Crane Maintenance	<u>None</u>
Others:	<u>None</u>		

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)	Complete, lead wipes 61314-32-A to E were collected from the center and four corners of the Drill Floor.
Are any weapons cleaned in the facility, if yes where are they cleaned?	Weapons are not cleaned at the facility
Additional lead wipe samples taken from 25% of the rest of the building - -(on floor areas only)	Complete, lead wipes 61314-32-F to M were collected from the converted IFR space (addressed in separate IHSAB report).
Is there a converted indoor firing range ? If so collect additional wipe samples IAW the SOW.	Yes, the IFR was converted to a laser weapons training area in 2000.
Is there any peeling paint ? Take bulk sample if able.	No peeling paint was identified. Painted surfaces were intact.
Are there any signs of water damage or mold?	Water staining from a historical leak was identified in the State Guard Office (addressed in separate IHSAB report). No signs of mold growth on-site.
Any suspected ACM ? Where and what condition is it in. Bulk sample if able.	Yes, see field notes for suspect ACM.
Quality of housekeeping	Housekeeping throughout the facility was good.
HVAC maintenance plan in place?	Yes, maintained by State Maintenance.
Overall condition of HVAC system	HVAC systems were in good condition with no exposed hazards identified.
Obtained CO2, Temp, RH monitoring	Complete, see IAQ Measurements
HAZMAT inventory on hand (make copies for the report), MSDS available for all materials.	An inventory was available. No MSDS were provided.
HAZMAT storage , Condition of lockers, if outside storage building is used is it ventilated and does it meet OSHA standards.	Flammables Storage room with flammable storage lockers, organized and properly segregated, gas in plastic containers, passive ventilation installed

Fire alarm in working condition - -not usually in place in older armories	Fire alarms were in working condition.
Fire extinguishers in place and properly identified and mounted	Fire extinguishers were in place, mounted, and properly identified.
Evidence of monthly fire extinguisher inspections	Yes, extinguishers were current for monthly inspections.
Annual fire extinguisher inspections tags current	Yes, extinguishers were current for annual inspections.
Are eye wash stations available in areas where hazardous materials are used and are they inspected weekly (inspections must be documented)	None provided
Egress routes accessible and properly marked - -noted on <u>Fire Evacuation Plan</u>	Yes, recommend adding primary and secondary gathering points to the posted evacuation maps.
Training programs in place; Hazcom, Respiratory Protection, Confined Spaces, Hearing conservation, PPE (if applicable)	Yes, see field notes and Facility Information Form for training programs
Any Photo labs	None on-site
Any hazardous noise sources	Kitchen canopy hood over the range oven was measured to be greater than 85 dBA. No other hazardous noise sources were identified.
Light levels checked throughout building	Complete, see Illumination Measurements
Breaker panels properly labeled with no exposed wiring	Boiler Room – sub panel M (left side) was not labeled
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. 18 military personnel 2. Administrative
Any civilian activities in armory (cub scouts, classes, day care, parties etc)	Community use – weddings, parties, children have access
Obtain two lead air samples	On IHSW Request Only

Evaluate Kitchen Stove Hood Flow if Present IAW NFPA Standard 96.	Complete, see Ventilation Measurements
Collect Source Noise Measurements of Kitchen Appliances and Document Using DD 2214	Complete, see DD Form 2214
Conduct a safety walkthrough of entire facility document any safety deficiencies found.	Complete, see field notes and IHSAV report for findings
Take photos of outside of building, all sample points and any pertinent hazards or concerns.	Complete, see Photo Log
Name of Armory, POC, phone #, address and organizations in Armory (Add Checklist to Report)	Roswell Readiness Center Non-Responsive (505) 474-2501 1 West Earl Cummings Loop, Roswell, NM 88201 HHC 717 th BSB, 920 th EN Co

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.



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

Santa Clara Armory

11900 E. Highway 180
Santa Clara, NM 88026

10510 Superfortress Avenue, Suite C, Mather, CA 95655 (916) 854-1491



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

6 December 2012

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

FOR Commander, Santa Clara Armory 11900 E. Highway 180, Santa Clara, NM 88206

SUBJECT: Executive Summary for Industrial Hygiene Site Assistance Visit (IHSAV) for the Santa Clara Armory 11900 E. Highway 180, Santa Clara, New Mexico 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 Santa Clara Armory 11900 E. Highway 180 Lordsburg, 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. Ensure the emergency eyewash/shower undergo a weekly operational test, inspection and document the results on the eyewash. (para. 4.10) (RAC 4)

SUBJECT: Executive Summary for Industrial Hygiene Site Assistance Visit (IHSW) for the Santa Clara Armory 11900 E. Highway 180, Santa Clara, New Mexico 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 with awareness training being provided to facility personnel and workers. (para. 4.4) (RAC 3)
- c. Repair roof leaks to prevent future introduction of water in the armory. Remove water damaged materials after leaks are repaired. (para. 4.3) (RAC 3)
- d. Develop a chemical inventory list of all chemical utilized within this facility and acquire all MSDS's for chemicals identified. (para. 4.6.1) (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 Industrial Hygiene Site Assistance Visit (IHSAV) for the Santa Clara Armory 11900 E. Highway 180, Santa Clara, New Mexico 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 Santa Clara 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 NMSCA-080812-4.3	Moisture stained ceiling tiles were observed in the hallways located South and East of the kitchen.	Santa Clara Armory	3	Repair the roof leaks to prevent the introduction of water into this armory					Recommended Practice
<input type="checkbox"/> NMSCA-080812-4.4	An asbestos survey could not be located during this IH Assistance Visit.	Santa Clara Armory	3	Either locate the asbestos survey for this building or contract with a licensed firm to perform an asbestos survey and assessment.					Recommended Practice
<input type="checkbox"/> NMSCA-080812-4.4	Personnel have not been provided with asbestos awareness training.	Santa Clara Armory	4	Based on the findings of this survey, provide awareness training to assigned personnel for the specific types of asbestos in this Armory.					Recommended Practice
<input type="checkbox"/> NMSCA-080812-4.6.1	A chemical inventory could not be found for the janitor closet chemicals.	Santa Clara Armory	4	Locate the chemical inventory for the janitor closet and include it in the MSDS folder.					29 CFR 1910.1200 (e) (i)
<input type="checkbox"/> NMSCA-080812-4.10	7. The GFCI outlet located on the SW wall in the women's bathroom did not trip at 7 mA.	Santa Clara Armory	4	Repair or replace the GFCI outlet in the women's bathroom.					NFPA 70, Article 210-8
<input type="checkbox"/> NMSCA-080812-4.10	An emergency eyewash/shower does has not been inspected or tested.	Santa Clara Armory	4	Ensure the emergency eyewash/showers undergo a weekly operational test and document the results of these tests.					ANSI Z358.1-2009

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.

BEST AVAILABLE COPY



IH ASSISTANCE VISIT

**New Mexico Army National Guard
Santa Clara Armory
11900 East Highway 180
Santa Clara, New Mexico 88026**

November 26, 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 #AL127210

640 EAST WILMINGTON AVENUE

SALT LAKE CITY, UT 84106

TELEPHONE: 801-466-2223

FAX: 801-466-9616

E-MAIL: ihl@ihi-env.com

SALT LAKE CITY

EMERYVILLE

PHOENIX

DENVER

SEATTLE

Posted to NGB FOIA Reading Room
May, 2018

BEST AVAILABLE COPY

FOIA Requested Record #J-15-0085 (NM)
Released by National Guard Bureau
Page 1260 of 1628

TABLE OF CONTENTS

EXECUTIVE SUMMARY

1.0	INTRODUCTION	1
1.1	Objectives	1
1.2	Scope of Work	1
2.0	PROCESS DESCRIPTION	1
3.0	METHODS AND APPLICABLE REGULATIONS AND STANDARDS	2
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
4.0	FINDINGS AND RECOMMENDATIONS	5
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	9
5.0	PROJECT LIMITATIONS	9
6.0	PROJECT APPROVAL	10

APPENDICES

Appendix A	References
Appendix B	Assessment Criteria
Appendix C	Photo Log
Appendix D	Chemical Inventory
Appendix E	Floor Plan/IAQ - Temp, RH, & CO ₂ 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 August 7, 2012, **Non-Responsive** of IHI Environmental (IHI) conducted an IH Assistance Visit at the Santa Clara Armory. The primary point of contact for information gathered during this survey was **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] of IHI Environmental (IHI) conducted an IH Assistance Visit at the Santa Clara Armory located at 11900 East Highway 180, Santa Clara, New Mexico 88026. 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 Santa Clara Armory has one full-time guard member. The armory has offices used for administrative purposes, a training area, drill floor, storage rooms, restrooms and locker rooms, kitchen, maintenance bay, and a mechanical room. There are no civilian employees at this armory. Civilian activities carried out in this armory include 4-H activities about once a month and Veterans of Foreign Wars meetings every Thursday.

Army National Guard members have not cleaned weapons at this location since deployment two years and eight months ago. When weapons return to this facility, they will be 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 (CO₂), 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-part-per-million (ppm) CO₂ 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 CO₂ 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 CO₂ 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 CO₂ other than exhaled breath, the guidelines above cannot be used. The OSHA standard for CO₂ 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 provided 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

Two water-stained ceiling tiles were observed in the hallways on the south and west sides of the kitchen.

Recommendation

Repair the roof leaks to prevent the introduction of water into this armory

4.4 Asbestos Management

Non-Responsive does not believe that an asbestos survey has been performed on 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 roof-mounted electric heating units. Air conditioning for the office areas is provided by roof-mounted electric air-conditioning units and swamp coolers provide cooling air for the drill hall.

The average outdoor CO₂ concentration at the time of the survey was 465 parts per million (ppm). The highest CO₂ concentration measured inside the building was 400 ppm, which should not result in indoor air quality complaints. Higher CO₂ concentrations would be likely with more people present in the building.

Building air temperatures ranged from 75.5 to 78.8°F and relative humidity was between 38 and 40 percent during the testing period. Air temperatures were slightly above the recommended comfort range of 68-75°F and the relative humidity was within the recommended comfort range of between 30 and 60 percent. **Non-Responsive** stated that he prefers to run the HVAC system infrequently in order to save energy. Low relative humidity is common in New Mexico during 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 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)

Chemical products are kept in three separate locations – janitorial closet, POL (Petroleum, Oil, and Lubricant) room, and the maintenance bay. Chemical inventories of all products used by the armory, along with their associated MSDSs, are maintained in three master binders located in the Administration office. The master chemical inventories and MSDS binders are arranged alphabetically. An inspection of the chemical inventories revealed that current products in use by the armory are all accounted for and their associated MSDSs are available.

Copies of two of the chemical inventories are provided in Appendix D. The chemical inventory for the janitorial closet could not be located.

Recommendation

Locate the chemical inventory for the janitor closet and include it in the MSDS folder.

4.6.2 Flammable Storage Cabinets

There is one flammable storage cabinet located in this armory. It is located in a POL room.

Recommendation

None

4.7 Safety Training and Record Keeping

The following safety training documentation is maintained in the Santa Clara Armory:

- Heat Illness Prevention
- PPE
- M-16 & M-4 Carbine Clearing
- Fire Station Assignment Training

The last Safety Council Meeting was held on 29 July 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

There is one exterior wall-mounted exhaust fan that serves the kitchen appliances. Duct velocity measurements were obtained and an average velocity of about 1,500 feet per minute (fpm) was measured. This exceeds the 500-fpm requirement outlined in the 2011 National Fire Protection Association Standard 96, Section 8.2.1.1.

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. **Non-Responsive** performs the monthly inspections on this system.
3. Fire extinguishers are strategically located throughout the armory. All extinguishers were current on their annual and monthly inspections.
4. There is one eyewash/shower station in this facility and 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 SW wall in the women's bathroom did not trip at 7 mA.

Recommendations

1. Repair or replace the GFCI outlet in the women's bathroom.
2. Ensure the emergency eyewash/showers undergo a weekly operational test and document the results of these tests.

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

11/26/2012

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
Santa Clara Armory, Front, Exterior



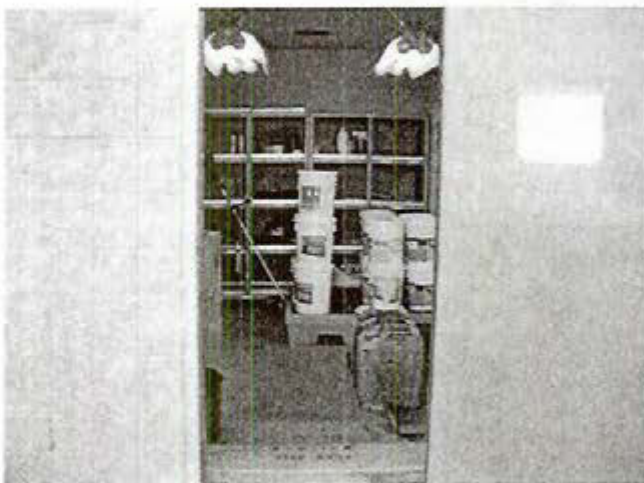
Photograph 2
Santa Clara Armory, Rear, Exterior



Photograph 3
Santa Clara Armory, General View, Interior



Photograph 4
Santa Clara Armory, Maintenance Bay



Photograph 5
Flammable Storage Room



Photograph 6
Flammable Storage Cabinet open



Photograph 7
Non-working GFCI outlet within 6 feet of water supply



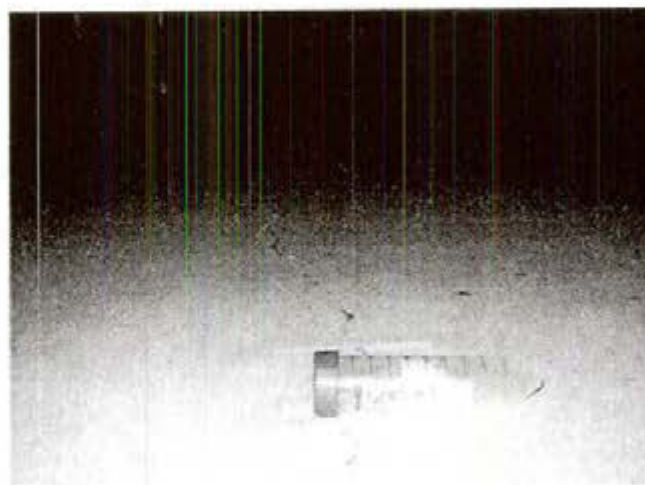
Photograph 8
Stained ceiling tile



Photograph 9
Location of lead wipe sample number 6183-01



Photograph 10
Location of lead wipe sample number 6183-02



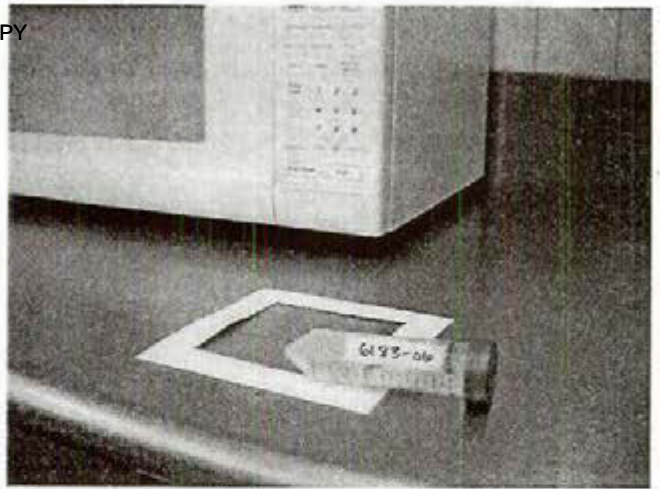
Photograph 11
Location of lead wipe sample number 6183-03



Photograph 12
Location of lead wipe sample number 6183-04



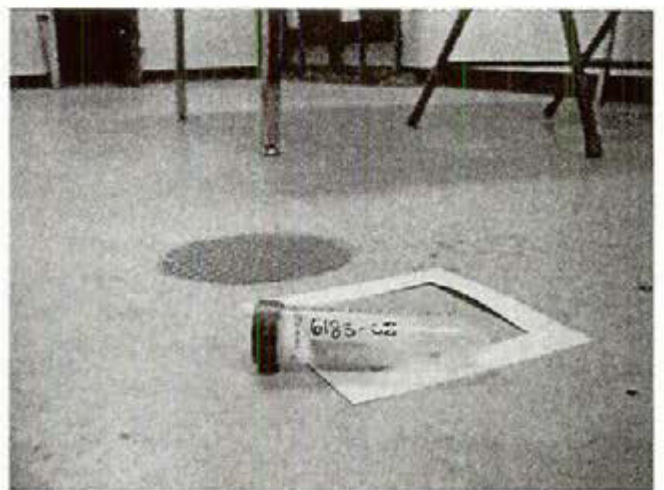
Photograph 13
Location of lead wipe sample number 6183-05



Photograph 14
Location of lead wipe sample number 6183-06



Photograph 15
Location of lead wipe sample number 6183-07



Photograph 15
Location of lead wipe sample number 6183-08



Photograph 15
Location of lead wipe sample number 6183-09

TABLE OF CONTENTS

- A AJAX PRODUCTS
- B BRAVO HEAVY DUTY LOW ODOR STRIPPER
BRITE GLO CLEANSER BC 189
- C CLOROX PRODUCTS
- D DISINFECTANT CLEANSER
DRANO CLOG REMOVER (LIQUID)
DELUXE LOTION SOAP W/ MOISTURIZERS
DRY DEODORIZER BOTANICAL
DUST MOP TREATMENT
- E
- F
- G GERMICIDAL BLEACH
GLASS and MIRROR CLEANER RTU
- H HAND CLEANER (GOJO) PRODUCT
HARD SURFACE DISINFECTANT/DETERGENT

HARDWOOD FLOOR CLEANER

I

J

K

L LAUNDRI DESTAINER

LEMON FURNITURE POLISH

M MICRELL ANTIBACTERIAL LOTION SOAP

N

O ONE SHOT DRAIN OPENER

ORANGE PUMICE HAND CLEANER (GOJO)

P PRODUCT

PINE SOL BRAND CLEANER (ORIGINAL)

PINK ANTIMICROBIAL LOTION SOAP

PREMIUM FOAM ANTIBACTERIAL HAND WASH

POWER GREEN

Q

R READY TO USE SPRAY BUFF

REST ROOM CLEANER

S SCOURING POWDER WITH CHLORINE BLEACH
TYPE 1

SPIC & SPAN DISINFECTING ALL PURPOSE SPRAY
and GLASS CLEANER

T TOSS BLOCK (URINAL CHERRY BLOCK)

TOUGH GUY WHITE COCONUT LIQUID SOAP

U

V

W

X

Y

Z ZEP METER MIST FRENCH VANILLA

DET 1, C Co. 1-200 IN Inventory of Hazardous Material

PRODUCT NAME	MSDS # OR PRODUCT NUMBER	MANUFACTURER
BREAK-FREE CLP LIQUID		BREAK-FREE INC.
PENZOIL MOTOR OIL	625300LU	SOPUS PRODUCTS
STILH 2 CYCLE ENGINE OIL		STILH CORP
BRIGGS HEAVY DUTY LAWNMOWER OIL	MSOL703	OLYMPIC OIL
ONE SHOT DRAIN OPENER	00NDD4049	NATIONAL SANITARY SUPPLY
GOJO HAND CLEANER		GOJO INDUSTRIES
SUPER TECH	402797LU-0	SPECIALTY OIL
UNOCAL 76 15W/40 MOTOR OIL		UNOCAL REFINING
LAUNDRY DESTAINER	BQPMI	ECOLAB INC

BEST AVAILABLE COPY
Ventilation Survey Data and Calculations
Kitchen Exhaust Vents
Santa Clara, New Mexico Armory

Kitchen Stove/Oven Exhaust Duct Velocity

Duct Dimensions = 12 x 24 inches

Duct Velocity Measurements

1280	1520	1175	1052
1570	1755	1870	1525
1730	1620	1690	1230

Average Flow Rate = 1501 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)	yes
Are any weapons cleaned in the facility, if yes where are they cleaned?	Not for 2 years, 8 mo. Weapons were removed for deployment. Will clean in Maintenance Bay in future.
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 LAW the SOW.	No.
Is there any peeling paint? Take bulk sample if able.	no.
Are there any signs of water damage or mold?	yes. water damaged CT in Hallways S.E. of Kitchen
Any suspected ACM? Where and what condition is it in. Bulk sample if able.	N/A
Quality of housekeeping	Good.
HVAC maintenance plan in place?	NV State employee
Overall condition of HVAC system	good.
Obtained CO2, Temp, RH monitoring	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.	good - POL (Petroleum, Oil & Lubricants) Room has proper wiring & ventilation.

Fire alarm in working condition - -not usually in place in older armories	yes. Non-Responsive does monthly checks
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)	yes.
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	No.
Any hazardous noise sources	No.
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.?	1. One military, zero civilian 2. Admin.
Any civilian activities in armory (cub scouts, classes, day care, parties etc)	yes. 4H about 1x per week month VFW every Thursday.
Obtain two lead air samples	On IHSW Request Only

Evaluate Kitchen Stove Hood Flow if Present IAW NFPA Standard 96.	OK.
Collect Source Noise Measurements of Kitchen Appliances and Document Using DD 2214	OK.
Conduct a safety walkthrough of entire facility document any safety deficiencies found.	yes - good.
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	
(Add Checklist to Report)	(Add Checklist to Report)

FACILITY INFORMATION

(Information listed in First Section)
(1st Few Paragraphs/Pages of Report)

1. Date Prepared: **08/07/2012**
2. Names (and Company Name) of Personnel Conducting Industrial Hygiene Site Assistance Visit: **Non-Responsive**, **IHI Environmental**
3. Facility Name and Brief Summary of Primary Activities Conducted at Facility: **Santa Clara Armory**
4. Facility Address: **11990 Highway 180 East, Santa Clara, NM 88026**
5. Primary Unit Assigned to Facility: **Non-Responsive** - **DET 1CC01-200 INF**
6. Co-Tenant Units Assigned or Working Within Facility (LIST ALL): **None**
7. Square Ft. Area of Facility: **approximately 15,000 sq. ft**
8. Work Schedule: **M-F and Drill Weekends**
9. Number of work bays: **No work bays**
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: **1**
12. No. of Admin. Personnel (Include Status – AGR, Fed. Tech., IDT, State or Contract Employee): **1 AGR**
13. No. of Maintenance Personnel (Include Status – AGR, Fed. Tech., IDT, State or Contract Employee): **0**
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:

Non-Responsive 5-647-2404

19. Safety Office **Non-Responsive**

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

Non-Responsive 75-647-2404

20. Facility Telephone Number: (505) 474-2636



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 it's 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

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 VERIFICATION RESULTS					
Calibration Standard	Instrument Output	Difference	Tolerance Limit-	Error Compared to Tolerance 0	Tolerance Limit+
5001 PPM	4990 PPM	-0.2 %		*	
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.

<u>Applicable Test Report</u>	<u>Report Number</u>	<u>Date Last Verified</u>
DC Voltage	E002415	06-21-11
Barometric Pressure	E001992	04-08-11
Pure Nitrogen	UT-230	03-02-12
CO2 1000 PPM in N2	EB0013815	01-21-10
CO2 5000 PPM in N2	EB0020543	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 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	Error Compared to Tolerance		Tolerance Limit +
			Limit-		0	
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		*	.	X
<div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> ***** AS FOUND DATA ***** (INITIAL CALIBRATION CHECK) </div>						
				Tolerance Limits: _____ CO2: 50PPM or 3% of reading		

Applicable Test Report	Report Number	Date Last Verified
DC Voltage	E002415	06-21-11
Barometric Pressure	E001992	04-08-11
Pure Nitrogen	UT-230	03-02-12
CO2 1000 PPM in N2	EB0013815	01-21-10
CO2 5000 PPM in N2	EB0020543	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)	in-Hg (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

LOG 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.

Santa Clara Armory - Lead Wipe Sample Results**Lead Wipe Sample Results**

Sample Number	Collection Date	Location	Result $\mu\text{g}/\text{ft}^2$
6183-01	8/7/2012	SW Corner of Drill Floor	<23
6183-02	8/7/2012	SE Corner of Drill Floor	<23
6183-03	8/7/2012	Center of Drill Floor	<23
6183-04	8/7/2012	NW Corner of Drill Floor	<23
6183-05	8/7/2012	NE Corner of Drill Floor	<23
6183-06	8/7/2012	Kitchen Counter	<23
6183-07	8/7/2012	POC's Desk	<23
6183-08	8/7/2012	Weapons Vault Floor	<23
6183-09	8/7/2012	Maintenance Bay Floor	<23



BEST AVAILABLE COPY
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: 34-1222311

Client Project ID: 12U-I6183/Armory-Santa Clara,

Purchase Order: 12U-I6183

Project Manager: Non-Responsive

Analytical Results

Sample ID: 6183-01		Media: Lead Dust Wipe		Collected: 08/07/2012
Lab ID: 1222311001		Sampling Location: Armory-Santa Clara,		Received: 08/10/2012
Method: NIOSH 7300 Mod.		Sampling Parameter: Area 100 cm ²		Prepared: 08/14/2012
				Analyzed: 08/14/2012
Analyte	ug/sample	ug/ft ²	RL (ug/sample)	
Lead	<2.5	<23	2.5	

Sample ID: 6183-02		Media: Lead Dust Wipe		Collected: 08/07/2012
Lab ID: 1222311002		Sampling Location: Armory-Santa Clara,		Received: 08/10/2012
Method: NIOSH 7300 Mod.		Sampling Parameter: Area 100 cm ²		Prepared: 08/14/2012
				Analyzed: 08/14/2012
Analyte	ug/sample	ug/ft ²	RL (ug/sample)	
Lead	<2.5	<23	2.5	

Sample ID: 6183-03		Media: Lead Dust Wipe		Collected: 08/07/2012
Lab ID: 1222311003		Sampling Location: Armory-Santa Clara,		Received: 08/10/2012
Method: NIOSH 7300 Mod.		Sampling Parameter: Area 100 cm ²		Prepared: 08/14/2012
				Analyzed: 08/14/2012
Analyte	ug/sample	ug/ft ²	RL (ug/sample)	
Lead	<2.5	<23	2.5	

Sample ID: 6183-04		Media: Lead Dust Wipe		Collected: 08/07/2012
Lab ID: 1222311004		Sampling Location: Armory-Santa Clara,		Received: 08/10/2012
Method: NIOSH 7300 Mod.		Sampling Parameter: Area 100 cm ²		Prepared: 08/14/2012
				Analyzed: 08/14/2012
Analyte	ug/sample	ug/ft ²	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

RIGHT SOLUTIONS RIGHT PARTNER



BEST AVAILABLE COPY
ANALYTICAL REPORT

Workorder: **34-1222311**
Client Project ID: 12U-I6183/Armory-Santa Clara,
Purchase Order: 12U-I6183
Project Manager: **Non-Responsive**

Analytical Results

Sample ID: 6183-05	Media: Lead Dust Wipe	Collected: 08/07/2012
Lab ID: 1222311005	Sampling Location: Armory-Santa Clara,	Received: 08/10/2012
Method: NIOSH 7300 Mod.	Sampling Parameter: Area 100 cm ²	Prepared: 08/14/2012
		Analyzed: 08/14/2012

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

Sample ID: 6183-06	Media: Lead Dust Wipe	Collected: 08/07/2012
Lab ID: 1222311006	Sampling Location: Armory-Santa Clara,	Received: 08/10/2012
Method: NIOSH 7300 Mod.	Sampling Parameter: Area 100 cm ²	Prepared: 08/14/2012
		Analyzed: 08/14/2012

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

Sample ID: 6183-07	Media: Lead Dust Wipe	Collected: 08/07/2012
Lab ID: 1222311007	Sampling Location: Armory-Santa Clara,	Received: 08/10/2012
Method: NIOSH 7300 Mod.	Sampling Parameter: Area 100 cm ²	Prepared: 08/14/2012
		Analyzed: 08/14/2012

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

Sample ID: 6183-08	Media: Lead Dust Wipe	Collected: 08/07/2012
Lab ID: 1222311008	Sampling Location: Armory-Santa Clara,	Received: 08/10/2012
Method: NIOSH 7300 Mod.	Sampling Parameter: Area 100 cm ²	Prepared: 08/14/2012
		Analyzed: 08/14/2012

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

Sample ID: 6183-09	Media: Lead Dust Wipe	Collected: 08/07/2012
Lab ID: 1222311009	Sampling Location: Armory-Santa Clara,	Received: 08/10/2012
Method: NIOSH 7300 Mod.	Sampling Parameter: Area 100 cm ²	Prepared: 08/14/2012
		Analyzed: 08/14/2012

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



BEST AVAILABLE COPY
ANALYTICAL REPORT

Workorder: **34-1222311**
Client Project ID: 12U-I6183/Armory-Santa Clara,
Purchase Order: 12U-I6183
Project Manager: **Non-Responsive**

Analytical Results

Sample ID: 6183-10		Media: Lead Dust Wipe	Collected: 08/07/2012
Lab ID: 1222311010		Sampling Location: Armory-Santa Clara,	Received: 08/10/2012
Method: NIOSH 7300 Mod.		Sampling Parameter: Area 100 cm ²	Prepared: 08/14/2012
			Analyzed: 08/14/2012
Analyte	ug/sample	ug/ft ²	RL (ug/sample)
Lead	<2.5	<23	2.5

Report Authorization

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

Laboratory Contact Information

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

Phone: (801) 266-7700
Email: alst.lab@ALSGlobal.com
Web: www.alsslc.com



BEST AVAILABLE COPY
ANALYTICAL REPORT

Workorder: **34-1222311**
Client Project ID: 12U-I6183/Armory-Santa Clara,
Purchase Order: 12U-I6183
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	ACCLASS (DoD ELAP)	ADE-1420	http://www.aiclasscorp.com
	Utah (NELAC)	DATA1	http://health.utah.gov/lab/labimp/
	Nevada	UT00009	http://ndep.nv.gov/bsdwlabservice.htm
	Oklahoma	UT00009	http://www.deq.state.ok.us/CSDnew/
	Iowa	IA# 376	http://www.iowadnr.gov/InsideDNR/RegulatoryWater.aspx
	Florida (TNI)	E871067	http://www.dep.state.fl.us/labs/bars/sas/qa/
	Texas (TNI)	T104704456-11-1	http://www.tceq.texas.gov/field/qa/lab_accred_certif.html
Industrial Hygiene	AIHA (ISO 17025 & AIHA IHLAP/ELLAP)	101574	http://www.aihaaccreditedlabs.org
Lead Testing:			
CPSC	ACCLASS (ISO 17025, CPSC)	ADE-1420	http://www.aiclasscorp.com
Soil, Dust, Paint, Air	AIHA (ISO 17025, AIHA ELLAP and NLLAP)	101574	http://www.aihaaccreditedlabs.org
Dietary Supplements	ACCLASS (ISO 17025)	ADE-1420	http://www.aiclasscorp.com

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
Santa Clara Armory, NM

CONTROL NUMBER	HAZARD DESCRIPTION	SITE	RAC	CORRECTIVE ACTIONS (Abatement Plan)	SUSPENSE DATE	ACTION OIC/NCOIC	Estimated Cost(s)	DATE CORRECTED	REFERENCES
NMSCA-080812-4.3 <input type="checkbox"/>	Moisture stained ceiling tiles were observed in the hallways located South and East of the kitchen. An asbestos survey could not be located during this IH Assistance Visit.	Santa Clara Armory	3	Repair the roof leaks to prevent the introduction of water into this armory					Recommended Practice
NMSCA-080812-4.4 <input type="checkbox"/>		Santa Clara Armory	3	Either locate the asbestos survey for this building or contract with a licensed firm to perform an asbestos survey and assessment.					Recommended Practice
NMSCA-080812-4.4 <input type="checkbox"/>	Personnel have not been provided with asbestos awareness training.	Santa Clara Armory	4	Based on the findings of this survey, provide awareness training to assigned personnel for the specific types of asbestos in this Armory.					Recommended Practice
NMSCA-080812-4.6.1 <input type="checkbox"/>	A chemical inventory could not be found for the janitor closet chemicals.	Santa Clara Armory	4	Locate the chemical inventory for the janitor closet and include it in the MSDS folder.					29 CFR 1910.1200 (e) (i)
NMSCA-080812-4.10 <input type="checkbox"/>	The GFCI outlet located on the SW wall in the women's bathroom did not trip at 7 mA.	Santa Clara Armory	4	Repair or replace the GFCI outlet in the women's bathroom.					NFPA 70, Article 210-8
NMSCA-080812-4.10 <input type="checkbox"/>	An emergency eyewash/shower has not been inspected or tested.	Santa Clara Armory	4	Ensure the emergency eyewash/showers undergo a weekly operational test and document the results of these tests.					ANSI Z358.1-2009

BEST AVAILABLE COPY

Summary of Recommendations for NMARNG Armory,
Santa Clara, New Mexico

4.3 Moisture Intrusion and Limited Visual Fungal Growth Evaluation

Repair the roof leaks to prevent the introduction of water into this armory

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.

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

Locate the chemical inventory for the janitor closet and include it in the MSDS folder.

4.10 General Safety Walk-Through

1. Repair or replace the GFCI outlet in the women's bathroom.
2. Ensure the emergency eyewash/showers undergo a weekly operational test and document the results of these tests.

NOISE SURVEY (Sound Level Meter Survey)									
1. DATE (YYYYMMDD) 20120808					2. TYPE SURVEY (Enter code) 1 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)	
Supply Fan	S	68.5	56.7	IVD	×				
Exhaust Fan	S	78.8	72.2	IVD	×				
Both Fans Together	S	79.7	72.4	IVD	×				
					×				
					×				
					×				
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									
<div style="display: flex; justify-content: space-between;"> <div> Non-Responsive </div> <div> ORGANIZATION IG IN MONITOR (Last Name, First Name, MI) </div> </div>									



**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

Santa Fe Armory
47 Bataan Blvd.
Santa Fe, NM 87508

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

41



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

ARI-G-CSG-P

03 June 2013

MEMORANDUM THRU New Mexico Army National Guard, ATTN: (OHN), 600 Wyoming Blvd NE, Albuquerque, NM 87123-1094

Non-Responsive

FOR Commander.Santa Fe Armory Indoor Firing Range (IFR), 47 Bataan Blvd, Santa Fe, NM 87508

SUBJECT: Executive Summary for Industrial Hygiene Site Assistance Visit (IHSAV) for the Santa Fe Armory Indoor Firing Range (IFR), 47 Bataan Blvd, Santa Fe, New Mexico conducted on 25 April 2013.

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 Santa Fe Armory 47 Bataan Blvd, Santa Fe, NM on 25 APR 2013.

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. A thorough cleaning of the "Modified Shoot House" found within the Converted Indoor Firing Range should be performed. Continuous good housekeeping practices should be employed to help

SUBJECT: Executive Summary for Industrial Hygiene Assistance Visit (IHSW) for the Santa Fe Armory Indoor Firing Range (IFR), 47 Bataan Blvd, Santa Fe, New Mexico conducted on 25 April 2013.

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 NGB-IHSW office 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

Santa Fe Armory (IFR), 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"/> NMSFA-042513-3.2	The lead wipe sample collected on the southeast wall was 310 $\mu\text{g}/\text{ft}^2$ and the floor samples ranged from 80-170 $\mu\text{g}/\text{ft}^2$.	Santa Fe Armory	3	1. Clean the walls and floors of the shoot house to a lead level of less than 200 $\mu\text{g}/\text{ft}^2$ following the guidance in the attached SOPs. 2. Restrict the use of simulation rounds which use a 9 millimeter case with a primer and smokeless gun powder in this range. 3. Perform post-cleanup wipe sampling to ensure lead levels are within the criteria outlined in the IHSW SOP for Armory Cleanup.					IHSW Lead SOP & Prudent Industrial Hygiene 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.



IH ASSISTANCE VISIT

**Indoor Firing Range
New Mexico Army National Guard
47 Bataan Boulevard
Santa Fe, New Mexico 87508**

May 21, 2013

Prepared for:

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

Prepared by:

Non-Responsive

Senior Project Manager

Reviewed by:

Non-Responsive

Industrial Hygiene Services Manager

AL137011

640 EAST WILMINGTON AVENUE SALT LAKE CITY, UT 84106

TELEPHONE: 801-466-2223

FAX: 801-466-9616

E-MAIL: IHI@IHI-ENV.COM

SALT LAKE CITY

EMERYVILLE

PHOENIX

DENVER

SEATTLE

TABLE OF CONTENTS

EXECUTIVE SUMMARY

1.0	INTRODUCTION.....	1
1.1	Objectives	1
1.2	Scope of Work	1
2.0	METHODS.....	1
2.1	Lead Wipe Sampling.....	1
2.2	Quality Assurance.....	2
3.0	FINDINGS.....	2
3.1	Range Status and Description	2
3.2	Wipe Sampling Results.....	3
4.0	RECOMMENDATIONS.....	3
5.0	PROJECT LIMITATIONS.....	4
6.0	PROJECT APPROVAL	4
7.0	TECHNICAL ASSISTANCE	5

APPENDICES

Appendix A	References
Appendix B	Table 1 - Lead Wipe Sample Results
Appendix C	Laboratories Analytical Results - Lead
Appendix D	Drawing: Location of Lead Wipe Samples
Appendix E	IHSW Violation Inventory Log
Appendix F	Photo Log
Appendix G	Field Notes (Facility Background Info Worksheet)
Appendix H	Recommendations
Appendix I	IHSW Lead Cleanup SOP

EXECUTIVE SUMMARY

On April 25, 2013, [Non-Responsive] PE, CSP, of IHI Environmental (IHI), conducted an Industrial Hygiene (IH) Assistance Visit at the New Mexico Army National Guard Indoor Firing Range (IFR) located at 47 Bataan Boulevard, Santa Fe, New Mexico 87508. 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 determine if the firing range was operational or converted and to determine if the range and adjacent spaces were contaminated with lead residues above the limits outlined in the *Standard Operating Procedure (SOP) for Armory Cleanup & Follow-up Housekeeping*.

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 April 25, 2013, **Non-Responsive** PE, CSP, of IHI Environmental (IHI), conducted an Industrial Hygiene (IH) Assistance Visit at the New Mexico Army National Guard Indoor Firing Range (IFR) located at 47 Bataan Boulevard, Santa Fe, New Mexico 87508. The primary point of contact for information gathered during this survey was **Non-Responsive**

Non-Responsive

Note: **Non-Responsive** was not physically present during this visit and information was gathered from **Non-Responsive**

1.1 Objectives

The objectives of this IH Assistance Visit were to determine if the firing range was operational or converted and to determine if the range and adjacent spaces were contaminated with lead residues above the limits outlined in NGP 420-15, *Guidelines and Procedures for Rehabilitation and Conversion of Indoor Firing Ranges*, and the IHSW Standard Operating Procedure (SOP) for *Armory Cleanup & Follow-up Housekeeping*.

1.2 Scope of Work

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

- evaluate the status of the firing range;
- collect lead surface wipe samples from the firing range, adjacent spaces, and any areas where weapons are cleaned; and
- provide a report of findings.

2.0 METHODS

2.1 Lead Wipe Sampling

Lead wipe samples were collected on floor surfaces in the IFR at the former firing line, mid-range, and the bullet trap locations. Additional lead wipe samples were collected at the firing range entryway. Lead Wipe™ brand wipes were used within 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 D for sample locations and Appendix C 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.

2.2 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.

3.0 FINDINGS

3.1 Range Status and Description

The IFR at this armory was decommissioned as an active firing range and is now considered a "modified" converted "Shoot House." Personnel assigned to the Combat Training Unit reported that this IFR has never been used as a conventional indoor range. Currently,

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

May 15, 2013

Date

Industrial Hygiene Program Manager

7.0 TECHNICAL ASSISTANCE

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, 916-804-1707. Contact the State Safety and Occupational Health Office and/or the Regional Industrial Hygienist if the operations change, or the personnel are incapable of following the recommendations.

APPENDIX A

References

AR 385-10, *The Army Safety Program*

Title 29, *Code of Federal Regulations (CFR)*, 2011, revision Part 1910, *Occupational Safety and Health Standards*

NGP 420-15, *Guidelines and Procedures for Rehabilitation and Conversion of Indoor Firing Ranges*

IHSW, *Standard Operating Procedure for Armory Cleanup & Follow-up Housekeeping Recommendations*

Santa Fe, New Mexico - Shoot House - Lead Wipe Sample Results

Sample Number	Collection Date	Location	Result $\mu\text{g}/\text{ft}^2$
011-01	4/24/2013	Former Supply Air Plenum Floor	170
011-02	4/24/2013	Former Firing Lane Floor	140
011-03	4/24/2013	Former Mid Range Floor	80
011-04	4/24/2013	Former Bullet Trap Floor	100
011-05	4/24/2013	Former Firing Lane North West Wall	78
011-06	4/24/2013	Former Bullet Trap South East Wall	310
011-07	4/24/2013	Entryway to Shoot House	19
008-10	4/22/2013	Blank	N/A



BEST AVAILABLE COPY

ANALYTICAL REPORT

Report Date: May 06, 2013

Non-ResponsiveIHI Environmental
640 East Wilmington Avenue
Salt Lake City, UT 84106

Phone: (801) 466-2223

Fax: (801) 466-9616

Non-Responsive

Workorder: 34-1311904

Client Project ID: AL137011/Santa Fe Armory,
SantPurchase Order: AL137011
Project Manager: **Non-Responsive**

Analytical Results

Sample ID: 011-01		Media: Lead Dust Wipe		Received: 04/29/2013
Lab ID: 1311904001		Sampling Location: Santa Fe Armory, San		
Method: NIOSH 7300 Mod.		Sampling Parameter: Area 100 cm ²		Prepared: 05/02/2013 Analyzed: 05/03/2013
Analyte	ug/sample	ug/ft ²	RL (ug/sample)	
Lead	18	170	1.3	

Sample ID: 011-02		Media: Lead Dust Wipe		Received: 04/29/2013
Lab ID: 1311904002		Sampling Location: Santa Fe Armory, San		
Method: NIOSH 7300 Mod.		Sampling Parameter: Area 100 cm ²		Prepared: 05/02/2013 Analyzed: 05/03/2013
Analyte	ug/sample	ug/ft ²	RL (ug/sample)	
Lead	16	140	1.3	

Sample ID: 011-03		Media: Lead Dust Wipe		Received: 04/29/2013
Lab ID: 1311904003		Sampling Location: Santa Fe Armory, San		
Method: NIOSH 7300 Mod.		Sampling Parameter: Area 100 cm ²		Prepared: 05/02/2013 Analyzed: 05/03/2013
Analyte	ug/sample	ug/ft ²	RL (ug/sample)	
Lead	8.6	80	1.3	

Sample ID: 011-04		Media: Lead Dust Wipe		Received: 04/29/2013
Lab ID: 1311904004		Sampling Location: Santa Fe Armory, San		
Method: NIOSH 7300 Mod.		Sampling Parameter: Area 100 cm ²		Prepared: 05/02/2013 Analyzed: 05/03/2013
Analyte	ug/sample	ug/ft ²	RL (ug/sample)	
Lead	11	100	1.3	

ADDRESS 960 West LeVoy Drive, Salt Lake City, Utah, 84123 PHONE +1 801 266 7700 FAX +1 801 268 9992

ALS GROUP USA, CORP. Part of the ALS Group An ALS Limited Company

Environmental

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER



BEST AVAILABLE COPY

ANALYTICAL REPORT

Workorder: 34-1311904

Client Project ID: AL137011/Santa Fe Armory,
SantPurchase Order: AL137011
Project Manager: Non-Responsive

Analytical Results

Sample ID: 011-05	Media: Lead Dust Wipe	Received: 04/29/2013
Lab ID: 1311904005	Sampling Location: Santa Fe Armory, San	
Method: NIOSH 7300 Mod.	Sampling Parameter: Area 100 cm ²	Prepared: 05/02/2013 Analyzed: 05/03/2013
Analyte	ug/sample	ug/ft ² RL (ug/sample)
Lead	8.4	78 5.0

Sample ID: 011-06	Media: Lead Dust Wipe	Received: 04/29/2013
Lab ID: 1311904006	Sampling Location: Santa Fe Armory, San	
Method: NIOSH 7300 Mod.	Sampling Parameter: Area 100 cm ²	Prepared: 05/02/2013 Analyzed: 05/03/2013
Analyte	ug/sample	ug/ft ² RL (ug/sample)
Lead	33	310 1.3

Sample ID: 011-07	Media: Lead Dust Wipe	Received: 04/29/2013
Lab ID: 1311904007	Sampling Location: Santa Fe Armory, San	
Method: NIOSH 7300 Mod.	Sampling Parameter: Area 100 cm ²	Prepared: 05/02/2013 Analyzed: 05/03/2013
Analyte	ug/sample	ug/ft ² RL (ug/sample)
Lead	2.0	19 1.3

Comments

Sample: 1311904005

Lead was reported from 4X dilution data for this sample because of interferences. The reporting limit was raised proportionately to the reported dilution level.

Report Authorization

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

Laboratory Contact Information

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

Phone: (801) 266-7700
Email: als@alstglobal.com
Web: www.alstglobal.com



ANALYTICAL REPORT

Workorder: **34-1311904**Client Project ID: AL137011/Santa Fe Armory,
Sant

Purchase Order: AL137011

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

Definitions

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

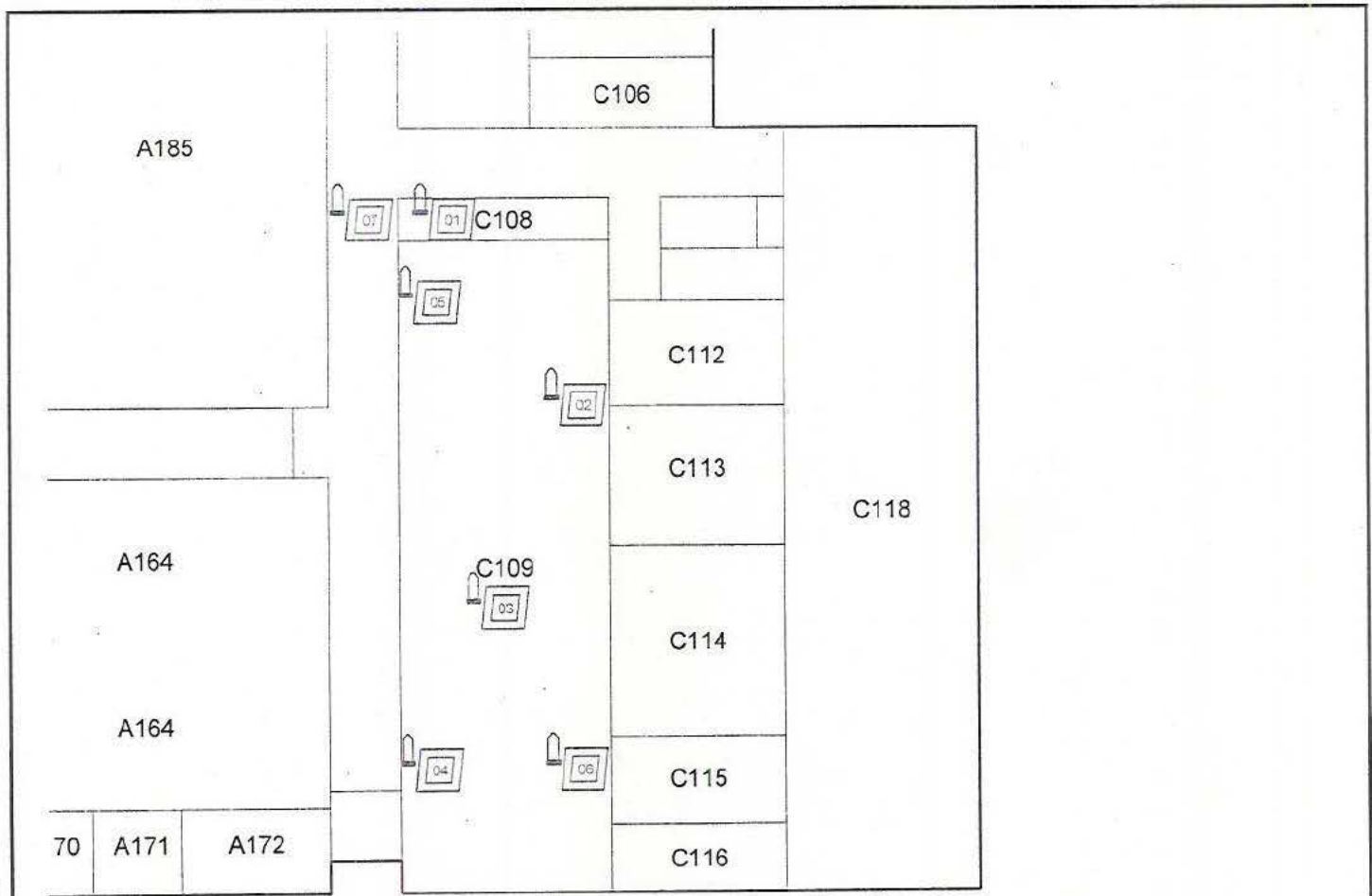
LOQ = Limit of Quantitation = RL = Reporting Limit, A verified value of method/media/instrument sensitivity.

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.



Explanation



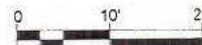
Lead Sample Locations & Numbers

Lead Wipe Sample Locations		
Sample Number	Sample Name	Location
01	011-01	Former Supply Air Plenum - Floor
02	011-02	Former Firing Lane - Floor
03	011-03	Former Mid-Range - Floor
04	011-04	Former Bullet Trap - Floor
05	011-05	Former Firing Lane - NW Wall
06	011-06	Former Bullet Trap - SE Wall
07	011-07	Entryway to Former IFR

NOTE: All Wipe Sample Sizes are 100 cm²



New Mexico National Guard Armory
47 Bataan Boulevard
Santa Fe, New Mexico



Lead Wipe Sample Locations

PROJECT No:	AL137006
SHEET NO:	1 of 1
DRAWN BY:	[Redacted]
DATE:	04-08-2013
REVIEWED BY:	SRN
DATE:	04-08-2013



Industrial Hygiene Southwest

Violation Inventory Log

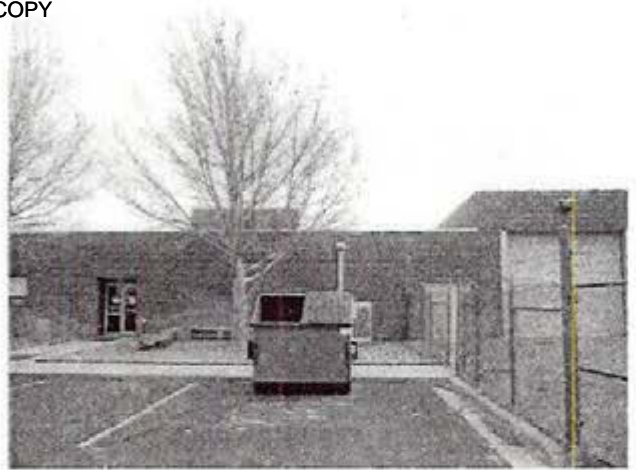
LOG OF SCHEDULE OF CORRECTIVE ACTION - COMPLIANCE WITH SAFETY AND HEALTH STANDARDS

Santa Fe Armory (IFR), 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"/> NMSFA-042513-3.2	The lead wipe sample collected on the southeast wall was 310 $\mu\text{g}/\text{ft}^2$ and the floor samples ranged from 80-170 $\mu\text{g}/\text{ft}^2$.	Santa Fe Armory	3	1. Clean the walls and floors of the shoot house to a lead level of less than 200 $\mu\text{g}/\text{ft}^2$ following the guidance in the attached SOPs. 2. Eliminate the use of simulation rounds which use a 9 millimeter case with a primer and smokeless gun powder in this range. 3. Perform post-cleanup wipe sampling to ensure lead levels are within the criteria outlined in the IHSW SOP for Armory Cleanup.					IHSW Lead SOP & Prudent Industrial Hygiene Practice



Photograph 1
New Mexico Army National Guard, Santa Fe Armory,
Front, Exterior



Photograph 2
New Mexico Army National Guard, Santa Fe Armory,
Side of IFR, Exterior



Photograph 3
General View – Hallway Outside IFR



Photograph 4
General View – Entry Door to IFR



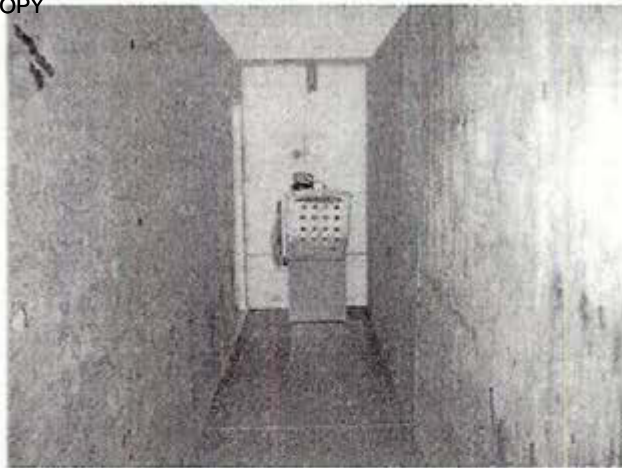
Photograph 5
Range Control Officer's Monitoring Station



Photograph 6
View of IFR from Former Firing Lanes to Bullet Trap



Photograph 7
View of Former Bullet Trap Area



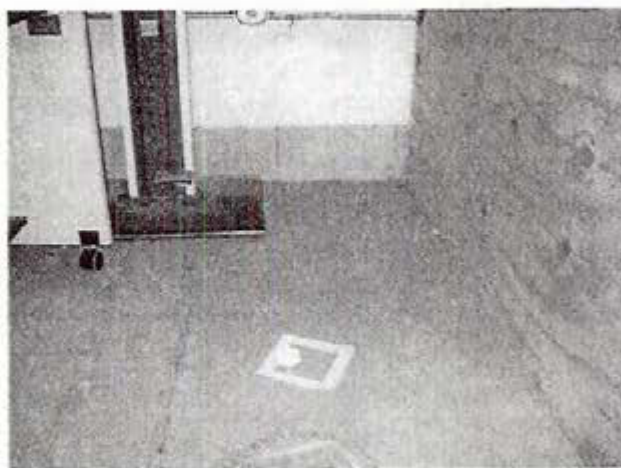
Photograph 8
View of Former Bullet Trap Area



Photograph 9
View of IFR from Former Bullet Trap to Former Firing Lanes



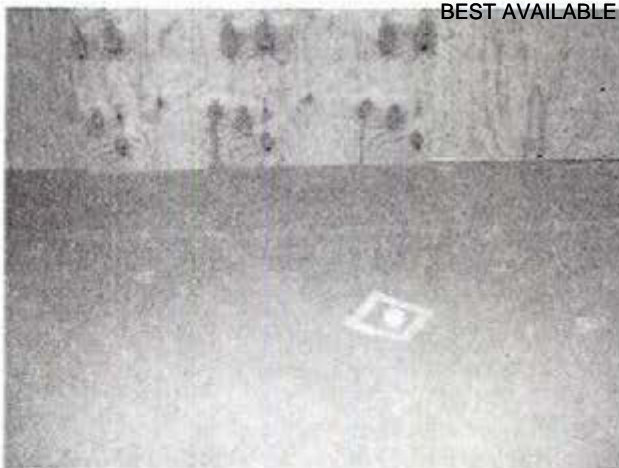
Photograph 10
Location of Lead Wipe Sample 011-01



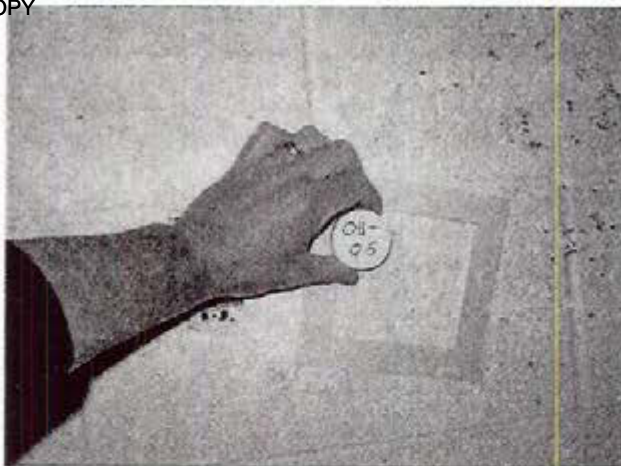
Photograph 11
Location of Lead Wipe Sample 011-02



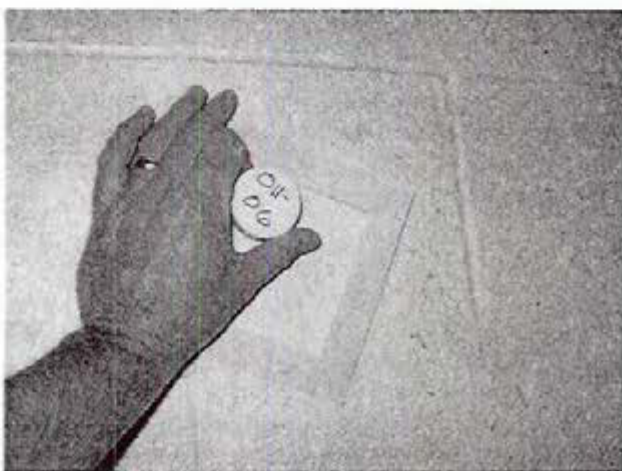
Photograph 12
Location of Lead Wipe Sample 011-03



Photograph 13
Location of Lead Wipe Sample 011-04



Photograph 14
Location of Lead Wipe Sample 011-05



Photograph 15
Location of Lead Wipe Sample 011-06



Photograph 16
Location of Lead Wipe Sample 011-07

FACILITY INFORMATION

(Information listed in First Section)
(1st Few Paragraphs/Pages of Report)

1. Date Prepared: April 25, 2013
2. Names (and Company Name) of Personnel Conducting Industrial Hygiene Site Assistance Visit: **Non-Responsive** IHI Environmental
3. Facility Name and Brief Summary of Primary Activities Conducted at Facility: Santa Fe Armory
4. Facility Address: 47 Bataan Blvd, Santa Fe, New Mexico 87508
5. Primary Unit Assigned to Facility (Ensure to capture and provide Unit Identification Code (UIC)): **Non-Responsive** - 93rd Troop Command
6. Co-Tenant Units Assigned or Working Within Facility (LIST ALL): G4, Combat Training Unit, HHD JFHQ, Det 720th Transportation Company
7. Square Ft. Area of Facility: 27,000 ft²
8. Work Schedule: 0700-1630 hours Monday-Friday Every other Monday off
9. Number of work bays: 0
10. Equipment Density and Type: N/A
 - a. List Equipment Nomenclature Serviced or Maintained at Facility: N/A
 - b. List Total Number for Each Nomenclature Serviced or Maintained at Facility: N/A
11. Total Number of Personnel: Unknown – POC not on site
12. No. of Admin. Personnel (Include Status – AGR, Fed. Tech., IDT, State or Contract Employee): Unknown – POC not on site
13. No. of Maintenance Personnel (Include Status –None
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:
Non-Responsive (505) 474-1724, 93rd Troop Command

19. Safety Officer: **Non-Responsive** State Safety Specialist

a. Email Address, Commercial Telephone Number and Unit Assigned to:
Non-Responsive (505) 474-1580.

20. Facility Telephone Number: (505) 474-1587

Summary of Recommendations for NMARNG Santa Fe Armory

3.2 Wipe Sampling Results

RECOMMENDATIONS

1. Clean the walls and floors of the shoot house to a lead level of less than 200 $\mu\text{g}/\text{ft}^2$ following the guidance in the attached SOPs.
2. Restrict the use of simulation rounds which use a 9 millimeter case with a primer and smokeless gun powder in this range.
3. Perform post-cleanup wipe sampling to ensure lead levels are within the criteria outlined in the IHSW SOP for Armory Cleanup.

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.

SOP FOR ARMORY CLEANUP

1. General.

1.1 Objective.

1.1.1. The purpose of this SOP (Standard Operating Procedure) is once a lead dust hazard has been identified and excess exists, how to lower the level of lead dust to afford a safe building, which is clean enough for all personnel exposed to this potential hazard.

1.2 Description of An Armory.

1.2.1 Armories provide a space for units to support and train soldiers.

1.2.2 The facility is utilized by Army National Guard (ARNG) family members, usually in a recreational or festive setting. This may include all members and all ages of a given family.

1.2.3 The Armory can be used for community activities, which may include all age levels.

1.3 Responsibilities.

1.3.1 It is the ARNG specialty branches, e.g., Industrial Hygiene (IH), Occupational Health & Safety's, responsibility to notify occupants of any known health risk within their facility.

1.3.2 It is the building managers responsibility to warn any users of this facility about potential hazards by, e.g., verbal, written or warning signs.

1.3.3 The ultimate responsibility falls back on the TAG of each state.

2. Background.

2.1 IH Investigation.

2.1.1 The IH community found unexpectedly high levels of lead dust during a normal IH investigation (survey) in an armory that had an Indoor Firing Range (IFR) within it. Wipe samples were taken in another armory without an IFR, only to find that this armory had higher than expected levels of lead dust, also.

2.1.2 Each ARNG Regional Industrial Hygienist has planned to survey all their armories spearheaded by the Midwest regional office, to determine the magnitude of these findings.

2.1.3 About 2/3rds of the armories tested so far, did not have "a clean bill of health". Now the IH community will attempt to discern where the contamination is coming from and also, give guidance on how to deal with these contaminant.

2.1.4 Air sampling of the armories tested have shown very low levels of lead dust in the breathing area. Dust wipe samples have varied in quantities present but have exceeded the EPA's floor standard and the ARNG IFR guidelines.

3. Relevant Standards and Guidelines.

3.1 Airborne Lead.

3.1.1 The Occupational Safety and Health Administrations (OSHA) Permissible Exposure Level (PEL) for airborne lead is **50 micrograms per cubic meter (ug/m3)**, averaged over an 8-hour work shift. The OSHA action level is 30 ug/m3.

3.2 Blood Lead Level (BLL).

3.2.1 OSHA requires that personnel who are exposed to airborne lead above the PEL be offered medical surveillance that includes blood lead level monitoring. Personnel with total **BLL above 50 micrograms per deciliter (ug/dl)** of blood are required to be removed from occupational lead exposures until the BLL drops back to 40.

3.2.2 Women who may become pregnant who are exposed to lead should consult with their physician. Fetal and newborn BLLs are similar to those of

the mother. The Center for Disease Control and Prevention considers levels above 10 ug/dl in children under 6 to be elevated BLLs.

3.3 Lead in Surface Dust.

3.3.1 There are no established standards for lead levels in dust within buildings other than those used by children under 6. The Environmental Protection Agency (EPA) along with Housing and Urban Development (HUD) floor dust lead level standard (which is currently **40 ug/ft²**) does not apply to workplace surfaces, and would be impossible to maintain in many industrial facilities. (EPA 40 CFR Part 745)

3.3.1.1 The EPA interior windowsill standard is 250 ug/ft².

3.3.1.2 The EPA standard for window trough is 400 ug/ft².

3.3.2 OSHA cites a level of 200 ug/ft² as guidance to its own inspectors for evaluating the cleanliness of lunchroom and locker room surfaces that are supposed to be kept as clean as possible.

3.4 Lead in Paint.

3.4.1 EPA's standard for lead-based paint or other surface coatings that contain lead equal to or exceeding 1.0 milligram per square centimeter (mg/cm²) or 0.5 percent (%) by weight or 5000 parts per million (ppm) by weight.

4. Indoor Firing Ranges (IFR).

4.1 Relevant Standards and Guidelines.

4.1.1 OSHA guidelines stated above (see 3.3.2) are the recommended working levels to achieve in an active IFR.

4.1.2 NGR 385-10 guideline reflects that of OSHA at 200 ug/ft² for lead dust on surfaces.

4.2 Maintenance and Cleaning.

4.2.1 Follow NGR 385-10, along with SOP found in All States Letter (Log Number P00-0059 along with All States Letter (Log Number P01-0075)

addressing Policy and Responsibilities for Inspection, Evaluation and Operation of ARNG Indoor Firing Ranges. Also, utilize AR 385-63 Range Safety.

4.2.2 Cross contamination is a concern where Armories and IFR's are co-located. Keeping an IFR dust level at 200 ug/ft² does not meet the 40 ug/ft² required on floor surfaces for children 6 and under. Tracking lead dust to other parts of the armory is a concern and should be addressed by the facilities manager and the range custodian.

5. Converted/Closed Indoor Firing Ranges.

5.1 Closed IFR.

5.1.1 Closed IFR's should be not utilized for anything, e.g. storage, office space or anything else. This should be a voided space with no entry. The IFR should have been cleaned to at least 200 ug/ft² before closure to prevent contamination via air stream or other means.

5.1.2 Should be locked and signage placed on entryway to warn personnel of lead contents.

5.2 Converted IFR— NG PAM 385-16 "Guidelines for converting of IFR."

5.2.1 These spaces should have been cleaned and taken to lowest possible level, e.g. 0-40 ug/ft², and then the proper sealant applied, retested via wipe samples. The results should be below the pre-sealant sample results and as close to zero as possible.

5.2.2 The backstop and ventilation system should have been removed prior to cleaning of the range.

5.2.3 If all of this wasn't accomplished initially and you have high lead levels after this Baseline survey, or if it was accomplished, you need to talk to the original contractor who was responsible for the cleanup or get the area re-cleaned by a different contractor. Converted IFR's have to meet certain criteria before they can be changed into something that will be utilized for an office, storage, or something else where contamination to an individual may occur.

6. Armory Cleanup.

6.1 High Test Result.

6.1.1 If the public utilizes your facility and the results came back above 40 ug/ft² you are responsible for cleaning this area and adjoining areas to meet the 40 ug/ft² or less.

6.1.1.1 Unless you can guarantee no children under the age of 7 will come into your facility.

6.1.1.2 Unless your state public health has other guidance, e.g., post signage to warn personnel who are pregnant or of child bearing age, or under the age of 7 y/o.

6.1.1.3 Signs stating "No smoking, drinking or eating, application of make-up without washing of hands prior to activity."

6.2 **Cleaning of Building.** Before proceeding into the cleanup mode, first, discuss with your Environmental office what procedures they would recommend and then coordinate your efforts with local agencies, if warranted.

6.2.1 The building, and dusty materials and equipment in it should be cleaned one time to reach the dust lead levels appropriate for the function of this facility, e.g., used by full-time personnel only, utilized by adults or children 7 y/o, or order children only, or utilized by pregnant individuals and/or children under the age of 7. **NOTE:** This type cleaning implies that this is not a facility that has an active Indoor Firing Range. For facilities with active ranges, these facilities should be monitored with wipe samples taken over the drill floor area by the Range Custodian quarterly, to ascertain the level of lead is at the required level for your particular facility and situation.

6.2.1.1 This cleanup can be accomplished using a HEPA vacuum (a very tedious and long operation) and then by utilizing a wet method with "Spic n Span" or something equivalent to this detergent - using wet rags to wipe down surfaces and mops soaked in this solution to do floor area. **NOTE:** Personal protective gloves, rubber boots or protective disposable shoe/boot covers should be used during this procedure and personnel's

clothing should be washed separately from their families, if they have young children at home. Personnel should wash their hands after performing this operation to assure lead contaminants are not ingested.

6.2.1.2 Frequent changing out of the water used is vital. Disposal of this hazardous waste water and rags/mop heads, Personal Protective Equipment (PPE), etc., should be coordinated with your Environmental office.

6.2.2 Clean all ductwork where lead was found. EPA has a protocol specifically for replacing or cleaning lead in dust form in HVAC systems. EPA Office of Pollution Prevention and Toxics, "*Reducing Lead Hazards When Remodeling Your Home*" www.epa.gov/opptintr/lead/irpamph.pdf.

6.2.3 Continue to enforce good housekeeping and hygiene practices. These measures make good sense to minimize exposures to any toxic chemicals in the workplace.

6.2.4 Provide lead awareness training to the general workforce and any occupants of your facility.

NOTE: Before you start any new procedures or practices be aware of the local city and state regulations in your area.



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

Santa Rosa Armory
1077 South Hwy 91
Santa Rosa, NM 88435

10510 Superfortress Avenue, Suite C, Mather, CA 95655

(916) 854-1491

69



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

ARNG-CSG-IHSW

8 November 2012

MEMORANDUM THRU New Mexico Army National Guard, Occupational Health Nurse (OHN), 600 Wyoming Blvd NE, Albuquerque, NM 87123

FOR Commander, Santa Rosa Armory 1077 South Hwy 91, Santa Rosa, NM 88435

SUBJECT: Executive Summary for Industrial Hygiene Site Assistance Visit (IHSAV) for the Santa Rosa Armory 1077 South Hwy 91 Santa Rosa, NM 88435.

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 Santa Rosa Armory 1077 South Hwy. 91, Santa Rosa, NM on 12 JUL 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. Fire extinguishers should be inspected annually by fire department and monthly maintenance check by facility personnel (para. 4.10) (RAC 4)

ARNG-CSG-IHSW

SUBJECT: Executive Summary for Industrial Hygiene Site Assistance Visit (IHSAV) for the Santa Rosa Armory 1077 South Hwy 91 Santa Rosa, NM 88435.

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. Inventory chemicals and provide new list and all MSDS's for chemicals within this facility. (para. 4.6.2) (RAC 4)

d. Provide personnel with asbestos awareness training to help prevent them from contaminating others, the building or themselves. (para. 4.4) (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 (IHSAV) for the Santa Rosa Armory 1077 South Hwy 91 Santa Rosa, NM 88435.

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

FDH
NGB, IHSW, CIV
Industrial Hygiene



NATIONAL GUARD BUREAU
111 SOUTH GEORGE MASON DRIVE
ARLINGTON VA 22204-1382

ARNG-CSG-P

02 NOV 2012

MEMORANDUM FOR **Non-Responsive** The Adjutant General of New Mexico, 47
Bataan Blvd., Santa Fe, NM 87505-4695

SUBJECT: Executive Summary for the Industrial Hygiene Survey of Santa Rosa
Armory at 1077 South Hwy 91, Santa Rosa, NM 12 JUL 2012.

1. Purpose. Industrial Hygiene Southwest Region contracted to have an Annual Industrial Hygiene (IH) survey conducted which would identify, assess, and make recommendations for the reduction or elimination of potential health hazards present in the workplace. This EXSUM provides the most critical recommendations which need to be addressed promptly. The IH Report contains additional findings and recommendations which should be addressed as funding and manpower permit.

2. Findings.

a. The Armory had the following high risk level findings:

1. There were no Risk Assessment Code(s) (RAC 1 or RAC 2) identified during this Industrial Hygiene Survey.

b. The full IH report contains information which can be used in correcting deficiencies, establishing priorities and developing suspense dates.

c. Some locations were not evaluated during this visit. However, additional IH services can be requested to monitor them for potential health hazards when operations are ongoing.

3. Recommendations. A risk assessment code (RAC) has been assigned to each health hazard identified in the report. Each type of RAC (health, safety, ergonomic) uses slightly different matrices to determine the overall severity, however a RAC 1 should be considered Critical; a RAC 2 is Serious. Follow all recommendations made in the attached IH survey report, the Violation Log as well as the following recommendations.

a. No RAC 1, or RAC 2 hazard(s) were identified at this facility.

ARNG-CSG-P

SUBJECT: Executive Summary for the Industrial Hygiene Survey of Santa Rosa
Army NM on 12 JUL 2012.

4. The technical point of contact is **Non-Responsive** at (775) 771-3956. For follow up
information, contact the Occupational Health & Safety Office, **Non-Responsive**
Non-Responsive at (602) 267-2577.

Non-Responsive

CF

Chief, Occupational Health

Non-Responsive

DSS

Non-Responsive

460 Fairview Dr, Carson City, NV 89701

CFM

460 Fairview Dr, Carson City, NV 89701

ASC

20,000 Army Aviation Dr, Reno, NV 89506

CF w/encl

OHN

Non-Responsive

460 Fairview Dr, Carson City, NV 89701

Facility Supervisor

Non-Responsive

20,000 Army Aviation Dr, Reno, NV 89506



Industrial Hygiene Southwest
Violation Inventory Log
LOG OF SCHEDULE OF CORRECTIVE ACTION - COMPLIANCE WITH SAFETY AND HEALTH STANDARDS
Santa Rosa 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 NMSRA-07122012-4.4	An asbestos survey could not be located during this IH Assistance Visit.	Santa Rosa Armory	3	Contract with a licensed firm to perform an asbestos survey and assessment.					1910.1001(i)(3)(iii)
<input type="checkbox"/> NMSRA-07122012-4.4	Personnel have not been provided with asbestos awareness training.	Santa Rosa Armory	4	Based on the findings of this survey, provide awareness training to assigned personnel for the specific types of asbestos in this Armory.					1910.1001(i)(3)(iii)
<input type="checkbox"/> NMSRA-07122012-4.6.2	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)
<input type="checkbox"/> NMSRA-07112012-4.10	Not all fire extinguishers have current monthly and annual maintenance checks	Santa Rosa Armory	4	Conduct monthly and annual maintenance checks on all fire extinguishers					1910.157 (d) (2) 1910.157 (e) (2)
<input type="checkbox"/> NMSRA-07112012-4.10	Electrical outlets within six feet of the kitchen sinks were noted to have non-functioning GFCIs	Kitchen	4	Correct the wiring and verify the function of the GFCI outlet in the kitchen.					1910.303(b)(1) & NFPA 70, Article 210-6

BEST AVAILABLE COPY



Industrial Hygiene Southwest
Violation Inventory Log
LOG OF SCHEDULE OF CORRECTIVE ACTION - COMPLIANCE WITH SAFETY AND HEALTH STANDARDS
Santa Rosa Armory, NM

CONTROL NUMBER	HAZARD DESCRIPTION	SITE	RAC	CORRECTIVE ACTIONS (Abatement Plan)	SUSPENSE DATE	ACTION OIC/NCIC	Estimated Cost(s)	DATE CORRECTED	REFERENCES
<input type="checkbox"/> CLOSED									
NMSRA-07122012-4.4 <input type="checkbox"/>	An asbestos survey could not be located during this IH Assistance Visit.	Santa Rosa Armory	3	Contract with a licensed firm to perform an asbestos survey and assessment.					1910.1001(i)(3)(i)
NMSRA-07122012-4.4 <input type="checkbox"/>	Personnel have not been provided with asbestos awareness training.	Santa Rosa Armory	4	Based on the findings of this survey, provide awareness training to assigned personnel for the specific types of asbestos in this Armory.					1910.1001(i)(3)(iii)
NMSRA-07122012-4.6.2 <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)
NMSRA-07112012-4.10 <input type="checkbox"/>	Not all fire extinguishers have current monthly and annual maintenance checks	Santa Rosa Armory	4	Conduct monthly and annual maintenance checks on all fire extinguishers					1910.157 (d) (2) 1910.157 (e) (2)
NMSRA-07112012-4.10 <input type="checkbox"/>	Electrical outlets within six feet of the kitchen sinks were noted to have non-functioning GFCIs.	Kitchen	4	Correct the wiring and verify the function of the GFCI outlet in the kitchen.					1910.303(b)(1) & NFPA 70, Article 210-6

BEST AVAILABLE COPY

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.

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.

TABLE OF CONTENTS

EXECUTIVE SUMMARY

1.0	INTRODUCTION.....	1
1.1	Objectives	1
1.2	Scope of Work	1
2.0	PROCESS DESCRIPTION.....	1
3.0	METHODS AND APPLICABLE REGULATIONS AND STANDARDS.....	2
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
4.0	FINDINGS AND RECOMMENDATIONS.....	5
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.....	9
4.9	Kitchen Appliance Sound-Level Measurements	9
4.10	General Safety Walk-Through.....	9
5.0	PROJECT LIMITATIONS.....	10
6.0	PROJECT APPROVAL	11

APPENDICES

Appendix A	References
Appendix B	Assessment Criteria
Appendix C	Photo Log
Appendix D	Chemical Inventory
Appendix E	Floor Plan/IAQ - Temp, RH, & CO ₂ 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 Forms 2214

EXECUTIVE SUMMARY

On July 12, 2012, **Non-Responsive** MPH, an Industrial Hygienist with IHI Environmental (IHI), conducted an Industrial Hygiene (IH) Assistance Visit at the Santa Rosa Armory, located at 1077 South Highway 91, Santa Rosa, New Mexico 88435. The primary point of contact for information gathered during this survey was **Non-Responsive**, (501) 474-2680,

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 12, 2012, [Non-Responsive] MPH, an Industrial Hygienist with IHI Environmental (IHI), conducted an Industrial Hygiene (IH) Assistance Visit at the Santa Rosa Armory, located at 1077 South Highway 91, Santa Rosa, New Mexico 88435. The primary point of contact for information gathered during this survey was [Non-Responsive] (501) 474-2680,

[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 Santa Rosa Armory has 20 full-time guard members. The armory has offices used for administrative purposes, as well as training facilities, a firing range, a recruitment office, a drill floor, storage rooms, a break room, a locker room, a kitchen, and an equipment storage bay. The transportation company is assigned to this armory. Maintenance of the armory is conducted internally. Two military employees are responsible for maintenance/housekeeping. The only civilian activities in this armory are when the drill hall is rented for private parties.

Army National Guard members occasionally use the drill floor as a staging area to clean weapons.

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, in the kitchen and 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

The armory's heating, ventilation, and air-conditioning (HVAC) systems was 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 is available.

Carbon dioxide (CO₂), 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 CO₂ 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 volumes of fresh outdoor air are being introduced into indoor air. The outdoor level of CO₂ is usually 300 to 400 parts per million (ppm). Properly ventilated buildings should have CO₂ levels between 600 and 1,500 ppm, with a floor or building average around 1,000 ppm. If average CO₂ 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. If a building exceeds this guideline, it should not be interpreted as a hazardous or life-threatening situation. An elevated CO₂ level is only an indication that the amount of outside air being brought into a building may be inadequate or poorly distributed.

In building areas where there are potential sources of CO₂ other than exhaled breath, the guidelines above cannot be used. The Occupational Safety and Health Administration (OSHA) standard for CO₂ 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 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 these instruments are attached in Appendix H.

3.12 Quality Assurance

IHI employs, at a minimum, the following methods to help assure the 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.

Recommendations

None

4.2 Painted Surface Evaluation

There was no peeling paint observed throughout the armory on the day of the survey; therefore, no samples were collected.

Recommendation

None

4.3 Moisture Intrusion and Limited Visual Fungal Growth Evaluation

Water-damaged ceiling tiles were noted along the longitudinal hallway in the center of the facility, outside the supply room; no visible fungal growth was observed. See the drawing in Appendix E for locations of these ceiling tiles.

Recommendations

None

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. 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

Heating and cooling is provided by roof-top split heating, ventilation, and air-conditioning units. The air-handling units serving the administrative offices are equipped with High Efficiency Particulate Air (HEPA) filters.

The average outdoor CO₂ concentration at the time of the survey was 396 ppm. The highest CO₂ concentration measured inside the building was 478 ppm, which should not result in indoor air quality complaints.

Building air temperatures ranged from 74.2°F to 76.5°F and relative humidity was between 49.5% and 58.2% during the testing period. Air temperatures were slightly above the recommended comfort range of 68°F to 75°F and the relative humidity was within 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.

Recommendations

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 two supply storage rooms, a cleaning supply closet, and a storage room containing a flammable storage locker. An inspection of the chemical inventory and MSDSs maintained in the cleaning supply room revealed that current products in use by the armory are all accounted for and their associated MSDSs are available. The inventory and MSDSs for the flammable agents were not consistent with the contents of the flammable storage cabinet.

Copies of chemical inventories are provided in Appendix D.

Recommendations

See recommendation in Section 4.6.2 below.

4.6.2 Flammable Storage Cabinets

There is one flammable storage cabinet located in a storage room within the maintenance bay. This flammable storage cabinet was inspected, and no storage incompatibilities or leaking materials were found. This cabinet is in good condition and the doors were noted to close properly. The list of MSDSs provided, however, was not consistent with the contents of the flammable storage cabinet.

Recommendations

Develop updated inventory and maintain MSDSs for the chemicals inside the flammable storage cabinet to reflect its current contents.

4.7 Safety Training and Record Keeping

The following safety documentation is maintained in the Santa Rosa armory:

Safety Standard Operating Procedures for

- Accident and Safety Hazard Reporting
- Hazardous Materials and Waste Management Plan
- Hazard Communication
- Safety Awards
- Safety Education and Training
- Fire Prevention

Army Safety Program, Army Regulation 385-10

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

Army Accident Prevention Awards Program, Army Regulation 672-74

The last Safety Council Meeting was held on March 24, 2011

All other safety related SOPs and regulations are maintained electronically on the Reserve Component Automated System (RCAS).

The following safety training documentation is maintained in the Santa Rosa armory:

- Heat Stress/ Cold Weather Briefing
- Fire Prevention/Emergency Evacuation
- Range and Weapon Safety
- Convoy Safety
- DUI/POV Safety
- Risk Management

The NMARNG has other required safety training courses that are performed on-line.

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

Recommendations

None

4.8 Kitchen Ventilation Survey

Duct velocity measurements could not be obtained directly for the stove/oven 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 of the Stove/Oven Exhaust Fan is 143 fpm.

Recommendation

Upgrade this exhaust fan to provide a duct velocity of at least 500 fpm.

4.9 Kitchen Appliance Sound-Level Measurements

Sound-level measurements were collected from the following kitchen appliances:

- Two adjacent freezers
- Manitowoc ® ice machine
- Salvajor® garbage disposal (north sink)
- Exhaust hood above the south sink
- Exhaust hood above the stove

Sound-level measurements could not be obtained for the dish washer or the exhaust hood over the north sink because they could not be turned on. All 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 noise dosimetry surveys for this area.

Recommendations

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 most of the fire extinguishers.

4. Eyewash stations were not observed in this facility.
5. Fire evacuation routes are posted prominently throughout this armory.
6. A ground fault circuit interrupter (GFCI) within six feet of a water source in the kitchen did not interrupt the circuit when tested. There are several outlets within six feet of water sources that do not have GFCIs.

Recommendations

1. Ensure all fire extinguishers undergo an annual and monthly maintenance check.
2. Repair or replace any GFCI that fails a circuit test, and 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 30, 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).



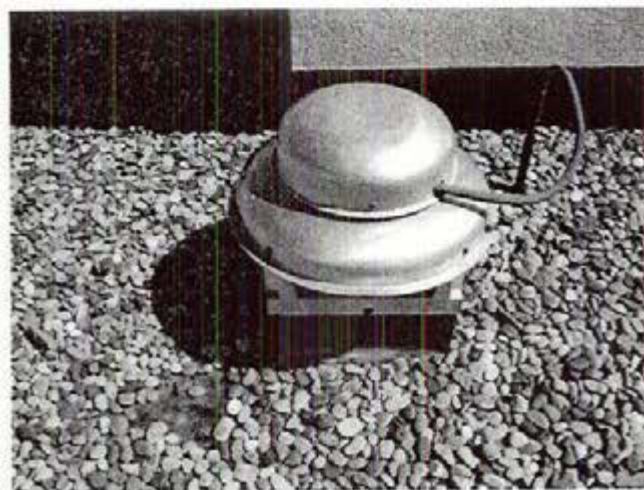
Photograph 1
View of north side of Santa Rosa Armory



Photograph 2
View of south side of Santa Rosa Armory



Photograph 3
Exhaust hood over south sink, interior



Photograph 4
Exhaust duct for south sink hood, exterior



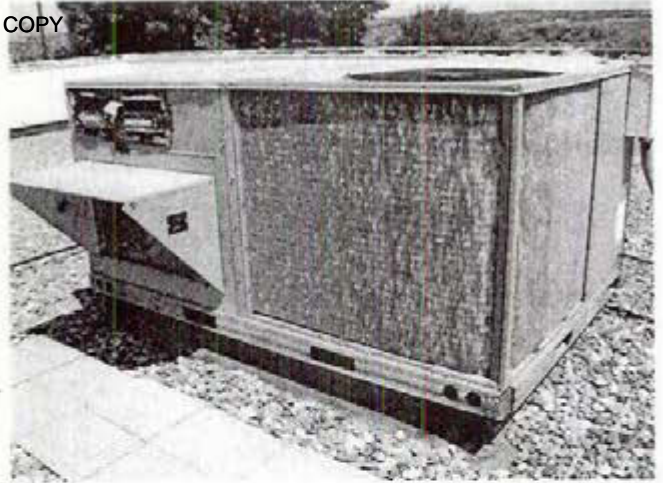
Photograph 5
Stove/oven exhaust hood, interior



Photograph 6
Stove/oven exhaust duct, exterior



Photograph 7
Air handling unit on roof



Photograph 8
Air handling unit with HEPA filter, roof



Photograph 9
Safety: monthly and annual fire extinguisher dates not current



Photograph 10
Safety: No GCFI within 6 feet of a water source.



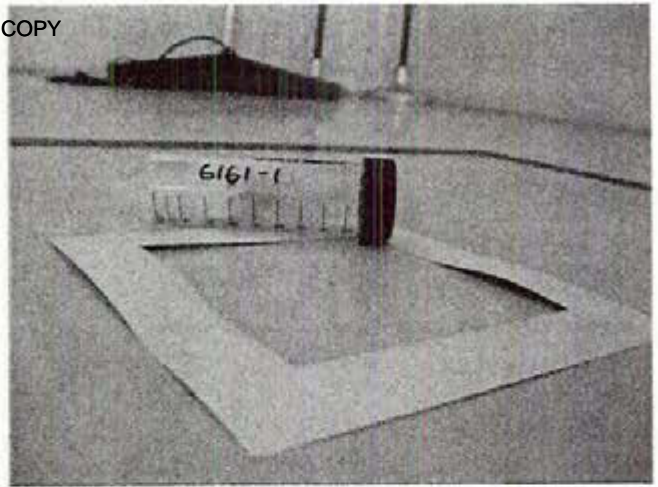
Photograph 11
Flammable storage cabinet: doors open



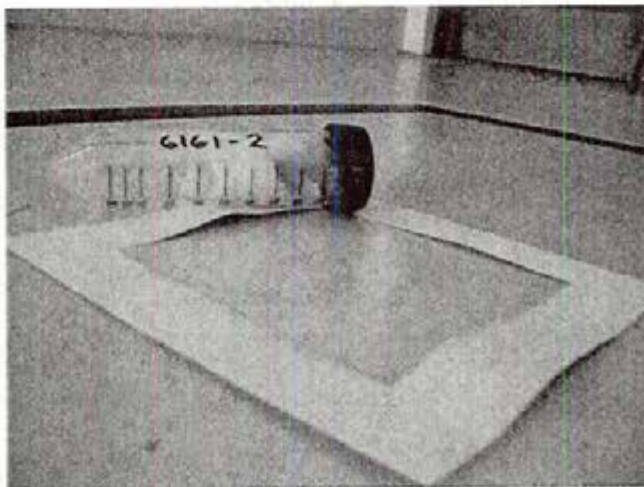
Photograph 12
Flammable storage cabinet: doors closed



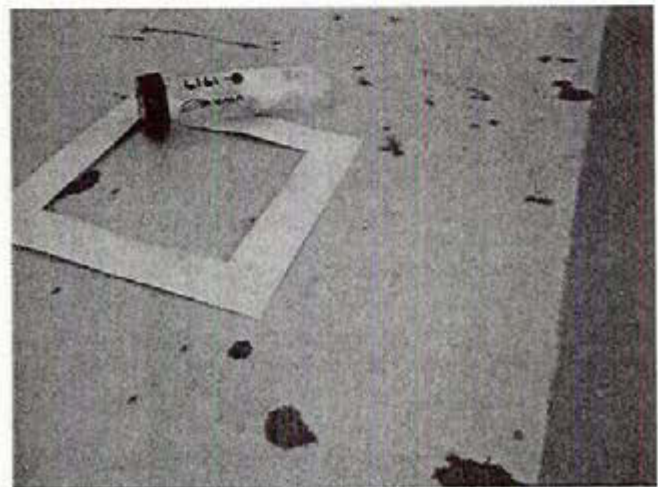
Photograph 13
Chemical storage/supply room



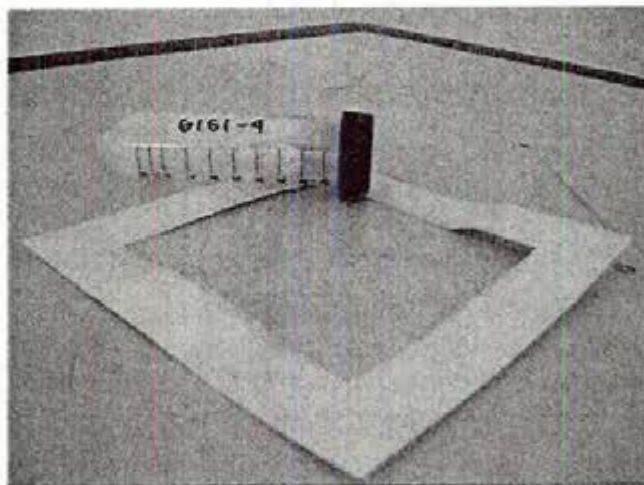
Photograph 14
Lead wipe sample location 6161-1, Drill hall,
N.W.



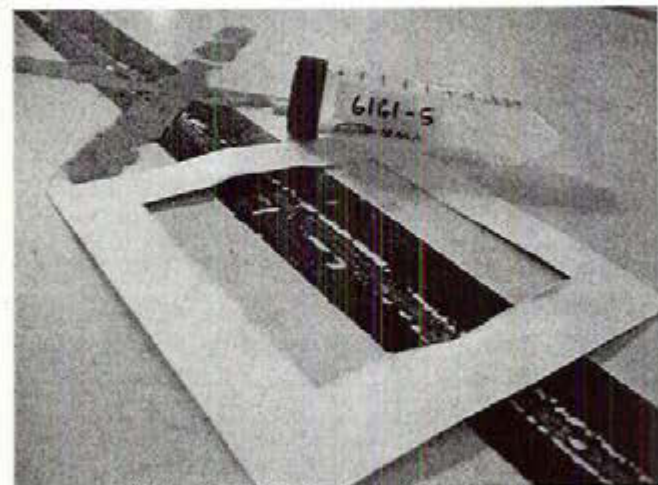
Photograph 15
Lead wipe sample location 6161-2, Drill hall,
S.W.



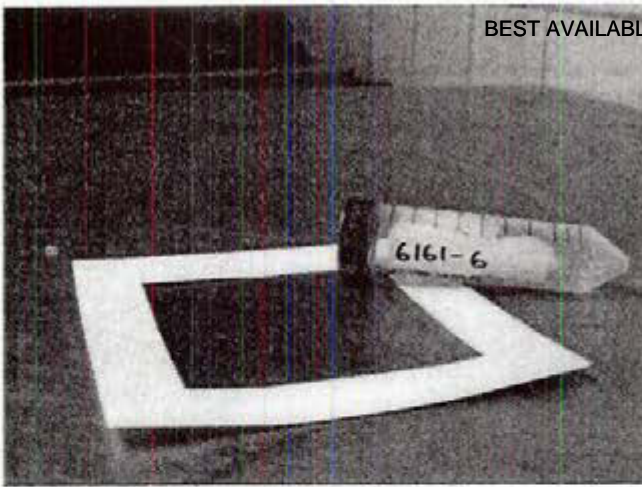
Photograph 16
Lead wipe sample location 6161-3, Drill hall,
S.E.



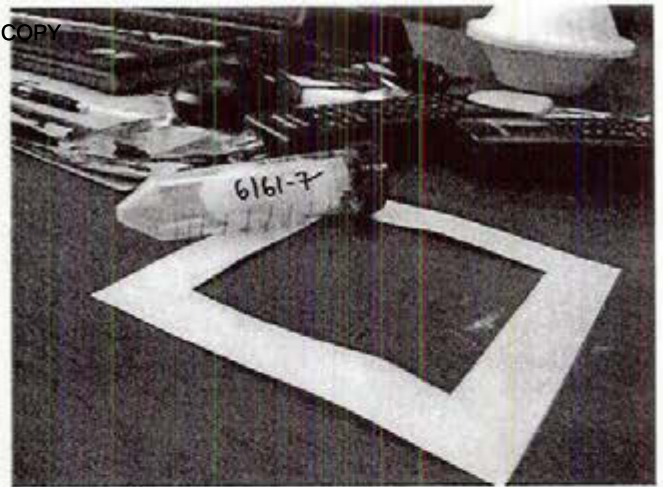
Photograph 17
Lead wipe sample location 6161-4, Drill hall,
N.E.



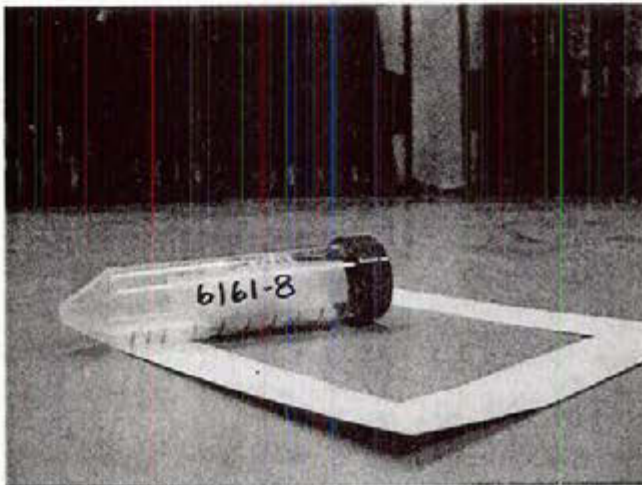
Photograph 18
Lead wipe sample location 6161-5, Drill hall,
Center



Photograph 19
Lead wipe sample location 6161-6, Kitchen



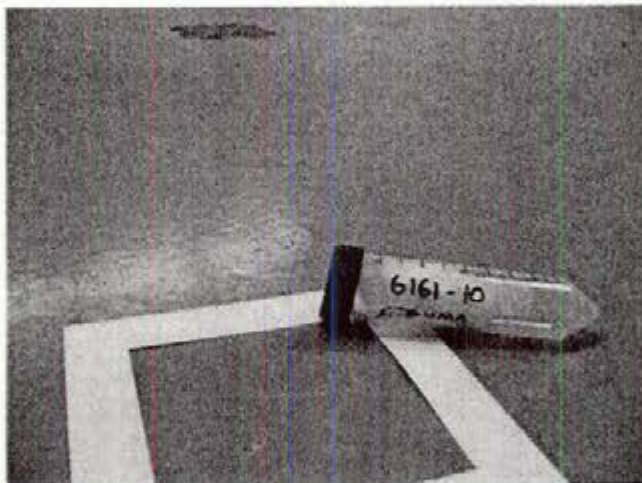
Photograph 20
Lead wipe sample location 6161-7, SSG
Bradley's desk



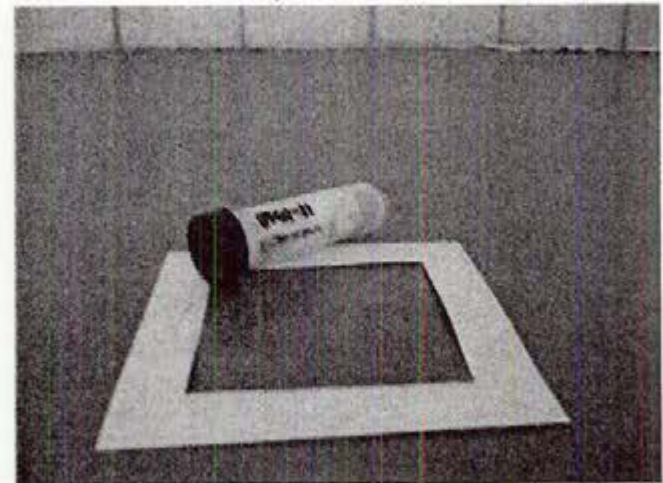
Photograph 21
Lead wipe sample location 6161-8, Gun vault



Photograph 22
Lead wipe sample location 6161-9, Rifle range,
Firing line



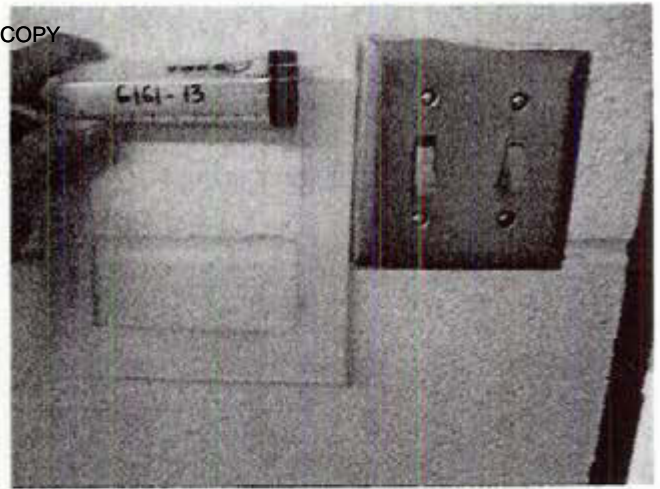
Photograph 23
Lead wipe sample location 6161-10, Rifle range,
mid-range



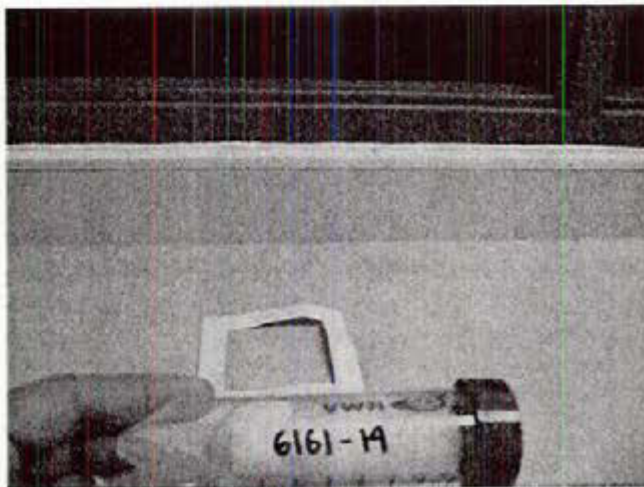
Photograph 24
Lead wipe sample location 6161-11, Rifle range,
Bullet Trap



Photograph 25
Lead wipe sample location 6161-12, Rifle range,
west wall



Photograph 26
Lead wipe sample location 6161-13, Rifle range,
north wall



Photograph 27
Lead wipe sample location 6161-14, Rifle range,
view room



Photograph 28
Lead wipe sample location 6161-15, hallway
outside supply room

TAB MSDS

1	GoJo
2	Hand Soap Coconut Oil
3	Liquid Soap
4	Hospital Disinfectant / Cleaner
5	Ajax Cleaner
6	Frequency 64
7	Clorox
8	Toilet Bowl block
9	Glass cleaner
10	Spray Buff
11	
12	Lemon Oil
13	Aerosol Festival
14	Scouring Cleanser
15	Sudsing Crème Cleaner
16	Non acid bowl cleaner
17	Spray Buff
18	700 Special Oil
19	Scrubable Floor Finish
20	Floor Finish
21	Enviro Neutral Cleaner
22	Economic Floor Finish
23	
24	Above Floor Finish
25	Tough Guy Urinal Toss Block
26	Vinyl Screen
27	Sweeping Compound
28	Clinging Acid Bowl Cleaner
29	Brite Restroom and bowl cleaner
30	

Kitchen Stove/Oven Exhaust Duct Velocity Estimate

Face Dimensions = 14.5 X 64.5 Inches

Face Area = 6.49479 ft²

Face Vel. Measurement Points

1	3	5	7	9	11
2	4	6	8	10	12

Face Velocity Measurements

Point Flow rate (fpm)

1	255
2	244
3	48
4	145
5	47
6	96
7	34
8	46
9	16
10	20
11	19
12	4

Ave Flow Rate = 81.1667 fpm

Area of Face (A) = 6.49479 ft²

Q = A x V

Q = 527.161 CFM

Exhaust Duct Diameter = 26 inches

Area of Roof Top Exhaust Duct = 3.68702 ft²

Estimated Duct Velocity = 142.978 fpm

Freezers (x2)

dBH

BEST AVAILABLE COPY

dBc

61

72

Manitowoc Ice machine

65

70

Salvador 2000
garbage disposal -
(North sink)

87

87

Kitchen, sink exhaust
hood (south sink)
(1st pic of hood on camera)

79

80

SAFETY NOTES
① no GFCI on outlet near ice machine
② no GFCI on outlet near sink (w/in 6')
③ monthly fire exting insp. out of date last one in 5/12

ed on north sink/
dishwasher - non operational ... Dish washer is also non operational

ove exhaust hood

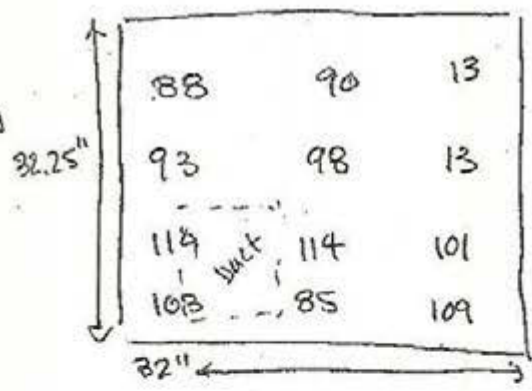
72

83

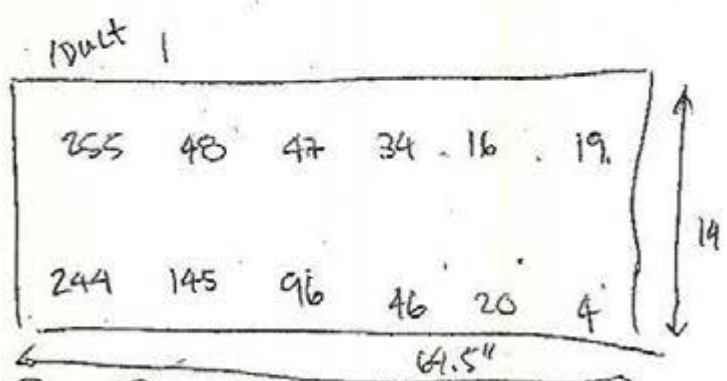
ventilation survey

functional exhaust fans

just in over with sink
Diameter of duct on roof - 14"
Area of exhaust hood
Air velocity measurements



just in over stove
Diam of duct on roof 26"
Area of exhaust hood
Air velocity mmbs



HEPA filtered heating + cooling units on roof - serving admin offices
Remor ... on roof serving remainder

FACILITY INFORMATION
(Information listed in First Section)

1. Date Prepared:

7/12/12

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:
Santa Rosa Armory.

4. Facility Address:

1077 South Highway 91, Santa Rosa, NM, 88435

5. Primary Unit Assigned to Facility (Ensure to capture and provide Unit Identification Code (UIC)): 720th Trans CO

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

None

7. Square Ft. Area of Facility:

21,250 SF

8. Work Schedule:

M-F

9. Number of work bays:

1- Maintenance Bay

10. Equipment Density and Type:

M915A3 Trucks

M1165 HMV

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

- **Total Number of Personnel:** 20
- **No. of Admin. Personnel (Include Status – AGR, Fed. Tech., IDT, State or Contract Employee):** 1
- **No. of Maintenance Personnel (Include Status – AGR, Fed. Tech., IDT, State or Contract Employee):** 2

- Total Number of Personnel Enrolled in the Hearing Conservation Program: 0
- Total Number of Personnel Enrolled in the Respiratory Protection Program: 0
- Total Number of Personnel Enrolled in the Medical Surveillance Program: 0
- Total Number of Personnel Enrolled in the Vision Program: 0

18. Facility Commander:

Non-Responsive

(505) 474-2601

19. Safety Officer:

Non-Responsive

(505) 474-2601

20. Facility Telephone Number:

Non-Responsive

(505) 474-2680



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	10-06-11	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

☐ IN TOLERANCE

☒ AS FOUND

☒ OUT OF TOLERANCE

- CALIBRATION VERIFICATION RESULTS -

GAS CO ₂ 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 ₂	EB0021287	08-03-11	08-02-14	200 CO	CC188518	07-28-11	07-27-14
N ₂	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 ₄ H ₈	CC314662	06-04-09	06-04-12	100 C ₄ H ₈	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 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 (59.4-60.5)

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 C-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	CC314662	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 (3.38~3.73)
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

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

Non-Responsive

May 3, 2012

DATE

CALIBRATED

Doc. ID: CERT_GEN_WCC

Tooele Armory - Lead Wipe and Paint Chip Sample Results

Lead Wipe Sample Results

Sample Number	Collection Date	Location	Result $\mu\text{g}/\text{ft}^2$
6161-01	7/12/2012	Drill floor N.W. area	<23
6161-02	7/12/2012	Drill floor S.W. area	<23
6161-03	7/12/2012	Drill floor S.E. area	<23
6161-04	7/12/2012	Drill floor N.E. area	<23
6161-05	7/12/2012	Drill floor Center area	<23
6161-06	7/12/2012	Kitchen, food preparation table	<23
6161-07	7/12/2012	Admin. Office, SSG Bradley's desktop	25
6161-08	7/12/2012	Gun Vault floor, center	<23
6161-09	7/12/2012	Rifle Range, at starting line	<23
6161-10	7/12/2012	Rifle Range, mid-range, center	<23
6161-11	7/12/2012	Rifle Range, end-range	<23
6161-12	7/12/2012	Rifle Range, wall, near light switch, N.W.	<23
6161-13	7/12/2012	Rifle Range, wall, near light switch, East	<23
6161-14	7/12/2012	Rifle Range, countertop in view room (West)	<23
6161-15	7/12/2012	Longitudinal hallway, outside of supply room	<23
6161-16	7/12/2012	Field Blank	NA



BEST AVAILABLE COPY
ANALYTICAL REPORT

Report Date: July 23, 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: **34-1219954**

Client Project ID: 12U-I6161/Santa Rosa Armory

Purchase Order: 12U-I6161

Project Manager: **Non-Responsive**

Analytical Results

Sample ID: 6161-1		Media: Lead Dust Wipe	Collected: 07/12/2012
Lab ID: 1219954001		Sampling Location: Santa Rosa Armory	Received: 07/17/2012
Method: NIOSH 7300 Mod.		Sampling Parameter: Area 100 cm²	Prepared: 07/18/2012 Analyzed: 07/19/2012
Analyte	ug/sample	ug/ft²	RL (ug/sample)
Lead	<2.5	<23	2.5

Sample ID: 6161-2	Media: Lead Dust Wipe	Collected: 07/12/2012	
Lab ID: 1219954002	Sampling Location: Santa Rosa Armory	Received: 07/17/2012	
Method: NIOSH 7300 Mod.	Sampling Parameter: Area 100 cm²	Prepared: 07/18/2012	
		Analyzed: 07/19/2012	
Analyte	ug/sample	ug/ft²	RL (ug/sample)
Lead	<2.5	<23	2.5

Sample ID: 6161-3	Media: Lead Dust Wipe	Collected: 07/12/2012	
Lab ID: 1219954003	Sampling Location: Santa Rosa Armory	Received: 07/17/2012	
Method: NIOSH 7300 Mod.	Sampling Parameter: Area 100 cm ²	Prepared: 07/18/2012	
		Analyzed: 07/19/2012	
Analyte	ug/sample	ug/ft ²	RL (ug/sample)
Lead	<2.5	<23	2.5

Sample ID: <u>6161-4</u>	Media: Lead Dust Wipe	Collected: 07/12/2012	
Lab ID: 1219954004	Sampling Location: Santa Rosa Armory	Received: 07/17/2012	
Method: NIOSH 7300 Mod.	Sampling Parameter: Area 100 cm²	Prepared: 07/18/2012	
		Analyzed: 07/19/2012	
Analyte	ug/sample	ug/ft²	RL (ug/sample)
Lead	<2.5	<23	2.5

ADDRESS: 1111 West LeVoy Drive Salt Lake City, Utah, USA 84111 PHONE: (801) 466-2223 FAX: (801) 466-9616
ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental

www.alsglobal.com

NIGHT SOLUTIONS NIGHT PARTNER

Posted to NGB FOIA Reading Room
May, 2018

BEST AVAILABLE COPY
Mon, 07/23/12 1:38 PM

FOIA Requested Record #J-15-0085 (NM)
Released by National Guard Bureau
Page 1392 of 1628



BEST AVAILABLE COPY
ANALYTICAL REPORT

Workorder: **34-1219954**
Client Project ID: 12U-I6161/Santa Rosa Armory
Purchase Order: 12U-I6161
Project Manager: **Non-Responsive**

Analytical Results

Sample ID: 6161-5	Media: Lead Dust Wipe	Collected: 07/12/2012
Lab ID: 1219954005	Sampling Location: Santa Rosa Armory	Received: 07/17/2012
Method: NIOSH 7300 Mod.	Sampling Parameter: Area 100 cm ²	Prepared: 07/18/2012 Analyzed: 07/19/2012

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

Sample ID: 6161-6	Media: Lead Dust Wipe	Collected: 07/12/2012
Lab ID: 1219954006	Sampling Location: Santa Rosa Armory	Received: 07/17/2012
Method: NIOSH 7300 Mod.	Sampling Parameter: Area 100 cm ²	Prepared: 07/18/2012 Analyzed: 07/19/2012

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

Sample ID: 6161-7	Media: Lead Dust Wipe	Collected: 07/12/2012
Lab ID: 1219954007	Sampling Location: Santa Rosa Armory	Received: 07/17/2012
Method: NIOSH 7300 Mod.	Sampling Parameter: Area 100 cm ²	Prepared: 07/18/2012 Analyzed: 07/19/2012

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

Sample ID: 6161-8	Media: Lead Dust Wipe	Collected: 07/12/2012
Lab ID: 1219954008	Sampling Location: Santa Rosa Armory	Received: 07/17/2012
Method: NIOSH 7300 Mod.	Sampling Parameter: Area 100 cm ²	Prepared: 07/18/2012 Analyzed: 07/19/2012

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

Sample ID: 6161-9	Media: Lead Dust Wipe	Collected: 07/12/2012
Lab ID: 1219954009	Sampling Location: Santa Rosa Armory	Received: 07/17/2012
Method: NIOSH 7300 Mod.	Sampling Parameter: Area 100 cm ²	Prepared: 07/18/2012 Analyzed: 07/19/2012

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



BEST AVAILABLE COPY
ANALYTICAL REPORT

Workorder: **34-1219954**
Client Project ID: 12U-I6161/Santa Rosa Armory
Purchase Order: 12U-I6161
Project Manager: **Non-Responsive**

Analytical Results

Sample ID: 6161-10 Media: Lead Dust Wipe Collected: 07/12/2012
Lab ID: 1219954010 Sampling Location: Santa Rosa Armory Received: 07/17/2012
Method: NIOSH 7300 Mod. Sampling Parameter: Area 100 cm² Prepared: 07/18/2012
Analyzed: 07/19/2012

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

Sample ID: 6161-11 Media: Lead Dust Wipe Collected: 07/12/2012
Lab ID: 1219954011 Sampling Location: Santa Rosa Armory Received: 07/17/2012
Method: NIOSH 7300 Mod. Sampling Parameter: Area 100 cm² Prepared: 07/18/2012
Analyzed: 07/19/2012

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

Sample ID: 6161-12 Media: Lead Dust Wipe Collected: 07/12/2012
Lab ID: 1219954012 Sampling Location: Santa Rosa Armory Received: 07/17/2012
Method: NIOSH 7300 Mod. Sampling Parameter: Area 100 cm² Prepared: 07/18/2012
Analyzed: 07/19/2012

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

Sample ID: 6161-13 Media: Lead Dust Wipe Collected: 07/12/2012
Lab ID: 1219954013 Sampling Location: Santa Rosa Armory Received: 07/17/2012
Method: NIOSH 7300 Mod. Sampling Parameter: Area 100 cm² Prepared: 07/18/2012
Analyzed: 07/19/2012

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

Sample ID: 6161-14 Media: Lead Dust Wipe Collected: 07/12/2012
Lab ID: 1219954014 Sampling Location: Santa Rosa Armory Received: 07/17/2012
Method: NIOSH 7300 Mod. Sampling Parameter: Area 100 cm² Prepared: 07/18/2012
Analyzed: 07/19/2012

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



BEST AVAILABLE COPY
ANALYTICAL REPORT

Workorder: **34-1219954**
Client Project ID: 12U-I6161/Santa Rosa Armory
Purchase Order: 12U-I6161
Project Manager: **Non-Responsive**

Analytical Results

Sample ID: 6161-15	Media: Lead Dust Wipe	Collected: 07/12/2012
Lab ID: 1219954015	Sampling Location: Santa Rosa Armory	Received: 07/17/2012
Method: NIOSH 7300 Mod.	Sampling Parameter: Area 100 cm ²	Prepared: 07/18/2012 Analyzed: 07/19/2012
Analyte	ug/sample	ug/ft ² RL (ug/sample)
Lead	<2.5	<23 2.5

Sample ID: 6161-16(FB)	Media: Lead Dust Wipe	Collected: 07/12/2012
Lab ID: 1219954016	Sampling Location: Santa Rosa Armory	Received: 07/17/2012
Method: NIOSH 7300 Mod.	Sampling Parameter: Area Not Applicable	Prepared: 07/18/2012 Analyzed: 07/19/2012
Analyte	ug/sample	ug/ft ² RL (ug/sample)
Lead	<2.5	NA 2.5

Report Authorization

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

Laboratory Contact Information

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

Phone: (801) 266-7700
Email: als@alstlab.com
Web: www.alstlab.com



BEST AVAILABLE COPY
ANALYTICAL REPORT

Workorder: **34-1219954**
Client Project ID: 12U-I6161/Santa Rosa Armory
Purchase Order: 12U-I6161
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	ACCLASS (DoD ELAP)	ADE-1420	http://www.aiclasscorp.com
	Utah (NELAC)	DATA1	http://health.utah.gov/lab/labimp/
	Nevada	UT00009	http://ndep.nv.gov/bsdwlabservice.htm
	Oklahoma	UT00009	http://www.deq.state.ok.us/CSDnew/
	Iowa	IA# 376	http://www.iowadnr.gov/InsideDNR/RegulatoryWater.aspx
	Florida (TNI)	E871067	http://www.dep.state.fl.us/labs/bars/sas/qa/
	Texas (TNI)	T104704456-11-1	http://www.tceq.texas.gov/field/qa/lab_accred_certif.html
Industrial Hygiene	AIHA (ISO 17025 & AIHA IHLAP/ELLAP)	101574	http://www.aihaaccreditedlabs.org
Lead Testing:			
CPSC	ACCLASS (ISO 17025, CPSC)	ADE-1420	http://www.aiclasscorp.com
Soil, Dust, Paint, Air	AIHA (ISO 17025, AIHA ELLAP and NLLAP)	101574	http://www.aihaaccreditedlabs.org
Dietary Supplements	ACCLASS (ISO 17025)	ADE-1420	http://www.aiclasscorp.com

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

Santa Rosa Armory, NM

CONTROL NUMBER	HAZARD DESCRIPTION	SITE	RAC	CORRECTIVE ACTIONS (Abatement Plan)	SUSPENSE DATE	ACTION OIC/NCOIC	Estimated Cost(s)	DATE CORRECTED	REFERENCES
NMSRA-07122012-4.4 <input type="checkbox"/>	An asbestos survey could not be located during this IH Assistance Visit.	Santa Rosa Armory	3	Contract with a licensed firm to perform an asbestos survey and assessment.					1910.1001(i)(3)(i)
NMSRA-07122012-4.4 <input type="checkbox"/>	Personnel have not been provided with asbestos awareness training.	Santa Rosa Armory	4	Based on the findings of this survey, provide awareness training to assigned personnel for the specific types of asbestos in this Armory.					1910.1001(i)(3)(iii)
NMSRA-07122012-4.6.2 <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)
NMSRA-07122012-4.8 <input type="checkbox"/>	The average estimated duct velocity of the Stove/Oven Exhaust Fan is 143 fpm.	Kitchen	3	Upgrade this exhaust fan to provide a duct velocity of at least 500 fpm.					2011 NFPA Standard 96, Section 8.2.1
NMSRA-07122012-4.10 <input type="checkbox"/>	Not all fire extinguishers have current monthly and annual maintenance checks	Santa Rosa Armory	4	Conduct monthly and annual maintenance checks on all fire extinguishers					1910.157 (d) (2) 1910.157 (e) (2)
NMSRA-07122012-4.10 <input type="checkbox"/>	Electrical outlets within six feet of the kitchen sinks were noted to have non-functioning GFCIs.	Kitchen	4	Correct the wiring and verify the function of the GFCI outlet in the kitchen.					1910.303(b)(1) & NFPA 70, Article 210-8

Summary of Recommendations for Santa Rosa Armory

4.4 Asbestos Management

Recommendations

1. 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

Develop updated inventory and maintain MSDS's for the chemicals inside the flammable storage cabinet to reflect its current contents.

4.8 Kitchen Ventilation Survey

Recommendation

Upgrade this exhaust fan to provide a duct velocity of at least 500 fpm.

4.10 General Safety Walk-Through

Recommendation

1. Ensure all fire extinguishers undergo an annual and monthly maintenance check.
2. Repair or replace any GFCI that fails a circuit test, and install GFCI protection on any outlets within six feet of a water source.

NOISE SURVEY (Sound Level Meter Survey)									
1. DATE (YYYYMMDD) 20120712				2. TYPE SURVEY (Enter code) 1 - INITIAL SURVEY 2 - RE-SURVEY 3 - OTHER <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3					
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) Santa Rosa Armory Kitchen (NM)						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)
Freezers (x2)		S	72.0	61.0	IVD	<input checked="" type="checkbox"/>			
Manitowoc ice machine		S	70.0	65.0	IVD	<input checked="" type="checkbox"/>			
Garbage disposal (north sink)		S	83.0	82.9	IVD	<input checked="" type="checkbox"/>			
Exhaust hood over south sink		S	80.0	79.0	IVD	<input checked="" type="checkbox"/>			
Exhaust hood over stove		S	83.0	72.0	IVD	<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.) There was a dishwasher located near the south sink however, it was not functional on the day of the survey (7/12/2012) The hood over the north sink is also not functional. Sound level measurements could not be obtained for this appliance.									
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) Non-Responsive			b. TELEPHONE (Include area code) (505) 474-2680			c. ORGANIZATION NMARNG			
18. HEARING CONSERVATION MONITOR (Last Name, First Name, MI) Non-Responsive									



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

Socorro Armory

1220 W. HWY 60
Socorro, NM 88310

10510 Superfortress Avenue, Suite C, Mather, CA 95655 (916) 854-1491

78



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

22 January 2013

MEMORANDUM THRU New Mexico Army National Guard, ATTN: **Non-Responsive** (OHN), 600 Wyoming Blvd NE, Albuquerque, NM 87123-1038

FOR Commander, Socorro Armory 1220 W. Hwy 60, Socorro, NM 88310

SUBJECT: Executive Summary for Industrial Hygiene Site Assistance Visit (IHSAV) for Socorro Armory, 1220 E. HWY 60, Socorro, NM conducted on 11 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 Socorro Armory 1220 W. Hwy 60 Socorro, NM on 11 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. Improve housekeeping practices throughout the armory and clean areas identified in this report to have levels over the 40 ug/ft² limit desired. Remove equipment from areas which are frequently accessed. (para. 4.1 & 4.10) **(RAC 3)**

ARNG-CSG-IHSW

SUBJECT: Executive Summary for Industrial Hygiene Site Assistance Visit (IHSAV) for Socorro Armory, 1220 E. HWY 60, Socorro, NM conducted on 11 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. Secure the compressed gas cylinders in the drill hall to help prevent a missile hazard. (para. 4.10) (RAC 3)
- d. Provide personnel with asbestos awareness training to help prevent them from contaminating others, the building or themselves. (para. 4.4) (RAC 4)
- e. Obtain MSDS's for each chemical at the armory, develop a chemical inventory list and provide all personnel who occupy the facility their annual Hazard Communication training (para. 4.6.1 & 4.7)(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.

SUBJECT: Executive Summary for Industrial Hygiene Site Assistance Visit (IHSAV) for Socorro Armory, 1220 E. HWY 60, Socorro, NM conducted on 11 September 2012.

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.

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
 Socorro Armory, NM

CONTROL NUMBER	HAZARD DESCRIPTION	SITE	RAC	CORRECTIVE ACTIONS (Abatement Plan)	SUSPENSE DATE	ACTION OIC/NCOIC	Estimated Cost(s)	DATE CORRECTED	REFERENCES
NMSA-091112-4.1 <input type="checkbox"/>	Two surface lead concentrations measured on the drill hall ranged from 52 to 67 µg/ft².	Drill Hall	3	Clean the drill hall floor to reduce lead surface concentrations below 40 µg/ft² using guidance from the attached Lead SOP's.					General Duty Clause 5 (a)(1)
NMSA-091112-4.4 <input type="checkbox"/>	An asbestos survey could not be located during this IH Assistance Visit.	Socorro Armory	3	Contract with a licensed firm to perform an asbestos survey and assessment of building materials suspected to contain asbestos, prior to renovation and demolition activities.					1910.1001(j)(3)(i)
NMSA-091112-4.4 <input type="checkbox"/>	Personnel have not been provided with asbestos awareness training.	Socorro Armory	4	Based on the findings of the asbestos survey and assessment, 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
NMSA-091112-4.6.1 <input type="checkbox"/>	Various cleaning agents, including small quantities of hazardous chemicals, are stored inside a wooden cabinet in the kitchen area. The door to the kitchen does not have a NFPA placard on it. There is a plastic storage bin located outdoors on the southwest area of the Armory that contains partially filled containers of flammable materials.	Kitchen/Mess Area	4	1. Place visible hazard identification signs with markings that complies with NFPA 704, Standard System for Identification of the Hazards of Materials for Emergency Response, on the kitchen door, and the plastic bin located outdoors. 2. Ensure all products used by this armory are properly labeled.					NFPA 704, 29 CFR 1910.1200(b)(3)(i)



Industrial Hygiene Southwest
Violation Inventory Log
LOG OF SCHEDULE OF CORRECTIVE ACTION - COMPLIANCE WITH SAFETY AND HEALTH STANDARDS
Socorro Armory, NM

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"/> NMSA-091112-4.6.1 <input type="checkbox"/>	MSDSs and a chemical inventory are not available for the hazardous or flammable materials used in this armory.	Kitchen/Mess Area and outdoors	4	1. Obtain MSDSs for each chemical at the Armory and store the MSDSs in a location that is known to all potential users. 2. Once the MSDSs are obtained, develop a chemical inventory for all products used in this Armory.					29 CFR 1910.1200 (e) (i); 29 CFR 1900.1200 (g) (1)
NMSA-091112-4.7 <input type="checkbox"/>	Comprehensive safety training and records were not available for the unit that occupies this building.	Socorro Armory	4	At a minimum provide hazard communication to those who use chemicals in the work place and fire prevention training, fire safety, and fire extinguisher training to all personnel who occupy the facility.					1910.1200 (h), 1910.157 (g), 1910.39 (b)
NMSA-091112-4.10 <input type="checkbox"/>	Housekeeping throughout the facility was fair. Many areas were dusty and equipment cluttered the walking surfaces throughout the armory.	Socorro Armory	4	Maintain housekeeping within the facility and remove equipment from areas which are frequently accessed.					1910.176 (c)
NMSA-091112-4.10 <input type="checkbox"/>	Monthly fire extinguisher checks were not current.	Socorro Armory	4	Perform monthly maintenance checks for fire extinguishers.					29 CFR 1910.157 (e)(2)
NMSA-091112-4.10 <input type="checkbox"/>	The gray electrical panel in the kitchen does not have an accurate directory of circuits.	Kitchen	5	Compile a directory for the electrical breakers located in the electrical panel box located in the kitchen to reflect their function.					29 CFR 1910.303 (f)(3)
NMSA-091112-4.10 <input type="checkbox"/>	Two compressed oxygen cylinders located in the drill hall were not properly secured.	Drill Hall	3	Properly secure the compressed gas cylinders in the drill hall.					29 CFR 1910.253 (b)(2)(ii)

Reference DA FORM 4754
 VER: 15 OCT 2009

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.

Indoor Firing Range
Decontamination and Cleaning Protocol
(Periodic Cleaning and Conversion)

1. Ensure that all procedures listed below comply with all federal, state, and local regulation. Consult with the Regional Industrial Hygiene Office and the State Environmental Office for further guidance.
2. **Ventilation System.**
 - i. The range ventilation system must be in operation during all cleaning activities. If no ventilation system is available all doors and windows must be kept sealed to prevent contamination of other areas.
3. **Materials:**
 - i. A High Efficiency Particulate Air (HEPA) filtered vacuum system is the preferred method of cleanup. In a HEPA vacuum cannot be obtained a wet method, detailed below, should be utilized. **A high-pressure water system or dry sweeping may not be used.**
 - ii. A cleaning solution containing detergent and water is recommended. New solutions of detergent and water should be mixed frequently.
 - iii. Two containers should be used; one for wetting the applicator (rags, sponge, mop) and the other for rinsing once the dust has been wiped from the surfaces.
 - iv. Wastewater in containers can be left to evaporate. Any waste left in the buckets and applicators should be disposed of as hazardous waste. **Consult the Environmental Office for appropriate disposal instructions.**
 - v. Personnel responsible for decontamination of the range and stored items should be provided with a full face air purifying respirator with a N100 filter or HEPA filter cartridge providing that all requirements for placing employees in respiratory protection have been met as detailed in 26 CFR 1910.134. Employees should be provided with protective coveralls with hood and shoe covers (i.e. Tyvex full-body

suit). Protective clothing should be hanged daily at the end of the shift and more frequently if the suit becomes grossly contaminated. If cotton coveralls are provided then the employer must provide for maintenance and laundering of protective clothing. Protective clothing should not be taken home and prior to leaving the work area, personnel should thoroughly HEPA vacuum the clothing to prevent lead dust from leaving the area. Work and street clothing should not be stored together.

4. Order of Cleaning:

- i. A progression of cleaning form top to bottom and from behind the steel backstop to the firing line should be used. All surface areas in the range must be cleaned. Stored items must be decontaminated prior to removal.
- ii. After removing the sand and/or the steel backstop, areas in front of and behind the bullet trap, along with the steel backstop plates should be cleaned.
- iii. The ceiling, lights, baffles, retrieval system, heating system, and ventilation ducts should be cleaned.
- iv. Acoustical material should be vacuumed instead of being painted over. A Toxic Characteristic Leaching Procedure (TCLP) may need to be used for acoustical material and the like, to determine if the material needs to be classified as hazardous and disposed of accordingly. The Environmental Office should be contacted regarding this testing.
- v. The floor should be the last surface cleaned starting at the bullet trap and ending behind the firing line, to include the plenum area. Concrete floors should be sealed with deck enamel, while linoleum, on the tile floor, should be waxed.
- vi. All walls should be painted, preferably with a sealant, which will help prevent any leaching of lead after covering.
- vii. Following the wet cleaning of the area and after all surfaces have been allowed to dry thoroughly, a HEPA vacuum

should be used on all surfaces, until no dust or residue can be seen. A thorough inspection to detect surface dust should be made following cleanup.

- viii. The Regional Industrial Hygiene Office should be contacted for clearance sampling and to approve the range for converted use.

5. Decontamination of Stored Items:

- i. All stored items must be decontaminated before removing from the range. Stored equipment next to the bullet trap and firing line should be decontaminated first.
- ii. A HEPA vacuum or wet cleaning method should be used. Every attempt should be made to clean the item before disposing as hazardous waste to reduce cost and waste.
- iii. Porous items such as canvas tents or other fabrics may be laundered at companies, which specialize in industrial laundry services. Office partitions and carpeting present during firing should be considered grossly contaminated and disposed of as hazardous waste. Consult the Environmental Office before removing and disposing of items.

6. Medical Surveillance.

- i. A pre-placement medical examination is required for all individuals involved with range cleanup operations.

7. Air Monitoring.

- i. Worker breathing zone air samples must be collected during range cleanup to ensure that workers are not overexposed and to evaluate clean-up procedures.

8. Hazard Training.

- i. A training program must be instituted for all individuals who are subject to exposure to lead at or above the action level, or for whom the possibility of skin or eye irritation exists. This training should be provided for all personnel currently involved in range cleanup operations, at least annually.



IHI ASSISTANCE VISIT

**Socorro Armory
New Mexico Army National Guard
1220 West Highway 60,
Socorro, New Mexico 88310**

December 31, 2012

Prepared for:

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

Prepared by:

Non-Responsive

Industrial Hygienist

Non-Responsive

Industrial Hygiene Services Manager

Project No. AL127266

640 EAST WILMINGTON AVENUE SALT LAKE CITY, UT 84106

SALT LAKE CITY

EMERYVILLE

TELEPHONE: 801-466-2223

PHOENIX

FAX: 801-466-9616

DENVER

E-MAIL: IHI@IHI-ENV.COM

SEATTLE

TABLE OF CONTENTS

EXECUTIVE SUMMARY

1.0	INTRODUCTION	1
1.1	Objectives	1
1.2	Scope of Work	1
2.0	PROCESS DESCRIPTION	1
3.0	METHODS AND APPLICABLE REGULATIONS AND STANDARDS	2
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	4
3.5	Heating, Ventilation, and Air-Conditioning Systems and Indoor Air Quality ..	4
3.6	Hazard Communication and Hazardous Material Storage	4
3.7	Safety Training and Record Keeping	5
3.8	Kitchen Ventilation Survey	5
3.9	Kitchen Appliance Sound-Level Measurements	5
3.10	General Safety Walk-Through	5
3.11	Equipment Used	5
3.12	Quality Assurance	6
4.0	FINDINGS AND RECOMMENDATIONS	6
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
5.0	PROJECT LIMITATIONS	11
6.0	PROJECT APPROVAL	12

APPENDICES

Appendix A	References
Appendix B	Assessment Criteria
Appendix C	Photo Log
Appendix D	Chemical Inventory
Appendix E	2 Drawings: IAQ Testing and Water Stained Ceiling Tile Locations
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
Appendix N	IHSW Lead Cleanup SOP

EXECUTIVE SUMMARY

On September 11, 2012, **Non-Responsive** MPH, an Industrial Hygienist with IHI Environmental (IHI), conducted an Industrial Hygiene (IH) Assistance Visit at the Socorro Armory located at 1220 West Highway 60 in Socorro, New Mexico. The primary point of contact for information gathered during this survey was **Non-Responsive** (505) 474-2605,

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 11, 2012, **Non-Responsive** MPH, an Industrial Hygienist with IHI Environmental (IHI), conducted an Industrial Hygiene (IH) Assistance Visit at the Socorro Armory located at 1220 West Highway 60 in Socorro, New Mexico. The primary point of contact for information gathered during this survey was **Non-Responsive** (505) 474-2605.

Non-Responsive

1.1 Objectives

The objectives of the IH 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 Socorro Armory has two full-time guard members. The armory houses administrative offices, training facilities, a drill floor, storage rooms, a locker room, and a kitchen. The only organization assigned to this armory is the Sustainable Range Program Garrison South. There are no full-time or part-time civilian employees employed at the armory.

Civilian activities in this armory include the occasional renting of the drill floor to members of the general public for celebratory or commemorative occasions.

Army National Guard members perform weapons maintenance, including weapon cleaning activities, in the drill hall.

Armory housekeeping is performed by the Guard staff, and the maintenance of building systems is completed by the Department of Military Affairs, Maintenance Division, upon request.

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, and administrative areas, 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 by two-inch template and placing it in a sampling vial. All samples were submitted to ALS Laboratories in Salt Lake City, Utah. ALS 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 (mg/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.

All painted surfaces should be suspect lead-containing materials until determined otherwise. Contact the State FMO, State Safety, and the State Environmental directorates before conducting any work that may disturb painted surfaces integrity.

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 armory's heating, ventilation, and air-conditioning (HVAC) system 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 (CO₂), 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 CO₂ 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 CO₂ 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 CO₂ 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 CO₂ other than exhaled breath, the guidelines above cannot be used. The Occupational Safety and Health Administration (OSHA) standard for CO₂ 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 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™	8550-X	8554-01051026	09/07/2012
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

Two surface lead concentrations measured on the drill hall ranged from 52 to 67 $\mu\text{g}/\text{ft}^2$, which exceed the IHSW lead criterion of 40 $\mu\text{g}/\text{ft}^2$ for areas that are accessible to members of the general public. 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

1. Clean the drill hall floor to reduce lead surface concentrations below 40 $\mu\text{g}/\text{ft}^2$, using guidance from the attached Lead SOP's in Appendix N.

4.2 Painted Surface Evaluation

No peeling paint was observed in any space accessed on the day of the survey.

Note: All painted surfaces should be suspect lead-containing materials until determined otherwise.

Contact the State FMO, State Safety, and the State Environmental directorates before conducting any work that may disturb the integrity of a painted surface.

Recommendation

None

4.3 Moisture Intrusion and Limited Visual Fungal Growth Evaluation

Water-damaged ceiling tiles were observed along the southwest wall within the drill hall of the armory. No visible mold growth was observed in any of the areas surveyed.

Recommendation

None

4.4 Asbestos Management

Documentation of an asbestos survey could not be located during this visit. However, Non-Responsive told IHI that he remembered attending general asbestos awareness training several years ago.

According to the Occupational Safety and Health Administration, Code of Federal Regulations (CFR) 1910.1001, thermal system insulation and surfacing materials found in buildings constructed before 1980 are *Presumed Asbestos Containing Material* (PACM). Although there may not be any PACM in the Socorro Armory building materials, suspect materials should be tested for the presence of asbestos prior to renovation and demolition activities.

Recommendations

1. Locate the asbestos survey for this building or contract with a licensed firm to perform an asbestos survey and assessment.
2. If 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 several independent systems that separately heat and cool sections of the building. There is no centralized heating and cooling

system at the Socorro armory. The administrative offices, as well as the perimeter rooms and offices, are cooled using five window-mounted air conditioning (AC) units, each manufactured by a different company. Three of the AC units are located along the northeast side of the building and two are located along the southwest side. The heating units in the perimeter rooms and the drill hall are all natural-gas heaters manufactured by different companies.

The State of New Mexico Department of Military Affairs, Maintenance Division, regularly service and provide monthly preventive maintenance checks of the HVAC system for this armory.

The average outdoor CO₂ concentration at the time of the survey was 425 ppm. The highest CO₂ concentration measured inside the building was 670 ppm, which should not result in indoor air quality complaints.

Building air temperatures ranged from 75.7°F to 75.9°F and relative humidity was between 43.1% and 48.0% during the testing period. Air temperatures were slightly above the recommended comfort range of 68°F to 75°F however, the relative humidity was within 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.

Recommendation

None

4.6 Hazard Communication and Hazardous Material Storage

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

Various cleaning agents, including small quantities of hazardous chemicals, are stored inside a wooden cabinet in the kitchen area. The door to the kitchen does not have a NFPA placard on it.

There is a plastic storage bin located outdoors on the southwest area of the Armory that contains partially filled containers of flammable materials. The bin and some of the containers are not labeled. On the day of the survey, IHI could not locate any MSDSs or a chemical inventory for flammable and hazardous materials.

Recommendations

1. Obtain MSDSs for each chemical at the Armory and store the MSDSs in a location that is known to all potential users.
2. Once the MSDSs are obtained, develop a chemical inventory for all products used in this Armory.
3. Ensure all products used by this armory are properly labeled.
4. Place visible hazard identification signs with markings that comply with NFPA 704, Standard System for Identification of the Hazards of Materials for Emergency Response, on the kitchen door, and the plastic bin outdoors.

4.6.2 Flammable Storage Cabinets

A flammable storage cabinet is not available for this armory; however, IHI inspected a plastic storage bin with containers of partially filled flammable materials that was located outdoors on the southwest area of the armory. Chemical incompatibilities could not be determined because the containers were not properly labeled and the contents could not be verified; none of the containers was leaking. The plastic bin was in good condition and the covering was closed properly.

Recommendations

1. Refer to the recommendation made in Section 4.6.1 of this report

4.7 Safety Training and Record Keeping

The following safety documentation is maintained electronically in the Socorro Armory:

Safety Standard Operating Procedure

- Responsibilities and Range Safety
- Hazardous Material and Hazardous Waste Management
- Evacuation Plan and Route

AR 190-11 (Security)

DA PAM 385-64 (Arms Ammunition and Explosives Safety)

AR 385-63 (Range Safety)

AR 385-10 (Army Safety Program)

All other safety-related regulations and training records are maintained electronically on the Reserve Component Automation System (RCAS) Website.

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

- Range Safety Officer

There were no records present of the last Safety Council meeting present at Socorro Armory on the day of the survey.

The NMARNG in general 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

1. At a minimum, provide hazard communication training to those who use chemicals in the work place and fire prevention training, fire safety, and fire extinguisher training to all personnel who occupy the facility.

4.8 Kitchen Ventilation Survey

No exhaust hoods are located in the kitchen; therefore, a kitchen ventilation survey was not performed.

Recommendation

None

4.9 Kitchen Appliance Sound-Level Measurements

There are no industrial kitchen appliances in this armory; therefore, sound-level measurements were not performed.

Recommendation

None

4.10 General Safety Walk-Through

1. Housekeeping throughout the facility was fair. Many areas were dusty, and equipment cluttered the walking surfaces throughout the armory. None of the emergency exits were blocked by the equipment.
2. There are fire alarms present in this facility.
3. Fire extinguishers are strategically located throughout the armory. The annual inspections are current, but monthly inspections are not current.
4. There are no eyewash stations in this facility.
5. Fire evacuation routes are posted in the rooms of this armory.
6. The grey electrical panel in the kitchen does not have an accurate directory of circuits.
7. Two compressed oxygen cylinders located in the drill hall were not properly secured.

Recommendations

1. Improve the housekeeping within the facility and remove equipment from areas that are frequently accessed.
2. Perform monthly maintenance checks for fire extinguishers checks.
3. Compile a directory for the electrical breakers located in the electrical panel box located in the kitchen to reflect their function.
4. Properly secure the compressed gas cylinders in the drill hall.

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

Dec. 31, 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 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).

Appendix C

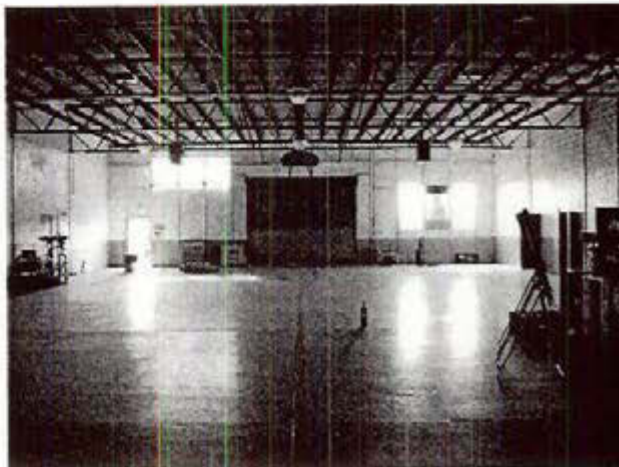
Photo Log



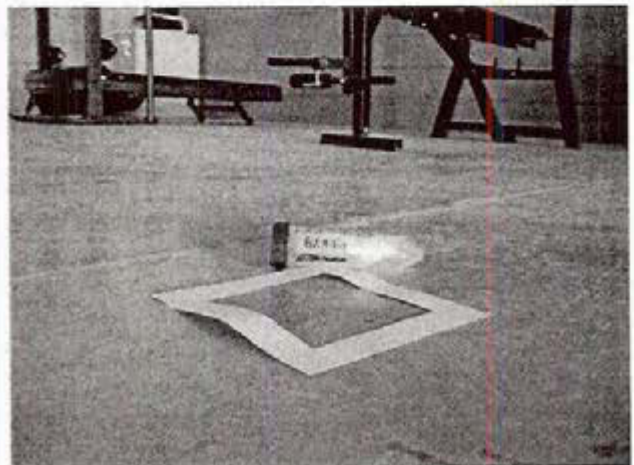
Photograph 1
View of northwest side of Socorro Armory, exterior



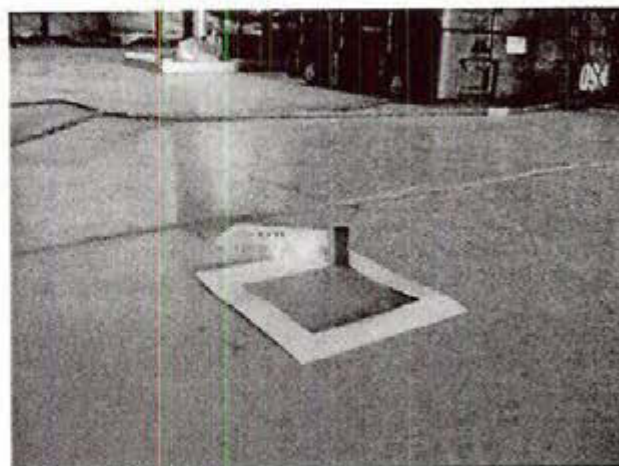
Photograph 2
View of southeast side of Socorro Armory, exterior



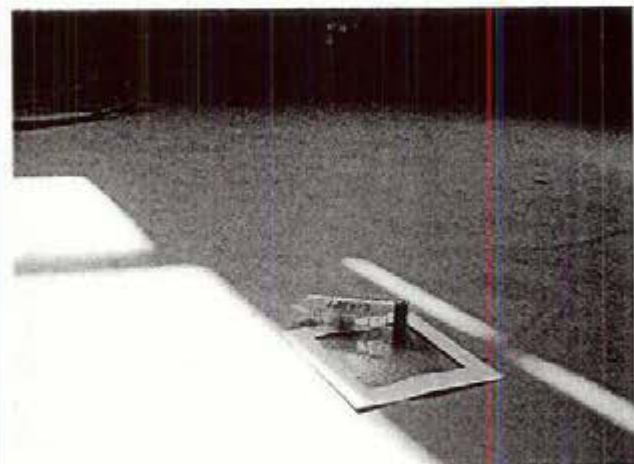
Photograph 3
View of the Socorro Armory drill hall, interior



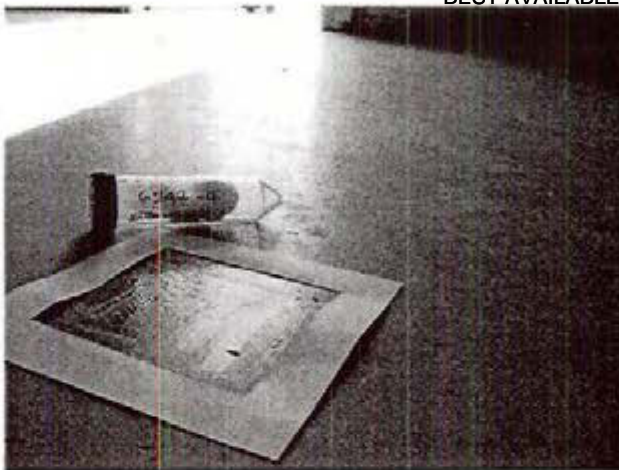
Photograph 4
Lead wipe sample location 6247-1, drill floor, north



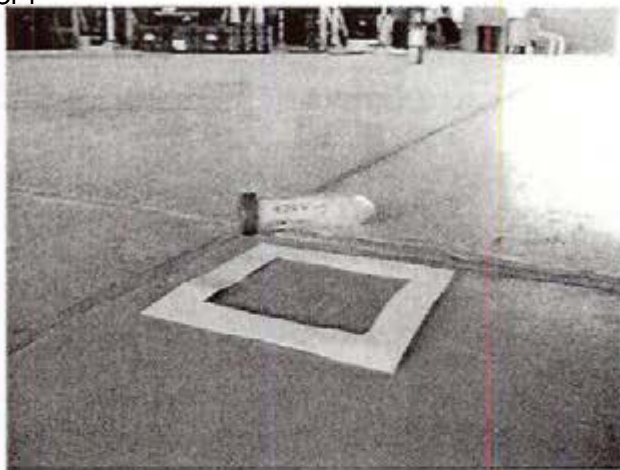
Photograph 5
Lead wipe sample location 6247-2, drill floor, west



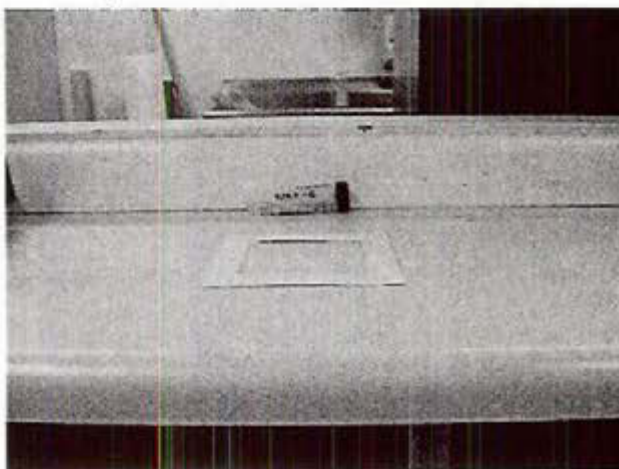
Photograph 6
Lead wipe sample location 6247-3, drill floor, south



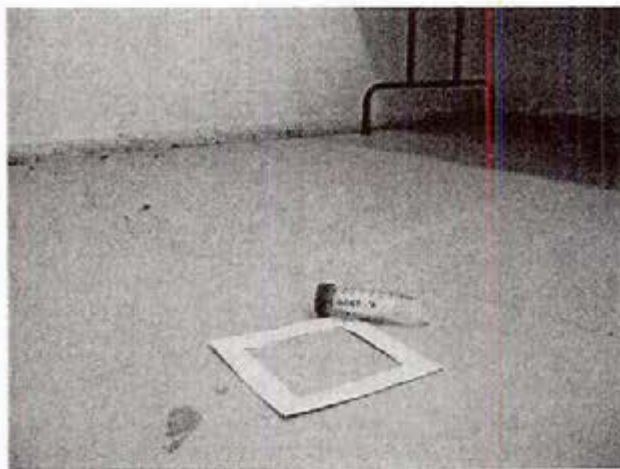
Photograph 7
Lead wipe sample location 6247-4, drill floor, east



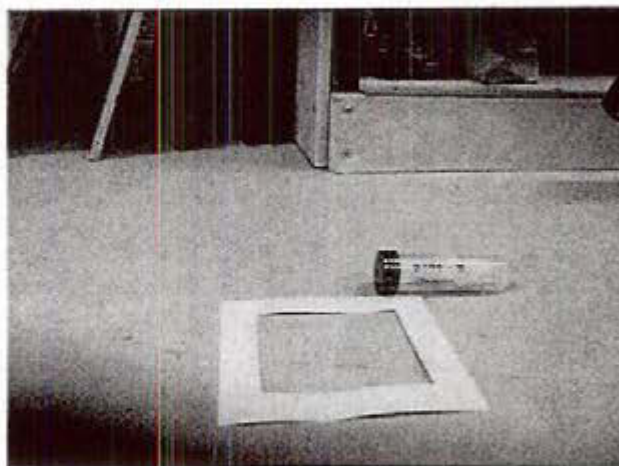
Photograph 8
Lead wipe sample location 6247-5, drill floor, center



Photograph 9
Lead wipe sample location 6247-6, kitchen



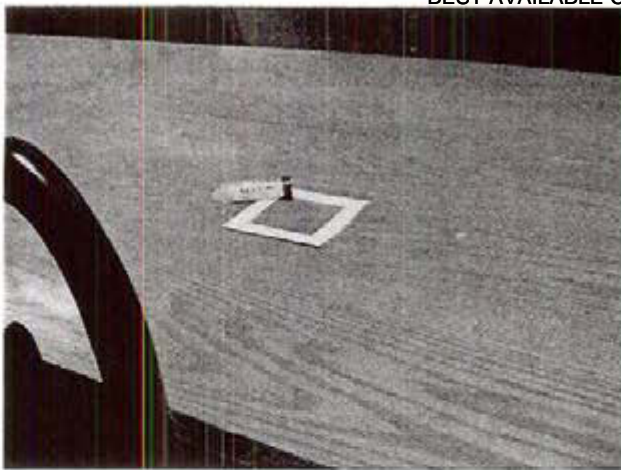
Photograph 10
Lead wipe sample location 6247-7, gun vault



Photograph 11
Lead wipe sample location 6247-8, supply room



Photograph 12
Lead wipe sample location 6247-9, SSG Buczala's desk



Photograph 13
Lead wipe sample location 6247-10, conference room



Photograph 14
Air conditioning units, exterior



Photograph 15
Individual heating unit, interior



Photograph 16
Natural gas-heating unit, dormitory



Photograph 17
Chemical storage cabinet: doors open



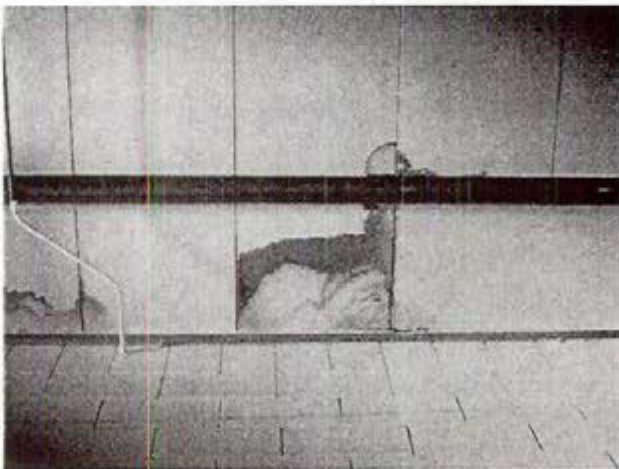
Photograph 18
Chemical storage cabinet: doors closed



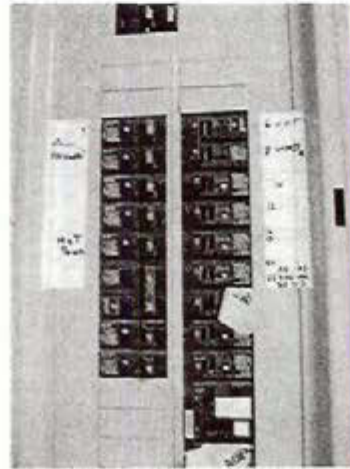
Photograph 19
Contents of flammable storage bin, located at the exterior of the armory, doors open



Photograph 20
Flammable storage bin, doors closed



Photograph 21
Water stained ceiling tiles, drill floor



Photograph 22
Safety: breaker panel switches are not entirely labeled

Appendix D
Chemical Inventory

Chemical inventory and Material Safety Data Sheets for chemicals in use by the Socorro Armory were not available on the day of the survey.

Appendix E

2 Drawings: IAQ Testing and Water Stained Ceiling Tile Locations

Appendix F
Ventilation Data

**Ventilation Survey Data and Calculations
Kitchen Exhaust Vents
Socorro, New Mexico Armory**

Note: Ventilation survey was not conducted due to the absence of an exhaust system.

Appendix G
Field Notes

FACILITY INFORMATION

(Information listed in First Section)
(1st Few Paragraphs/Pages of Report)

1. Date Prepared: **09/11/12**

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:
Socorro Army National Guard

Activities: admin, training, simulation, lodging, secure storage, operate and manage logistics of training activities (maintain systems and equipment)

4. Facility Address:
1220 West Highway 60 Socorro, New Mexico, 88310

5. Primary Unit Assigned to Facility (Ensure to capture and provide Unit Identification Code (UIC)):
Sustainable Range Program Garrison South

6. Co-Tenant Units Assigned or Working Within Facility (LIST ALL): **none**

7. Square Ft. Area of Facility: **~ 11129**

8. Work Schedule: **M-F 0900-1630**

9. Number of work bays: **0**

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:

4 flatbed trailers

3 light towers

15 latrine trailers

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

12. No. of Admin. Personnel (Include Status – AGR, Fed. Tech., IDT, State or Contract Employee): **2**

13. No. of Maintenance Personnel (Include Status – AGR, Fed. Tech., IDT, State or Contract Employee): **0 on site, Maintenance conducted by Department of Military Affairs Maintenance Division.**

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

19. Safety Officer:

Non-Responsive

20. Facility Telephone Number:

(505) 474-2605

Socorro Armory
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
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.	No
Is there any peeling paint? Take bulk sample if able.	No - all cinder block or wood walls
Are there any signs of water damage or mold?	Yes - H ₂ O stained ceiling tiles in drill hall
Any suspected ACM? Where and what condition is it in. Bulk sample if able.	No knowledge of survey
Quality of housekeeping	Poor - Dusty - equip on floor everywhere
HVAC maintenance plan in place?	Yes
Overall condition of HVAC system	✓
Obtained CO ₂ , Temp, RH monitoring	Yes
HAZMAT inventory on hand (make copies for the report), MSDS available for all materials.	NA
HAZMAT storage, Condition of lockers, if outside storage building is used is it ventilated and does it meet OSHA standards.	Good - the bin containing flammables - not labeled

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)	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)	Yes
Any Photo labs	—
Any hazardous noise sources	—
Light levels checked throughout building	—
Breaker panels properly labeled with no exposed wiring	No - Kitchen
Check building occupancy 1. How many military personnel, how many civilian personnel 2. What types of units occupy facility, e.g. Administrative, Maintenance, etc.?	2 military full time 0 civilian
Any civilian activities in armory (cub scouts, classes, day care, parties etc)	rent out drill hall ~ 2x a yr
Obtain two lead air samples	—

Evaluate Kitchen Stove Hood Flow if Present IAW NFPA Standard 96	No exhaust system
Collect Source Noise Measurements of Kitchen Appliances and Document Using DD 1214	for kitchen avail
Conduct a safety walkthrough of entire facility document any safety deficiencies found.	✓
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

Appendix H
Calibration Certificates



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



RENTALS

BEST AVAILABLE COPY

TSI Model 8551 Q-TRAK CALIBRATION CERTIFICATE

DATE: 9/7/12

CALIBRATED BY: 

RENTAL I.D.: Q-TRAK. 07

SERIAL NO.: 8554-01051026

CALIBRATION GAS 1 : 99.8% Nitrogen (0ppm CO₂, 0ppm CO)

Lot#: 105-102192670-6

RESPONSE TO GAS 1: 0 ppm CO₂

0 ppm CO

CALIBRATION GAS 2: Carbon Dioxide 1000 ppm

Lot#: 919631002

RESPONSE TO GAS 2: 1000 ppm \pm 3%

CALIBRATION GAS 3: Carbon Monoxide 95 ppm

Lot#: 919631002

RESPONSE TO GAS 3: 95 PPM \pm 3%

THIS INSTRUMENT HAS BEEN CALIBRATED TO MEET FACTORY SPECIFICATIONS

2100 Meridian Park Blvd, Concord, CA. 94520

Phone (888) 234-5678 Fax (925) 674-8655



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
☐ AS FOUND

☒ IN TOLERANCE
☐ OUT OF TOLERANCE

- CALIBRATION VERIFICATION RESULTS -

TEMPERATURE VERIFICATION				SYSTEM T-101		Unit: °F (°C)
#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	ALLOWABLE RANGE
1	32.0 (0.0)	32.1 (0.1)	31.5-32.5 (-0.3-0.3)	2	140.9 (60.0)	139.5-140.5 (59.7-60.3)

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

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

Non-Responsive

May 3, 2012

DATE

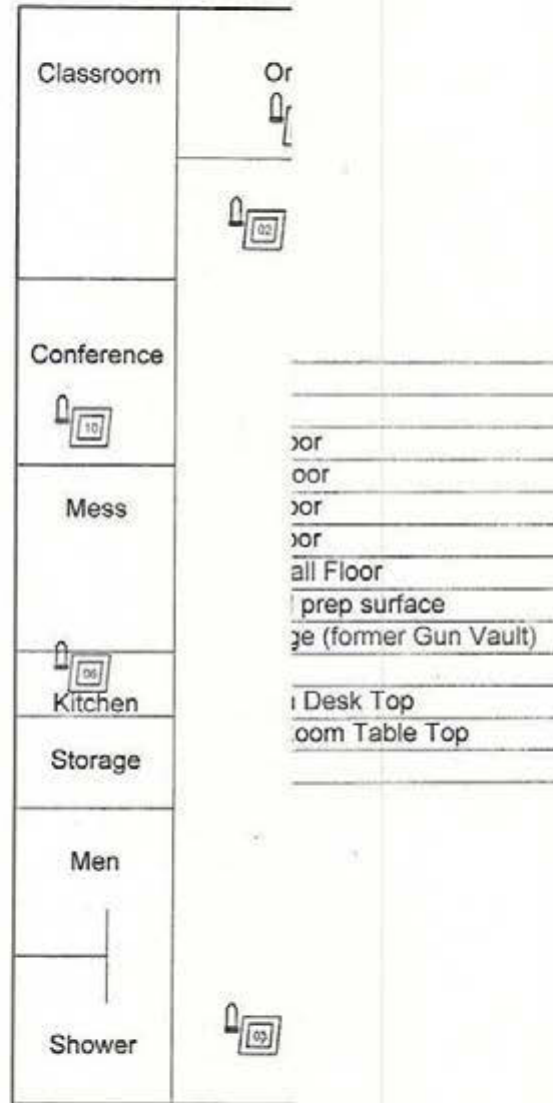
CALIBRATED

Doc. ID: CERT_GEN_WCC

Appendix I

Lead Wipe and Lead Paint Chip Table and Drawing

Lead Wipe Sample Results			
Sample Number	Collection Date	Location	Result $\mu\text{g}/\text{ft}^2$
6247-01	9/11/2012	Drill floor North	< 23
6247-02	9/11/2012	Drill floor West	< 23
6247-03	9/11/2012	Drill floor South	67
6247-04	9/11/2012	Drill floor East	27
6247-05	9/11/2012	Drill floor Center	52
6247-06	9/11/2012	Kitchen, on top of food preparation surface	< 23
6247-07	9/11/2012	Secure storage area (former gun vault)	< 23
6247-08	9/11/2012	Supply Room	< 23
6247-09	9/11/2012	Orderly room, desk top	< 23
6247-10	9/11/2012	Conference room, table top	< 23
6247-11	9/11/2012	Field Blank	< 23



New Mexico Army National Guard
Socorro Armory
1220 West Highway 60
Socorro, New Mexico

Lead Wipe Sample Locations



PROJECT No: AL127286
SHEET: 1 of 3
DRAWN BY: Keith
DATE: 10-23-2012
REVISED BY:
DATE:
REVIEWED BY:
DATE:

Appendix J
Laboratory Reports



BEST AVAILABLE COPY

ANALYTICAL REPORT

Report Date: September 25, 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: 34-1226226

Client Project ID: 12U-I6247/Socorro Armory

Purchase Order: 12U-I6247

Project Manager: **Non-Responsive**

Analytical Results

Sample ID: 6247-1		Media: Lead Dust Wipe	Collected: 09/11/2012
Lab ID: 1226226001		Sampling Location: Socorro Armory	Received: 09/18/2012
Method: NIOSH 7300 Mod.		Sampling Parameter: Area 100 cm²	Prepared: 09/20/2012
			Analyzed: 09/24/2012
Analyte	ug/sample	ug/ft²	RL (ug/sample)
Lead	<2.5	<23	2.5

Sample ID: 6247-2	Media: Lead Dust Wipe	Collected: 09/11/2012	
Lab ID: 1226226002	Sampling Location: Socorro Armory	Received: 09/18/2012	
Method: NIOSH 7300 Mod.	Sampling Parameter: Area 100 cm²	Prepared: 09/20/2012	
		Analyzed: 09/24/2012	
Analyte	ug/sample	ug/ft²	RL (ug/sample)
Lead	<2.5	<23	2.5

Sample ID: 6247-3		Media: Lead Dust Wipe		Collected: 09/11/2012
Lab ID: 1226226003		Sampling Location: Socorro Armory		Received: 09/18/2012
Method: NIOSH 7300 Mod.		Sampling Parameter: Area 100 cm²		Prepared: 09/20/2012
				Analyzed: 09/24/2012
Analyte	ug/sample	ug/ft²	RL (ug/sample)	
Lead	7.2	67	2.5	

Sample ID: <u>6247-4</u>		Media: Lead Dust Wipe	Collected: 09/11/2012
Lab ID: 1226226004		Sampling Location: Socorro Armory	Received: 09/18/2012
Method: NIOSH 7300 Mod.		Sampling Parameter: Area 100 cm²	Prepared: 09/20/2012 Analyzed: 09/24/2012
Analyte	ug/sample	ug/ft²	RL (ug/sample)
Lead	2.9	27	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

RIGHT SOLUTIONS RIGHT PARTNER



BEST AVAILABLE COPY

ANALYTICAL REPORT

Workorder: 34-1226226
Client Project ID: 12U-I6247/Socorro Armory
Purchase Order: 12U-I6247
Project Manager: Non-Responsive

Analytical Results

Sample ID: 6247-5	Media: Lead Dust Wipe	Collected: 09/11/2012
Lab ID: 1226226005	Sampling Location: Socorro Armory	Received: 09/18/2012
Method: NIOSH 7300 Mod.	Sampling Parameter: Area 100 cm ²	Prepared: 09/20/2012 Analyzed: 09/24/2012
Analyte	ug/sample	ug/ft ² RL (ug/sample)
Lead	5.6	52 2.5

Sample ID: 6247-6	Media: Lead Dust Wipe	Collected: 09/11/2012
Lab ID: 1226226006	Sampling Location: Socorro Armory	Received: 09/18/2012
Method: NIOSH 7300 Mod.	Sampling Parameter: Area 100 cm ²	Prepared: 09/20/2012 Analyzed: 09/24/2012
Analyte	ug/sample	ug/ft ² RL (ug/sample)
Lead	<2.5	<23 2.5

Sample ID: 6247-7	Media: Lead Dust Wipe	Collected: 09/11/2012
Lab ID: 1226226007	Sampling Location: Socorro Armory	Received: 09/18/2012
Method: NIOSH 7300 Mod.	Sampling Parameter: Area 100 cm ²	Prepared: 09/20/2012 Analyzed: 09/24/2012
Analyte	ug/sample	ug/ft ² RL (ug/sample)
Lead	<2.5	<23 2.5

Sample ID: 6247-8	Media: Lead Dust Wipe	Collected: 09/11/2012
Lab ID: 1226226008	Sampling Location: Socorro Armory	Received: 09/18/2012
Method: NIOSH 7300 Mod.	Sampling Parameter: Area 100 cm ²	Prepared: 09/20/2012 Analyzed: 09/24/2012
Analyte	ug/sample	ug/ft ² RL (ug/sample)
Lead	<2.5	<23 2.5

Sample ID: 6247-9	Media: Lead Dust Wipe	Collected: 09/11/2012
Lab ID: 1226226009	Sampling Location: Socorro Armory	Received: 09/18/2012
Method: NIOSH 7300 Mod.	Sampling Parameter: Area 100 cm ²	Prepared: 09/20/2012 Analyzed: 09/24/2012
Analyte	ug/sample	ug/ft ² RL (ug/sample)
Lead	<2.5	<23 2.5



BEST AVAILABLE COPY

ANALYTICAL REPORT

Workorder: 34-1226226
Client Project ID: 12U-I6247/Socorro Armory
Purchase Order: 12U-I6247
Project Manager: Non-Responsive

Analytical Results

Sample ID: 6247-10	Media: Lead Dust Wipe		Collected: 09/11/2012
Lab ID: 1226226010	Sampling Location: Socorro Armory		Received: 09/18/2012
Method: NIOSH 7300 Mod.	Sampling Parameter: Area 100 cm²		Prepared: 09/20/2012 Analyzed: 09/24/2012
Analyte	ug/sample	ug/ft²	RL (ug/sample)
Lead	<2.5	<23	2.5

Sample ID: 6247-11		Media: Lead Dust Wipe		Collected: 09/11/2012	
Lab ID: 1226226011		Sampling Location: Socorro Armory		Received: 09/18/2012	
Method: NIOSH 7300 Mod.		Sampling Parameter: Area 100 cm²		Prepared: 09/20/2012	
				Analyzed: 09/24/2012	
Analyte	ug/sample	ug/ft²	RL (ug/sample)		
Lead	<2.5	<23	2.5		

Report Authorization

Method	Peer Review
NIOSH 7300 Mod.	Non-Responsive

Laboratory Contact Information

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

Phone: (801) 266-7700
Email: alsit.lab@ALSGlobal.com
Web: www.alsslc.com



ANALYTICAL REPORT

Workorder: 34-1226226

Client Project ID: 12U-I6247/Socorro Armory

Purchase Order: 12U-I6247

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

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

Socorro 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"/> NMSA-091112-4.1	Two surface lead concentrations measured on the drill hall ranged from 52 to 67 µg/ft².	Drill Hall	3	Clean the drill hall floor to reduce lead surface concentrations below 40 µg/ft² using guidance from the attached Lead SOP's.					II-HSW Lead SOP
<input type="checkbox"/> NMSA-091112-4.4	An asbestos survey could not be located during this IH Assistance Visit.	Socorro Armory	3	Contract with a licensed firm to perform an asbestos survey and assessment of building materials suspected to contain asbestos, prior to renovation and demolition activities.					1910.1001(j)(3)(i)
<input type="checkbox"/> NMSA-091112-4.4	Personnel have not been provided with asbestos awareness training.	Socorro Armory	4	Based on the findings of the asbestos survey and assessment, 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
<input type="checkbox"/> NMSA-091112-4.6.1	Various cleaning agents, including small quantities of hazardous chemicals, are stored inside a wooden cabinet in the kitchen area. The door to the kitchen does not have a NFPA placard on it. There is a plastic storage bin located outdoors on the southwest area of the Armory that contains partially filled containers of flammable materials.	Kitchen/ Mess Area	4	1. Place visible hazard identification signs with markings that complies with NFPA 704, Standard System for Identification of the Hazards of Materials for Emergency Response, on the kitchen door, and the plastic bin located outdoors. 2. Ensure all products used by this armory are properly labeled.					NFPA 704, 29 CFR 1910.1200(b)(3)(i)



Industrial Hygiene Southwest

Violation Inventory Log

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

Socorro Armory, NM

CONTROL NUMBER	HAZARD DESCRIPTION	SITE	RAC	CORRECTIVE ACTIONS (Abatement Plan)	SUSPENSE DATE	ACTION OIC/NCOIC	Estimated Cost(s)	DATE CORRECTED	REFERENCES
NMSA-091112-4.6.1 <input type="checkbox"/>	MSDSs and a chemical inventory are not available for the hazardous or flammable materials used in this armory.	Kitchen/ Mess Area and outdoors	4	1. Obtain MSDSs for each chemical at the Armory and store the MSDSs in a location that is known to all potential users. 2. Once the MSDSs are obtained, develop a chemical inventory for all products used in this Armory.					29 CFR 1910.1200 (e) (i); 29 CFR 1900.1200 (g) (1)
NMSA-091112-4.7 <input type="checkbox"/>	Comprehensive safety training and records were not available for the unit that occupies this building.	Socorro Armory	4	At a minimum provide hazard communication to those who use chemicals in the work place and fire prevention training, fire safety, and fire extinguisher training to all personnel who occupy the facility.					1910.1200 (h); 1910.157 (g); 1910.39 (b)
NMSA-091112-4.10 <input type="checkbox"/>	Housekeeping throughout the facility was fair. Many areas were dusty and equipment cluttered the walking surfaces throughout the armory.	Socorro Armory	4	Maintain housekeeping within the facility and remove equipment from areas which are frequently accessed.					1910.176 (c)
NMSA-091112-4.10 <input type="checkbox"/>	Monthly fire extinguisher checks were not current	Socorro Armory	4	Perform monthly maintenance checks for fire extinguishers					29 CFR 1910.157 (e)(2)
NMSA-091112-4.10 <input type="checkbox"/>	The gray electrical panel in the kitchen does not have an accurate directory of circuits.	Kitchen	5	Compile a directory for the electrical breakers located in the electrical panel box located in the kitchen to reflect their function.					29 CFR 1910.303 (f)(3)
NMSA-091112-4.10 <input type="checkbox"/>	Two compressed oxygen cylinders located in the drill hall were not properly secured.	Drill Hall	3	Properly secure the compressed gas cylinders in the drill hall.					29 CFR 1910.253 (b)(2)(ii)

Appendix L
Recommendations

Summary of Recommendations for Socorro Armory

4.1 Lead Wipe Sampling

Recommendations

Clean the drill hall floor to reduce lead surface concentrations below 40 µg/ ft² using guidance from the attached Lead SOP's in Appendix N.

4.4 Asbestos Management

Recommendations

1. Locate the asbestos survey or contract with a licensed firm to perform an asbestos survey and assessment.
2. If asbestos-containing materials are 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

Recommendations

1. Obtain MSDSs for each chemical at the Armory and store the MSDSs in a location that is known to all potential users.
2. Once the MSDSs are obtained, develop a chemical inventory for all products used in this Armory.
3. Ensure all products used by this armory are properly labeled.
4. Place visible hazard identification signs with markings that complies with NFPA 704, Standard System for Identification of the Hazards of Materials for Emergency Response, on the kitchen door, and the plastic bin located outdoors.

4.7 Safety Training and Record Keeping

Recommendation

At a minimum, provide hazard communication training to those who use chemicals in the work place and fire prevention training, fire safety, and fire extinguisher training to all personnel who occupy the facility.

4.10 General Safety Walk-Through

Recommendations

1. Improve the housekeeping within the facility and remove equipment from areas that are frequently accessed.
2. Perform monthly maintenance checks for fire extinguishers checks.
3. Compile a directory for the electrical breakers located in the electrical panel box located in the kitchen to reflect their function.
4. Properly secure the compressed gas cylinders in the drill hall.

Appendix M
DD Forms 2214

The Socorro Armory does not have an industrial kitchen; therefore, a noise survey was not performed.

Appendix N
IHSW Lead-Cleanup SOP

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.

2.1.1 The IH community found unexpectedly high levels of lead dust during a normal IH investigation (survey) in an armory that had an Indoor Firing Range (IFR) within it. Wipe samples were taken in another armory without an IFR, only to find that this armory had higher than expected levels of lead dust, also.

2.1.2 Each ARNG Regional Industrial Hygienist has planned to survey all their armories spearheaded by the Midwest regional office, to determine the magnitude of these findings.

2.1.3 About 2/3rds of the armories tested so far, did not have "a clean bill of health". Now the IH community will attempt to discern where the contamination is coming from and also, give guidance on how to deal with these contaminant.

2.1.4 Air sampling of the armories tested have shown very low levels of lead dust in the breathing area. Dust wipe samples have varied in quantities present but have exceeded the EPA's floor standard and the ARNG IFR guidelines.

3. Relevant Standards and Guidelines.

3.1 Airborne Lead.

3.1.1 The Occupational Safety and Health Administrations (OSHA) Permissible Exposure Level (PEL) for airborne lead is **50 micrograms per cubic meter (ug/m3)**, averaged over an 8-hour work shift. The OSHA action level is 30 ug/m3.

3.2 Blood Lead Level (BLL).

3.2.1 OSHA requires that personnel who are exposed to airborne lead above the PEL be offered medical surveillance that includes blood lead level monitoring. Personnel with total **BLL above 50 micrograms per deciliter (ug/dl)** of blood are required to be removed from occupational lead exposures until the BLL drops back to 40.

3.2.2 Women who may become pregnant who are exposed to lead should consult with their physician. Fetal and newborn BLLs are similar to those of

the mother. The Center for Disease Control and Prevention considers levels above **10 ug/dl in children under 6** to be elevated BLLs.

3.3 Lead in Surface Dust.

3.3.1 There are no established standards for lead levels in dust within buildings other than those used by children under 6. The Environmental Protection Agency (EPA) along with Housing and Urban Development (HUD) floor dust lead level standard (which is currently **40 ug/ft²**) does not apply to workplace surfaces, and would be impossible to maintain in many industrial facilities. (EPA 40 CFR Part 745)

3.3.1.1 The EPA interior windowsill standard is 250 ug/ft².

3.3.1.2 The EPA standard for window trough is 400 ug/ft².

3.3.2 OSHA cites a level of 200 ug/ft² as guidance to its own inspectors for evaluating the cleanliness of lunchroom and locker room surfaces that are supposed to be kept as clean as possible.

3.4 Lead in Paint.

3.4.1 EPA's standard for lead-based paint or other surface coatings that contain lead equal to or exceeding 1.0 milligram per square centimeter (mg/cm²) or 0.5 percent (%) by weight or 5000 parts per million (ppm) by weight.

4. Indoor Firing Ranges (IFR).

4.1 Relevant Standards and Guidelines.

4.1.1 OSHA guidelines stated above (see 3.3.2) are the recommended working levels to achieve in an active IFR.

4.1.2 NGR 385-10 guideline reflects that of OSHA at 200 ug/ft² for lead dust on surfaces.

4.2 Maintenance and Cleaning.

4.2.1 Follow NGR 385-10, along with SOP found in All States Letter (Log Number P00-0059 along with All States Letter (Log Number P01-0075)

addressing Policy and Responsibilities for Inspection, Evaluation and Operation of ARNG Indoor Firing Ranges. Also, utilize AR 385-63 Range Safety.

4.2.2 Cross contamination is a concern where Armories and IFR's are co-located. Keeping an IFR dust level at 200 ug/ft² does not meet the 40 ug/ft² required on floor surfaces for children 6 and under. Tracking lead dust to other parts of the armory is a concern and should be addressed by the facilities manager and the range custodian.

5. Converted/Closed Indoor Firing Ranges.

5.1 Closed IFR.

5.1.1 Closed IFR's should be not utilized for anything, e.g. storage, office space or anything else. This should be a voided space with no entry. The IFR should have been cleaned to at least 200 ug/ft² before closure to prevent contamination via air stream or other means.

5.1.2 Should be locked and signage placed on entryway to warn personnel of lead contents.

5.2 Converted IFR-- NG PAM 385-16 "Guidelines for converting of IFR."

5.2.1 These spaces should have been cleaned and taken to lowest possible level, e.g. 0-40 ug/ft², and then the proper sealant applied, retested via wipe samples. The results should be below the pre-sealant sample results and as close to zero as possible.

5.2.2 The backstop and ventilation system should have been removed prior to cleaning of the range.

5.2.3 If all of this wasn't accomplished initially and you have high lead levels after this Baseline survey, or if it was accomplished, you need to talk to the original contractor who was responsible for the cleanup or get the area re-cleaned by a different contractor. Converted IFR's have to meet certain criteria before they can be changed into something that will be utilized for an office, storage, or something else where contamination to an individual may occur.

6. Armory Cleanup.

6.1 High Test Result.

6.1.1 If the public utilizes your facility and the results came back above 40 ug/ft² you are responsible for cleaning this area and adjoining areas to meet the 40 ug/ft² or less.

6.1.1.1 Unless you can guarantee no children under the age of 7 will come into your facility.

6.1.1.2 Unless your state public health has other guidance, e.g., post signage to warn personnel who are pregnant or of child bearing age, or under the age of 7 y/o.

6.1.1.3 Signs stating "No smoking, drinking or eating, application of make-up without washing of hands prior to activity."

6.2 Cleaning of Building. Before proceeding into the cleanup mode, first, discuss with your Environmental office what procedures they would recommend and then coordinate your efforts with local agencies, if warranted.

6.2.1 The building, and dusty materials and equipment in it should be cleaned one time to reach the dust lead levels appropriate for the function of this facility, e.g., used by full-time personnel only, utilized by adults or children 7 y/o, or order children only, or utilized by pregnant individuals and/or children under the age of 7. NOTE: This type cleaning implies that this is not a facility that has an active Indoor Firing Range. For facilities with active ranges, these facilities should be monitored with wipe samples taken over the drill floor area by the Range Custodian quarterly, to ascertain the level of lead is at the required level for your particular facility and situation.

6.2.1.1 This cleanup can be accomplished using a HEPA vacuum (a very tedious and long operation) and then by utilizing a wet method with "Spic n Span" or something equivalent to this detergent - using wet rags to wipe down surfaces and mops soaked in this solution to do floor area. NOTE: Personal protective gloves, rubber boots or protective disposable shoe/boot covers should be used during this procedure and personnel's

clothing should be washed separately from their families, if they have young children at home. Personnel should wash their hands after performing this operation to assure lead contaminants are not ingested.

6.2.1.2 Frequent changing out of the water used is vital. Disposal of this hazardous waste water and rags/mop heads, Personal Protective Equipment (PPE), etc., should be coordinated with your Environmental office.

6.2.2 Clean all ductwork where lead was found. EPA has a protocol specifically for replacing or cleaning lead in dust form in HVAC systems. EPA Office of Pollution Prevention and Toxics, "*Reducing Lead Hazards When Remodeling Your Home*" www.epa.gov/opptintr/lead/rpamph.pdf.

6.2.3 Continue to enforce good housekeeping and hygiene practices. These measures make good sense to minimize exposures to any toxic chemicals in the workplace.

6.2.4 Provide lead awareness training to the general workforce and any occupants of your facility.

NOTE: Before you start any new procedures or practices be aware of the local city and state regulations in your area.



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

Taos Armory
1145 State Road
Taos, NM 87557

17 Oct 14

10510 Superfortress Avenue, Suite C, Mather, CA 95655

(916) 854-1494

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



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-P

14 NOV 2014

MEMORANDUM THRU **Non-Responsive** SOHM, 600 Wyoming Blvd, NE, Albuquerque,
NM 87123

FOR Commander, Taos Armory 1145 State Road, Taos, NM 87557

SUBJECT: Executive Summary for a Site Assistant Visit (IHSAV) for Taos Armory 1145 State Road, Taos,
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 Taos Armory 1145 State Road, Taos, 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.

e. 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 Taos Armory 1145 State Road, Taos, NM on 17 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 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 Taos Armory 1145 State Road, Taos, 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 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

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 TAOS ARMORY, NEW MEXICO 87557



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"/> NMTA-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)
NMTA-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)
NMTA-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.					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.

NEW MEXICO ARMY NATIONAL GUARD

TAOS ARMORY

1145 State Rd. 570
Taos, NM 87557
(505) 474 2608



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

Aloha World

INDUSTRIAL HYGIENE ASSISTANCE VISIT TAOS ARMORY TAOS, NEW MEXICO



1.0. Introduction and Background

1.1. This report summarizes the results of the Industrial Hygiene (IH) Survey conducted at the Taos Armory in Taos, NM on October 17, 2014. The Army National Guard of Industrial Hygiene Southwest Regional Manager (ARNG-IHSW) requested **Non-Responsive** to visit the Taos 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 Taos Armory supports the 1115th Transportation Co. The Armory has 3 full time guard members (**Appendix F**) and approximately 30 guardsmen and women on drill weekend. This armory was constructed in 1998. The armory has offices that are used for administrative purposes and also contains a drill floor, arms room, supply room, classrooms, weight room and an industrial kitchen.

Aloha World

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 1998 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.

Aloha World

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] H Tech
Aloha World Environmental

Aloha World

BEST AVAILABLE COPY
Industrial Hygiene Survey
Taos Armory

**Lead Wipe
Table 3.1.A.**

<i>Sample ID</i>	<i>AREA</i>	<i>Photo #</i>	<i>Result ug/ft2</i>
101714-1	Control	NA	BDL
101714-2	North drill hall	2	BDL
101714-3	Center drill hall	3	BDL
101714-4	South drill hall	4	BDL
101714-5	West drill hall	5	BDL
101714-6	East drill hall	6	BDL
101714-7	North maintenance shop	7	BDL
101714-8	Kitchen	8	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-** Non-Responsive was asked during this survey about the presence of asbestos and she 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.

Aloha World

BEST AVAILABLE COPY
Industrial Hygiene Survey
Taos Armory

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 tile and water stains on a wall, coming from the ceiling, in the maintenance bay office.

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 Taos 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 shown in **Appendix C**.

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. However, the MSDS is not yet in the new SDS format.

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

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

Aloha World

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

Photo Log



Photo #1 – Taos Armory



Photo #2- North drill hall wipe



Photo #3- Center drill hall wipe

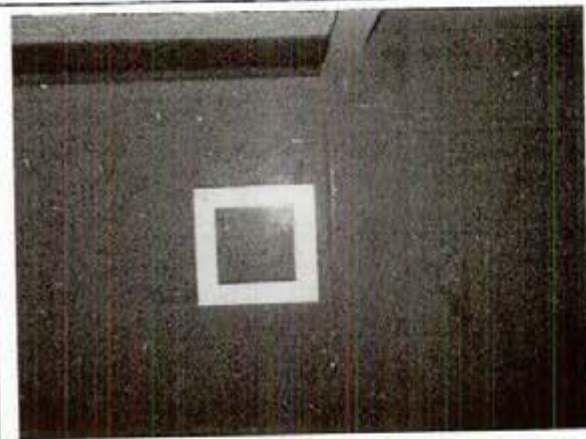


Photo #4- South drill hall wipe



Photo #5 – West drill hall wipe

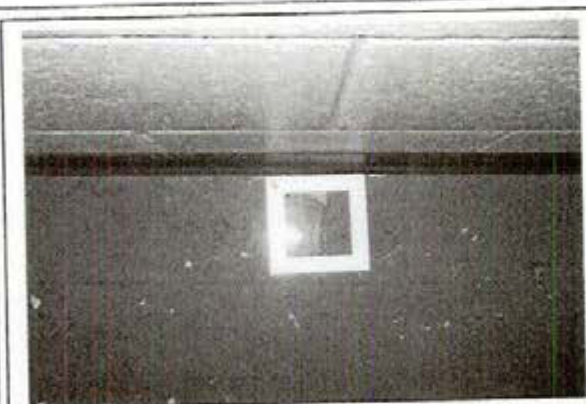


Photo #6 – East drill hall wipe

Photo Log



Photo #7 – North maintenance bay wipe

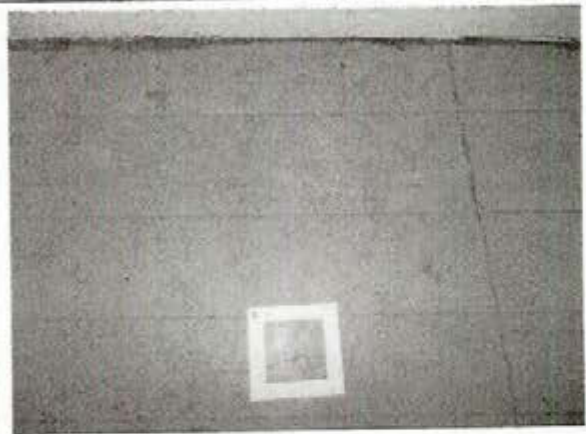


Photo #8- South maintenance bay wipe

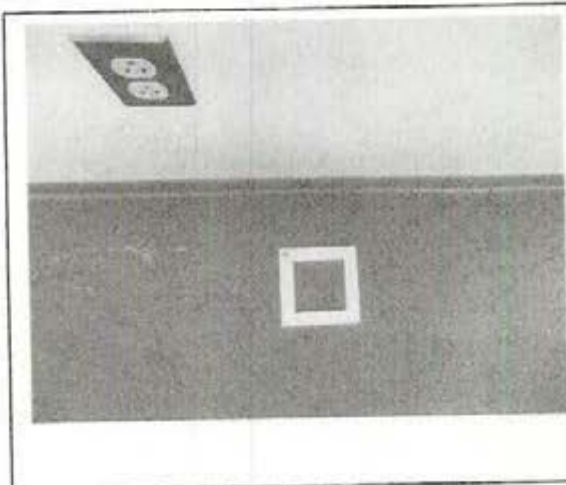


Photo #9 – Supply room wipe

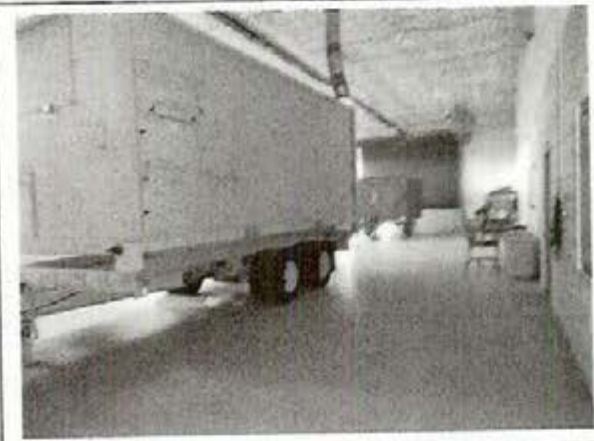


Photo #10 – Maintenance bay



Photo #11 –Eye wash



Photo #12 –Janitor closet

Photo Log



Photo #13 – Janitor closet



Photo #14- Drill hall

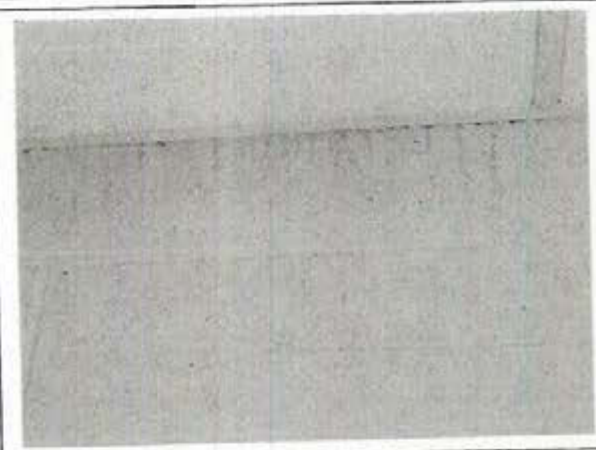


Photo #15- Water leak

Fire Evacuation Plan



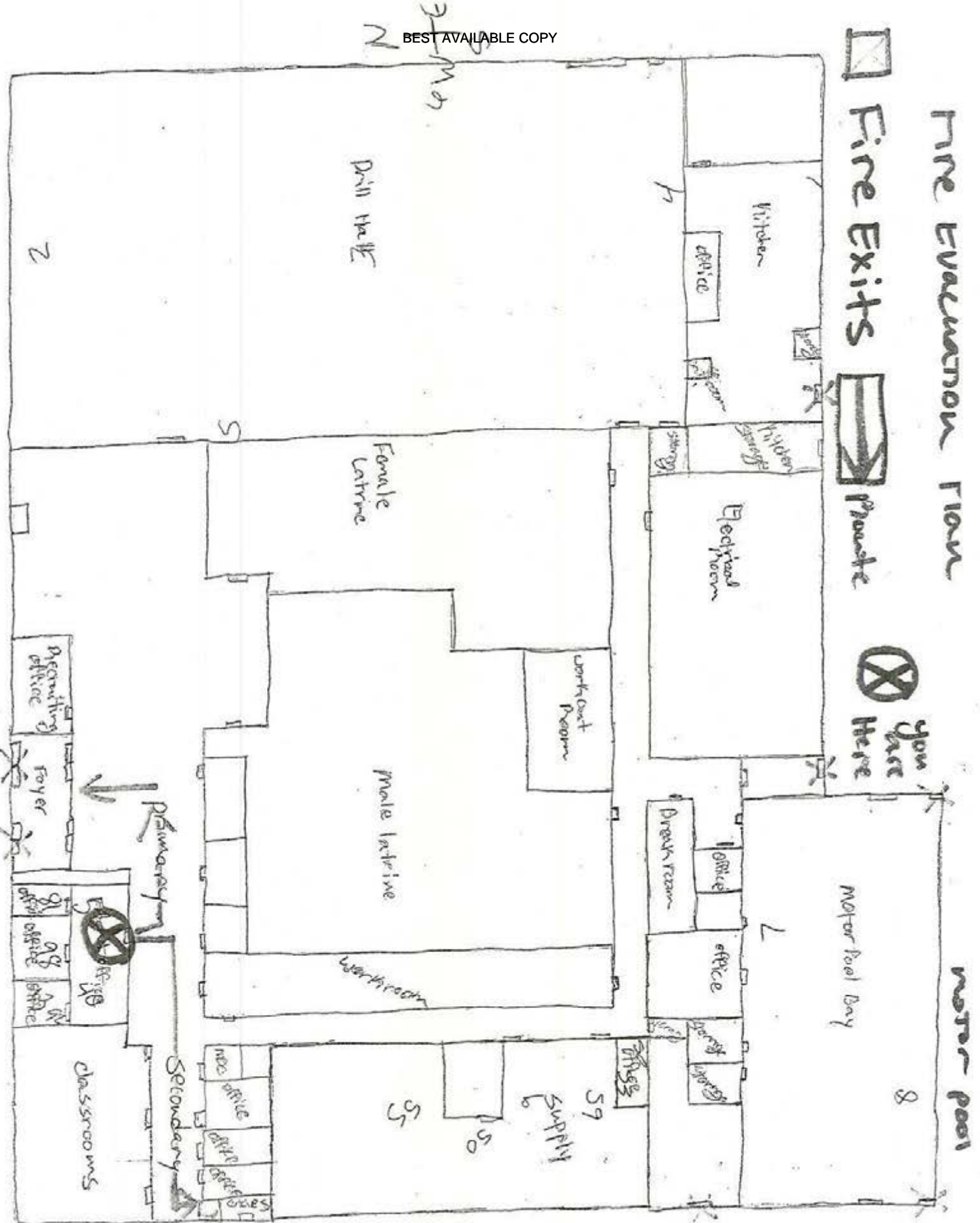
Fire Exits



Route



you
gather
here



RESERVOIRS ENVIRONMENTAL, INC.

**5801 Logan St., Suite 100
Denver CO 80216**

TABLE ANALYSIS: LEAD BY WIPE SAMPLING

RES Job Number: **RES 303548-1**
Client: **Aloha World**
Client Project Number / P.O.: **101914**
Client Project Description: **Taos 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 ²)	LEAD CONCENTRATION (µg/ft ²)
101914-1	EM 1280848	0.11	BRL	22.7	BRL
101914-2	EM 1280849	0.11	BRL	22.7	BRL
101914-3	EM 1280850	0.11	BRL	22.7	BRL
101914-4	EM 1280851	0.11	BRL	22.7	BRL
101914-5	EM 1280852	0.11	BRL	22.7	BRL
101914-6	EM 1280853	0.11	BRL	22.7	BRL
101914-7	EM 1280854	0.11	BRL	22.7	BRL
101914-8	EM 1280855	0.11	BRL	22.7	BRL
101914-9	EM 1280856	0.11	BRL	22.7	BRL

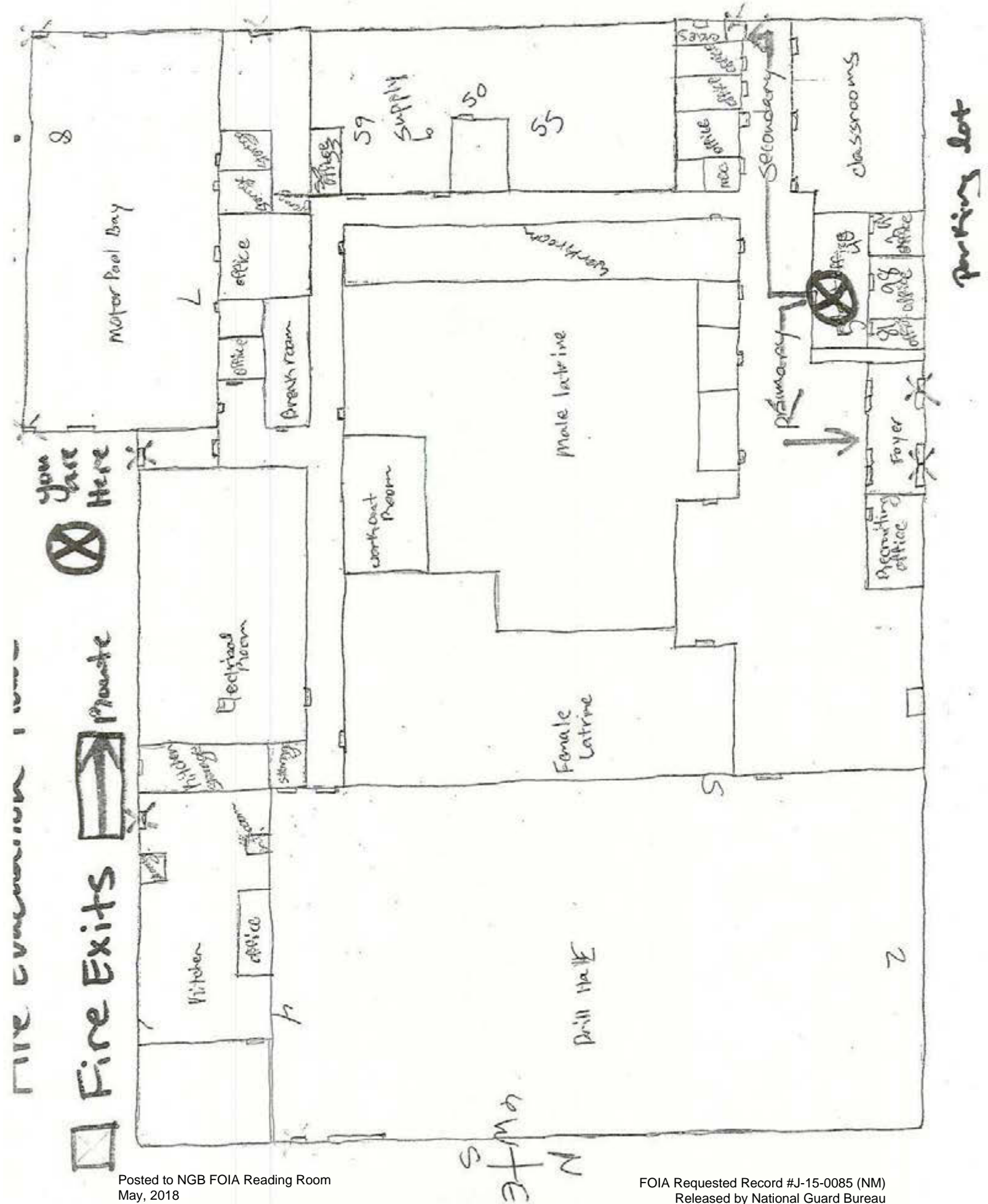
*Calculations Based On A 1 sq.ft. Sample Area Unless Otherwise Noted

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

BRL = Below Reporting Limit

Data QA

Non-Responsive



BEST AVAILABLE COPY

TAOS ARMORY
Taos, New Mexico

PERSONNEL

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.	NO
Is there any peeling paint ? Take bulk sample if able.	NO
Are there any signs of water damage or mold ?	roof leak
Any suspected ACM ? Where and what condition is it in. Bulk sample if able.	none
Quality of housekeeping	
HVAC maintenance plan in place?	state
Overall condition of HVAC system	good
Obtained CO2, Temp, RH monitoring	✓
HAZMAT inventory on hand (make copies for the report), MSDS available for all materials.	minimum amt
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	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)	monthly
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)	safety
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)	yes
Obtain two lead air samples	On IHSW Request Only

Evaluate Kitchen Stove Hood Flow if Present IAW NFPA Standard 96.	fire suppression not updated - hood doesn't work
Collect Source Noise Measurements of Kitchen Appliances and Document Using DD 2214	none
Conduct a safety walkthrough of entire facility document any safety deficiencies found.	✓
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	
(Add Checklist to Report)	(Add Checklist to Report)

BEST AVAILABLE COPY
Industrial Hygiene Survey
Taos 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. 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

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
TAOS ARMORY, NEW MEXICO 87557

CONTROL NUMBER	HAZARD DESCRIPTION	SITE	RAC	CORRECTIVE ACTIONS (Abatement Plan)	SUSPENSE DATE	ACTION OIC/INCOIC	Estimated Cost(s)	DATE CORRECTED	REFERENCES
CLOSED <input checked="" type="checkbox"/> NMTA-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)
NMTA-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)
NMTA-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.					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

Taos Armory
1145 State Road 570
Taos, NM 87571

10510 Superfortress Avenue, Suite C, Mather, CA 95655 (916) 854-1491



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

7 January 2013

MEMORANDUM THRU New Mexico Army National Guard, ATTN: **Non-Responsive** (N),
600 Wyoming Blvd NE, Albuquerque, NM 87123-1038

FOR Commander, Taos Armory 1145 State Road 570, Taos, NM 87571

SUBJECT: Executive Summary for Industrial Hygiene Site Assistance Visit (IHSAV) for the Taos Armory 1145 State Road 570, Taos, New Mexico conducted on 06 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 Taos Armory 1145 State Road 570, Taos, NM on 06 AUG 2012.

b. The findings and recommendations in this Executive Summary are controlling and supersede all recommendations in the contractor's 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

ARNG-CSG-IHSW

SUBJECT: Executive Summary for Industrial Hygiene Site Assistance Visit (IHSAV) for the Taos Armory 1145 State Road 570, Taos, New Mexico conducted on 06 August 2012.

correspond to the sections where they were first noted. (i.e., paragraph 2.1a represents the 2.1a located within the contractors report.

a. Improve the Housekeeping practices within the facility by using the Armory Clean-up SOP included in this report. Improving the housekeeping within the classroom and workout room, where lead dust exceeded the 40 micrograms/ft², will help prevent migration of lead dust that can be caused by weapons cleaning or storage of weapons. (para. 4.1.1) (RAC 3)

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. A lead paint management plan should be in place to protect self-help personnel or any state maintenance personnel during repair or renovations. (para. 4.2.1) (RAC 4)

d. Provide personnel with asbestos awareness training to help prevent them from contaminating others, the building or themselves. (para. 4.4) (RAC 4)

e. Repair exhaust hood found in the kitchen and ensure the hood is exhausting 500 fpm as a minimum. (para. 4.8) (RAC 4)

f. Place a work order in for repair of the Emergency Eyewash station found in the maintenance bay. (para. 4.10.4) (RAC 4)

g. Ensure all fire extinguishers undergo a monthly inspection and it is documented on the extinguisher tag. (para. 4.10.3) (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.

ARNG-CSG-IHSW

SUBJECT: Executive Summary for Industrial Hygiene Site Assistance Visit (IHSAV) for the Taos Armory 1145 State Road 570, Taos, New Mexico conducted on 06 August 2012.

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.

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.

SUBJECT: Executive Summary for Industrial Hygiene Site Assistance Visit (IHSAV) for the Taos Armory 1145 State Road 570, Taos, New Mexico conducted on 06 August 2012.

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
Taos Armory, NM

CONTROL NUMBER	HAZARD DESCRIPTION	SITE	RAC	CORRECTIVE ACTIONS (Abatement Plan)	SUSPENSE DATE	ACTION OIC/NCOIC	Estimated Cost(s)	DATE CORRECTED	REFERENCES
NMTA-080612-4.1.1	The analytical result for the lead wipe sample collected from the classroom indicates that it contains 52 µg/ft ² lead. The classroom is considered a publicly accessible space within the Taos armory.	Classroom (and workout room as a precaution)	3	Follow the IHSW Standard Operating Procedure for lead clean-up in the classroom, and as a precautionary effort, in the workout room as specified in Appendix O.					IHSW SOP - Lead & Prudent Industrial Hygiene Practice
NMTA-080612-4.2.1	The analytical result for the paint chip sample collected indicates that it contains 0.0025% lead by weight and considered lead-containing by OSHA.	NBC Room	4	Construction personnel must follow the requirements of the OSHA Lead in Construction Standard, 29 CFR 1926.62, prior to performing construction activities that affect this painted surface.					29 CFR 1926.62
NMTA-080612-4.4.1	An asbestos survey could not be located during this IH Assistance Visit.	Taos 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)
NMTA-080612-4.4.2	Personnel have not been provided with asbestos awareness training.	Taos 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)
NMTA-080612-4.6.2	The door to the flammable storage room in the maintenance bay is not labeled.	Maintenance Bay	4	Label the entry door with an NFPA placard to alert fire personnel of this flammable storage room location.					NFPA 704
NMTA-080612-4.8	Duct velocity could not be calculated for the exhaust hood serving the stove since the system was non-operable at the time of the survey.	Kitchen	4	Repair the overhead exhaust hood in the kitchen and perform a ventilation survey to ensure this hood is exhausting a minimum of 500 fpm.					2011 National Fire Protection Association Standard 96, Section 8.2.1.1
NMTA-080612-4.10.3	The monthly inspections were not consistent or current for extinguishers throughout the armory.	Taos Armory	4	Ensure all fire extinguisher undergo a monthly inspection.					29 CFR 1910.157 (e) (2)

Industrial Hygiene Southwest
Violation Inventory Log

LOG OF SCHEDULE OF CORRECTIVE ACTION - COMPLIANCE WITH SAFETY AND HEALTH STANDARDS
Taos Armory, NM

CONTROL NUMBER	HAZARD DESCRIPTION	SITE	RAC	CORRECTIVE ACTIONS (Abatement Plan)	SUSPENSE DATE	ACTION OIC/NCOIC	Estimated Cost(s)	DATE CORRECTED	REFERENCES
CLOSED									
NMTA-080612-4.10.4	Eye wash in the maintenance bay is not functional.	Maintenance Bay	4	Place a work order with the maintenance division to repair the eye wash.					ANSI Z358.1-2004
NMTA-080612-4.10.6	No NFPA 704 "fire diamond" posted on the door of the janitorial closet containing hazardous materials.	Janitorial Closet	4	Visible Hazard identification signs in accordance with NFPA 704, <i>Standard System for Identification of the Hazards of Materials for Emergency Response</i> shall be placed on the cabinet, as well as, the entrance of the room the cabinet is located.					NFPA 704

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.

Indoor Firing Range
Decontamination and Cleaning Protocol
(Periodic Cleaning and Conversion)

1. Ensure that all procedures listed below comply with all federal, state, and local regulation. Consult with the Regional Industrial Hygiene Office and the State Environmental Office for further guidance.
2. **Ventilation System.**
 - i. The range ventilation system must be in operation during all cleaning activities. If no ventilation system is available all doors and windows must be kept sealed to prevent contamination of other areas.
3. **Materials:**
 - i. A High Efficiency Particulate Air (HEPA) filtered vacuum system is the preferred method of cleanup. In a HEPA vacuum cannot be obtained a wet method, detailed below, should be utilized. **A high-pressure water system or dry sweeping may not be used.**
 - ii. A cleaning solution containing detergent and water is recommended. New solutions of detergent and water should be mixed frequently.
 - iii. Two containers should be used; one for wetting the applicator (rags, sponge, mop) and the other for rinsing once the dust has been wiped from the surfaces.
 - iv. Wastewater in containers can be left to evaporate. Any waste left in the buckets and applicators should be disposed of as hazardous waste. **Consult the Environmental Office for appropriate disposal instructions.**
 - v. Personnel responsible for decontamination of the range and stored items should be provided with a full face air purifying respirator with a N100 filter or HEPA filter cartridge providing that all requirements for placing employees in respiratory protection have been met as detailed in 26 CFR 1910.134. Employees should be provided with protective coveralls with hood and shoe covers (i.e. Tyvex full-body

suit). Protective clothing should be hanged daily at the end of the shift and more frequently if the suit becomes grossly contaminated. If cotton coveralls are provided then the employer must provide for maintenance and laundering of protective clothing. Protective clothing should not be taken home and prior to leaving the work area, personnel should thoroughly HEPA vacuum the clothing to prevent lead dust from leaving the area. Work and street clothing should not be stored together.

4. Order of Cleaning:

- i. A progression of cleaning form top to bottom and from behind the steel backstop to the firing line should be used. All surface areas in the range must be cleaned. Stored items must be decontaminated prior to removal.
- ii. After removing the sand and/or the steel backstop, areas in front of and behind the bullet trap, along with the steel backstop plates should be cleaned.
- iii. The ceiling, lights, baffles, retrieval system, heating system, and ventilation ducts should be cleaned.
- iv. Acoustical material should be vacuumed instead of being painted over. A Toxic Characteristic Leaching Procedure (TCLP) may need to be used for acoustical material and the like, to determine if the material needs to be classified as hazardous and disposed of accordingly. The Environmental Office should be contacted regarding this testing.
- v. The floor should be the last surface cleaned starting at the bullet trap and ending behind the firing line, to include the plenum area. Concrete floors should be sealed with deck enamel, while linoleum, on the tile floor, should be waxed.
- vi. All walls should be painted, preferably with a sealant, which will help prevent any leaching of lead after covering.
- vii. Following the wet cleaning of the area and after all surfaces have been allowed to dry thoroughly, a HEPA vacuum

should be used on all surfaces, until no dust or residue can be seen. A thorough inspection to detect surface dust should be made following cleanup.

- viii. The Regional Industrial Hygiene Office should be contacted for clearance sampling and to approve the range for converted use.

5. Decontamination of Stored Items:

- i. All stored items must be decontaminated before removing from the range. Stored equipment next to the bullet trap and firing line should be decontaminated first.
- ii. A HEPA vacuum or wet cleaning method should be used. Every attempt should be made to clean the item before disposing as hazardous waste to reduce cost and waste.
- iii. Porous items such as canvas tents or other fabrics may be laundered at companies, which specialize in industrial laundry services. Office partitions and carpeting present during firing should be considered grossly contaminated and disposed of as hazardous waste. Consult the Environmental Office before removing and disposing of items.

6. Medical Surveillance.

- i. A pre-placement medical examination is required for all individuals involved with range cleanup operations.

7. Air Monitoring.

- i. Worker breathing zone air samples must be collected during range cleanup to ensure that workers are not overexposed and to evaluate clean-up procedures.

8. Hazard Training.

- i. A training program must be instituted for all individuals who are subject to exposure to lead at or above the action level, or for whom the possibility of skin or eye irritation exists. This training should be provided for all personnel currently involved in range cleanup operations, at least annually.

BEST AVAILABLE COPY



IH ASSISTANCE VISIT

**New Mexico Army National Guard
Taos Armory
1145 State Road 570
Taos, New Mexico 87571**

December 17, 2012

Prepared for:

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

Prepared by:

Non-Responsive

Industrial Hygienist

Reviewed by:

Non-Responsive

Project #AL127260

640 EAST WILMINGTON AVENUE SALT LAKE TAOS, UT 84106

SALT LAKE TAOS

EMERYVILLE

TELEPHONE: 801-466-2223

PHOENIX

FAX: 801-466-9616

DENVER

E-MAIL: IHI@IHI-ENV.COM

SEATTLE

TABLE OF CONTENTS

EXECUTIVE SUMMARY

1.0	INTRODUCTION	1
1.1	Objectives	1
1.2	Scope of Work	1
2.0	PROCESS DESCRIPTION	1
3.0	METHODS AND APPLICABLE REGULATIONS AND STANDARDS	2
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	4
3.5	Heating, Ventilation, and Air-Conditioning Systems and Indoor Air Quality ..	4
3.6	Hazard Communication and Hazardous Material Storage	5
3.7	Safety Training and Record Keeping	5
3.8	Kitchen Ventilation Survey	5
3.9	Kitchen Appliance Sound-Level Measurements	5
3.10	General Safety Walk-Through	5
3.11	Equipment Used	5
3.12	Quality Assurance	6
4.0	FINDINGS AND RECOMMENDATIONS	6
4.1	Lead Wipe Sampling	6
4.2	Painted Surface Evaluation	7
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 ..	8
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
6.0	PROJECT LIMITATIONS	12
7.0	PROJECT APPROVAL	13

APPENDICES

Appendix A	References
Appendix B	Assessment Criteria
Appendix C	Photo Log
Appendix D	Chemical Inventory
Appendix E	Floor Plan/IAQ – Temp, RH, and CO ₂ Monitoring
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
Appendix N	IHSW Lead Cleanup SOP

EXECUTIVE SUMMARY

On August 6, 2012, **Non-Responsive** MPH, an industrial hygienist with IHI Environmental (IHI), conducted an IH Assistance Visit at the New Mexico Army National Guard Taos Armory located at 1145 State Road 570 in Taos, New Mexico, 87571. The primary point of contact for information gathered during this survey was **Non-Responsive**, (505) 747-2608, **Non-Responsive** and **Non-Responsive** (575) 770-2291,

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 6, 2012, [Non-Responsive], MPH, an Industrial Hygienist with IHI Environmental (IHI), conducted an IH Assistance Visit at the New Mexico Army National Guard Taos Armory located at 1145 State Road 570 in Taos, New Mexico 87571. The primary point of contact for information gathered during this survey was [Non-Responsive] (505) 747-2608, [Non-Responsive] and [Non-Responsive] (575) 770-2291,

1.1 Objectives

The objectives of the IH 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 Taos armory has four full-time guard members. This armory is used for administrative purposes and military training. It contains a drill floor, storage rooms, break room, locker room, and an equipment storage bay. There are no full-time or part-time civilian employees assigned to this armory. Civilian activities include renting the drill hall to the public for

celebrations and commemorative occasions; use by military recruitment office visitors; and *Taos feeds Taos*, a community service coordinated by military personnel at the Taos Armory. Army National Guard members occasionally use the classroom and the maintenance bay as a staging area to clean weapons. The New Mexico State Facility Program (Santa Fe, NM) conducts regular maintenance of the building and the HVAC systems.

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 by two-inch template and placing it in a sampling vial. All samples were submitted to American West Analytical Laboratories (AWAL) in Salt Lake, 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 (mg/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.

All painted surfaces should be suspect lead-containing materials until determined otherwise. Contact the State FMO, State Safety, and the State Environmental directorates before conducting any work that may disturb painted surfaces integrity.

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) system that serves the armory was 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 is available.

Carbon dioxide (CO₂), 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 CO₂ 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 CO₂ 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 CO₂ 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 CO₂ other than exhaled breath, the guidelines above cannot be used. The Occupational Safety and Health Administration (OSHA) standard for CO₂ 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
------	--------------	---------------	------------------

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 the sample collected in the east area of the classroom had 52 µg/ft², which exceeds the cleanup criteria as specified by the Industrial Hygiene Southwest (IHSW) SOP for lead. The two other samples collected in the classroom were less than the cleanup criteria. The wipe sample collected from the workout room was 38 µg/ft² and did not exceed the criteria of the IHSW SOP. However, the concentration of lead in the workout room sample was near the 40 µg/ft² limit. 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

Follow the Standard Operating Procedure for lead cleanup in the classroom and also in the workout room as a precautionary measure. The lead cleanup SOP is included in Appendix N.

4.2 Painted Surface Evaluation

The only room in this armory where peeling paint was noted was the NBC room. A white paint chip sample was collected from the west wall in this room.

The analytical result for the paint chip sample collected indicates that it contains 0.0025% lead by weight, which is less than the HUD standard of 0.5% for lead. However, because there is measureable lead in the sample, OSHA's Lead in Construction Standard applies when renovation work that may disturb this paint is conducted. 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.

Note: The result for the paint sample collected can only be used for the surface sampled. Other surfaces must be evaluated prior to any work that may disturb other painted surfaces.

Recommendation

1. 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 on the south side of the central classroom; however, no fungal growth was observed.

Recommendation

None

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 three roof-mounted Trane[®] combination heating and cooling units, as well as five Carrier[®] air conditioning units. The heating portion of the combination heating and cooling 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.

A separate roof-mounted packaged Renzor[®] heating and cooling unit serves the drill hall only.

The average outdoor CO₂ concentration at the time of the survey was 352 ppm. The highest CO₂ concentration measured inside the building was 455 ppm, which is unlikely to result in indoor air quality complaints.

Building air temperatures ranged from about 69.6°F to 73.3°F and relative humidity was between 47.6% and 55.7% 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 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 State Facility Program maintains all HVAC units in the armory.

Recommendations

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 front office, along the wall in the foyer, inside the janitorial closet, and inside the flammable materials storage room. 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 to employees.

Copies of chemical inventories are provided in Appendix D.

Recommendation

None

4.6.2 Flammable Storage Cabinets

There are no flammable storage cabinets located in the Taos Armory; however, there is a flammable storage room in the maintenance bay where flammable materials are stored. The door to this storage room is not marked with the required National Fire Protection Association (NFPA) placard. All flammables stored in this room are contained inside two bins with closing doors. One bin contains empty fuel canisters and the other contains motor oil and partially filled fuel canisters. The bins were in good condition. No incompatibilities or leaking materials were found. The bins also serve as a secondary spill containment.

Recommendation

1. Post the door to the flammable storage room in the maintenance bay with an NFPA placard to alert fire department personnel of the contents of this room.

4.7 Safety Training and Record Keeping

The following safety documentation is maintained in the Taos Armory:

- The Army Safety Program: AR 385-10
- Army National Guard Safety NGR 385-10
- The Army Safety Program: DA Pam 385-10
- Small Unit Safety Officer/NCO Guide: DA Pam 385-1
- Mishap Risk Management: DA PAM 385-30
- Risk management: FM5-19
- Range Safety AR 385-63
- Army Accident Investigation and Reporting: DA PAM 385-40
- Army National Guard Safety Program : AGNOM 785-10
- HazCom SOPs

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

- Army Accident Avoidance Course
- DOT HazMat Training
- Composite Risk Management Basic Course
- Vehicle Safety

The last Safety Council Meeting was held on August 19, 2011. 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

Duct velocity could not be calculated for the exhaust hood serving the stove since the system was non-operable at the time of the survey.

Recommendation

1. Repair the overhead exhaust hood in the kitchen and perform a ventilation survey to ensure this hood is exhausting a minimum of 500 fpm.

4.9 Kitchen Appliance Sound-Level Measurements

Sound-pressure level measurements were collected for the following kitchen appliances at the Taos Armory: refrigerator, food warmer, rotating grated grill, oven, combination refrigerator/freezer, two garbage disposals, and the dishwasher. Sound-pressure levels for all appliances were below 85 dBA with the exception of the InSinkErator® garbage disposal serving the west sink, which had a sound-pressure level measurement of 87 dBA. Since the sound source is not continuous over the course of the day, hearing damage is unlikely to occur with normal use of the garbage disposal.

Recommendation

None

4.10 General Safety Walk-Through

1. Housekeeping throughout the facility was excellent.
2. There is a fire alarm in this facility maintained by IDS.
3. Fire extinguishers are strategically located throughout the armory. All annual maintenance inspections for fire extinguishers will expire by the end of August. The monthly inspections were not consistent or current for extinguishers throughout the armory.
4. There is one eyewash station in the maintenance bay; however, it is not functional.
5. Fire evacuation routes are posted prominently throughout this armory.
6. There is no recommended NFPA 704 "fire diamond" posted on the door of the janitorial closet that contains hazardous materials.
7. Electrical panel boxes were inspected and were found to contain no exposed wiring or openings in the panel.

Recommendations

1. Ensure that the monthly inspections for the fire extinguishers are conducted and documented.
2. Submit a work order to repair the eyewash. Ensure there is a functional eyewash is provided where an employee's eyes or body could be exposed to injurious corrosive materials.
3. Post the recommended NFPA 704 "fire diamond on the door of the janitorial closet.

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 IHI Assistance Visit was reviewed and approved by:

Non-Responsive

Nov. 12, 2012

Date

nager

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
View of north side of Taos Armory, exterior



Photograph 2
View of south side of Taos Armory, exterior



Photograph 3
View of drill floor/ gymnasium of Taos Armory, interior



Photograph 4
Lead wipe sample location 6241-01, drill floor northwest



Photograph 5
Lead wipe sample location 6241-02, drill floor, northeast



Photograph 6
Lead wipe sample location 6241-03, drill floor, southeast



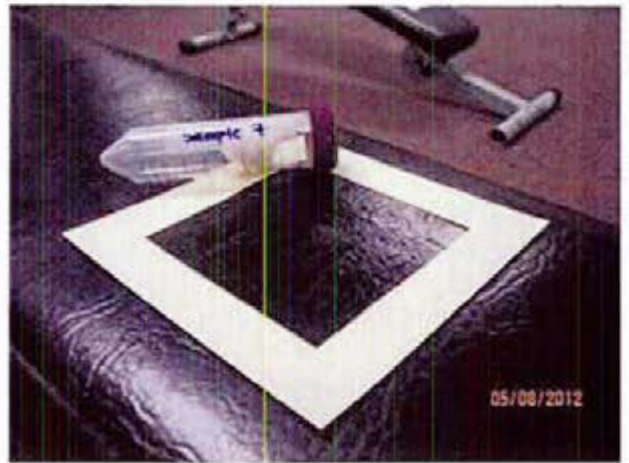
Photograph 7
Lead wipe sample location 6241-04, drill floor, southwest



Photograph 8
Lead wipe sample location 6241-05, drill floor, center



Photograph 9
Lead wipe sample location 6241-06, kitchen



Photograph 10
Lead wipe sample location 6241-07, workout room



Photograph 11
Lead wipe sample location 6241-08, supply room



Photograph 12
Lead wipe sample location 6241-09, gun vault



Photograph 13
Lead wipe sample location 6241-10, classroom east



Photograph 14
Lead wipe sample location 6241-11, classroom center



Photograph 15
Lead wipe sample location 6241-12, classroom west



Photograph 16
Lead wipe sample location 6241-13, SFC Gallegos's desk



Photograph 17
Lead wipe sample location 6241-14, motor bay



Photograph 18
Paint chip sample location 6241-15, NBC room



Photograph 19
View of combination heating and cooling packaged HVAC unit, exterior



Photograph 20
View kitchen exhaust fan on roof and air conditioning unit, exterior



Photograph 21
View of kitchen exhaust hood, interior



Photograph 22
Kitchen exhaust hood, interior



Photograph 23
Kitchen exhaust hood over stove oven, interior



Photograph 24
Inside the storage room where hazardous chemicals are stored



Photograph 25
Exterior of the storage room containing hazardous materials



Photograph 26
Interior of flammable materials storage bin



Photograph 27
Flammable materials storage bin, doors closed



Photograph 28
Interior of second flammable materials storage bin



Photograph 29
Flammable materials storage bin, doors closed



Photograph 30
Exterior of the storage room containing the flammable materials bins

EVIDENCE TAG

DATE: _____ TIME: _____

LOCATION: _____ CASE NO.: _____

ITEM NO.: _____ QUANTITY: _____ UNIT: _____

REMARKS: _____

COLLECTOR: _____

DATE	TIME	LOCATION	CASE NO.	ITEM NO.	QUANTITY	UNIT	REMARKS
01/08/2012	10:30	Room 101	1234	1	1	kg	White powder
01/08/2012	11:00	Room 101	1234	2	1	kg	White powder
01/08/2012	11:30	Room 101	1234	3	1	kg	White powder
01/08/2012	12:00	Room 101	1234	4	1	kg	White powder
01/08/2012	12:30	Room 101	1234	5	1	kg	White powder
01/08/2012	13:00	Room 101	1234	6	1	kg	White powder
01/08/2012	13:30	Room 101	1234	7	1	kg	White powder
01/08/2012	14:00	Room 101	1234	8	1	kg	White powder
01/08/2012	14:30	Room 101	1234	9	1	kg	White powder
01/08/2012	15:00	Room 101	1234	10	1	kg	White powder

FOIA Requested Record #J-15-0085 (NM)
Released by National Guard Bureau
Page 1544 of 1628

BEST AVAILABLE COPY
CHEMICAL INVENTORY

[illegible]

[illegible]

CHEMICAL INVENTORY

Non-Responsive

18 JAN 2011

TAOS Armory
1145 State Rd 570
TAOS NM 87571

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?	- maint bay - classroom
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.	No
Is there any peeling paint? Take bulk sample if able.	Yes - NBC Rm
Are there any signs of water damage or mold?	H ₂ O stained tiles
Any suspected ACM? Where and what condition is it in. Bulk sample if able.	- -
Quality of housekeeping	V. good
HVAC maintenance plan in place?	Yes
Overall condition of HVAC system	Good
Obtained CO ₂ , Temp, RH monitoring	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.	

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	expired monthly inspec. new fire exting. need to be replaced at end of the mo. Annual insp. exp. in Aug - 2012
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)	1 eye wash - not functional
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 - HazCom
Any Photo labs	—
Any hazardous noise sources	—
Light levels checked throughout building	—
Breaker panels properly labeled with no exposed wiring	checked - no issues
Check building occupancy 1. How many military personnel, how many civilian personnel 2. What types of units occupy facility, i.e. Administrative, Maintenance, etc.?	4 full time Headquarters & 1st Platoon PLT
Any civilian activities in armory (club scouts, classes, day care, parties etc)	- rent out drill hall - Taos foods Taos
Obtain two lead air samples	—

Taos Armory
FACILITY INFORMATION
(Information listed in First Section)
(1st Few Paragraphs/Pages of Report)

1. Date Prepared: 2 August 2012
2. Names (and Company Name) of Personnel Conducting Industrial Hygiene Site Assistance Visit: SFC Lola Gallegos, 1115th Transportation Company
3. Facility Name and Brief Summary of Primary Activities Conducted at Facility: NM National Guard Armory. Building used primarily to conduct drill weekend training.
4. Facility Address: 1145 State Rd. 570, Ranchos De Taos, NM 87557
5. Primary Unit Assigned to Facility 1115th Transportation Company (WPGVAA)
6. Co-Tenant Units Assigned or Working Within Facility (LIST ALL): NM National Guard Recruiter.
7. Square Ft. Area of Facility:
8. Work Schedule: Mon - Fri
9. Number of work bays: 7 days a week and six every other week.
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: 4
12. No. of Admin. Personnel (Include Status – AGR, Fed. Tech., IDT, State or Contract Employee): 4 all AGR
13. No. of Maintenance Personnel (Include Status – AGR, Fed. Tech., IDT, State or Contract Employee): 0
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:
Non-Responsive 575-758-2043, 1115th Transportation Company

19. Safety Officer: **Non-Responsive**

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

20. Facility Telephone Number: 575-758-2043



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

BEST AVAILABLE COPY
CERTIFICATE OF CALIBRATION AND TESTINGTSI 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_WGC



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 CO ₂ 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 ₂	EB0021287	08-03-11	08-02-14	200 CO	CC188518	07-28-11	07-27-14
N ₂	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 ₄ H ₈	CC314662	06-04-09	06-04-12	100 C ₄ H ₈	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 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				

CO ₂ 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	Measurement Variable	System ID	Last Cal.	Cal. Due
Temperature	E003986	10-24-11	04-24-12	Temperature	B003987	10-24-11	04-24-12
Humidity	E003539	08-30-11	02-29-12	5000 CO ₂	EB0015430	08-03-11	03-04-12
200 CO	CC188518	07-28-11	07-27-14	N ₂	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 C4H ₈	CC114662	06-04-09	06-04-12
100 C4H ₈	EB0014789	05-06-09	05-06-12				

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 (3.38-3.73)
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

DATE

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	ALLOWABLE RANGE
1	32.0 (0.0)	32.1 (0.1)	31.5-32.5 (-0.3-0.3)	2	140.9 (60.0)	139.5-140.5 (59.7-60.3)

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

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

Non-Responsive

May 3, 2012

DATE

GEN_WCC



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



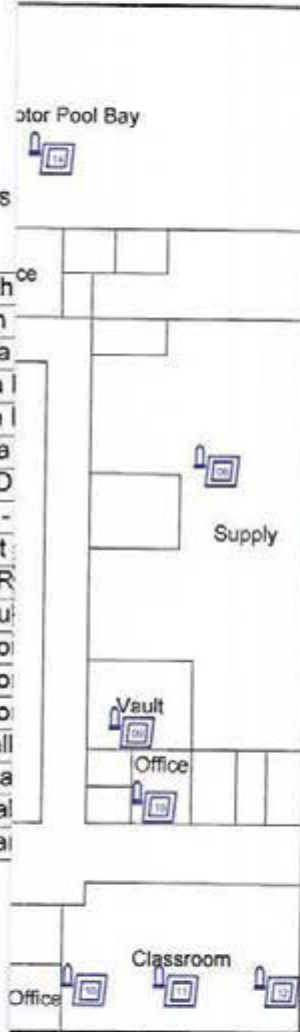
Explanation



Lead Wipe Sample Locations and Numbers

Lead Wipe & Paint Chip		
Sample Number	Sample Name	Location
01	6241-01	NW area
02	6241-02	NE area
03	6241-03	SE area
04	6241-04	SW area
05	6241-05	Center D
06	6241-06	Kitchen -
07	6241-07	Workout
08	6241-08	Supply R
09	6241-09	Gun Vault
10	6241-10	Classroom
11	6241-11	Classroom
12	6241-12	Classroom
13	6241-13	SFC Gall
14	6241-14	Maintena
15	6241-15	Ceiling al
16	6241-16	Field Blai

NOTE: All Wipe Sample Sizes are 100 cm²



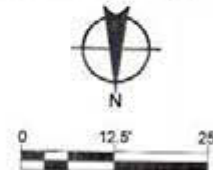
New Mexico Army National Guard

Taos Armory

1145 State Road 570

Taos, New Mexico

Lead Wipe & Paint Chip Sample Locations



PROJECT No: 12U-I6241
 SHEET: 1 of 3
 DRAWN BY: Keith
 DATE: 09-18-2012
 REVISED BY:
 DATE:
 REVIEWED BY:
 DATE:

Lead Wipe Sample Results

Sample Number	Collection Date	Location	Result $\mu\text{g}/\text{ft}^2$
6241-01	8/6/2012	Drill floor N.W.	<23
6241-02	8/6/2012	Drill floor N.E.	<23
6241-03	8/6/2012	Drill floor S.E.	<23
6241-04	8/6/2012	Drill floor S.W.	<23
6241-05	8/6/2012	Drill floor, center	<23
6241-06	8/6/2012	Kitchen, on food preparation surface	<23
6241-07	8/6/2012	Workout room	38
6241-08	8/6/2012	Supply room floor	<23
6241-09	8/6/2012	Gun vault, center	30
6241-10	8/6/2012	Classroom, East	54
6241-11	8/6/2012	Classroom, center	<23
6241-12	8/6/2012	Classroom, west	<23
6241-13	8/6/2012	Non-Responsive	<23
6241-14	8/6/2012	Maintenance/ Motor bay	28



BEST AVAILABLE COPY
ANALYTICAL REPORT

Report Date: August 28, 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: 34-1223444

Client Project ID: 12U-I6241/Taos Armory 082112

Purchase Order: 12U-I6241

Project Manager: **Non-Responsive**

Analytical Results

Sample ID: 6241-1				Media: Lead Dust Wipe		Collected: 08/06/2012	
Lab ID: 1223444001				Sampling Location: Taos 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: 6241-2		Media: Lead Dust Wipe		Collected: 08/06/2012	
Lab ID: 1223444002		Sampling Location: Taos 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: 6241-3		Media: Lead Dust Wipe		Collected: 08/06/2012	
Lab ID: 1223444003		Sampling Location: Taos 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: 6241-4		Media: Lead Dust Wipe		Collected: 08/06/2012	
Lab ID: 1223444004		Sampling Location: Taos 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

RIGHT SOLUTIONS RIGHT PARTNER



BEST AVAILABLE COPY

ANALYTICAL REPORT

Workorder: 34-1223444

Client Project ID: 12U-I6241/Taos Armory 082112

Purchase Order: 12U-I6241

Project Manager: Non-Responsive

Analytical Results

Sample ID: 6241-5		Media: Lead Dust Wipe		Collected: 08/06/2012	
Lab ID: 1223444005		Sampling Location: Taos 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: 6241-6		Media: Lead Dust Wipe		Collected: 08/06/2012	
Lab ID: 1223444006		Sampling Location: Taos 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: 6241-7		Media: Lead Dust Wipe		Collected: 08/06/2012	
Lab ID: 1223444007		Sampling Location: Taos 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	4.1	38	2.5		

Sample ID: 6241-8		Media: Lead Dust Wipe		Collected: 08/06/2012	
Lab ID: 1223444008		Sampling Location: Taos 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: 6241-9		Media: Lead Dust Wipe		Collected: 08/06/2012	
Lab ID: 1223444009		Sampling Location: Taos 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	3.3	30	2.5		



BEST AVAILABLE COPY

ANALYTICAL REPORT

Workorder: **34-1223444**
Client Project ID: 12U-I6241/Taos Armory 082112
Purchase Order: 12U-I6241
Project Manager: **Non-Responsive**

Analytical Results

Sample ID: 6241-10		Media: Lead Dust Wipe	Collected: 08/06/2012
Lab ID: 1223444010		Sampling Location: Taos Armory	Received: 08/21/2012
Method: NIOSH 7300 Mod.		Sampling Parameter: Area 100 cm ²	Prepared: 08/24/2012 Analyzed: 08/27/2012
Analyte	ug/sample	ug/ft ²	RL (ug/sample)
Lead	5.8	54	2.5

Sample ID: 6241-11		Media: Lead Dust Wipe	Collected: 08/06/2012
Lab ID: 1223444011		Sampling Location: Taos Armory	Received: 08/21/2012
Method: NIOSH 7300 Mod.		Sampling Parameter: Area 100 cm ²	Prepared: 08/24/2012 Analyzed: 08/27/2012
Analyte	ug/sample	ug/ft ²	RL (ug/sample)
Lead	<2.5	<23	2.5

Sample ID: 6241-12		Media: Lead Dust Wipe	Collected: 08/06/2012
Lab ID: 1223444012		Sampling Location: Taos Armory	Received: 08/21/2012
Method: NIOSH 7300 Mod.		Sampling Parameter: Area 100 cm ²	Prepared: 08/24/2012 Analyzed: 08/27/2012
Analyte	ug/sample	ug/ft ²	RL (ug/sample)
Lead	<2.5	<23	2.5

Sample ID: 6241-13		Media: Lead Dust Wipe	Collected: 08/06/2012
Lab ID: 1223444013		Sampling Location: Taos Armory	Received: 08/21/2012
Method: NIOSH 7300 Mod.		Sampling Parameter: Area 100 cm ²	Prepared: 08/24/2012 Analyzed: 08/27/2012
Analyte	ug/sample	ug/ft ²	RL (ug/sample)
Lead	<2.5	<23	2.5

Sample ID: 6241-14		Media: Lead Dust Wipe	Collected: 08/06/2012
Lab ID: 1223444014		Sampling Location: Taos Armory	Received: 08/21/2012
Method: NIOSH 7300 Mod.		Sampling Parameter: Area 100 cm ²	Prepared: 08/24/2012 Analyzed: 08/27/2012
Analyte	ug/sample	ug/ft ²	RL (ug/sample)
Lead	3.1	28	2.5



BEST AVAILABLE COPY

ANALYTICAL REPORT

Workorder: **34-1223444**
Client Project ID: 12U-I6241/Taos Armory 082112
Purchase Order: 12U-I6241
Project Manager: **Non-Responsive**

Analytical Results

Sample ID: 6241-15	Media: Paint Chip	Collected: 08/06/2012
Lab ID: 1223444015	Sampling Location: Taos Armory	Received: 08/21/2012
Method: NIOSH 7300 Mod.	Sampling Parameter: Weight 0.1003 grams	Prepared: 08/27/2012 Analyzed: 08/28/2012
Analyte	%	RL (%)
Lead	0.0028	0.0025

Sample ID: 6241-16		Media: Lead Dust Wipe		Collected: 08/06/2012	
Lab ID: 1223444016		Sampling Location: Taos 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		

Report Authorization

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

Laboratory Contact Information

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

Phone: (801) 266-7700
Email: alslt.lab@ALSGlobal.com
Web: www.alsslc.com



ANALYTICAL REPORT

Workorder: **34-1223444**
Client Project ID: 12U-I6241/Taos Armory 082112
Purchase Order: 12U-I6241
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	ACCLASS (DoD ELAP)	ADE-1420	http://www.aiclasscorp.com
	Utah (NELAC)	DATA1	http://health.utah.gov/lab/labimp/
	Nevada	UT00009	http://ndep.nv.gov/bsdwlabservice.htm
	Oklahoma	UT00009	http://www.deq.state.ok.us/CSDnew/
	Iowa	IA# 376	http://www.iowadnr.gov/InsideDNR/RegulatoryWater.aspx
	Florida (TNI)	E871067	http://www.dep.state.fl.us/labs/bars/sas/qa/
	Texas (TNI)	T104704456-11-1	http://www.tceq.texas.gov/field/qa/lab_accred_certif.html
Industrial Hygiene	AIHA (ISO 17025 & AIHA IHLAP/ELLAP)	101574	http://www.aihaaccreditedlabs.org
Lead Testing:			
CPSC	ACCLASS (ISO 17025, CPSC)	ADE-1420	http://www.aiclasscorp.com
Soil, Dust, Paint ,Air	AIHA (ISO 17025, AIHA ELLAP and NLLAP)	101574	http://www.aihaaccreditedlabs.org
Dietary Supplements	ACCLASS (ISO 17025)	ADE-1420	http://www.aiclasscorp.com

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

Taos Armory, NM

CONTROL NUMBER	HAZARD DESCRIPTION	SITE	RAC	CORRECTIVE ACTIONS (Abatement Plan)	SUSPENSE DATE	ACTION OIC/NCOIC	Estimated Cost(s)	DATE CORRECTED	REFERENCES
NMTA-080612-4.1.1	The analytical result for the lead wipe sample collected from the classroom indicates that it contains 54 µg/ft ² lead. The classroom is considered a publicly accessible space within the Taos armory.	Classroom (and workout room as a precaution)	3	Follow the IHSW Standard Operating Procedure for lead clean-up in the classroom, and as a precautionary effort, in the workout room as specified in the IHSW Lead SOP.					IHSW SOP - Lead & Prudent Industrial Hygiene Practices
NMTA-080612-4.2.1	The analytical result for the paint chip sample collected indicates that it contains 0.0025% lead by weight and considered lead-containing by OSHA.	NBC Room	4	Construction personnel must follow the requirements of the OSHA Lead in Construction Standard; 29 CFR 1926.62, prior to performing construction activities that affect this painted surface.					29 CFR 1926.62
NMTA-080612-4.4.1	An asbestos survey could not be located during this IH Assistance Visit.	Taos 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)
NMTA-080612-4.4.2	Personnel have not been provided with asbestos awareness training.	Taos 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)
NMTA-080612-4.6.2	The door to the flammable storage room in the maintenance bay is not labeled.	Maintenance Bay	4	Label the entry door with an NFPA placard to alert fire personnel of this flammable storage room location.					NFPA 704
NMTA-080612-4.8	Duct velocity could not be calculated for the exhaust hood serving the stove since the system was non-operable at the time of the survey.	Kitchen	4	Repair the overhead exhaust hood in the kitchen and perform a ventilation survey to ensure this hood is exhausting a minimum of 500 fpm.					2011 National Fire Protection Association Standard 96, Section 8.2.1.1
NMTA-080612-4.10.3	The monthly inspections were not consistent or current for extinguishers throughout the armory.	Taos Armory	4	Ensure all fire extinguisher undergo a monthly inspection.					29 CFR 1910.157 (e) (2)

Industrial Hygiene Southwest

Violation Inventory Log

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

Taos Armory, NM

CONTROL NUMBER	HAZARD DESCRIPTION	SITE	RAC	CORRECTIVE ACTIONS (Abatement Plan)	SUSPENSE DATE	ACTION OIC/NCOIC	Estimated Cost(s)	DATE CORRECTE D	REFERENCES
NMTA-080612- 4.10.4 CLOSED	Eye wash in the maintenance bay is not functional.	Maintenance Bay	4	Place a work order with the maintenance division to repair the eye wash.					ANSI Z358.1-2004
NMTA-080612- 4.10.6	No NFPA 704 "fire diamond" posted on the door of the janitorial closet containing hazardous materials.	Janitorial Closet	4	Visible Hazard identification signs in accordance with NFPA 704, <i>Standard System for Identification of the Hazards of Materials for Emergency Response</i> shall be placed on the cabinet, as well as, the entrance of the room the cabinet is located.					NFPA 704

Summary of Recommendations for Taos Armory

4.1 Lead Wipe Sampling

Recommendations

Follow the Standard Operating Procedure for lead clean-up in the classroom, and also in the workout room as a precautionary measure. The lead clean-up SOP is included in Appendix N.

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.

4.4 Asbestos Management

Recommendations

1. Locate the asbestos survey or contract with a licensed firm to perform an asbestos survey and assessment.
2. If asbestos-containing materials are 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

Recommendations

Post the door to the flammable storage room in the maintenance bay with an NFPA placard.

4.8 Kitchen Ventilation Survey

Recommendation

Repair the overhead exhaust hood in the kitchen and perform a ventilation survey to ensure this hood is exhausting a minimum of 500 fpm.

4.10 General Safety Walk-Through

Recommendations

1. Ensure that the monthly inspections for the fire extinguishers are conducted and documented.
2. Submit a work order to repair the eye wash. Ensure there is a functional eye wash is provided where an employee's eyes or body could be exposed to injurious corrosive materials.
3. Post the recommended NFPA 704 "fire diamond on the door of the janitorial closet.

NOISE SURVEY (Sound Level Meter Survey)									
1. DATE (YYYYMMDD) 20120806				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	
6. LAST ELECTROACOUSTIC CALIB DATE (YYYYMMDD) 20120210			6. LAST ELECTROACOUSTIC CALIB DATE (YYYYMMDD) 20120210			6. 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) Taos 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)
Continental Refrigerator		S	76	67	IVD	X			
Continental Food Warmer		S	75	65	IVD	X			
Rotating Grater		S	88	79	IVD	X			
Blogett Oven		S	73	70	IVD	X			
US Refrigeration Refrigerator and Freezer		S	73	63	IVD	X			
InSinkErator garbage disposal (west sink)		S	90	82	IID	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.) Survey results continued on the next form.									
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) (505) 758-2043			c. ORGANIZATION NMARNG			
Non-Responsive			18. HEARING CONSERVATION MONITOR (Last Name, First Name, MI) Non-Responsive						

NOISE SURVEY (Sound Level Meter Survey)									
1. DATE (YYYYMMDD) 20120806				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) Taos 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)
Blakeslee dish washer		S	76	73	IVD	X			
InSinkErator garbage disposal (west sink)		S	88	87	IIID		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.) The two exhaust hoods in the east kitchen area could not be serviced because they were not operational 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) Non-Responsive				b. TELEPHONE (include area code) (505) 758-2043		c. ORGANIZATION NMARNG			
1. NAME (Last, First, Middle Initial) Non-Responsive					1. NAME (Last, First, Middle Initial) Non-Responsive				

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.

SOP FOR ARMORY CLEANUP

1. General.

1.1 Objective.

1.1.1. The purpose of this SOP (Standard Operating Procedure) is once a lead dust hazard has been identified and excess exists, how to lower the level of lead dust to afford a safe building, which is clean enough for all personnel exposed to this potential hazard.

1.2 Description of An Armory.

1.2.1 Armories provide a space for units to support and train soldiers.

1.2.2 The facility is utilized by Army National Guard (ARNG) family members, usually in a recreational or festive setting. This may include all members and all ages of a given family.

1.2.3 The Armory can be used for community activities, which may include all age levels.

1.3 Responsibilities.

1.3.1 It is the ARNG specialty branches, e.g., Industrial Hygiene (IH), Occupational Health & Safety's, responsibility to notify occupants of any known health risk within their facility.

1.3.2 It is the building managers responsibility to warn any users of this facility about potential hazards by, e.g., verbal, written or warning signs.

1.3.3 The ultimate responsibility falls back on the TAG of each state.

2. Background.

2.1 IH Investigation.

2.1.1 The IH community found unexpectedly high levels of lead dust during a normal IH investigation (survey) in an armory that had an Indoor Firing Range (IFR) within it. Wipe samples were taken in another armory without an IFR, only to find that this armory had higher than expected levels of lead dust, also.

2.1.2 Each ARNG Regional Industrial Hygienist has planned to survey all their armories spearheaded by the Midwest regional office, to determine the magnitude of these findings.

2.1.3 About 2/3rds of the armories tested so far, did not have "a clean bill of health". Now the IH community will attempt to discern where the contamination is coming from and also, give guidance on how to deal with these contaminant.

2.1.4 Air sampling of the armories tested have shown very low levels of lead dust in the breathing area. Dust wipe samples have varied in quantities present but have exceeded the EPA's floor standard and the ARNG IFR guidelines.

3. Relevant Standards and Guidelines.

3.1 Airborne Lead.

3.1.1 The Occupational Safety and Health Administrations (OSHA) Permissible Exposure Level (PEL) for airborne lead is **50 micrograms per cubic meter (ug/m3)**, averaged over an 8-hour work shift. The OSHA action level is 30 ug/m3.

3.2 Blood Lead Level (BLL).

3.2.1 OSHA requires that personnel who are exposed to airborne lead above the PEL be offered medical surveillance that includes blood lead level monitoring. Personnel with total **BLL above 50 micrograms per deciliter (ug/dl)** of blood are required to be removed from occupational lead exposures until the BLL drops back to 40.

3.2.2 Women who may become pregnant who are exposed to lead should consult with their physician. Fetal and newborn BLLs are similar to those of

the mother. The Center for Disease Control and Prevention considers levels above 10 ug/dl in children under 6 to be elevated BLLs.

3.3 Lead in Surface Dust.

3.3.1 There are no established standards for lead levels in dust within buildings other than those used by children under 6. The Environmental Protection Agency (EPA) along with Housing and Urban Development (HUD) floor dust lead level standard (which is currently 40 ug/ft²) does not apply to workplace surfaces, and would be impossible to maintain in many industrial facilities. (EPA 40 CFR Part 745)

3.3.1.1 The EPA interior windowsill standard is 250 ug/ft².

3.3.1.2 The EPA standard for window trough is 400 ug/ft².

3.3.2 OSHA cites a level of 200 ug/ft² as guidance to its own inspectors for evaluating the cleanliness of lunchroom and locker room surfaces that are supposed to be kept as clean as possible.

3.4 Lead in Paint.

3.4.1 EPA's standard for lead-based paint or other surface coatings that contain lead equal to or exceeding 1.0 milligram per square centimeter (mg/cm²) or 0.5 percent (%) by weight or 5000 parts per million (ppm) by weight.

4. Indoor Firing Ranges (IFR).

4.1 Relevant Standards and Guidelines.

4.1.1 OSHA guidelines stated above (see 3.3.2) are the recommended working levels to achieve in an active IFR.

4.1.2 NGR 385-10 guideline reflects that of OSHA at 200 ug/ft² for lead dust on surfaces.

4.2 Maintenance and Cleaning.

4.2.1 Follow NGR 385-10, along with SOP found in All States Letter (Log Number P00-0059 along with All States Letter (Log Number P01-0075)

addressing Policy and Responsibilities for Inspection, Evaluation and Operation of ARNG Indoor Firing Ranges. Also, utilize AR 385-63 Range Safety.

4.2.2 Cross contamination is a concern where Armories and IFR's are co-located. Keeping an IFR dust level at 200 ug/ft² does not meet the 40 ug/ft² required on floor surfaces for children 6 and under. Tracking lead dust to other parts of the armory is a concern and should be addressed by the facilities manager and the range custodian.

5. Converted/Closed Indoor Firing Ranges.

5.1 Closed IFR.

5.1.1 Closed IFR's should be not utilized for anything, e.g. storage, office space or anything else. This should be a voided space with no entry. The IFR should have been cleaned to at least 200 ug/ft² before closure to prevent contamination via air stream or other means.

5.1.2 Should be locked and signage placed on entryway to warn personnel of lead contents.

5.2 Converted IFR-- NG PAM 385-16 "Guidelines for converting of IFR."

5.2.1 These spaces should have been cleaned and taken to lowest possible level, e.g. 0-40 ug/ft², and then the proper sealant applied, retested via wipe samples. The results should be below the pre-sealant sample results and as close to zero as possible.

5.2.2 The backstop and ventilation system should have been removed prior to cleaning of the range.

5.2.3 If all of this wasn't accomplished initially and you have high lead levels after this Baseline survey, or if it was accomplished, you need to talk to the original contractor who was responsible for the cleanup or get the area re-cleaned by a different contractor. Converted IFR's have to meet certain criteria before they can be changed into something that will be utilized for an office, storage, or something else where contamination to an individual may occur.

6. Armory Cleanup.

6.1 High Test Result.

6.1.1 If the public utilizes your facility and the results came back above 40 ug/ft² you are responsible for cleaning this area and adjoining areas to meet the 40 ug/ft² or less.

6.1.1.1 Unless you can guarantee no children under the age of 7 will come into your facility.

6.1.1.2 Unless your state public health has other guidance, e.g., post signage to warn personnel who are pregnant or of child bearing age, or under the age of 7 y/o.

6.1.1.3 Signs stating "No smoking, drinking or eating, application of make-up without washing of hands prior to activity."

6.2 Cleaning of Building. Before proceeding into the cleanup mode, first, discuss with your Environmental office what procedures they would recommend and then coordinate your efforts with local agencies, if warranted.

6.2.1 The building, and dusty materials and equipment in it should be cleaned one time to reach the dust lead levels appropriate for the function of this facility, e.g., used by full-time personnel only, utilized by adults or children 7 y/o, or order children only, or utilized by pregnant individuals and/or children under the age of 7. NOTE: This type cleaning implies that this is not a facility that has an active Indoor Firing Range. For facilities with active ranges, these facilities should be monitored with wipe samples taken over the drill floor area by the Range Custodian quarterly, to ascertain the level of lead is at the required level for your particular facility and situation.

6.2.1.1 This cleanup can be accomplished using a HEPA vacuum (a very tedious and long operation) and then by utilizing a wet method with "Spic n Span" or something equivalent to this detergent - using wet rags to wipe down surfaces and mops soaked in this solution to do floor area. NOTE: Personal protective gloves, rubber boots or protective disposable shoe/boot covers should be used during this procedure and personnel's

clothing should be washed separately from their families, if they have young children at home. Personnel should wash their hands after performing this operation to assure lead contaminants are not ingested.

6.2.1.2 Frequent changing out of the water used is vital. Disposal of this hazardous waste water and rags/mop heads, Personal Protective Equipment (PPE), etc., should be coordinated with your Environmental office.

6.2.2 Clean all ductwork where lead was found. EPA has a protocol specifically for replacing or cleaning lead in dust form in HVAC systems. EPA Office of Pollution Prevention and Toxics, "*Reducing Lead Hazards When Remodeling Your Home*" www.epa.gov/opptintr/lead/rrpamph.pdf.

6.2.3 Continue to enforce good housekeeping and hygiene practices. These measures make good sense to minimize exposures to any toxic chemicals in the workplace.

6.2.4 Provide lead awareness training to the general workforce and any occupants of your facility.

NOTE: Before you start any new procedures or practices be aware of the local city and state regulations in your area.



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

Truth or Consequences Armory
1003 N. Cedar Street
Truth or Consequences, NM 87901

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

ARNG-CSG-IHSW

6 December 2012

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

FOR Commander, Truth or Consequences Armory 1003 N. Cedar Street, Truth or Consequences, NM 87901

SUBJECT: Executive Summary for Industrial Hygiene Site Assistance Visit (IHSAV) for the Truth or Consequences Armory 1003 N. Cedar St, Truth or Consequences, 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 Truth or Consequences Armory 1003 N. Cedar St., Truth or Consequences, 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.

ARNG-CSG-IHSW

SUBJECT: Executive Summary for Industrial Hygiene Site Assistance Visit (IHSAV) for the Truth or Consequences Armory 1003 N. Cedar St, Truth or Consequences, NM conducted on 10 September 2012.

- a. Inspect all fire extinguishers monthly. Ensure fire department inspects extinguishers annually for functionality. (para. 4.10) (RAC 4)
- 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. Repair all water leaks in the roof then replace all damaged materials. Have a certified fungal remediation contractor investigate to see what additional steps need to be taken to clean-up this facility. (para. 4.3) (RAC 3)
- d. Construction personnel must follow the requirements of the OSHA Lead Construction Standard 29 CFR 1926.62 prior to performing construction activities that affect this painted surface. (para. 4.2) (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).

ARNG-CSG-IHSW

SUBJECT: Executive Summary for Industrial Hygiene Site Assistance Visit (IHSAV) for the Truth or Consequences Armory 1003 N. Cedar St, Truth or Consequences, NM conducted on 10 September 2012.

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.

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
Truth or Consequences Armory, Truth or Consequences, 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"/> NMTCA-091012-4.2	The analytical result for the paint chip sample collected indicates that it contains 0.0026% lead by weight, considered lead-containing by OSHA.	Truth or Consequences Armory	3	Construction personnel must follow the requirements of the OSHA Lead in Construction Standard, 29 CFR 1926.62, prior to performing construction activities that affect this painted surface.					29 CFR 1926.62
<input type="checkbox"/> NMTCA-091012-4.4	An asbestos survey could not be located during this IH Assistance Visit.	Truth or Consequences Armory	3	Either locate the asbestos survey for this building or contract with a licensed firm to perform an asbestos survey and assessment.					Recommended Practice
<input type="checkbox"/> NMTCA-091012-4.4	Personnel have not been provided with asbestos awareness training.	Truth or Consequences Armory	4	Based on the findings of this survey, provide awareness training to assigned personnel for the specific types of asbestos in this Armory.					Recommended Practice
<input type="checkbox"/> NMTCA-091012-4.3	Visual evidence of water damage, moisture intrusion, and fungal growth were observed throughout this armory	Truth or Consequences Armory	3	1. Repair the leaks in the roof. 2. Perform a fungal investigation to include tape-lift and air samples. Based on the findings of this investigation, contract with a fungal remediation contractor to repair the water damage and fungal impacted areas in this building.					Recommended Practice
<input type="checkbox"/> NMTCA-091012-4.10	Fire extinguishers were not all up to date on monthly or annual inspections.	Truth or Consequences Armory	4	Ensure all fire extinguishers receive monthly and annual inspections.					29 CFR 1910.157 (c)(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.

BEST AVAILABLE COPY



IH ASSISTANCE VISIT

**New Mexico Army National Guard
Truth or Consequences Armory
1003 North Cedar Street
Truth or Consequences, New Mexico 87901**

November 21, 2012

Prepared for:

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

Prepared by:

Non-Responsive

Reviewed by:

Non-Responsive

Project #AL127215

640 EAST WILMINGTON AVENUE

SALT LAKE CITY, UT 84106

TELEPHONE: 801-466-2223

FAX: 801-466-9616

E-MAIL: IHI@IHI-ENV.COM

SALT LAKE CITY

EMERYVILLE

PHOENIX

DENVER

SEATTLE

TABLE OF CONTENTS

EXECUTIVE SUMMARY

1.0	INTRODUCTION	1
1.1	Objectives	1
1.2	Scope of Work	1
2.0	PROCESS DESCRIPTION	1
3.0	METHODS AND APPLICABLE REGULATIONS AND STANDARDS	2
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	4
3.12	Quality Assurance	5
4.0	FINDINGS AND RECOMMENDATIONS	5
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 ..	7
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	8
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
5.0	PROJECT LIMITATIONS	9
6.0	PROJECT APPROVAL	10

APPENDICES

Appendix A	References
Appendix B	Assessment Criteria
Appendix C	Photo Log
Appendix D	Chemical Inventory
Appendix E	Floor Plan/IAQ - Temp, RH, & CO ₂ 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

EXECUTIVE SUMMARY

On September 10, 2012, **Non-Responsive** of IHI Environmental (IHI) conducted an IH Assistance Visit at the Truth or Consequences Armory in Truth or Consequences, New Mexico. The primary point of contact for information gathered during this survey was

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] of IHI Environmental (IHI) conducted an IH Assistance Visit at the Truth or Consequences Armory located at 1003 North Cedar Street, Truth or Consequences, New Mexico 87901. 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

The Truth or Consequences Armory is no longer occupied by the New Mexico Army National Guard. The armory is now leased by the City of Truth or Consequences, but is primarily occupied by the Truth or Consequences Abuse Intervention Center. The armory has offices used for administrative purposes, which are occupied by the Abuse Intervention Center, a drill floor, supply room, a vault, an area used by local ROTC, a weight room used by city employees, bathrooms, and a mechanical room.

Since the facility is no longer used by the Army National Guard, weapons are no longer cleaned in this facility.

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.

Since this facility is not occupied by New Mexico Army National Guard personnel, the IHSW Standard Operating Procedure for Lead, which outlines a 40 microgram per square foot ($\mu\text{g}/\text{ft}^2$) criterion for lead residue, does not apply to this facility. Instead, the Occupational Safety and Health Administration (OSHA) has issued a Compliance Directive (CPL 02-02-058, dated Dec. 13, 1993), that outlines an acceptable residual lead concentration of $200 \mu\text{g}/\text{ft}^2$ for floors in evaluating cleanliness of change areas, storage facilities, and lunchroom/eating areas. The $200 \mu\text{g}/\text{ft}^2$ criterion was used to evaluate this facility.

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 (CO₂), 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-part-per-million (ppm) CO₂ 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 CO₂ 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 CO₂ 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 CO₂ other than exhaled breath, the guidelines above cannot be used. The OSHA standard for CO₂ 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 IAQ Calc™	8732	54100272	03/19/2012

The calibration certificate for this instrument is 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 the lead wipe samples collected in the Truth or Consequences Armory were below the 200 $\mu\text{g}/\text{ft}^2$ standard outlined in the OSHA Compliance Directive CPL 02-02-058 (Dec. 13, 1993).

On the day of the visit, access to the vault and ROTC areas was not provided; therefore, lead wipe sampling could not be performed in these areas.

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

When access is available to the vault and ROTC areas, lead wipe sampling should be performed in these areas.

4.2 Painted Surface Evaluation

The only room in this armory where peeling paint was noted was the men's restroom. One paint chip sample was collected from the paint on a metal beam in this room.

The analytical result for the paint chip sample collected indicates that it contains 0.0026% lead by weight, less than the HUD standard of 0.5% for lead. Since there is measureable lead in the sample, OSHA's Lead in Construction Standard applies when renovation work that may affect this paint is conducted. 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

1. 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

Visual evidence of water damage, moisture intrusion, and fungal growth were observed throughout this armory. Photographs were taken of the water damage and are presented in Appendix C.

Recommendations

1. Repair the leaks in the roof.
2. Perform a fungal investigation to include tape-lift and air samples. Based on the findings of this investigation, contract with a fungal remediation contractor to repair the water damage and fungal impacted areas in this building.

4.4 Asbestos Management

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

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 drill hall is heated by four large fan-forced heaters located on the drill hall ceiling and two roof-mounted air-handling units provide heating for each office area. Smaller ceiling-mounted heaters are also located in the weight room and supply room. Air conditioning is provided in the two office areas by window units. Personnel reported the room temperature in the drill hall is above the comfort level during summers.

The average outdoor CO₂ concentration at the time of the survey was 347 ppm. The highest CO₂ concentration measured inside the building was 394 ppm, which should not result in indoor air quality complaints.

Building air temperatures ranged from 73.4°F in office areas to 81.3°F in the drill hall and relative humidity was between 38 and 44 percent during the testing period. Air temperatures were above the recommended comfort range of 68°F to 75°F in the drill hall, which is usually a non-occupied space, and the relative humidity was within the recommended comfort range of between 30 and 60 percent. Low relative humidity is common in New Mexico during 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.

City 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)

No building maintenance products or flammable materials were noted during this IH Assistance Visit.

Recommendation

None

4.6.2 Flammable Storage Cabinets

There are no flammable storage cabinets located in this armory.

Recommendation

None

4.7 Safety Training and Record Keeping

Since the Truth or Consequences Armory is not occupied by Army National Guard personnel, safety training and records are not kept at this facility.

Recommendation

1. At a minimum, provide hazard communications to those who use chemicals in the work place and fire prevention training, fire safety, and fire extinguisher training to all personnel who are occupying the museum.

4.8 Kitchen Ventilation Survey

The Truth or Consequences Armory does not have an industrial kitchen; therefore, a ventilation survey was not performed.

Recommendation

None

4.9 Kitchen Appliance Sound-Level Measurements

The Truth or Consequences Armory does not have an industrial kitchen; therefore, a noise survey was not performed.

Recommendation

None

4.10 General Safety Walk-Through

1. Housekeeping throughout the facility was good.
2. There is no fire alarm in place at this facility.

3. Fire extinguishers are strategically located throughout the armory. Extinguishers in the drill hall and weight room were not current on their annual inspections, and all extinguishers throughout the building were not current on monthly inspections.
4. There are no eyewash stations in this facility and no chemical use that would require one.
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. GFI outlets were inspected and were found to trip at 7 milliAmps (mA).

Recommendation

1. Ensure all fire extinguishers receive monthly and annual inspections.

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 21, 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
Truth or Consequences Armory, Front, Exterior



Photograph 2
Truth or Consequences Armory, Side, Exterior



Photograph 3
Truth or Consequences, General View, Interior



Photograph 4
Firing extinguishers without annual inspections



Photograph 5
Fire extinguishers without monthly inspections



Photograph 6
Severe water damage and mold throughout building



Photograph 7
Location of lead wipe sample number 6188-01



Photograph 8
Location of lead wipe sample number 6188-02



Photograph 9
Location of lead wipe sample number 6188-03



Photograph 10
Location of lead wipe sample number 6188-04



Photograph 11
Location of lead wipe sample number 6188-05



Photograph 12
Location of lead wipe sample number 6188-06



Photograph 13
Location of lead wipe sample number 6188-07



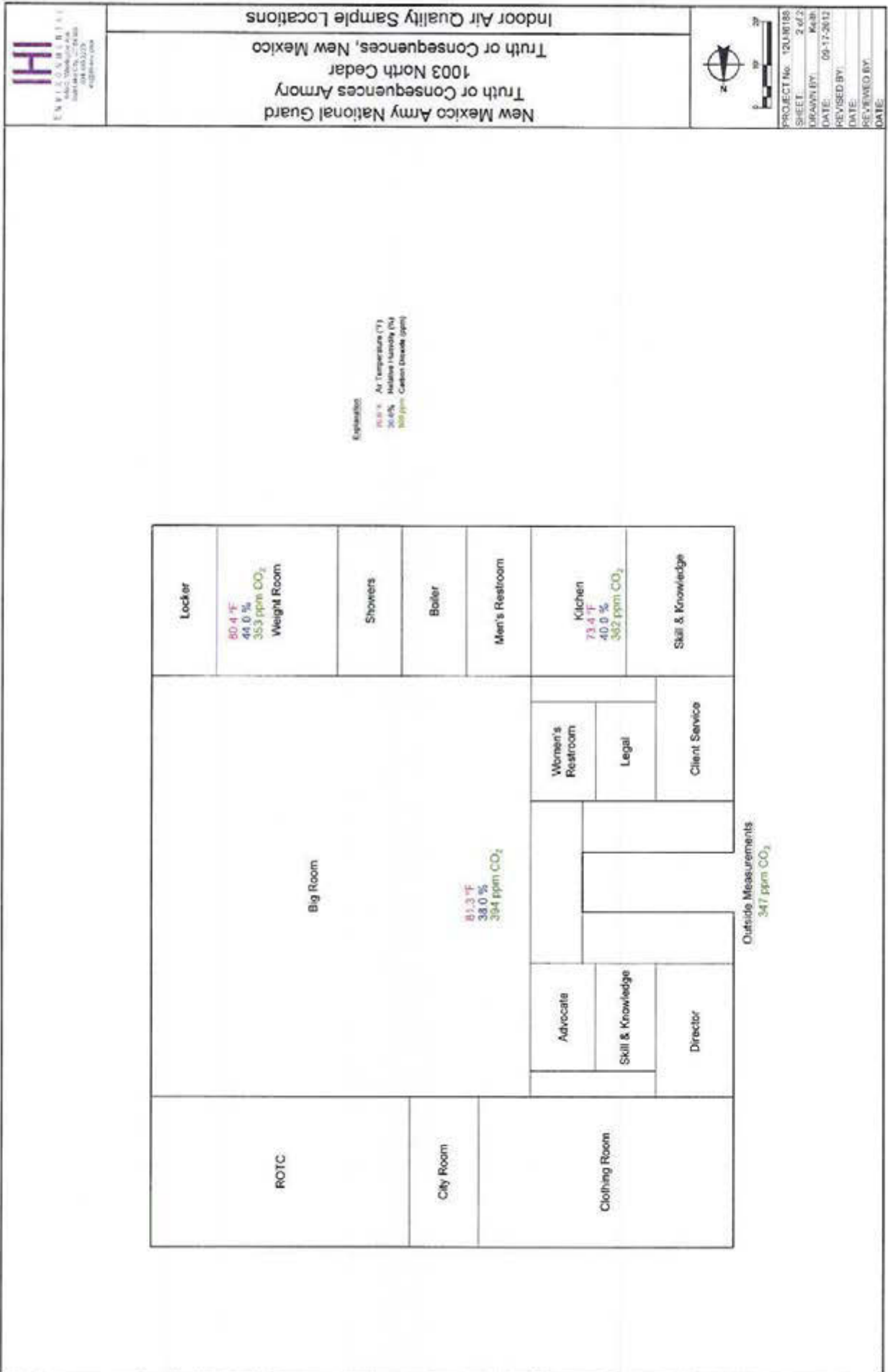
Photograph 14
Location of lead wipe sample number 6188-08



Photograph 15
Location of paint chip sample number 6188-09



Photograph 16
Location of paint chip sample number 6188-10



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?	no .	
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.	no .	
Is there any peeling paint ? Take bulk sample if able.	yes - sample taken	
Are there any signs of water damage or mold?	yes - throughout bldg.	
Any suspected ACM ? Where and what condition is it in. Bulk sample if able.	no survey available / known	
Quality of housekeeping	good.	
HVAC maintenance plan in place?	city maintenance - the city leases from the state.	
Overall condition of HVAC system	no A/C in Drill Hall, 1 in Bathroom & weight rm. - 4 units in Hall 1 in supply	
Obtained CO2 , Temp, RH monitoring	forced air to offices - window A/C units yes -	
HAZMAT inventory on hand (make copies for the report), MSDS available for all materials.	none	
HAZMAT storage, Condition of lockers, if outside storage building is used is it ventilated and does it meet OSHA standards.	none	

Fire alarm in working condition - -not usually in place in older armories	none	
Fire extinguishers in place and properly identified and mounted	yes.	
Evidence of monthly fire extinguisher inspections	monthly ext. not done checks	
Annual fire extinguisher inspections tags current	Drill Hall floor not up to date.	
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)	N/A	
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.?	none	
Any civilian activities in armory (cub scouts, classes, day care, parties etc)	yes. Domestic Violence Center	
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	N/A	
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	<div style="background-color: black; color: red; text-align: center; padding: 10px;"> <h1>Non-Responsive</h1> </div>	
(Add Checklist to Report)		
	(Add Checklist to Report)	

FACILITY INFORMATION
(Information listed in First Section)
(1st 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: **Truth or Consequences Armory – now houses the Truth or Consequences Abuse Intervention Center, local ROTC, and a workout facility for city employees**
4. Facility Address: **1003 North Cedar Street, Truth or Consequences, NM 87901**
5. Primary Unit Assigned to Facility: **None**
6. Co-Tenant Units Assigned or Working Within Facility (LIST ALL): **N/A**
7. Square Ft. Area of Facility: **approximately 22,000 sq. ft**
8. Work Schedule: **0800-1700; Monday through Friday**
9. Number of work bays: **N/A**
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: **No military personnel**
12. No. of Admin. Personnel (Include Status – AGR, Fed. Tech., IDT, State or Contract Employee): **N/A**
13. No. of Maintenance Personnel (Include Status – AGR, Fed. Tech., IDT, State or Contract Employee): **N/A**
14. Total Number of Personnel Enrolled in the Hearing Conservation Program: **N/A of 2**
15. Total Number of Personnel Enrolled in the Respiratory Protection Program: **N/A**
16. Total Number of Personnel Enrolled in the Medical Surveillance Program: **N/A**
17. Total Number of Personnel Enrolled in the Vision Program: **N/A**

PAGE 1

18. Facility Commander: **N/A**

a. Email address, Commercial Telephone Number and Unit Assigned to: **N/A**

19. Safety Officer: **N/A**

a. Email Address, Commercial Telephone Number and Unit Assigned to: **N/A**

b.

20. Facility Telephone Number: **(575) 894-3557 (for the Truth or Consequences Abuse Intervention Center)**

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	Error Compared to Tolerance		Tolerance Limit +
			Tolerance Limit -	0	
5001 PPM	4990 PPM	-0.2 %		*	
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

500 Cardigan Road, Shoreview, MN 55126 USA
651-490-2874 FAX: 651-490-2121 www.tsl.com

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 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			X

***** 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

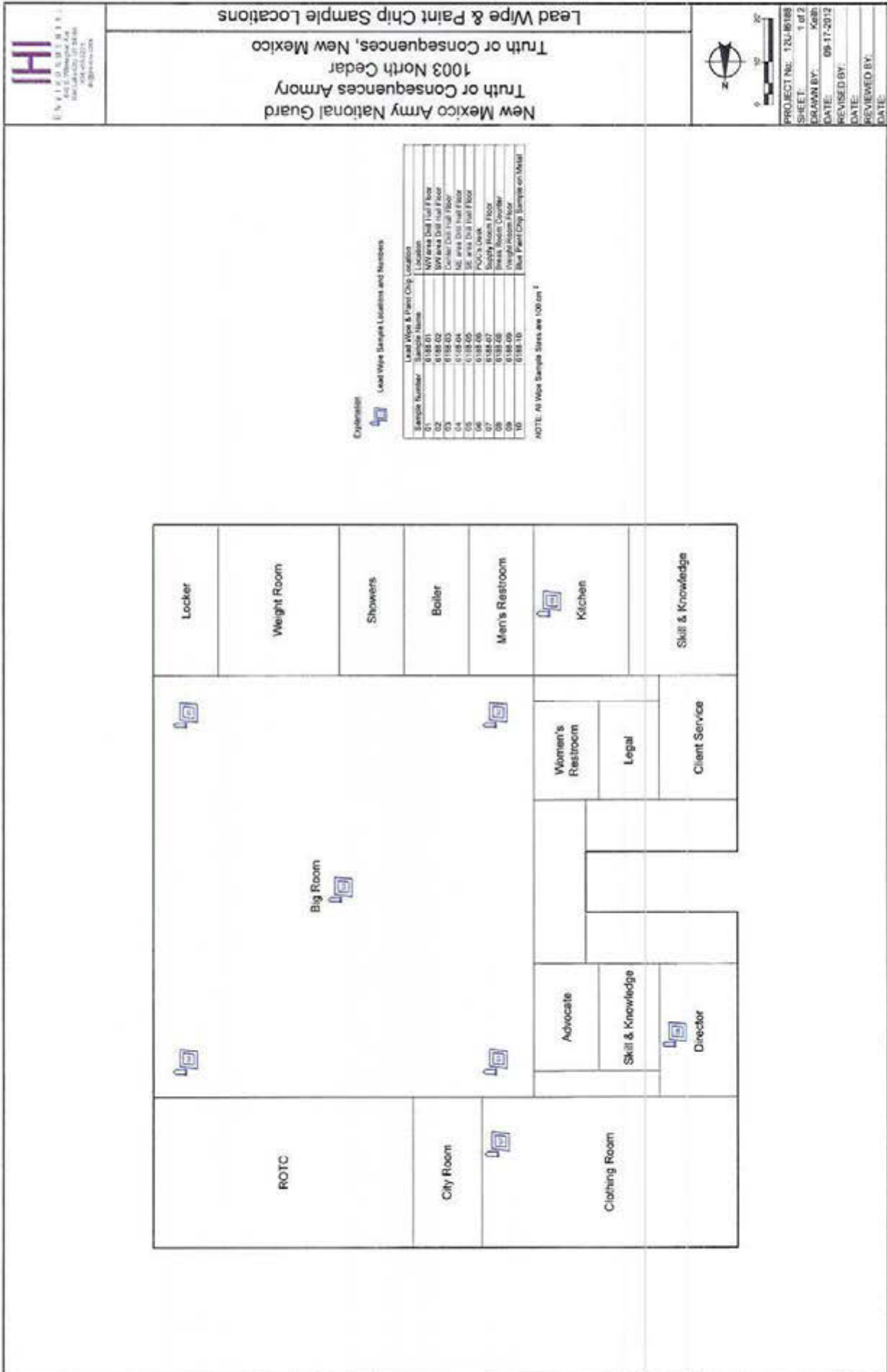
06-21-11
04-08-11
03-02-12
01-21-10
02-01-12

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



Truth or Consequences Armory - Lead Wipe and Paint Chip Sample Results

Lead Wipe Sample Results

Sample Number	Collection Date	Location	Result $\mu\text{g}/\text{ft}^2$
6188-01	9/10/2012	NW Drill Hall Floor	<23
6188-02	9/10/2012	SW Drill Hall Floor	<23
6188-03	9/10/2012	Center Drill Hall Floor	<23
6188-04	9/10/2012	NE Drill Hall Floor	<23
6188-05	9/10/2012	SE Drill Hall Floor	<23
6188-06	9/10/2012	POC's Desk	<23
6188-07	9/10/2012	Supply Room Floor in front of Vault	30
6188-08	9/10/2012	Break Room Counter	<23
6188-09	9/10/2012	Weight Room Floor	150

Paint Chip Sample Result

Sample Number	Collection Date	Location	Lead Result (% by weight)
6188-10	9/10/2012	Blue Paint on Metal Beam - Men's Bathroom Wall	0.0026



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-ResponsiveWorkorder: **34-1225687**

Client Project ID: 12U-I6188/Armory-T or C, NM

Purchase Order: 12U-I6188

Project Manager: **Non-Responsive**

Analytical Results

Sample ID: 6188-01		Media: Lead Dust Wipe		Collected: 09/10/2012
Lab ID: 1225687001		Sampling Location: Armory-T or C, NM		Received: 09/12/2012
Method: NIOSH 7300 Mod.		Sampling Parameter: Area 100 cm ²		Prepared: 09/14/2012
				Analyzed: 09/18/2012
Analyte	ug/sample	ug/ft ²	RL (ug/sample)	
Lead	<2.5	<23	2.5	

Sample ID: 6188-02		Media: Lead Dust Wipe		Collected: 09/10/2012
Lab ID: 1225687002		Sampling Location: Armory-T or C, NM		Received: 09/12/2012
Method: NIOSH 7300 Mod.		Sampling Parameter: Area 100 cm ²		Prepared: 09/14/2012
				Analyzed: 09/18/2012
Analyte	ug/sample	ug/ft ²	RL (ug/sample)	
Lead	<2.5	<23	2.5	

Sample ID: 6188-03		Media: Lead Dust Wipe		Collected: 09/10/2012
Lab ID: 1225687003		Sampling Location: Armory-T or C, NM		Received: 09/12/2012
Method: NIOSH 7300 Mod.		Sampling Parameter: Area 100 cm ²		Prepared: 09/14/2012
				Analyzed: 09/18/2012
Analyte	ug/sample	ug/ft ²	RL (ug/sample)	
Lead	<2.5	<23	2.5	

Sample ID: 6188-04		Media: Lead Dust Wipe		Collected: 09/10/2012
Lab ID: 1225687004		Sampling Location: Armory-T or C, NM		Received: 09/12/2012
Method: NIOSH 7300 Mod.		Sampling Parameter: Area 100 cm ²		Prepared: 09/14/2012
				Analyzed: 09/18/2012
Analyte	ug/sample	ug/ft ²	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

RIGHT SOLUTIONS RIGHT PARTNER



BEST AVAILABLE COPY

ANALYTICAL REPORT

Workorder: **34-1225687**

Client Project ID: 12U-I6188/Armory-T or C, NM

Purchase Order: 12U-I6188

Project Manager: **Non-Responsive**

Analytical Results

Sample ID: 6188-05		Media: Lead Dust Wipe		Collected: 09/10/2012
Lab ID: 1225687005		Sampling Location: Armory-T or C, NM		Received: 09/12/2012
Method: NIOSH 7300 Mod.		Sampling Parameter: Area 100 cm ²		Prepared: 09/14/2012
				Analyzed: 09/18/2012
Analyte	ug/sample	ug/ft ²	RL (ug/sample)	
Lead	<2.5	<23	2.5	

Sample ID: 6188-06		Media: Lead Dust Wipe		Collected: 09/10/2012
Lab ID: 1225687006		Sampling Location: Armory-T or C, NM		Received: 09/12/2012
Method: NIOSH 7300 Mod.		Sampling Parameter: Area 100 cm ²		Prepared: 09/14/2012
				Analyzed: 09/18/2012
Analyte	ug/sample	ug/ft ²	RL (ug/sample)	
Lead	<2.5	<23	2.5	

Sample ID: 6188-07		Media: Lead Dust Wipe		Collected: 09/10/2012
Lab ID: 1225687007		Sampling Location: Armory-T or C, NM		Received: 09/12/2012
Method: NIOSH 7300 Mod.		Sampling Parameter: Area 100 cm ²		Prepared: 09/14/2012
				Analyzed: 09/18/2012
Analyte	ug/sample	ug/ft ²	RL (ug/sample)	
Lead	3.2	30	2.5	

Sample ID: 6188-08		Media: Lead Dust Wipe		Collected: 09/10/2012
Lab ID: 1225687008		Sampling Location: Armory-T or C, NM		Received: 09/12/2012
Method: NIOSH 7300 Mod.		Sampling Parameter: Area 100 cm ²		Prepared: 09/14/2012
				Analyzed: 09/18/2012
Analyte	ug/sample	ug/ft ²	RL (ug/sample)	
Lead	<2.5	<23	2.5	

Sample ID: 6188-09		Media: Lead Dust Wipe		Collected: 09/10/2012
Lab ID: 1225687009		Sampling Location: Armory-T or C, NM		Received: 09/12/2012
Method: NIOSH 7300 Mod.		Sampling Parameter: Area 100 cm ²		Prepared: 09/14/2012
				Analyzed: 09/18/2012
Analyte	ug/sample	ug/ft ²	RL (ug/sample)	
Lead	16	150	2.5	



BEST AVAILABLE COPY

ANALYTICAL REPORT

Workorder: 34-1225687

Client Project ID: 12U-I6188/Armory-T or C, NM

Purchase Order: 12U-I6188

Project Manager: Non-Responsive

Analytical Results

Sample ID: 6188-10	Media: Paint Chip	Collected: 09/10/2012
Lab ID: 1225687010	Sampling Location: Armory-T or C, NM	Received: 09/12/2012
Method: NIOSH 7300 Mod.	Sampling Parameter: Weight 0.1004 grams	Prepared: 09/13/2012
		Analyzed: 09/14/2012
Analyte	%	RL (%)
Lead	0.0026	0.0025

Comments

Quality Control: NIOSH 7300 Mod. - (HBN: 93706)

The 295633 matrix spike (1225172001MS) recovery was high outside of control limits at 61.8% for unknown reasons. The relative percent difference between 1225172001 and 295632 (1225172001MD) was also outside of limits at 60.4. Suspect non-homogeneity of sample to be the cause of the low MS recovery and high RPD.

The 295879 matrix spike (1225604001MS) recovery was high outside of control limits at 114% for unknown reasons. Suspect non-homogeneity of sample to be the cause of the high MS recovery.

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.	Non-Responsive	Non-Responsive
NIOSH 7300 Mod.		

Laboratory Contact Information

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

Phone: (801) 266-7700
Email: als@alstglobal.com
Web: www.alstglobal.com



ANALYTICAL REPORT

Workorder: 34-1225687

Client Project ID: 12U-I6188/Armory-T or C, NM

Purchase Order: 12U-I6188

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	http://www.aiclasscorp.com
	Utah (NELAC)	DATA1	http://health.utah.gov/lab/labimp/
	Nevada	UT00009	http://ndep.nv.gov/bsdvl/labservice.htm
	Oklahoma	UT00009	http://www.deq.state.ok.us/CSDnew/
	Iowa	IA# 376	http://www.iowadnr.gov/InsideDNR/RegulatoryWater.aspx
	Florida (TNI)	E871067	http://www.dep.state.fl.us/labs/bars/sas/qa/
	Texas (TNI)	T104704456-11-1	http://www.tceq.texas.gov/field/qa/lab_accred_certif.html
Industrial Hygiene	AIHA (ISO 17025 & AIHA IHLAP/ELLAP)	101574	http://www.aihaaccreditedlabs.org
Lead Testing:			
CPSC	ACLASS (ISO 17025, CPSC)	ADE-1420	http://www.aiclasscorp.com
Soil, Dust, Paint ,Air	AIHA (ISO 17025, AIHA ELLAP and NLLAP)	101574	http://www.aihaaccreditedlabs.org
Dietary Supplements	ACLASS (ISO 17025)	ADE-1420	http://www.aiclasscorp.com

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 Truth or Consequences Armory, Truth or Consequences, New Mexico

CONTROL NUMBER	HAZARD DESCRIPTION	SITE	RAC	CORRECTIVE ACTIONS (Abatement Plan)	SUSPENSE DATE	ACTION OIC/NCOIC	Estimated Cost(s)	DATE CORRECTED	REFERENCES
NMTCA-091012-4.2 <input type="checkbox"/>	The analytical result for the paint chip sample collected indicates that it contains 0.0026% lead by weight, considered lead-containing by OSHA.	Truth or Consequences Armory	3	Construction personnel must follow the requirements of the OSHA Lead in Construction Standard, 29 CFR 1926.62, prior to performing construction activities that affect this painted surface.					29 CFR 1926.62
NMTCA-091012-4.3 <input type="checkbox"/>	Visual evidence of water damage, moisture intrusion, and fungal growth were observed throughout this armory	Truth or Consequences Armory	3	1. Repair the leaks in the roof. 2. Perform a fungal investigation to include tape-lift and air samples. Based on the findings of this investigation, contract with a fungal remediation contractor to repair the water damage and fungal impacted areas in this building.					Recommended Practice
NMTCA-091012-4.4 <input type="checkbox"/>	An asbestos survey could not be located during this IH Assistance Visit.	Truth or Consequences Armory	3	Either locate the asbestos survey for this building or contract with a licensed firm to perform an asbestos survey and assessment.					Recommended Practice
NMTCA-091012-4.4 <input type="checkbox"/>	Personnel have not been provided with asbestos awareness training.	Truth or Consequences Armory	4	Based on the findings of this survey, provide awareness training to assigned personnel for the specific types of asbestos in this Armory.					Recommended Practice
NMTCA-091012-4.7 <input type="checkbox"/>	Since the Truth or Consequences Armory is not occupied by Army National Guard personnel, safety training and records are not kept at this facility.	Truth or Consequences Armory	4	At a minimum, provide hazard communications to those who use chemicals in the work place and fire prevention training, fire safety, and fire extinguisher training to all personnel who are occupying the museum.					1910.1200 (h), 1910.157 (g), 1910.39 (b)
NMTCA-091012-4.10 <input type="checkbox"/>	Fire extinguishers were not all up to date on monthly or annual inspections.	Truth or Consequences Armory	4	Ensure all fire extinguishers receive monthly and annual inspections.					29 CFR 1910.157 (c)(1)

Summary of Recommendations for NMARNG Armory, Truth or Consequences, New Mexico

4.1 Lead Wipe Sampling

When access is available to the vault and ROTC areas, lead wipe sampling should be performed in these areas.

4.2 Painted Surface Evaluation

1. 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

1. Repair the leaks in the roof.
2. Perform a fungal investigation to include tape-lift and air samples. Based on the findings of this investigation, contract with a fungal remediation contractor to repair the water damage and fungal impacted areas in this building.

4.4 Asbestos Management

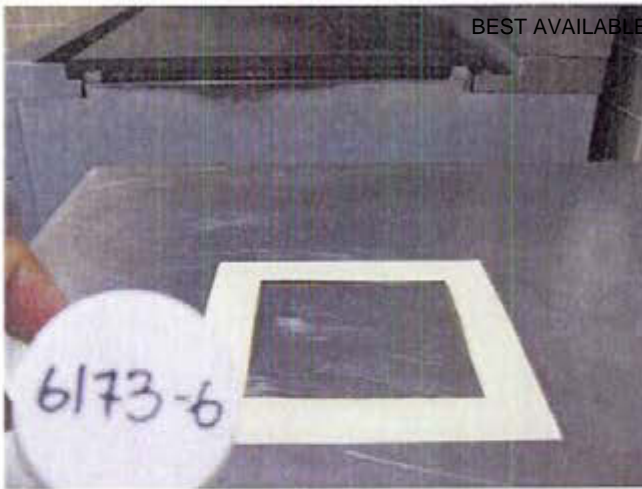
1. Locate the asbestos survey report for this building or contract with a licensed firm to perform an asbestos survey and assessment.
2. Once asbestos-containing materials have been identified and assessed, provide awareness training to assigned personnel for the specific material types and locations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

4.7 Safety Training and Record Keeping

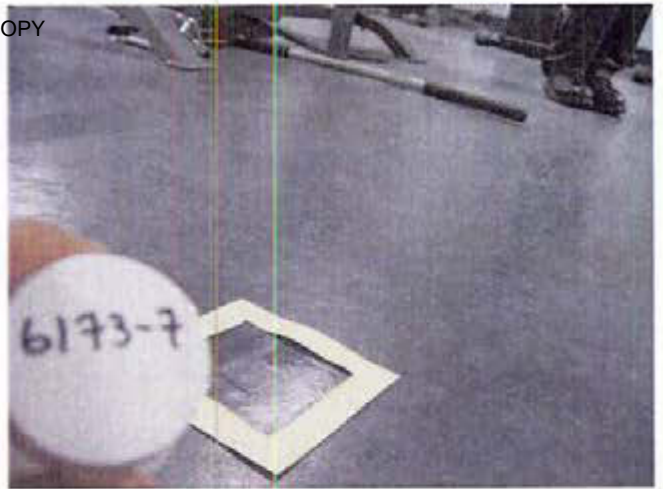
1. At a minimum, provide hazard communications to those who use chemicals in the work place and fire prevention training, fire safety, and fire extinguisher training to all personnel who occupy the museum.

4.10 General Safety Walk-Through

1. Ensure all fire extinguishers receive monthly and annual inspections.



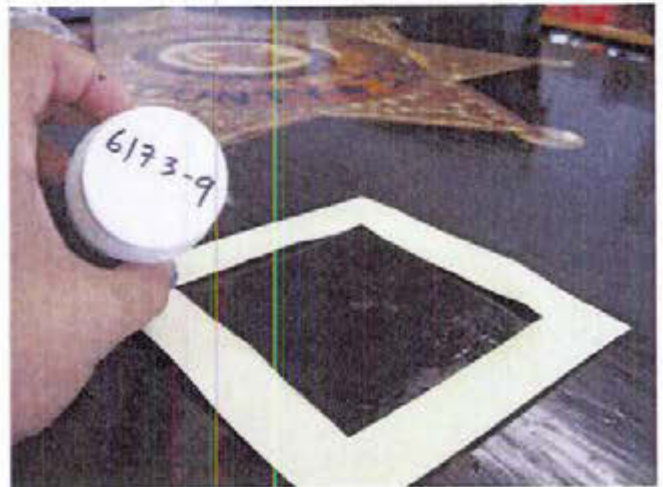
Photograph 8
Location of lead wipe sample 6173-6



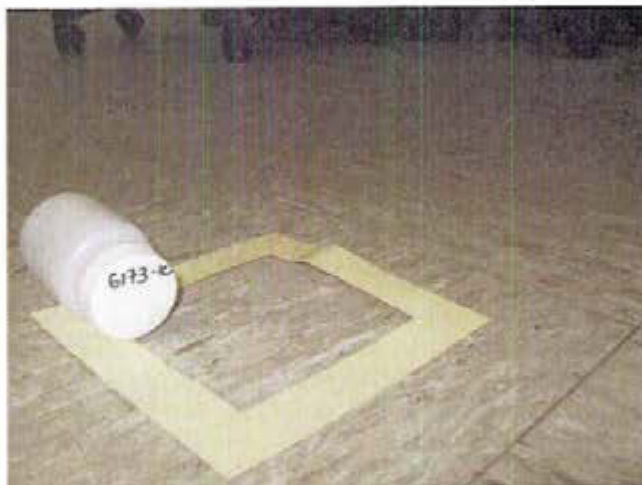
Photograph 9
Location of lead wipe sample 6173-7



Photograph 10
Location of lead wipe sample 6173-8



Photograph 11
Location of lead wipe sample 6173-9



Photograph 12
Location of lead wipe sample 6173-10