

**AMA Analytical Services, Inc.**

Focused on Results www.amalab.com
 AIHA (#100470) NVLAP (#101143-0) NY ELAP (10920)
 4475 Forbes Blvd. • Lanham, MD 20706
 (301) 459-2640 • (800) 346-0961 • Fax (301) 459-2643

CHAIN OF CUSTODY

(Please Refer To This
Number For Inquiries)

515231

Pg 1 of 2

Mailing/Billing Information:

1. Client Name: National Guard Bureau
 2. Address 1: 301 JH Old Bay Lane
 3. Address 2: Attn: NGB-ARS-IHNE
 4. Address 3: Havre de Grace, Maryland 21078
 5. Phone #: (410) 942-0273 Fax #: (410) 942-0254

Submittal Information:

1. 3KNJ Somerset
 2. Somerset
 3. Job #: W912K6-09-A-0003
 4. Contact Person: Non-Responsive @ phone # (410) 942-0273
 5. Non-Responsive

Reporting Information (Results will be provided as soon as technically feasible):

AFTER HOURS (must be pre-scheduled) <input type="checkbox"/> Immediate Date Due: _____ <input type="checkbox"/> 24 Hours Time Due: _____ Comments: _____		STANDARD BUSINESS HOURS <input type="checkbox"/> Immediate <input checked="" type="checkbox"/> Next Day <input type="checkbox"/> 2 Day		<input type="checkbox"/> 3 Day <input type="checkbox"/> 5 Day + Date Due: _____		<input type="checkbox"/> Results Required By Noon (Every Attempt Will Be Made to Accommodate)		REPORT TO: <input checked="" type="checkbox"/> Include Report <input checked="" type="checkbox"/> Fax: <u>complianceplace.com</u> <input type="checkbox"/> Verbal <u>us.army.mil</u> <input type="checkbox"/> Verbal <u>us.army.mil</u>	
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	--------------------------------------------------------------------------------------------------------------------------------------------------------	--	---------------------------------------------------------------------------------------	--	--------------------------------------------------------------------------------------------------	--	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--

ANALYSIS**PCM Air - Please Indicate Filter Type:**

- ☐ NIOSH 7400 (QTY) _____
☐ Fiberglass (QTY) _____

TEM Air - Please Indicate Filter Type:

- ☐ AHERA (QTY) _____
☐ NIOSH 7402 (QTY) _____
☐ Other (specify) _____ (QTY) _____

PLM Bulk

- ☒ EPA 600 - Visual Estimate (QTY) _____
☐ EPA Point Count (QTY) _____
☐ NY State Friable 198.1 (QTY) _____
☐ Grav. Reduction ELAP 198.6 (QTY) _____
☐ Other (specify) _____ (QTY) _____

MISC

- ☐ Vermiculite
☐ Asbestos Soil PLM (Qual) PLM (Quan) PLM/TEM (Qual) PLM/TEM (Quan)

TEM Bulk

- ☐ ELAP 198.4/Chatfield (QTY) _____
☐ NY State PLM/TEM (QTY) _____
☐ Residual Ash (QTY) _____

TEM Dust

- ☐ Qual. (pres/abs) Vacuum/Dust (QTY) _____
☐ Quan. (s/area) Vacuum D5755-95 (QTY) _____
☐ Quan. (s/area) Dust D6480-99 (QTY) _____

TEM Water

- ☐ Qual. (pres/abs) (QTY) _____
☐ ELAP 198.2/EPA 100.2 (QTY) _____
☐ EPA 100.1 (QTY) _____

☒ All samples received in good condition unless otherwise noted.
 (TEM Water samples _____ °C)

WASTE ANALYSIS

- ☐ Pb Paint Chip (QTY) _____
☒ Pb Dust Wipe (wipe type Cont) (QTY) 19
☒ Pb Air (QTY) _____
☐ Pb Soil/Solid (QTY) _____
☐ Pb TCLP (QTY) _____
☐ Drinking Water ☐ Pb (QTY) ☐ Cu (QTY) ☐ As (QTY)
☐ Waste Water ☐ Pb (QTY) ☐ Cu (QTY) ☐ As (QTY)
☐ Pb Furnace (Media) (QTY) _____

SPORE ANALYSIS

- Collection Apparatus for Spore Traps/Air Samples: _____
 Collection Media _____
☐ Spore-Trap (QTY) _____
☐ Surface Swab (QTY) _____
☐ Surface Tape (QTY) _____
☐ Other (Specify) _____ (QTY) _____
☐ Surface Vacuum Dust (QTY) _____
☐ Culturable ID Genus (Media) (QTY) _____
☐ Culturable ID Species (Media) (QTY) _____

CLIENT CONTACT

(LABORATORY STAFF ONLY)

CLIENT ID NUMBER	SAMPLE LOCATION IDENTIFICATION	DATE	VOLUME (LITERS)	WIPE AREA	TEM	PCM	PLM	LEAD	MOLD	AIR	BULK	DUST	WASTE	OTHER	SPORE TRAP	TAPE	SWAB	DATE/TIME	CONTACT	BY
1	DH TABLE	2/27/13	572																	
2	BEAT 1st FLOOR OFF		577																	
3	BLANK																			
4	DH Center Floor			100cm ²																
5	DH Light Box																			
6	DH Top Bulletin Bd.																			
7	K - HEATER TOP																			
8	ATC Bunk Shelf																			
9	OFF 218 CABINET																			
10	BRURM 215 FRIG																			
11	OFF 211 CABINET																			
12	OFF 203 SHELF																			

LABORATORY

STAFF ONLY:
 Posted to NGB FOIA
 (3/23/13)
 May 2018

1. Date/Time RCVD: 2/28/13 0930 Via: FEDEX By: PN
 2. Date/Time Analyzed: 3/6/13 @ Surat Wadon By: PN Sign: PN
 3. Date/Time Reported To: Shirley Chapman/Ken F... Date: 3/6/13
 4. Comments: 7945 0135 0256

Non-Responsive

Requested Record # 445-085 (NH)

Released by National Guard Bureau

**AMA Analytical Services, Inc.**

Focused on Results www.amalab.com

AIHA (#100470) NVLAP (#101143-0) NY ELAP (10920)

4475 Forbes Blvd. • Lanham, MD 20706

(301) 459-2640 • (800) 346-0961 • Fax (301) 459-2643

CHAIN OF CUSTODY(Please Refer To This
Number For Inquiries)515231
pg 2 of 2**Mailing/Billing Information:**

1. Client Name: National Guard Bureau
2. Address 1: 301-JH Old Bay Lane
3. Address 2: Attn: NGB-ARS-IHNE
4. Address 3: Havre de Grace, Maryland 21078
5. Phone #: (410) 942-0273 Fax #: (410) 942-0254

Submittal Information:

1. 3 RNT
2. SOMERSET
3. Job #: _____ P.O. #: W912K6-09-A-0003
4. Contact Person: Non-Responsive
5. Non-Responsive

Reporting Information (Results will be provided as soon as technically feasible):

AFTER HOURS (must be pre-scheduled) <input type="checkbox"/> Immediate Date Due: _____ <input type="checkbox"/> 24 Hours Time Due: _____ Comments: _____		<input type="checkbox"/> Immediate <input checked="" type="checkbox"/> Next Day <input type="checkbox"/> 2 Day		<input type="checkbox"/> 3 Day <input type="checkbox"/> 5 Day + Date Due: _____		<input type="checkbox"/> Results Required By Noon (Every Attempt Will Be Made to Accommodate)		REPORT TO: <input checked="" type="checkbox"/> Inc. <u>Non-Responsive</u> with Report <input checked="" type="checkbox"/> <u>compliance place.com</u> <input type="checkbox"/> Fa. <u>@us.army.mil</u> <input type="checkbox"/> Ve. <u>@us.army.mil</u>	
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	----------------------------------------------------------------------------------------------------------------------	--	---------------------------------------------------------------------------------------	--	-----------------------------------------------------------------------------------------------------	--	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--

ASBESTOS ANALYSIS

PCMAir - Please Indicate Filter Type:

- ☐
- NIOSH 7400 (QTY)
-
- ☐
- Fiberglass (QTY)

TEMAir - Please Indicate Filter Type:

- ☐
- AHERA (QTY)
-
- ☐
- NIOSH 7402 (QTY)
-
- ☐
- Other (specify) (QTY)

PLM Bulk

- ☒
- EPA 600 - Visual Estimate (QTY)
-
- ☐
- EPA Point Count (QTY)
-
- ☐
- NY State Friable 198.1 (QTY)
-
- ☐
- Grav. Reduction ELAP 198.5 (QTY)
-
- ☐
- Other (specify) (QTY)

MISC

- ☐
- Vermiculite
-
- ☐
- Asbestos Soil PLM (Qual) PLM (Quant) PLM/TEM (Qual) PLM/TEM (Quant)

TEM Bulk

- ☐
- ELAP 198.4/Chatfield (QTY)
-
- ☐
- NY State PLM/TEM (QTY)
-
- ☐
- Residual Ash (QTY)

TEM Dust

- ☐
- Qual. (pres/abs) Vacuum/Dust (QTY)
-
- ☐
- Quan. (s/area) Vacuum D5755-95 (QTY)
-
- ☐
- Quan. (s/area) Dust D6480-99 (QTY)

TEM Water

- ☐
- Qual. (pres/abs) (QTY)
-
- ☐
- ELAP 198.2/EPA 100.2 (QTY)
-
- ☐
- EPA 100.1 (QTY)

☐ All samples received in good condition unless otherwise noted.
 (TEM Water samples _____ °C)
WATER ANALYSIS

- ☐
- Pb Paint Chip (QTY)
-
- ☒
- Pb Dust Wipe (wipe type
- CONCRETE
-) (QTY)
-
- ☐
- Pb Air (QTY)
-
- ☐
- Pb Soil/Solid (QTY)
-
- ☐
- Pb TCLP (QTY)
-
- ☐
- Drinking Water
- ☐
- Pb (QTY)
- ☐
- Cu (QTY)
- ☐
- As (QTY)
-
- ☐
- Waste Water
- ☐
- Pb (QTY)
- ☐
- Cu (QTY)
- ☐
- As (QTY)
-
- ☐
- Pb Furnace (Media) (QTY)

SPORE ANALYSIS

- Collection Apparatus for Spore Traps/Air Samples:
 Collection Media
- ☐
- Spore-Trap (QTY)
- ☐
- Surface Vacuum Dust (QTY)
-
- ☐
- Surface Swab (QTY)
- ☐
- Culturable ID Genus (Media) (QTY)
-
- ☐
- Surface Tape (QTY)
- ☐
- Culturable ID Species (Media) (QTY)
-
- ☐
- Other (Specify) (QTY)

CLIENT CONTACT

(LABORATORY STAFF ONLY)

CLIENT ID NUMBER	SAMPLE LOCATION/ IDENTIFICATION	DATE	VOLUME (LITERS)	WIPE AREA	TEM	PCM	PLM	LEAD	MOLD	AIR	BULK	DUST	WATER	OTHER	SPORE TRAP	TAPE	SWAB	DATE/TIME	CONTACT	BY
13	OFF 206 DESK	2/27/03		100 cm ²																
14	OFF 108 SHELF																			
15	OFF 101 CABINET																			
16	CFR - FLOOR																			
17	CFR - CORRIDOR																			
18	CFR - OUT ENTRANCE																			
19	LAUNDRY FRIG																			
20	EXER RM STEREO																			
21	CONF 224 TV STND																			
22	VEG SYS CLASSROOM																			
23	L-HALL HEATER																			

LABORATORY

STAFF ONLY:

Posted to NGB FOIA

(CUSTODY)

May 2018

1. Date/Time RCVD: _____ / _____ / _____ @ _____ Via: _____ By (Print): _____ Sign: _____
2. Date/Time Analyzed: _____ / _____ / _____ @ _____ By (Print): _____ Sign: _____
3. Reading Room To: _____ BEST AVAILABLE COPY Date: _____ / _____ / _____
4. Comments: _____

FOIA Requested Record #15-0085 (NH)

Released by National Guard Bureau

Page 1121 of 1660

Appendix B. Photographs



Somerset Entrance



Laundry Hall Suspected Pipe Insulation



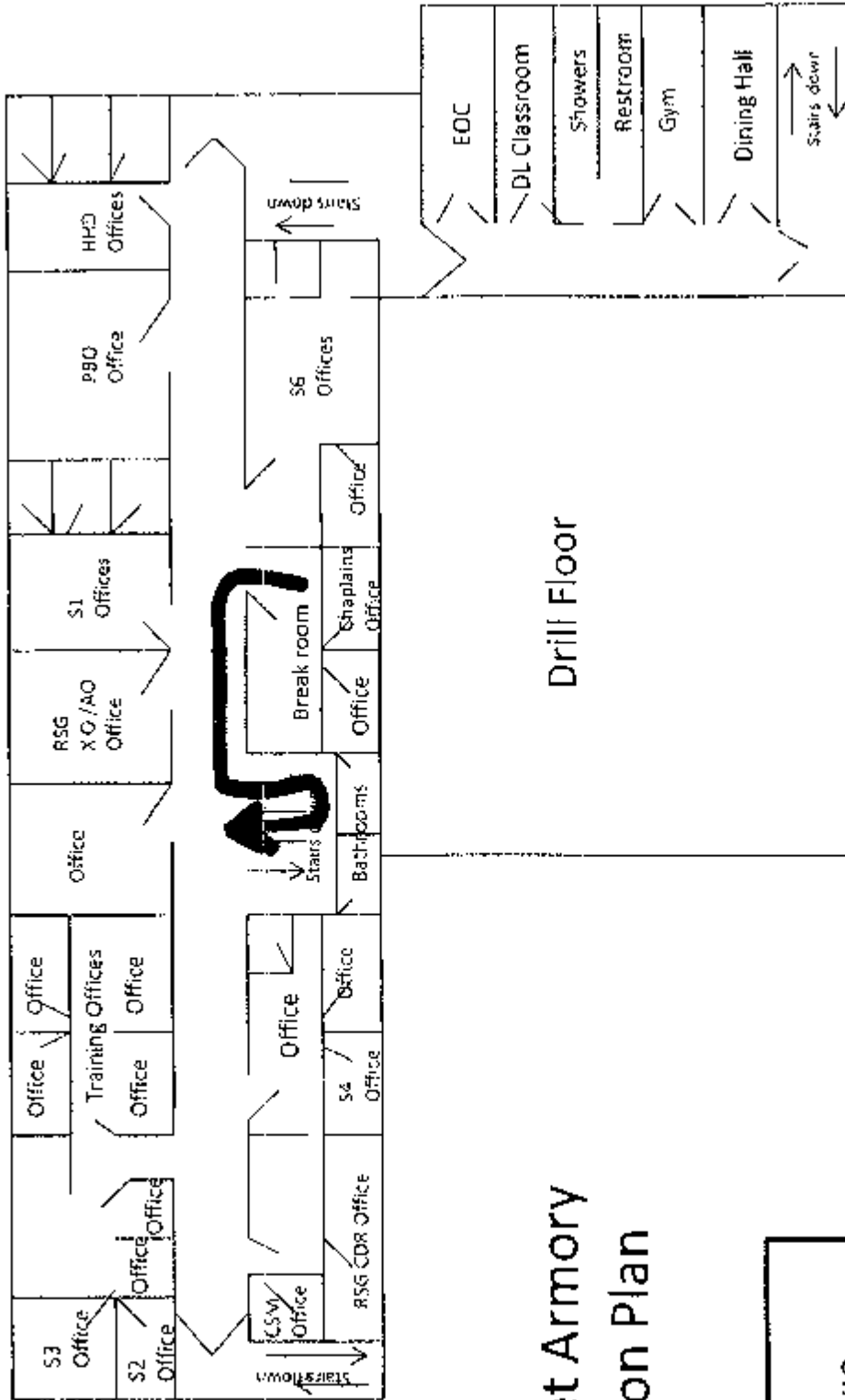
Detached FMA #8

Appendix C. Floor Plan

Rally point for all building occupants. → Tank

Not to scale

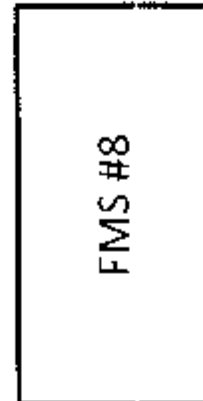
Second floor view

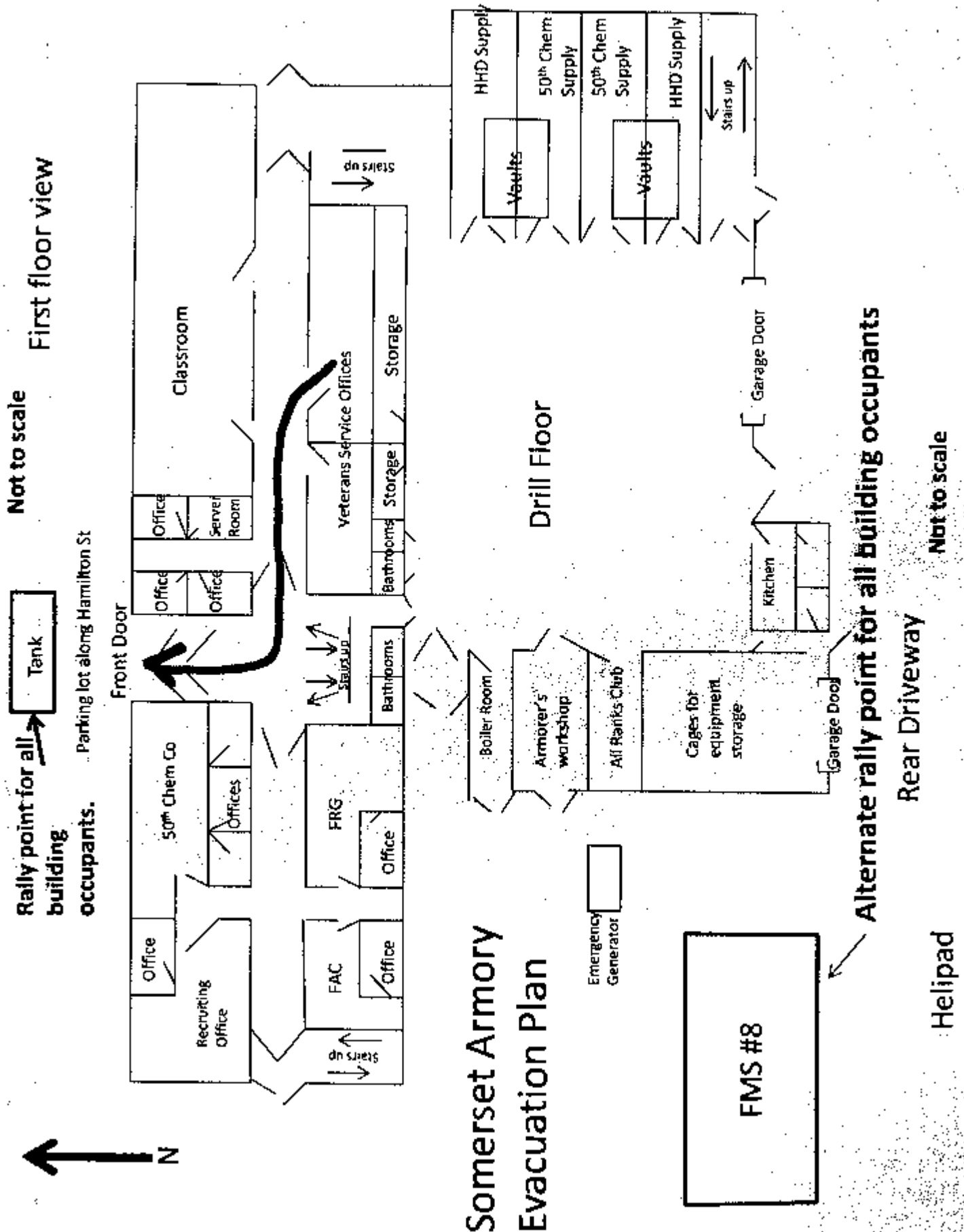


Somerset Armory Evacuation Plan

Alternate rally point for all building occupants

Not to scale





Appendix D. References

1. Title 29 Code of Federal Regulations (CFR), Part 1910.1025, Occupational Safety and Health Administration, Occupational Exposure to Lead.
2. American Conference of Governmental Industrial Hygienists (ACGIH) – Threshold Limit Values and Biological Exposure Indices, 2011 Edition.
3. Industrial Ventilation: A Manual of Recommended Practice for Design, 27th Edition.
4. American National Standards Institute (ANSI)/American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), Ventilation for Acceptable Indoor Air Quality, 62.1-2010.
5. RP-1-2004, Industrial Lighting, Illuminating Engineering Society of North America/ANSI.
6. RP-7-2001, Industrial Lighting, Illuminating Engineering Society of North America/ANSI.
7. National Emission Standard Hazardous Air Pollutants (NESHAP) – The standards for asbestos are contained in 40 CFR 61.140 through 61.157.
8. National Ambient Air Quality Standards (NAAQS) - National primary ambient air quality standards for carbon monoxide 40 CFR 50.8.
9. Environmental Protection Agency (EPA) standards [40 Code of Federal Regulations (CFR) 745.227(h) (3)].
10. Derivation of Wipe Surface Screening Levels for Environmental Chemicals, the US Army Center for Health Promotion and Preventive Medicine (USACHPPM).
11. The US Army Technical Guide 277 Army Facilities Management Information Document on Mold Remediation, February 2002.
12. NG PAM 420-15 Guidelines and Procedures for Rehabilitation and Conversion of Indoor Firing Ranges, 3 NOV 06.
13. ANSI/American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), Thermal Environmental Conditions for Human Occupancy, 55-2010.

Prepared For:

National Guard Bureau
Army National Guard
Region North Industrial Hygiene Office
301 – IH Old Bay Lane
Havre De Grace, Maryland 21078

Prepared By:

URS Corporation
5 Industrial Way
Salem, New Jersey 03079

**FINAL
INDUSTRIAL HYGIENE SURVEY REPORT
TEANECK ARMORY
TEANECK, NEW JERSEY**

April 2006
PN: 39741509

Non-Responsive

Office Manager

Non-Responsive

Project Manager

TABLE OF CONTENTS

Section	Page
1.0 SUMMARY	1
2.0 ADMINISTRATIVE AREA	2
2.1 OPERATION DESCRIPTION	2
2.2 CHEMICAL AND PHYSICAL AGENTS SAMPLED	2
2.2.1 Relative Humidity	2
2.2.2 Carbon Dioxide	3
2.2.3 Carbon Monoxide	3
2.2.4 Lighting	4
2.2.5 Lead	5
2.2.6 Asbestos	6
2.3 VENTILATION SYSTEM EVALUATION	6
2.4 NOISE MEASUREMENTS	6
2.5 PERSONAL PROTECTIVE EQUIPMENT	6
2.6 INTERPRETATION OF RESULTS	6
3.0 FORMER INDOOR FIRING RANGE	8
3.1 OPERATION DESCRIPTION	8
3.2 CHEMICAL AND PHYSICAL AGENTS SAMPLED	8
3.2.1 Lead	8
3.3 VENTILATION SYSTEM EVALUATION	8
3.4 NOISE MEASUREMENTS	8
3.5 PERSONAL PROTECTIVE EQUIPMENT	8
3.6 INTERPRETATION OF RESULTS	8
4.0 DRILL HALL	9
4.1 OPERATION DESCRIPTION	9
4.2 CHEMICAL AND PHYSICAL AGENTS SAMPLED	9
4.2.1 Lead	9
4.2.2 Asbestos	9
4.3 VENTILATION SYSTEM EVALUATION	9
4.4 NOISE MEASUREMENTS	10
4.5 PERSONAL PROTECTIVE EQUIPMENT	10
4.6 INTERPRETATION OF RESULTS	10
5.0 BOILER ROOM	11
5.1 OPERATION DESCRIPTION	11
5.2 CHEMICAL AND PHYSICAL AGENTS SAMPLED	11
5.2.1 Asbestos	11
5.3 VENTILATION SYSTEM EVALUATION	11
5.4 NOISE MEASUREMENTS	11
5.5 PERSONAL PROTECTIVE EQUIPMENT	11
5.6 INTERPRETATION OF RESULTS	11
6.0 SAFETY AND INDUSTRIAL HYGIENE PROGRAMS	12
6.1 CONFINED SPACES	12
6.2 HEARING CONSERVATION	12

TABLE OF CONTENTS (Cont)

Section	Page
6.3 RESPIRATORY PROTECTION	12
6.4 HAZARD COMMUNICATION.....	12
6.5 PERSONAL PROTECTIVE EQUIPMENT.....	12
7.0 REFERENCES	13

APPENDICES

Appendix A Armory Drawing

Appendix B Personnel List

Appendix C Hazardous Materials List

Appendix D Analytical Results

Appendix E Training Certificates

Appendix F Photographs

Appendix G Recommendations for Surface Lead Dust in Armories

FINDINGS AND RECOMMENDATIONS

Findings	Recommendation	Risk Assessment Code
Ergonomic		
Computer workstations were observed with fixed chairs, armrests, keyboards and monitors.	Ergonomic issues with the desks and chairs should be corrected by fitting the workplace to the worker (Department of the Army Pamphlet 40-21, Chapter 4, Page 7, Section 4-3)	RAC 3
Lighting		
On the day of the survey, the illumination in the administrative offices was inadequate in most circumstances.	Increase lighting in the administrative areas. While work is in progress, the administrative area shall be lighted by at least the minimum lighting intensities (ANSI/IESNA RP 1-04)	RAC 4
Lead		
Lead was detected in wipe samples collected from the facility in amounts greater than 200 µg/ft ²	Further sampling should be conducted to assess the extent of the lead dust contamination. Personnel trained in accordance with the OSHA Lead Standard should clean the areas where lead was detected in quantities of greater than 200 micrograms per square foot (OSHA 29 CFR 1910.1025 (e)(1)(i))	RAC 4
Asbestos		
Asbestos containing materials were observed to be in fair condition in the Co. A supply rooms	It is recommended that the damaged material be replaced with new, non-asbestos material by an appropriately trained professional.	RAC 3
A site-specific asbestos operations and maintenance plan was not available. No warning labels in janitorial or maintenance areas.	Maintain a site specific asbestos operations and maintenance plan to manage asbestos-containing materials by labeling of asbestos (OSHA 29 CFR 1910.1001 (j)(4)); employee information and training (OSHA 29 CFR 1910.1001 (j)(7)); housekeeping (OSHA 29 CFR 1910.1001 (k)); medical surveillance (OSHA 29 CFR 1910.1001 (l)(1)); record keeping (OSHA 29 CFR 1910.1001 (m)(1))	RAC 3

FINDINGS AND RECOMMENDATIONS (Continued)

Findings	Recommendation	Risk Assessment Code
Hazard Communication		
Chemical Inventory sheet listed all hazardous chemicals on site.	Maintain labeling all secondary containers unless intended for immediate use (OSHA 1910.1200 (f)(4))	RAC 4

1.0 SUMMARY

At the request of the National Guard Bureau (NGB) Region North Industrial Hygiene Office, URS Corporation (URS) conducted an industrial hygiene survey at the Teaneck Armory located at Teaneck and Liberty Roads in Teaneck, New Jersey 07666. This report includes an executive summary and a description of the site activities and findings and a list of conclusions and recommendations.

On April 9, 2004, Ms. [Non-Responsive] an industrial hygienist with URS, conducted a site visit at the Armory in Teaneck, New Jersey. The purpose of this site visit was to conduct an industrial hygiene survey, which included the collection of air samples, bulk samples, lighting measurements, and a review of site health and safety procedures. Armorer Mr. [Non-Responsive] of the New Jersey ARNG, was Ms. [Non-Responsive] site contact for this survey.

This armory is a two story brick building, with an attached drill hall that is constructed primarily of brick and mortar. This facility is built on a concrete slab with a flat asphalt roof. A shop layout drawing of the facility, which shows the locations where measurements were made during this survey, is contained in Appendix A. The risk assessment codes associated with this project are contained in Table 1.

2.0 ADMINISTRATIVE AREA

2.1 Operation Description

This area contains multiple offices located throughout the building with desks and computer workstations, a conference room, classrooms, bathrooms and a club room. Computer workstations were assessed during the walkthrough for ergonomic issues. Several computer workstation chairs could not be adjusted for height to accommodate the users comfort. If more than one person is using that station, then proper adjustments need to be made to accommodate each person. No complaints were received by URS concerning workstations at the time of this survey.

Water damage was observed in office #4 (Photo # 34), office #13 (Photos # 40 & 41), and the second floor hallway (Photo # 39). Water damage with mold growth was observed in office #15 (Photo # 42) and Co A NBC (Photos # 45 & 46). Mold growth can become an issue if water leaks are left unattended.

Cleaning products, lubricants alcohol, brake fluid and antifreeze were located in the flammable storage lockers with hazard communication data.

2.2 Chemical and Physical Agents Sampled

On the day of the survey, relative humidity, carbon dioxide and carbon monoxide measurements were made in the personnel office, main entry, the garage, and outside. These readings were all measured using a TSI Q-Trak TM (Model 8551). No indoor air quality complaints were received during this survey.

2.2.1 Relative Humidity

Relative humidity on the day of the survey ranged from 24-27% throughout the various building areas with an average of 25.7%. The average reading was within the recommended maximum of 65% set by the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. (ANSI / ASHRAE Standard 62.1-2004).

2.2.2 Carbon Dioxide

Carbon dioxide concentrations ranged from a low of 472 to a spike of 549 parts per million (ppm), with an average of 492 ppm. The outside reading was 538 ppm.

Carbon dioxide is a normal constituent of the atmosphere and ranges from about 250 to 450 ppm. The major source of excess carbon dioxide in the indoor environment is people. Other sources can include open-flame heaters, fermentation processes, and motor vehicles. Carbon dioxide itself is not normally a cause of indoor air quality problems because concentrations must exceed 5,000 to 10,000 ppm before health effects such as headache, drowsiness, and increased respiration are noted. Typically, carbon dioxide is used as an indicator of the adequacy of fresh air intake. As the concentration of carbon dioxide increases, so do the background levels of other air contaminants.

ASHRAE 62.1-2004 recommends that levels of carbon dioxide be maintained below 700 ppm above the outside level. Given an outside level of 538 ppm on the day of the survey, the ASHRAE limit would be 1,238 ppm.

2.2.3 Carbon Monoxide

Carbon monoxide concentrations ranged from 0.1 to 2.4 ppm on the day of the survey. ASHRAE 62.1-2004 recommends that average carbon monoxide concentrations not exceed 9 ppm. Typical average concentrations found in commercial buildings range from 0 to 6 ppm. The measured levels were below the ASHRAE guideline for indoor environments. Carbon monoxide was measured using a TSI Q-Track (Model 8551).

Key sources of carbon monoxide within indoor environments may include internal combustion engines, motor vehicle and forklift exhaust, tobacco smoke, space heaters, and improperly adjusted oil or gas burners. Health effects from exposure to elevated concentrations of carbon monoxide may include fatigue, impairment of visual acuity, irregular heartbeat, headache, nausea, and confusion.

2.2.4 Lighting

Lighting in the administrative areas was measured using a Sper Scientific Ltd. Light Meter (Model 840020C). Table 2-1 below shows lighting measurements and the recommended lighting requirement (ANSI / IESNA RP -1-04 American National Standard Practice for Office Lighting – Table B-1).

Table 2-1
Lighting Measurements and Recommended Lighting Requirements

Location	Function	Measured Lighting Footcandles	Recommended Lighting Footcandles
Recruiter's Office	Administrative Duties	38	50
Testing Center	Classroom	44	50
Office adjacent to Recruiter	Administrative Duties	42	50
Office adjacent to Recruiter	Administrative Duties	59	50
Family Assistance Center Office #1	Administrative Duties	39	50
Family Assistance Center Office #2	Administrative Duties	39	50
Co A-Office #20	Administrative Duties	38	50
Co A-Office #19	Administrative Duties	49	50
HHD CDR Receptionist's Office #16	Administrative Duties	36	50
Office #18	Administrative Duties	27	50
Office #15	Administrative Duties	66	50
Office #14	Administrative Duties	14	50
Office #13	Administrative Duties	43	50
Personnel Office	Administrative Duties	27	50
Colonel's Office	Administrative Duties	30	50
Commanding Officer's Office	Administrative Duties	59	50
Office #4	Administrative Duties	71	50
Office #5	Administrative Duties	41	50
Office#6 Receptionist's Office	Administrative Duties	46	50
Office #7	Administrative Duties	63	50
Office #8	Administrative Duties	74	50
Office #9	Administrative Duties	167	50
Office #10	Administrative Duties	112	50
Office #11	Administrative Duties	20	50
Office #12	Administrative Duties	77	50

On the day of the survey the illumination in the administrative area was inadequate in most offices.

2.2.5 Lead

Wipe testing for lead was conducted throughout the facility using Ghost Wipes™, which meet ASTM E 1792 standards. Several surfaces within the administrative areas were found to contain lead dust levels which exceeded the maximum limit. The analytical report from AMA Analytical Services, Inc. (AMA) is contained in Appendix D. Table 2-2 below shows the results of the lead sampling.

Table 2-2
Levels of Lead Dust Found in the Administrative Area

Sample Location	URS Sample Number	Area Wiped	Result ($\mu\text{g}/\text{ft}^2$)	Maximum Surface Contamination Level ($\mu\text{g}/\text{ft}^2$)
Personnel Office Sill	WS-1	16 in ²	450	200
Sleeping Quarters-2 nd Fl	WS-2	16 in ²	53	200
Laundry Room	WS-3	16 in ²	94	200
Vacant Office #12	WS-4	16 in ²	510	200
HDD Office #15	WS-5	16 in ²	31	200
Sleeping Quarters-1 st Fl	WS-6	16 in ²	320	200
Family Assistance TV Room	WS-7	16 in ²	12	200
Recruiter's Office	WS-8	16 in ²	78	200
Office #18	WS-11	16 in ²	430	200
Mess Hall	WS-12	16 in ²	1100	200
Office #9	WS-13	16 in ²	210	200
Office #5	RWS-1	16 in ²	130	200
Garage Floor	RWS-3	16 in ²	1600	200
Ticket Window	RWS-4	16 in ²	110	200
Mess Hall Prep Area	RWS-5	16 in ²	40	200

Sample numbers and locations can be found on the site map in Appendix A.

One paint chip sample was collected from the Co. A Supply area where paint was peeling and sent to AMA for analysis. The sample was found not to contain lead in a concentration above the U.S. Housing and Urban Development (HUD) Lead-Based Paint Guidelines. Levels of lead greater than 0.5% by weight are referred to as "lead-

containing" (Section 1017 of the Residential Lead-Based Paint Hazard Reduction Act of 1992 (also referred to as Title X)). Table 2-3 below shows the results of the lead paint testing.

**Table 2-3
Level of Lead in Paint Found in the Administrative Area**

Sample Location	URS Sample Number	Reporting Limit (% by Weight)	Final Result (% by Weight)
HHD CDR Office	LBP-1	0.01	0.19

Sample numbers and locations can be found on the site map in Appendix A.

The analytical report from AMA is contained in Appendix D.

2.2.6 Asbestos

Floor tile in the Co A NBC Supply and the Co A MSB Supply were in fair condition, with cracks in various locations throughout the building. The armorer stated that these tiles were confirmed to be ACM.

2.3 Ventilation System Evaluation

Not applicable to this operation.

2.4 Noise Measurements

Not applicable to this operation.

2.5 Personal Protective Equipment

Not applicable to this operation.

2.6 Interpretation of Results

GENERAL: In general, the administrative area was neat and orderly. The fire exits and extinguishers were marked and easily accessible. Severe water damage was observed throughout the building, due to a leaking roof.

ERGONOMICS: The ergonomic issues were minor with the desks, chairs and monitors need to be corrected by fitting the workplace to the workers.

LIGHTING: On the day of the survey the illumination in the administrative area was inadequate in most offices and generally throughout the facility. URS recommends increasing the area lighting or supplement task lighting for each workstation in the administrative areas. While work is in progress the administrative area must be lighted by at least the minimum light intensities.

LEAD: Seven surfaces within the administrative areas were found to contain lead dust levels above 200 micrograms/ square foot. This is the level recommended by the NGB Region North Industrial Hygiene Office. Currently, there are no federal or state regulations that require removal of these materials prior to building demolition or renovation. The U.S. Occupational Safety and Health Administration (OSHA) regulations, 29 CFR 1910.1025 and 29 CFR 1926.62 are designed to protect workers potentially exposed to elevated airborne levels of lead from lead-based paint. The NGB has prepared a memorandum titled "Recommendations for Surface Lead Dust in Armories" which is provided in Appendix G.

ASBESTOS: Some observed suspect asbestos-containing materials were found to be in fair condition. When asbestos-containing materials become damaged, it is recommended that the damaged material be replaced with new, non-asbestos material by an appropriately trained professional.

HAZARD COMMUNICATION: Containers of cleaning materials were observed in the janitor's closet with MSDS forms located on site in the desktop guide.

3.0 FORMER INDOOR FIRING RANGE

3.1 Operation Description

The site has a former indoor firing range currently being used for storage. Due to troop deployment, this area could not be assessed for lead dust.

3.2 Chemical and Physical Agents Sampled

3.2.1 Lead

Not evaluated.

3.3 Ventilation System Evaluation

Not applicable to this operation.

3.4 Noise Measurements

Not applicable to this operation.

3.5 Personal Protective Equipment

Not applicable to this operation.

3.6 Interpretation of Results

LEAD: Lead dust sampling was not performed in this area. The Armorer indicated that the area has been cleaned and de-leaded. Results of previous testing were not available at the time of the site visit.

ASBESTOS: Observed suspect asbestos-containing materials were found to be in good condition. If asbestos-containing materials should become damaged, it is recommended that the damaged material be replaced with new, non-asbestos material by an appropriately trained professional

4.0 DRILL HALL

4.1 Operation Description

The drill hall is a 7,500 square foot area with about a 30-foot high ceiling used for assembling personnel and storing vehicles. The walls are constructed of cinder blocks with a concrete floor, and roll up doors. At the time of the industrial hygiene survey, the drill hall was being used as an indoor soccer field.

4.2 Chemical and Physical Agents Sampled

4.2.1 Lead

Wipe testing for lead dust was conducted in the drill hall using Ghost Wipes™, which meet ASTM E 1792 standards. The analytical report from AMA is contained in Appendix D. Table 4-1 below shows the results of the lead sampling.

**Table 4-1
Levels of Lead Dust Found in the Drill Hall**

Sample Location	URS Sample Number	Area Wiped	Result ($\mu\text{g}/\text{ft}^2$)	Maximum Surface Contamination Level ($\mu\text{g}/\text{ft}^2$)
Drill Hall-Floor	WS-9	16 in ²	47	200
Drill Hall-Floor	WS-10	16 in ²	58	200
Drill Hall-Balcony Railing	RWS-02	16 in ²	29	200

Sample numbers and locations can be found on the site map in Appendix A.

4.2.2 Asbestos

Observed suspect asbestos-containing materials (ACM) were found to be in good condition, therefore, bulk samples were not collected in the drill hall.

4.3 Ventilation System Evaluation

Not applicable to this operation.

4.4 Noise Measurements

Not applicable to this operation.

4.5 Personal Protective Equipment

Not applicable to this operation.

4.6 Interpretation of Results

LEAD: Wipe samples collected from the drill hall for lead were found to be below allowable limits. The NGB Region North Industrial Hygiene Office has prepared a memorandum titled "Recommendations for Surface Lead Dust in Armories" which is provided in Appendix G.

ASBESTOS: Observed suspect asbestos-containing materials were found to be in good condition. If asbestos-containing materials should become damaged, it is recommended that the damaged material be replaced with new, non-asbestos material by an appropriately trained professional

5.0 BOILER ROOM

5.1 Operation Description

The boiler room is a mechanical space constructed of cinder block walls with a concrete floor, containing a furnace and associated piping.

5.2 Chemical and Physical Agents Sampled

5.2.1 Asbestos

Observed suspect asbestos-containing materials (ACM) were found to be in good condition, therefore, bulk samples were not collected during from the boiler room during the site visit.

5.3 Ventilation System Evaluation

Not applicable to this operation.

5.4 Noise Measurements

Not applicable to this operation.

5.5 Personal Protective Equipment

Not applicable to this operation.

5.6 Interpretation of Results

ASBESTOS: Observed suspect asbestos-containing materials were found to be in good condition. If asbestos-containing materials should become damaged, it is recommended that the damaged material be replaced with new, non-asbestos material by an appropriately trained professional.

6.0 SAFETY AND INDUSTRIAL HYGIENE PROGRAMS

6.1 Confined Spaces

No safety program was found regarding confined spaces. No training records were found on site. A confined spaces program is not required for this site.

6.2 Hearing Conservation

No safety program was found regarding hearing conservation. No training records were found on site. A hearing conservation program is not required for this site.

6.3 Respiratory Protection

No safety program was found regarding respiratory protection. No training records were found on site. A respiratory protection program is not required for this site.

6.4 Hazard Communication

A program was found regarding hazard communication. No training records were found on site. A site-specific hazard communication program is required for this site and should include communication of hazards to employees, management of material safety data sheets, chemical labeling and spill protection.

6.5 Personal Protective Equipment

No safety program was found regarding personal protective equipment. No training records were found on site. A personal protective equipment program is not required for this site.

7.0 REFERENCES

American National Standards Institute

ANSI/IESNA RP-1-04: American National Standard Practice for Office Lighting

American Society of Heating Refrigerating and Air-Conditioning Engineers

ANSI/ASHRAE Standard 62.1-2004: Ventilation for Acceptable Indoor Air Quality

Department of the Army

Ergonomics Program Pamphlet 40-21 (15 August 2003)

Policy and Responsibilities For Inspection, Evaluation and Operation of Army
National Guard Indoor Firing Ranges (National Guard Regulation 385-15 30
December 2002)

Department of Defense

DoD Hearing Conservation Program Standard 6055.12 April 1996

Creating an Ideal Workstation: A Step-by-Step Guide

U. S. Environmental Protection Agency

Asbestos Hazard Emergency Response Act (40 CFR Part 763)

National Emissions Standards for Hazardous Pollutants (40 CFR Part 61)

U. S. Housing and Urban Development

Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in
Housing (1995, 1997)

U. S. Occupational Safety and Health Administration

Standard for General Industry: 29 CFR 1910

April 12, 2006

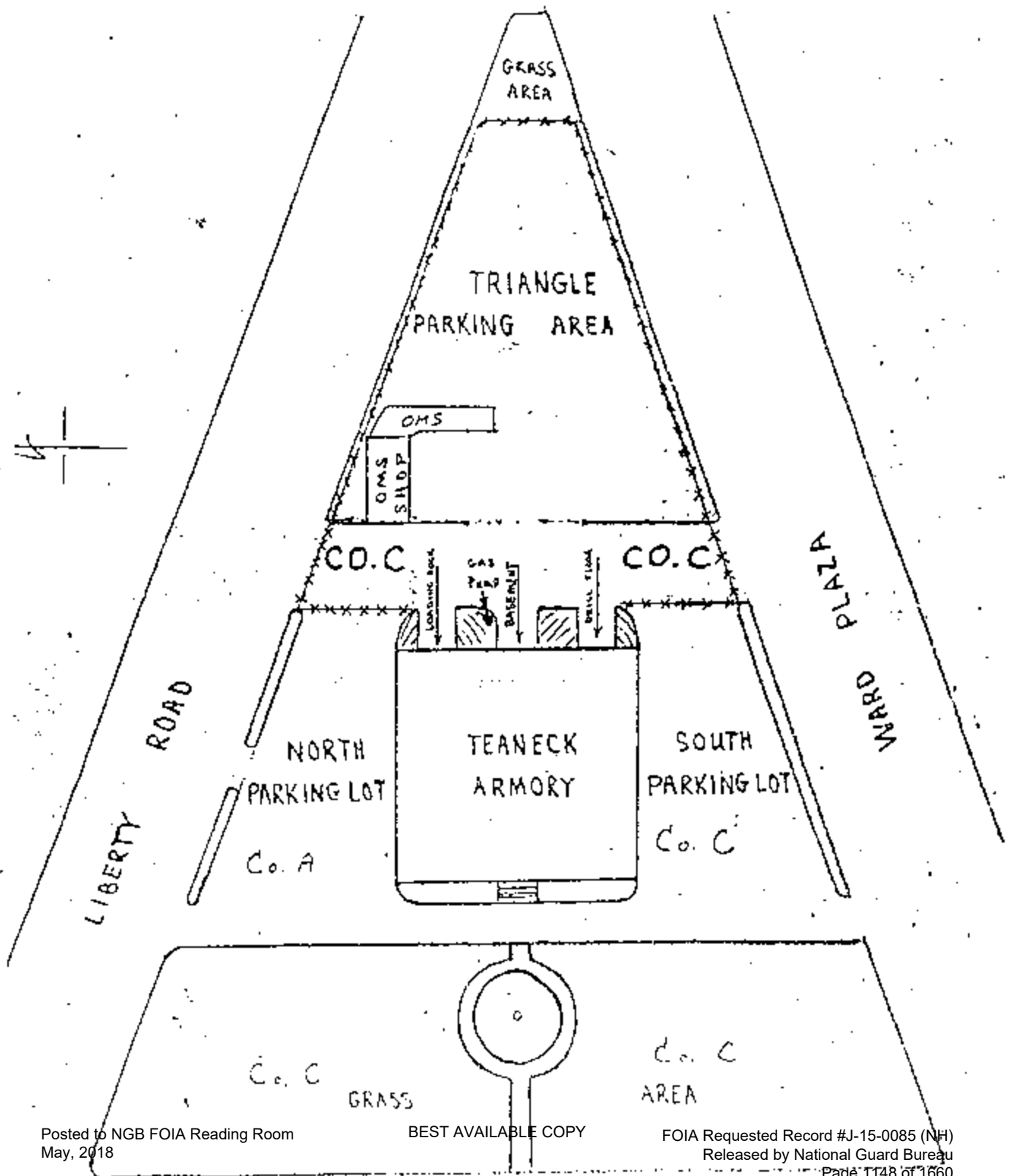
PN: 39741509; J:_Army National Guard\39741509 - Teanick, NJ\Records\Teanick I\ Report Final.doc

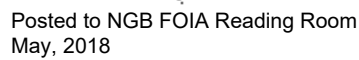
URS

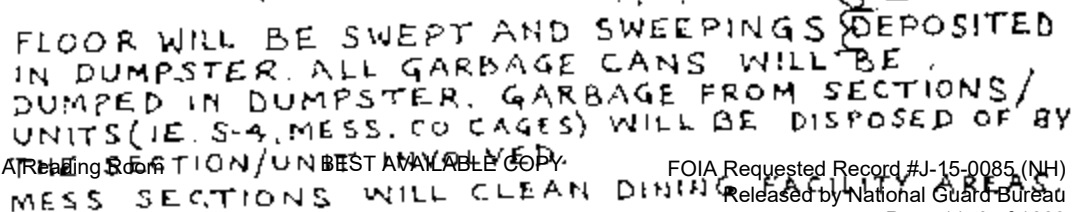
13

APPENDIX A
ARMORY DRAWING

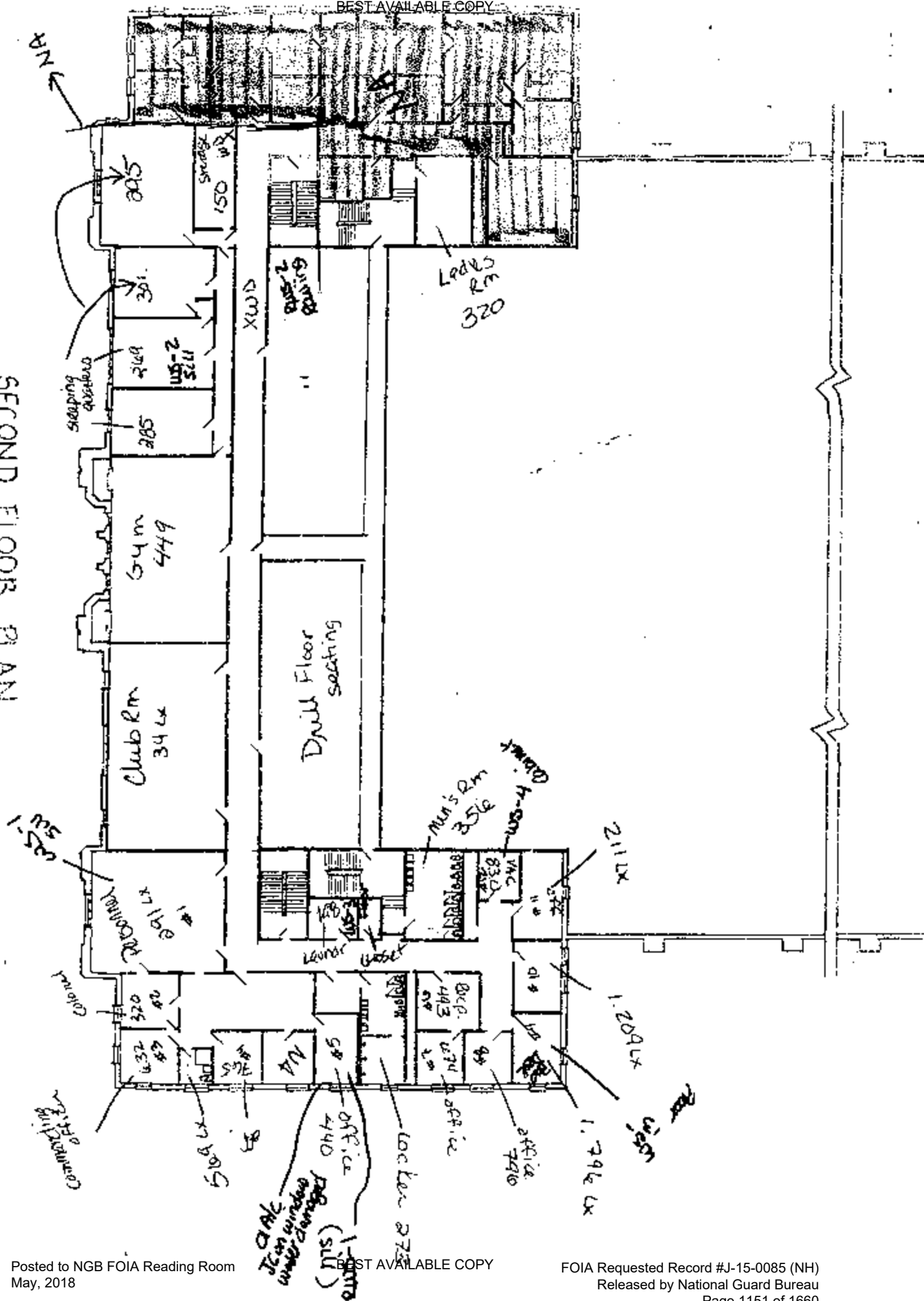
Annex E (Armory Grounds Diagram) to Installation SOP # 1-2,
Hq 50th MSB, HJARNG







SCALE: 1/32" = 1'-0"



APPENDIX B
PERSONNEL LIST

As of: 8 April 2004

ROSTER OF ALL FULL TIME SUPPORT PERSONNEL AT TEANECK ARMORY

BN HEADQUARTERS:

CPT
ILT
CSN
MS
SFC
SFC
SGT

Non-Responsive

HEADQUARTERS DET

SFC
SFC

COMPANY A

SFC
SSC
SPC

COMPANY D

SFC
SSC
SSC

(on active duty Ft Dix)

OMS # 1

SFC
SFC
SGT
SGT
SGT
SGT
SPC

APPENDIX C
HAZARDOUS MATERIALS LIST

BEST AVAILABLE COPY

NOT PROVIDED

APPENDIX D
ANALYTICAL RESULTS

CERTIFICATE OF ANALYSIS

NVLAP
NY ELAP
AIHA

Client: National Guard Bureau
Address: 301-JH Old Bay Lane, Attn: NGB-AVN-SI,
State Military Reservation
Havre de Grace, Maryland 21078
Job Name: Army
Job Location: Teaneck, NJ
Job Number: Not Provided
P.O. Number: BPA #W912K6-04-A0002
Chain Of Custody: 128468
Date Analyzed: 6/25/2004
Person Submitting: [Redacted]
Report Date: 25-Jun-04

Attention: [Redacted]

Page 2 of 2

Summary of Atomic Absorption Analysis for Lead

AMA Sample Number	Client Sample Number	Analysis Type	Sample Type	Air Volume (L)	Area Wiped (ft²)	Reporting Limit	Final Result	Comments
Analysis Method for Flame: Air, Wipes, Paints, and Soil/Solids: EPA 600/R-83/200(M)-742D; Water: SM-3111B								
Analysis Method For Furnace: Air, Wipes, Paints, and Soil/Solids : EPA 600/R-93/200(M)-7421; Water: SM-3113B								
Pb = Not Applicable mg/Kg = parts per million (ppm) by weight mg/L = parts per million (ppm)								
Pb = percent lead by weight ug = micrograms ug/L = parts per billion (ppb)								
Note: All results have two significant digits. Any additional digits shown should not be considered when interpreting the result.								
[Redacted]				Non-Responsive		Technical Manager: [Redacted]		
[Redacted]				Non-Responsive		Analyst: [Redacted]		

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public and these Laboratories, the report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from these Laboratories. Sample types, locations and collection protocols are based upon the information provided by the persons submitting them and, unless collected by personnel of these Laboratories, we expressly disclaim any knowledge and liability for the accuracy and completeness of this information. Residual sample material will be discarded in accordance with the appropriate regulatory guidelines, unless otherwise requested by the client. NVLAP Accreditation applies only to polarized light microscopy of bulk samples and transmission electron microscopy of AHERA air samples. This report must not be used to claim, and does not imply product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

All rights reserved. AMA Analytical Services, Inc.
An AIHA (#8863), NVLAP (#101143), & New York ELAP (#10920) Accredited Laboratory
4475 Forbes Blvd. • Lanham, MD 20706 • (301) 459-2640 • Toll Free (800) 346-0961 • Fax (301) 459-2643

APPENDIX E
TRAINING CERTIFICATES

Certificate of Training

Awarded to

[Redacted] Non-Responsive

For successful completion of a 4 Hour, 1/2 Day

**Asbestos Building Inspector
Annual Refresher Training**

JULY 17, 2003

*This training was approved and given in accordance with the
Regulations for Connecticut State Agencies*

*RCSA 20 - 440 - 1-9 and RCSA 20 - 441 and meets the
requirements of the EPA Revised MAP under TSCA Title II of 4/4/94.*

Presented by

Mystic Air Quality Consultants, Inc.

1204 North Road, Groton, CT 06340 (800) 247-7746

Certificate Number: ABIRF10892

Exam Grade: 97%

Exam Date: 07/17/2003

Date: 07/17/2004

[Redacted] Non-Responsive
H, CSP, RS

[Redacted] Training Director

APPENDIX F
PHOTOGRAPHS



Photo 35:
Office #9-Unadjustable Chair

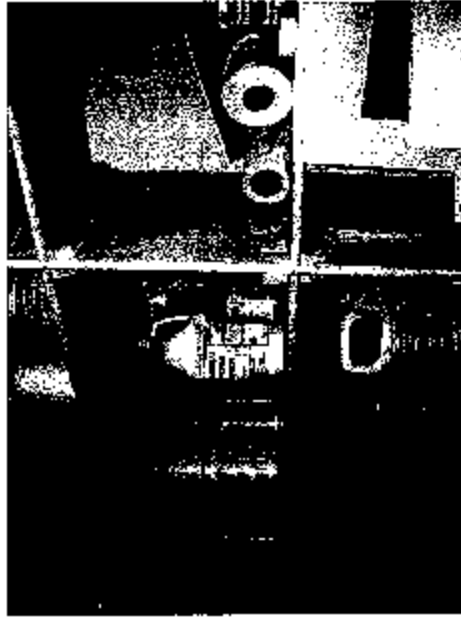


Photo 37:
2nd Floor Chemical Closet



Photo 34:
Office #4-Water Damaged Wall



Photo 36:
Office #10-Acceptable Chair/Desk



Photo 39:
Hallway-Water Damaged Ceiling Tile



Photo 41:
Office #13 Water Damaged Ceiling



Photo 38:
Water Damaged Wall



Photo 40:
Office #13-Water Damaged Wall



Photo 43:
Office #17-Peeling Paint



Photo 45:
Co. A NBC-Water Damage with Mold Growth



Photo 42:
Office #15-Water damage with Mold Growth



Photo 44:
Co. A NBC Room-Damaged ACM Floor Tile



Photo 47:
Co. A Supply-Damaged ACM Floor Tile



Photo 49:
1st Floor Chemical Storage

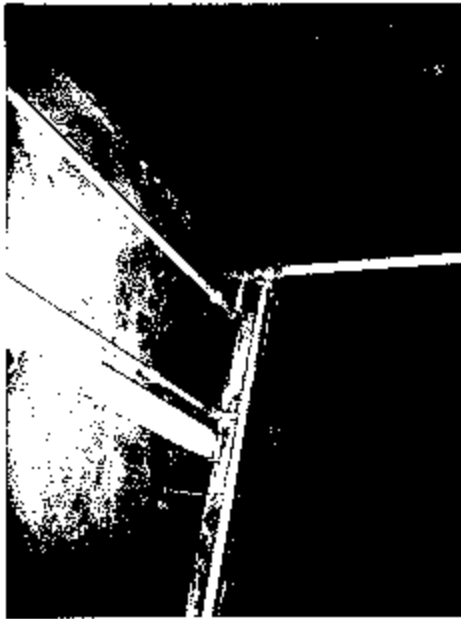


Photo 46:
Co. A NBC-Water Damage with Mold Growth

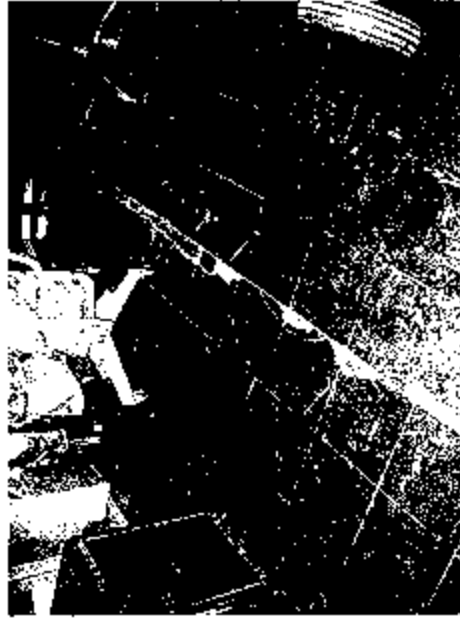


Photo 48:
Co. A Supply-Damage ACM Floor Tile



Photo 51:
1st Floor Chemical Storage-Water Damaged Floor

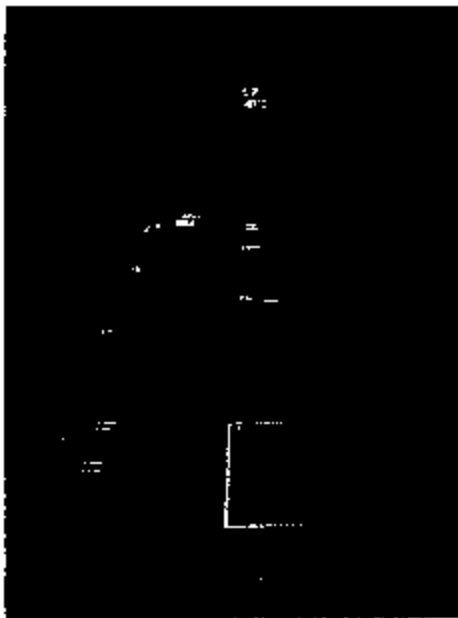


Photo 53:
Drill Hall Layout



Photo 50:
1st Floor Chemical Storage-Damaged Ceiling

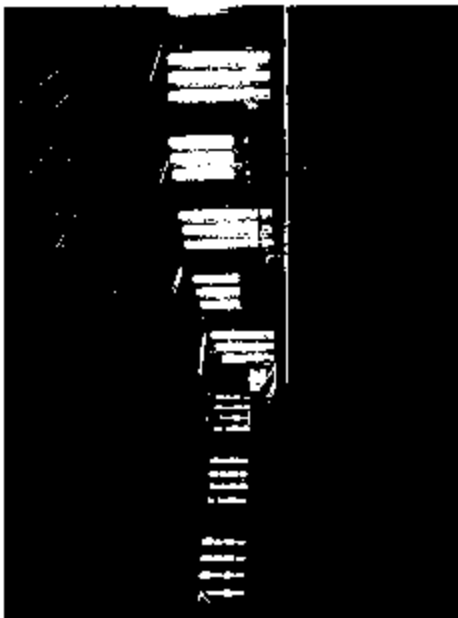


Photo 52:
Drill Hall Layout



Photo 55:
Garage Layout

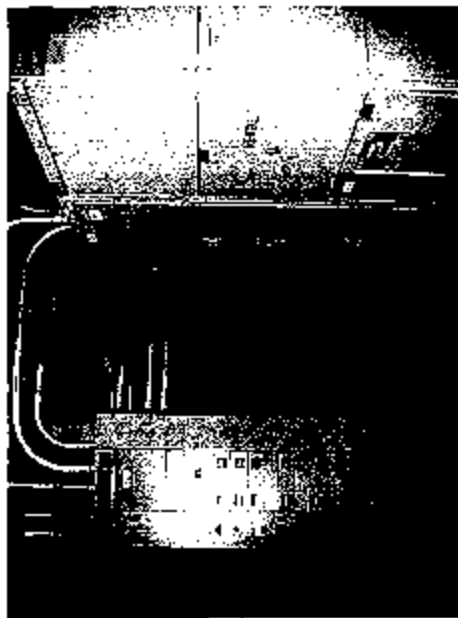


Photo 57:
Electrical Panels off Boiler Room



Photo 54:
Sprinkler Room Layout



Photo 56:
Boiler Room-New Boilers

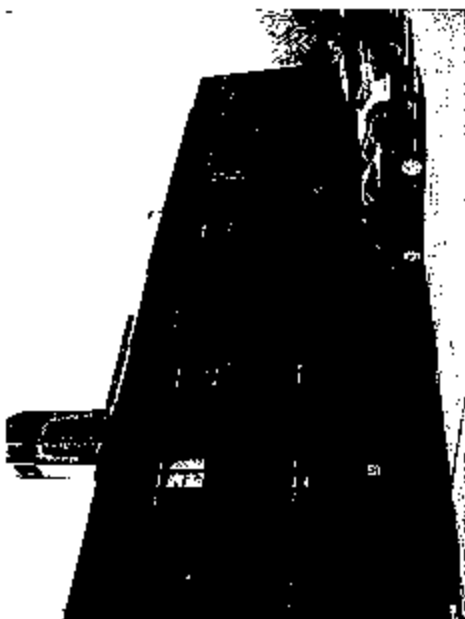


Photo 59:
Exterior-North Side



Photo 62:
Exterior-West Side

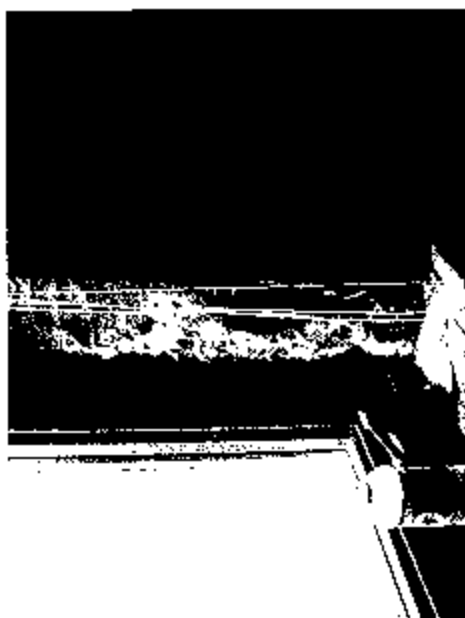


Photo 58:
Office #5-Water Damaged Wall



Photo 60:
Exterior-North Side



Photo 64:
Exterior-West Side



Photo 66:
Exterior-South Side

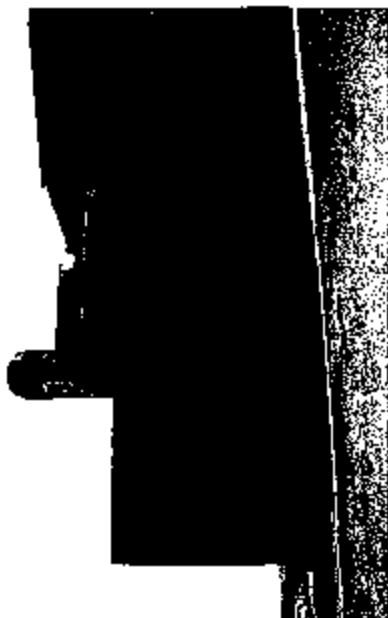


Photo 63:
Exterior-West Side

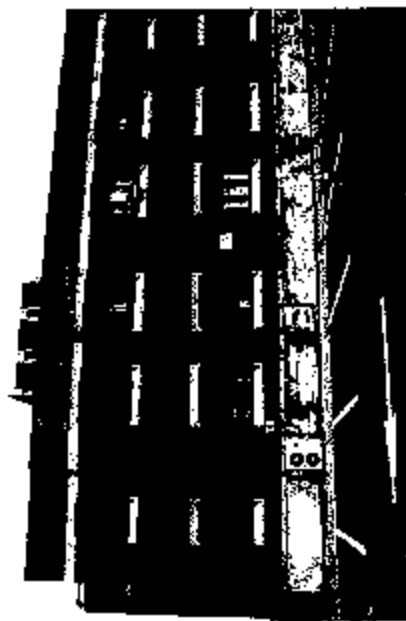


Photo 65:
Exterior-South Side

APPENDIX G
RECOMMENDATIONS FOR SURFACE LEAD DUST IN ARMORIES

Subject: Recommendations for Surface Lead Dust in Armories

1. In armories that do not contain childcare facilities, the National Guard Bureau (NGB) Region North Industrial Hygiene Office recommends cleaning the areas in which sample results are greater than 200 micrograms per square foot ($\mu\text{g}/\text{ft}^2$). If a special function will be held in which children will be present in this facility, consider thoroughly cleaning the areas that will be accessible to children prior to the function. This guidance is based on professional judgment, risk assessments, adaptation of Occupational Safety and Health Administration (OSHA) guidance, and feasibility of cleaning to a certain level.

a. Environmental Protection Agency (EPA) standards (40 Code of Federal Regulations (CFR) 745.227(h)(3)) are not directly applicable because they are criteria for dust-lead hazards developed for floors ($40 \mu\text{g}/\text{ft}^2$) and windowsills ($250 \mu\text{g}/\text{ft}^2$) in residential dwellings and child occupied facilities. A child occupied facility is defined as a building, or portion of a building, constructed prior to 1978, visited regularly by the same child, 6 years of age or under, on at least two different days within any week (Sunday through Saturday period), provided that each day's visit lasts at least 3 hours and the combined weekly visit lasts at least 6 hours, and the combined annual visits last at least 60 hours. Most of the wipe samples in armories were collected in undisturbed areas and therefore, results are worst case scenarios and do not correlate to these standards.

b. OSHA has no specific requirement for work area surfaces. The lead standard (29 CFR 1910.1025(h)) states that all surfaces shall be maintained as free as practicable of accumulations of lead dust. In workplaces where lead dust is generated, surface levels may be much higher, but personnel exposures can be controlled by limiting airborne lead levels and following good cleanup and hygienic practices.

c. OSHA used to cite a level of $200 \mu\text{g}/\text{ft}^2$ in their Technical Manual and 29 CFR 1926.62 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.

d. In a report titled Derivation of Wipe Surface Screening Levels for Environmental Chemicals, the US Army Center for Health Promotion and Preventive Medicine (USACHPPM) has determined that $200 \mu\text{g}/\text{ft}^2$ is a safe surface contamination level. They have also applied these standards as the decontamination levels for surfaces in administrative offices.

e. It should be noted that levels above these recommendations do not necessarily mean there is a significant hazard to workers who are following good cleaning and hygienic practices since there is no correlation between wipe and air samples. Rather, we recommend these levels as a precautionary measure.

2. The NGB Occupational Health Branch is developing guidance for armories that are used as childcare facilities. All states will receive this guidance when it is completed. In the interim, we recommend the following actions:

a. Clean all areas that will be accessible to children to the EPA dust-lead standard for children 6 years of age or under ($40 \mu\text{g}/\text{ft}^2$ on floors and $250 \mu\text{g}/\text{ft}^2$ on windowsills).

b. Refer to the local authorities' regulations since they can be more stringent than federal regulations.

c. Post signs in the area to inform people of the presence of lead dust and its effects.

d. If soldiers clean weapons in the facility change the policy so that they cannot clean their weapons in the facility, or if they are allowed to clean their weapons indoors, they must clean the area by wet wiping and mopping the area when they are done.

e. If the paint is peeling, contact the state Environmental Office to test for lead content and provide recommendations.

3. Air samples collected on individuals in the armory were well below OSHA's permissible exposure limit for lead (29 CFR 1910.1025(c)) of $0.05 \text{ mg}/\text{m}^3$ averaged over an 8-hour day. Therefore, based on these conditions there is currently no overexposure to personnel from lead dust in this building.



1215 Manor Drive, Suite 205
Mechanicsburg, PA 17055
Phone: 717.590.7031
Fax: 717.590.7936
www.complianceplace.com

Industrial Hygiene Survey Report

National Guard Facility
Teaneck Readiness Center

Prepared For: National Guard Bureau Region North IH
301-IH Old Bay Lane
Havre de Grace, MD 21078

Survey Location: Teaneck Readiness Center
1799 Teaneck Road
Teaneck, NJ, 07666

Prepared By: Compliance Management International, Inc.
1215 Manor Drive
Suite 205
Mechanicsburg, PA 17055

Survey Date: March 20, 2013

Report Date: April 22, 2013

Non-Responsive

Manager, Industrial Hygiene Services

Table of Contents

Section 1.0 Executive Summary	3
Section 2.0 Operation Description & Observations.....	4
Section 3.0 Lead Testing.....	5
Section 4.0 Lighting.....	7
Section 5.0 Indoor Air Quality.....	9
Section 6.0 Suspect Asbestos Containing Building Materials.....	11
Section 7.0 Equipment	12
Section 8.0 Limitations	13
Appendix A. Laboratory Analysis Report	14
Appendix B. Photographs	15
Appendix C. Floor Plan	16
Appendix D. References	17

Section 1.0 Executive Summary

An industrial hygiene survey was conducted on March 20, 2013, at the Teaneck Readiness Center located at 1799 Teaneck Road, Teaneck, NJ 07666. The survey was performed by Mr. Non-Responsive.

1. Lead surface, air, and bulk samples were collected. Surface levels of lead exceeded the NG PAM 420-15 "Guidelines and Procedures for Rehabilitation and Conversion of Indoor Firing Ranges" guideline of 200 micrograms per square foot (ug/ft^2) in seven locations. Air samples for lead were below the Occupational Safety and Health Administration (OSHA). Cleaning procedures should be improved and remedial action should be taken to maintain lead levels below 200 ug/ft^2 . See Section 3.0 for sampling results.
2. Lighting levels did not meet the American National Standards Institute/Illuminating Engineering Society of North America (ANSI/IESNA) recommended guideline in six locations. See Section 4.0 for detailed findings.
3. Indoor air quality (IAQ) parameters of temperature, relative humidity, carbon monoxide and carbon dioxide (ventilation) were evaluated during the assessment.
 - a. The relative humidity level was below the US Army Center for Health Promotion and Preventive Medicine (USACHPPM) TG 277 recommended guideline of 30-60% in all locations sampled.
 - b. Temperature levels were above the ASHRAE recommended guideline of 68-79°F in two areas sampled.
 - c. CO levels were less than the National Ambient Air Quality Standard (NAAQS) recommended ceiling of 9 ppm.
 - d. CO₂ levels met the ASHRAE 62.1-2010 recommended guidelines for mechanically ventilated office buildings and commercial settings.

See Section 5.0 for detailed sampling results.

Section 2.0 Operation Description & Observations

The Teaneck Readiness Center is mainly an administrative facility with a sports arena, offices, classrooms, and a converted firing range area (currently bulk storage). There were approximately 18 full-time employees stationed at this facility at the time of this survey.

The building is reported to have been built in the late 1930s. It is a two-story structure with a basement. The exterior is brick. The interior walls are brick and concrete block with drywall in some of the offices. The floors are concrete, carpet, and floor tiles.

The heating system consists of two natural gas-fired steam generating units. There is no central A/C unit. Several administrative offices have window A/C units.

There is no child-care facility in the building.

The area of the building that was once a firing range has been converted into a storage area. The converted firing range bullet trap still exists.

Overall housekeeping practices should be improved.

No ergonomic concerns were reported. Office areas have computer work stations. Work stations appeared to be properly designed. Personnel had supportive chairs.

Section 3.0 Lead Testing

Various surfaces within the facility were screened for lead using surface/wipe samples. Surface/wipe samples were collected in accordance with the American Society for Testing and Materials (ASTM) E 1792 protocols. Air samples were collected using 0.8 um mixed cellulose ester (MCE) filter cassettes attached to low volume air sampling pumps. Blank samples were submitted to the laboratory for quality control purposes. Samples were sent to AMA Analytical Services, Inc., in Lanham, Maryland, for lead analysis using Environmental Protection Agency (EPA) Method 600/R-93/200 (M)-7420. A copy of the laboratory analysis report can be found in Appendix A.

Lead Testing Results Summary

Sample #	Location	Bulk (%)	Air ug/m ³	Surface ug/ft ²
1	Drill Hall	*	<5.6	*
2	Company A Orderly Room	*	<5.5	*
3	Blank	*	<3	*
4	Drill Hall Treasure Chest	*	*	<110
5	Drill Hall Window Sill	*	*	<110
6	Lobby	*	*	<110
7	Company A Bookshelf	*	*	<110
8	Basement Food Services Freezer	*	*	250
9	Basement FCO Classroom Floor	*	*	1400
10	Basement South Supply Room Contents	*	*	420
11	Converted Firing Range Floor Outside Entrance	*	*	2700
12	Converted Firing Range Floor	*	*	320
13	Converted Firing Range Contents	*	*	140
14	Basement North Hall Floor	*	*	770
15	FCO CMDR Bookshelf	*	*	<110
16	1 st Floor North Corridor Hall Floor	*	*	<110
17	1 st Floor A Company Supply Cabinet	*	*	<110
18	1 st Floor South Corridor Floor	*	*	<110
19	Recruiting and Retention Window Sill	*	*	<110
20	2 nd Floor North Corridor Floor	*	*	<110
21	2nd Floor TOC Window Sill	*	*	700
22	2 nd Floor Bar/Lounge	*	*	<110
23	2 nd Floor South Corridor Floor	*	*	<110
24	1 st Floor NCO Training Wall	0.17	*	*
-	Criteria	0.5	50	200

Table Notes:

1. **Bolded** results exceed listed criteria
2. **ppm** = parts per million
3. **ug/ft²** = micrograms per square foot
4. **ug/m³** = micrograms per cubic meter
5. **ug** = micrograms

Sources:

1. NG PAM 420-15 Guidelines and Procedures for Rehabilitation and Conversion of Indoor Firing Ranges
2. OSHA 29CFR1910.1025 Lead Standard

The National Guard Bureau currently utilizes 200 micrograms per square foot (ug/ft^2) as a benchmark for identifying lead-contaminated surfaces. This guideline is referenced in NG PAM 420-15 "Guidelines and Procedures for Rehabilitation and Conversion of Indoor Firing Ranges" as a satisfactory surface contamination level unless the facility is utilized as a childcare facility. In such cases, U.S. Department of Housing and Urban Development (HUD) limit of $40 \text{ ug}/\text{ft}^2$ on floors and $250 \text{ ug}/\text{ft}^2$ on windowsills should be observed. There is no child care provided at this facility.

Lead surface, air, and bulk samples were collected. The following is a summary of the sample results from this survey.

- Surface levels of lead were above the recommended guideline of $200 \text{ ug}/\text{ft}^2$ in the following locations:
 - Basement Food Services Freezer
 - Basement FCO Classroom Floor
 - Basement South Supply Room Contents
 - Converted Firing Range Floor Outside Entrance
 - Converted Firing Range Floor
 - Basement North Hall Floor
 - 2nd Floor TOC Window Sill

Cleaning procedures should be improved to maintain lead levels on surfaces below the recommended guideline of $200 \text{ ug}/\text{ft}^2$.

- Air samples for lead were below the Occupational Safety and Health Administration (OSHA) Permissible Exposure Limit of 50 micrograms per cubic meter (ug/m^3).
- Paint was observed to be peeling from the NCO Training Office wall. A bulk sample was collected and determined to contain a concentration of 0.17% lead (Pb). This is less than the EPA definition of lead based paint = 0.5%. However, all areas of peeling paint should be repaired.

Section 4.0 Lighting

A lighting assessment was conducted throughout the facility. Measurements were collected using a Cooke Cal-Light 400L Precision Light Meter (Serial No. K98364). The light meter was last calibrated in April 2012. Measurements collected were compared to ANSI/IESNA RP-7-01 Lighting Industrial Facilities and RP-1-04 Office Lighting.

Light Survey Assessment Summary

Location	Foot Candles (FC)	Recommended Lighting (FC)	Sufficient Lighting
Sports Arena	23.2	10	Yes
FCO CMDR Office 1	30.3	30-50	Yes
FCO CMDR Office 2	61.0	30-50	Yes
1 st Floor North Corridor	17.0	5	Yes
Company A Conference Room Meeting	40.5	30	Yes
SFC Wayman's Office 1	62.1	30-50	Yes
SFC Wayman's Office 2	30.5	30-50	Yes
Copy Room	40.0	30-50	Yes
Company A Supply Room	66.0	30	Yes
Orderly room	30.3	30	Yes
Lobby	10.0	10	Yes
Training NCO Office	56.3	30-50	Yes
Supply Room	33.6	30	Yes
FAC Office	23.1	30-50	No
FAC Meeting	36.8	30	Yes
Youth Group Meeting 1	31.2	30	Yes
Youth Group Meeting 2	30.8	30	Yes
CAP Meeting	30.0	30	Yes
Exercise Room	20.6	30	No
Women's Toilet	31.6	5	Yes
Recruiting Office	37.3	30-50	Yes
Recruiting Office A	37.5	30-50	Yes
BN S-2 Office	94.3	30-50	Yes
Cpt. Cairns' Office	113.2	30-50	Yes
OPS Sgt. Office	94.2	30-50	Yes
S-1 Office	31.2	30-50	Yes
CMDR Office	49.1	30-50	Yes
CSM Office	30.2	30-50	Yes
S-1 Office	61.5	30-50	Yes
Bar/Lounge	5.7	10	No
Exercise Room	30.4	30	Yes
2 nd Floor West Corridor	27.8	5	Yes
S-6 Conference Meeting	18.8	30	No
Exercise Room 2	40.4	30	Yes

Location	Foot Candles (FC)	Recommended Lighting (FC)	Sufficient Lighting
S-7 Conference Room Meeting	39.4	30	Yes
TOC Conference Room Meeting	37.7	30	Yes
Boiler Room	15.1	30	No
F Company Supply	61.5	30	Yes
Basement Storage Bulk	7.4	10	No
Food services Prep	59.7	50	Yes
Food Services Dining	32.1	10	Yes
FCO Classroom	45.6	30-50	Yes

Table Notes:

1. FC = Foot Candles
2. **Bolded** results did not meet listed criteria

Source: ANSI/IESNA RP-7-01 Lighting Industrial Facilities and RP-1-04 Office Lighting.

The lighting level did not meet the minimum recommended guideline in the FAC Office, Exercise Room, Bar/Lounge, S-6 Conference Meeting, Boiler Room, and Basement Storage Bulk. Lighting should be improved in these areas.

Section 5.0 Indoor Air Quality

Survey measurements were made for ventilation and comfort parameters (carbon dioxide, temperature, carbon monoxide and relative humidity). The air quality measurements were collected using direct reading instrumentation for comfort parameters using a QTRAK IAQ Meter, Model 7565 (Serial #02041015). The IAQ Meter was last calibrated in August 2012.

The American Society of Heating, Refrigerating, and Air Conditioning Engineers, Inc. (ASHRAE) have developed indoor air quality guidelines for mechanically ventilated office buildings and commercial settings (ASHRAE standard 62.1-2010). ASHRAE specifies temperature ranges for human comfort (ASHRAE 55-2010). The US Army Technical Guide 277 Army Facilities Management Information Document on Mold Remediation, recommends maintaining a relative humidity range between 30 to 60%.

The following table summarizes the measurements collected.

IAQ Assessment Summary

Location	Temperature (°F)	Relative Humidity (%)	Carbon Dioxide (ppm)	Carbon Monoxide (ppm)
Outdoors	33.4	56.4	460	0.0
Sports Arena	72.0	22.5	499	0.0
Orderly Room	79.9	20.2	715	0.0
Training NCO Office	79.7	18.7	498	0.0
CAP Conference	77.0	14.3	490	0.0
S-1 Office	75.2	19.7	526	0.0
Criteria	68-79	30-60	<1,160	<9

Table Notes:

1. **Bolded** results exceed listed criteria
2. **ppm** = parts per million
3. **(%)** = percent relative humidity
4. **F** = degrees Fahrenheit

Sources: The American Society of Heating, Refrigerating, and Air Conditioning Engineers, Inc. (ASHRAE) 55-2010, 62.1-2010, Environmental Protection Agency (EPA) National Ambient Air Quality Standard (NAAQS) & The US Army Technical Guide 277 Army Facilities Management Information Document on Mold Remediation.

Summary of findings and recommendations:

- Temperature measurements were above the recommended 68-79°F in two occupied areas. Temperature should be maintained at 68-79°F.
- Relative humidity levels were below the recommended guidelines in all sampled areas. Low relative humidity can cause the drying of the mucous tissues and an increased susceptibility to respiratory infection. Relative humidity should be maintained at 30-60%.
- Carbon dioxide levels were measured to evaluate building ventilation or the introduction of outdoor air into the building. The recommended ceiling is obtained by adding 700 ppm to the measured outdoor carbon dioxide level at the time of the survey. For this survey, carbon dioxide levels did not exceed the recommended ceiling of 1,160 ppm. This is an indication that outdoor air ventilation is adequate.
- Carbon monoxide levels measured were less than the recommended ceiling of 9 ppm. The recommended ceiling of 9 ppm referenced in the above table is the National Ambient Air Quality Standard for carbon monoxide.
- A visual inspection was conducted throughout accessible portions of the facility to assess sources or pathways of factors potentially deleterious to IAQ. The following observation was noted:
 - Dust is evident throughout the facility. Cleaning efforts should be improved.

Section 6.0 Suspect Asbestos Containing Building Materials

The following suspect asbestos containing material (ACM) was noted at the time of this survey:

1. Approximately 200 square feet of suspect ACM insulation on the boiler breeching was observed. The material was intact and in good condition.
- 2.
3. Several areas (totaling approximately 1000 square feet) have 9"x9" suspect ACM floor tiles. The flooring was intact and in good condition.

Inaccessible areas such as behind walls or crawlspaces were not inspected. ACM could potentially be present in these areas.

Section 7.0 Equipment

The following equipment was utilized during this survey. All sampling equipment was properly calibrated prior to use and verified for accuracy as applicable. See daily reports and calibrations logs for detailed information.

Equipment	Serial #	Calibration Date	Value
TSI QTrak IAQ Meter	02041015	8/2012	NA
Cal Light 400 Light Meter	K98364	4/2012	NA
TSI 4199 Calibrator	41460827002	8/2012	NA
SKC Air Sampling Pump	647631	3/20/13	2.77 LPM
SKC Air Sampling Pump	647610	3/20/13	2.80 LPM

Section 8.0 Limitations

This report summarizes our evaluation of the conditions observed at the above referenced location. Our findings are based upon our observations and sampling results obtained at the facility at the time of our visit. The report, results, and subsequent recommendations reported herein are also limited to the information available at the time it was prepared and investigated. Conditions may have been in effect prior to the sampling events that have changed over time and which cannot be predicted within the scope of this limited investigation. Any conditions discovered which deviate from the data contained in this report should be presented to us for our evaluation.

This report is intended for the exclusive use of the client. This report and the findings herein shall not, in whole or in part, be relied upon by any other parties, disseminated or conveyed to any other party without prior written consent of the National Guard Bureau, and Compliance Management International, Inc. The findings are relative to the dates of our site visits and should not be relied upon for substantially later dates.

Appendix A. Laboratory Analysis Report



CERTIFICATE OF ANALYSIS



Client:	National Guard Bureau	Job Name:	3KNJ IH Survey	Chain Of Custody:	515375
Address:	301-IH Old Bay Lane, Attn: ARNG-CJG-P, State Military Reservation Havre de Grace, Maryland 21078	Job Location:	Teaneck	Date Submitted:	3/22/2013
		Job Number:	Not Provided	Person Submitting:	Non-Responsive
		P.O. Number:	W912K6-09-A-0003	Date Analyzed:	3/29/2013
Attention:	Non-Responsive			Report Date:	3/29/2013

Summary of Atomic Absorption Analysis for Lead

Page 1 of 2

AMA Sample Number	Client Sample Number	Analysis Type	Sample Type	Air Volume (L)	Area Wiped (ft²)	Reporting Limit	Total ug	Final Result	Comments
13046658	1	Flame	Air	540	N/A	5.6 ug/m³	<3	<5.6 ug/m³	
13046659	2	Flame	Air	546	N/A	5.5 ug/m³	<3	<5.5 ug/m³	
13046660	3	Flame	Air Blank	0	N/A	3 ug/m³		<3 ug	
13046661	4	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13046662	5	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13046663	6	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13046664	7	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13046665	8	Flame	Wipe	****	0.108	110 ug/ft²	27	250 ug/ft²	
13046666	9	Flame	Wipe	****	0.108	110 ug/ft²	150	1400 ug/ft²	
13046667	10	Flame	Wipe	****	0.108	110 ug/ft²	46	420 ug/ft²	
13046668	11	Flame	Wipe	****	0.108	110 ug/ft²	290	2700 ug/ft²	
13046669	12	Flame	Wipe	****	0.108	110 ug/ft²	34	320 ug/ft²	
13046670	13	Flame	Wipe	****	0.108	110 ug/ft²	15	140 ug/ft²	
13046671	14	Flame	Wipe	****	0.108	110 ug/ft²	83	770 ug/ft²	
13046672	15	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13046673	16	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13046674	17	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13046675	18	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13046676	19	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these Laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from us. Sample types, locations, and collection protocols are based upon the information provided by the persons submitting them and, unless collected by personnel of these Laboratories, we expressly disclaim any knowledge and liability for the accuracy and completeness of this information. Residual sample material will be discarded in accordance with the appropriate regulatory guidelines, unless otherwise requested by the client. This report must not be used to claim, and does not imply product certification, approval, or endorsement by NY ELAP, AIHA, or any agency of the Federal Government. All rights reserved. AMA Analytical Services, Inc.



CERTIFICATE OF ANALYSIS



Client: National Guard Bureau
Address: 301-IH Old Bay Lane, Attn: ARNG-CJG-P,
 State Military Reservation
 Havre de Grace, Maryland 21078
Attention: **Non-Responsive**

Job Name: 3KNJ IH Survey
Job Location: Teaneck
Job Number: Not Provided
P.O. Number: W912K6-09-A-0003

Chain Of Custody: 515375
Date Submitted: 3/22/2013
Person Submitting: **Non-Responsive**
Date Analyzed: 3/29/2013 **Report Date:** 3/29/2013

Summary of Atomic Absorption Analysis for Lead

Page 2 of 2

AMA Sample Number	Client Sample Number	Analysis Type	Sample Type	Air Volume (L)	Area Wiped (ft²)	Reporting Limit	Total ug	Final Result	Comments
13046677	20	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13046678	21	Flame	Wipe	****	0.108	110 ug/ft²	76	700 ug/ft²	
13046679	22	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13046680	23	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13046681	24	Flame	Paint Chip	****	N/A	0.0058 %Pb		0.17 %Pb	

Analysis Method for Flame: Air, Wipes, Paints, and Soil/Solids: EPA 600/R-93/200(M)-7000B; Water: SM-3111B

Analysis Method For Furnace: Air, Wipes, Paints, and Soil/Solids : EPA 600/R-93/200(M)-7010; Water: SM-3113B

N/A = Not Applicable mg/Kg = parts per million (ppm) on a dry weight basis mg/L = parts per million (ppm)

%Pb = percent lead on a dry weight basis ug = micrograms ug/L = parts per billion (ppb)

Note: All samples were received in good condition unless otherwise noted.

Note: All results have two significant digits. Any additional digits shown should not be considered when interpreting the result.

Air and Wipe results are not corrected for any blank results

Final results for air and wipe samples are based on client supplied information nor verified by this laboratory.

All results are to be considered preliminary and subject to change unless signed by the Technical Director or Deputy.

See QC Summary for analytical results of quality control samples associated with these samples.

Analyst

Non-Responsive

Technical Manager:

Non-Responsive

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these Laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from us. Sample types, locations, and collection protocols are based upon the information provided by the persons submitting them and, unless collected by personnel of these Laboratories, we expressly disclaim any knowledge and liability for the accuracy and completeness of this information. Residual sample material will be discarded in accordance with the appropriate regulatory guidelines, unless otherwise requested by the client. This report must not be used to claim, and does not imply product certification, approval, or endorsement by NY ELAP, AIHA, or any agency of the Federal Government. All rights reserved. AMA Analytical Services, Inc.

515375

(Please Refer To This
Number For Inquiries)**AMA Analytical Services, Inc.**

Focused on Results www.amalab.com

AIHA (#100470) NVLAP (#101143-0) NY ELAP (10920)

4475 Forbes Blvd. • Lanham, MD 20706

(301) 459-2640 • (800) 346-0961 • Fax (301) 459-2643

CHAIN OF CUSTODY**Mailing/Billing Information:**

- Client Name: National Guard Bureau
- Address 1: 301-JH Old Bay Lane
- Address 2: Attn: NGB-ARS-JHNE
- Address 3: Havre de Grace, Maryland 21078
- Phone #: (410) 942-0273 Fax #: (410) 942-0254

Submittal Information:

- 3KNJ 1H Survey
- Teaneck
- Job #: W912K6-09-A-0003 P.O. #:
- Contact Person: Non-Responsive @ phone # (410) 942-0273
- Non-Responsive

Reporting Information (Results will be provided as soon as technically feasible):**REPORT TO:**

With Report
complianceplace.com
us.army.mil
us.army.mil

AFTER HOURS (must be pre-scheduled)

- ☐ Immediate Date Due: _____
- ☐ 24 Hours Time Due: _____

Comments: _____

- ☐ Immediate
- ☒ Next Day
- ☐ 2 Day

- ☐ 3 Day
- ☐ 5 Day +
- Date Due: 3/29/13

☐ Results Required By Noon
(Every Attempt Will Be
Made to Accommodate)

- ☒ Incl Non-Responsive
- ☐ Fax
- ☐ Ver

ASBESTOS ANALYSIS**PCM Air - Please Indicate Filter Type:**

- ☐ NIOSH 7400 (QTY)
- ☐ Fiberglass (QTY)

TEM Air - Please Indicate Filter Type:

- ☐ AHERA (QTY)
- ☐ NIOSH 7402 (QTY)
- ☐ Other (specify) (QTY)

PLM Bulk

- ☐ EPA 600 - Visual Estimate (QTY)
- ☐ EPA Point Count (QTY)
- ☐ NY State Friable 198.1 (QTY)
- ☐ Grav. Reduction ELAP 198.6 (QTY)
- ☐ Other (specify) (QTY)

MISC

- ☐ Vermiculite
- ☐ Asbestos Soil PLM (Qual) PLM (Qual) PLM/TEM (Qual) PLM/TEM (Qual)

TEM Bulk

- ☐ ELAP 198.4/Chatfield (QTY)
- ☐ NY State PLM/TEM (QTY)
- ☐ Residual Ash (QTY)

TEM Dust

- ☐ Qual. (pres/abs) Vacuum/Dust (QTY)
- ☐ Quan. (s/area) Vacuum D5755-95 (QTY)
- ☐ Quan. (s/area) Dust D6480-99 (QTY)

TEM Water

- ☐ Qual. (pres/abs) (QTY)
- ☐ ELAP 198.2/EPA 100.2 (QTY)
- ☐ EPA 100.1 (QTY)

☐ All samples received in good condition unless otherwise noted.
(TEM Water samples °C)

VERMICULITE ANALYSIS

- ☐ Pb Paint Chip (QTY)
- ☒ Pb Dust Wipe (wipe type GHS-T) (QTY)
- ☒ Pb Air (QTY)
- ☐ Pb Soil/Solid (QTY)
- ☐ Pb TCLP (QTY)
- ☐ Drinking Water ☐ Pb (QTY) ☐ Cu (QTY) ☐ As (QTY)
- ☐ Waste Water ☐ Pb (QTY) ☐ Cu (QTY) ☐ As (QTY)
- ☐ Pb Furnace (Media) (QTY)

SAMPLE ANALYSIS**Collection Apparatus for Spore Traps/Air Samples:****Collection Media**

- ☐ Spore-Trap (QTY)
- ☐ Surface Vacuum Dust (QTY)
- ☐ Surface Swab (QTY)
- ☐ Culturable ID Genus (Media) (QTY)
- ☐ Surface Tape (QTY)
- ☐ Culturable ID Species (Media) (QTY)
- ☐ Other (Specify) (QTY)

CLIENT CONTACT**(LABORATORY STAFF ONLY)**

CLIENT ID NUMBER	SAMPLE LOCATION/ IDENTIFICATION	DATE	VOLUME (LITERS)	WIPE AREA	TEM	PCM	PLM	LEAD	MOLD	AIR	BULK	DUST	WATER AND OTHER	SPORE TRAP	TAPE	SWAB	Date/Time:	Contact:	By:
1	Drill Hall	3/20/13	540					X											
2	CO. A ORDERLY ROOM		546					X											
3	Blank																		
4	D.H. Treachest			100cm ²				X											
5	D.H. W-Sill							X											
6	Kobby FLOOR							X											
7	CO. A Book shelf							X											
8	Basement Dining Fridge							X											
9	Base ECO class FLOOR							X											
10	Base S Supply Corridor							X											
11	CFR Base N Range FLOOR							X											
12	CFR Base OUT ENT. Range FLOOR							X											

1. Date/Time RCV: 3/22/13 @ 1000 Via: FEDEX By (Print): _____**LABORATORY**

2. Date/Time Analyzed: _____ @ _____ By (Print): _____

Post to NGB FOIA Reading Room

BEST AVAILABLE COPY

Date: _____

FOIA Requested Record # 15-0085 (NH)

Released by National Guard Bureau

Page 1189 of 1660

**AMA Analytical Services, Inc.**

Focused on Results www.amalab.com

AIHA (#100470) NVLAP (#101143-0) NY ELAP (10920)

4475 Forbes Blvd. • Lanham, MD 20706

(301) 459-2640 • (800) 346-0961 • Fax (301) 459-2643

CHAIN OF CUSTODY(Please Refer To This
Number For Inquiries)515375
Job 2**Mailing/Billing Information:**

- Client Name: National Guard Bureau
- Address 1: 301-JH Old Bay Lane
- Address 2: Attn: NGB-ARS-IHNE
- Address 3: Havre de Grace, Maryland 21078
- Phone #: (410) 942-0273 Fax #: (410) 942-0254

Submittal Information:

- 34NS
- Teaneck
- Job #: W912K6-09-A-0003
- Contact Person: **Non-Responsive** @ phone # (410) 942-0273
- Submittal

Reporting Information (Results will be provided as soon as technically feasible):**AFTER HOURS (must be pre-scheduled)**

- ☐ Immediate Date Due: _____
☐ 24 Hours Time Due: _____
Comments: _____

- ☐ Immediate
☒ Next Day
☐ 2 Day

- ☐ 3 Day
☒ 2 Day +
Date Due: 3/29/13

- ☐ Results Required By Noon
(Every Attempt Will Be
Made to Accommodate)

REPORT TO:

- ☒ Include CCM Data Sheets with Report
Non-Responsive complianceplace.com
☐ Fax: us.army.mil
☐ Verb: us.army.mil

PCMAir - Please Indicate Filter Type:

- ☐ NIOSH 7400 (QTY)
☐ Fiberglass (QTY)

TEMAir - Please Indicate Filter Type:

- ☐ AHERA (QTY)
☐ NIOSH 7402 (QTY)
☐ Other (specify) (QTY)

PLM Bulk

- ☐ EPA 600 - Visual Estimate (QTY)
☐ EPA Point Count (QTY)
☐ NY State Friable 198.1 (QTY)
☐ Grav. Reduction ELAP 198.6 (QTY)
☐ Other (specify) (QTY)

MISC

- ☐ Vermiculite
☐ Asbestos Soil PLM (Qual) PLM (Quan) PLM/TEM (Qual) PLM/TEM (Quan)

TEM Bulk

- ☐ ELAP 198.4/Chatfield (QTY)
☐ NY State PLM/TEM (QTY)
☐ Residual Ash (QTY)

TEM Dust

- ☐ Qual. (pres/abs) Vacuum/Dust (QTY)
☐ Quan. (s/area) Vacuum D5755-95 (QTY)
☐ Quan. (s/area) Dust D6480-99 (QTY)

TEM Water

- ☐ Qual. (pres/abs) (QTY)
☐ ELAP 198.2/EPA 100.2 (QTY)
☐ EPA 100.1 (QTY)

- ☐ All samples received in good condition unless otherwise noted.
(TEM Water samples °C)

Wipe Samples

- ☐ Pb Paint Chip (QTY)
☒ Pb Dust Wipe (wipe type) 1 20 (QTY)
☐ Pb Air (QTY)
☐ Pb Soil/Solid (QTY)
☐ Pb TCLP (QTY)
☐ Drinking Water ☐ Pb (QTY) ☐ Cu (QTY) ☐ As (QTY)
☐ Waste Water ☐ Pb (QTY) ☐ Cu (QTY) ☐ As (QTY)
☐ Pb Furnace (Media) (QTY)

Biological Samples

- Collection Apparatus for Spore Traps/Air Samples: _____
Collection Media _____
☐ Spore-Trap (QTY) ☐ Surface Vacuum Dust (QTY)
☐ Surface Swab (QTY) ☐ Culturable ID Genus (Media) (QTY)
☐ Surface Tape (QTY) ☐ Culturable ID Species (Media) (QTY)
☐ Other (Specify) (QTY)

CLIENT CONTACT**(LABORATORY STAFF ONLY)**

CLIENT ID NUMBER	SAMPLE LOCATION/ IDENTIFICATION	DATE	VOLUME (LITERS)	WIPE AREA	TEM	PCM	PLM	LEAD	MOLD	AIR	BULK	DUST	WATER	SPORE TRAP	TAPE	SWAB	Date/Time:	Contact:	By:
13	CFR N Range contents	3/20/13		100 cm ²															
14	Base N Hall FLR																		
15	FCO CMOR Book Shelf																		
16	N Corridor Floor																		
17	A CD Supply Cabinet																		
18	S Corridor Floor																		
19	Reinforced Retent W-511																		
20	2 ND FLR N Corridor Floor																		
21	" 70C W-511																		
22	" Back Lounge																		
23	" S Corridor Floor																		
24	NCO Training Wall																		

LABORATORY**STAFF ONLY:**Posted to NGB FOIA Requested Record
May, 2018

- Date/Time RCVD: _____ / _____ / _____ @ _____ Via: _____ By (Print): _____ Sign: _____
- Date/Time Analyzed: _____ / _____ / _____ @ _____ By (Print): _____ Sign: _____
- Date: _____ / _____ / _____ Time: _____ Initials: _____
- Comments: _____

BEST AVAILABLE COPY

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

Released by National Guard Bureau

Page 1190 of 1660

Appendix B. Photographs



Teaneck Armory Front



Converted Firing Range Bullet Trap

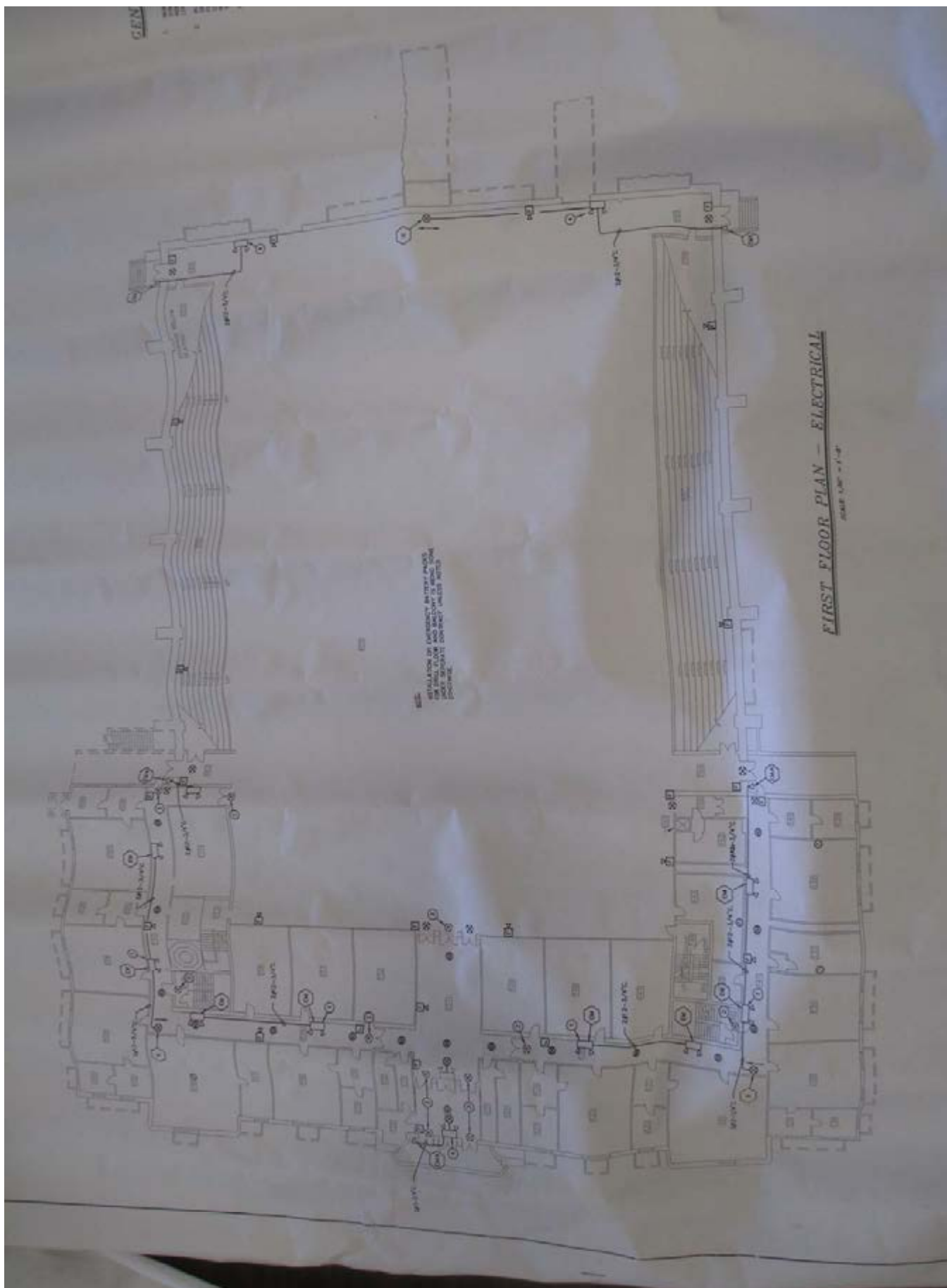


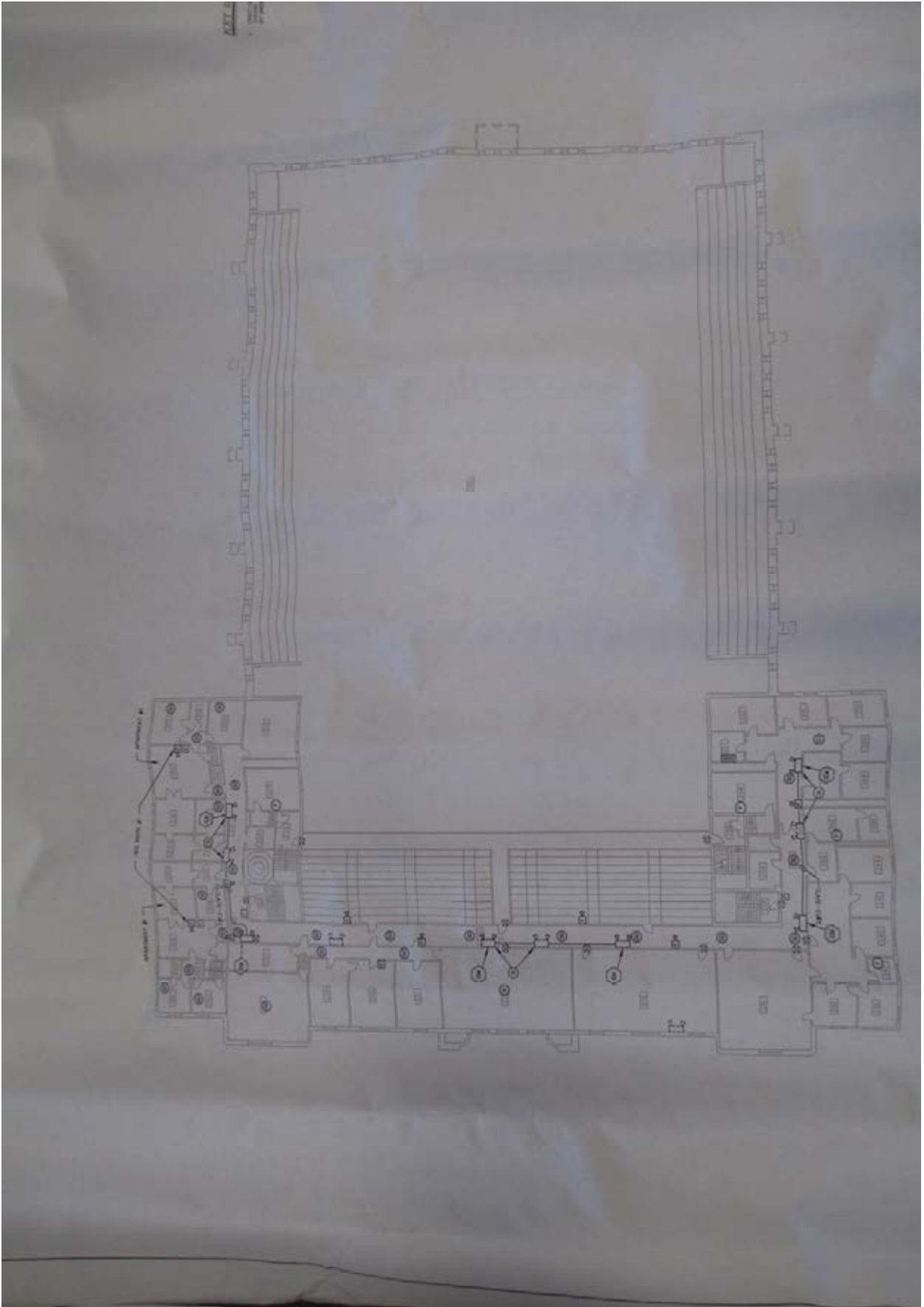
Dirty/Dusty Converted Firing Range

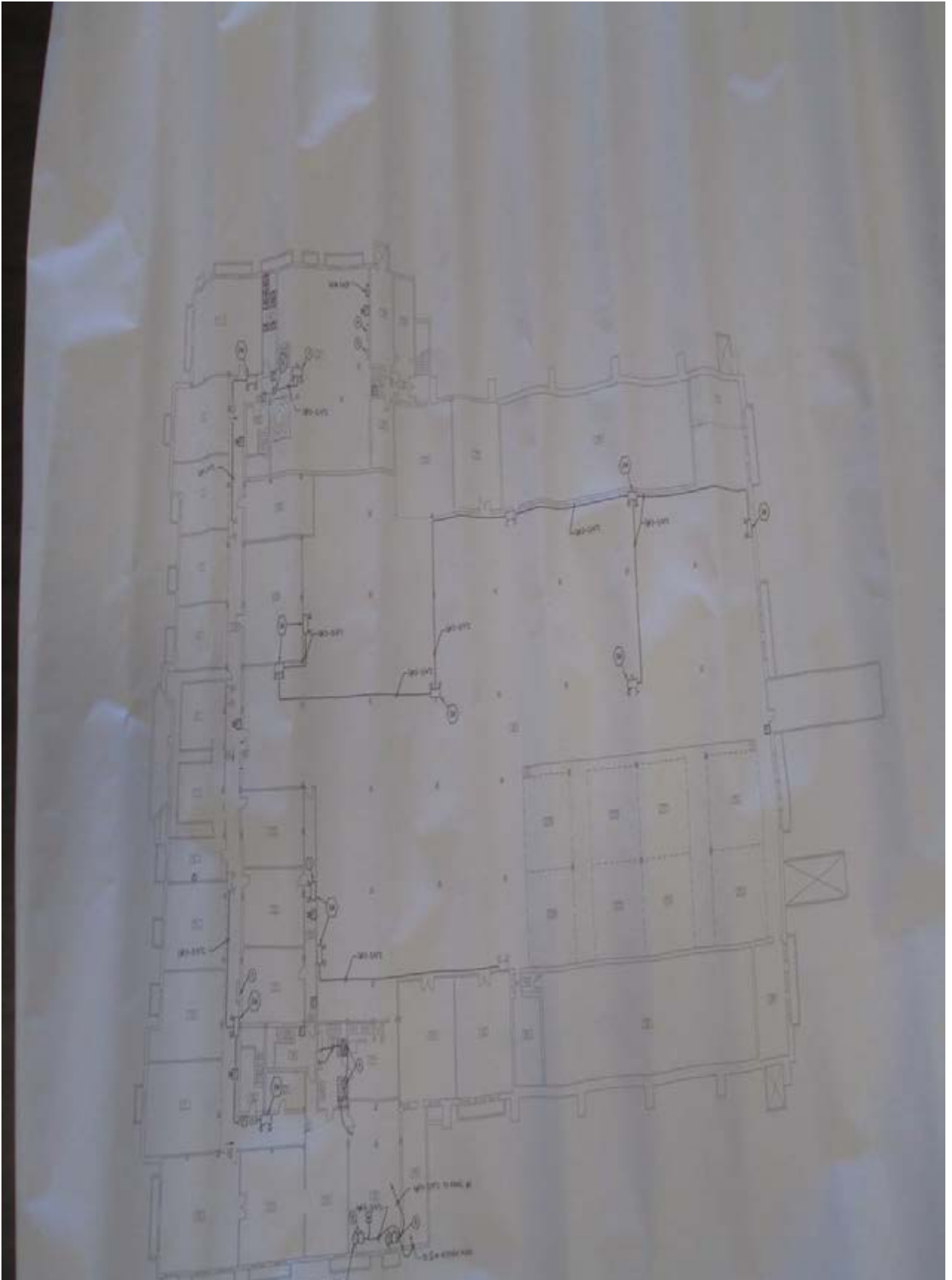


Low Light Levels in Parking/Storage Under Sports Arena

Appendix C. Floor Plan







Appendix D. References

1. Title 29 Code of Federal Regulations (CFR), Part 1910.1025, Occupational Safety and Health Administration, Occupational Exposure to Lead.
2. American Conference of Governmental Industrial Hygienists (ACGIH) – Threshold Limit Values and Biological Exposure Indices, 2011 Edition.
3. Industrial Ventilation: A Manual of Recommended Practice for Design, 27th Edition.
4. ANSI/American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), Ventilation for Acceptable Indoor Air Quality, 62.1-2010.
5. RP-1-2004, Industrial Lighting, Illuminating Engineering Society of North America/ANSI.
6. RP-7-2001, Industrial Lighting, Illuminating Engineering Society of North America/ANSI.
7. National Emission Standard Hazardous Air Pollutants (NESHAP) – The standards for asbestos are contained in 40 CFR 61.140 through 61.157.
8. National Ambient Air Quality Standards (NAAQS) - National primary ambient air quality standards for carbon monoxide 40 CFR 50.8.
9. Environmental Protection Agency (EPA) standards [40 Code of Federal Regulations (CFR) 745.227(h) (3)].
10. Derivation of Wipe Surface Screening Levels for Environmental Chemicals, the US Army Center for Health Promotion and Preventive Medicine (USACHPPM).
11. The US Army Technical Guide 277 Army Facilities Management Information Document on Mold Remediation, February 2002.
12. NG PAM 420-15 Guidelines and Procedures for Rehabilitation and Conversion of Indoor Firing Ranges, 3 Nov 06.
13. ANSI/American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), Thermal Environmental Conditions for Human Occupancy, 55-2010.

Prepared For:

National Guard Bureau
Army National Guard
Region North Industrial Hygiene Office
301 – IH Old Bay Lane
Havre De Grace, Maryland 21078

Prepared By:

URS Corporation
5 Industrial Way
Salem, New Jersey 03079

**FINAL
INDUSTRIAL HYGIENE SURVEY REPORT
TOM'S RIVER ARMORY
TOM'S RIVER, NEW JERSEY**

December 2005
PN: 39741509

Non-Responsive



Office Manager

Non-Responsive



Project Manager

TABLE OF CONTENTS

Section	Page
1.0 SUMMARY	1
2.0 ADMINISTRATIVE AREA	2
2.1 OPERATION DESCRIPTION.....	2
2.2 CHEMICAL AND PHYSICAL AGENTS SAMPLED.....	2
2.2.1 Relative Humidity.....	2
2.2.2 Carbon Dioxide.....	3
2.2.3 Carbon Monoxide	3
2.2.4 Lighting	4
2.2.5 Lead.....	4
2.3 VENTILATION SYSTEM EVALUATION	5
2.4 NOISE MEASUREMENTS.....	5
2.5 PERSONAL PROTECTIVE EQUIPMENT.....	5
2.6 INTERPRETATION OF RESULTS.....	5
3.0 FORMER INDOOR FIRING RANGE	7
3.1 OPERATION DESCRIPTION.....	7
3.2 CHEMICAL AND PHYSICAL AGENTS SAMPLED.....	7
3.2.1 Lead.....	7
3.3 VENTILATION SYSTEM EVALUATION	7
3.4 NOISE MEASUREMENTS.....	7
3.5 PERSONAL PROTECTIVE EQUIPMENT.....	7
3.6 INTERPRETATION OF RESULTS.....	7
4.0 DRILL HALL.....	8
4.1 OPERATION DESCRIPTION.....	8
4.2 CHEMICAL AND PHYSICAL AGENTS SAMPLED.....	8
4.2.1 Lighting.....	8
4.2.2 Lead.....	8
4.3 VENTILATION SYSTEM EVALUATION	9
4.4 NOISE MEASUREMENTS.....	9
4.5 PERSONAL PROTECTIVE EQUIPMENT.....	9
4.6 INTERPRETATION OF RESULTS.....	9
5.0 BOILER ROOM.....	10
5.1 OPERATION DESCRIPTION.....	10
5.2 CHEMICAL AND PHYSICAL AGENTS SAMPLED.....	10
5.2.1 Lighting.....	10
5.3 VENTILATION SYSTEM EVALUATION	10
5.4 NOISE MEASUREMENTS.....	10
5.5 PERSONAL PROTECTIVE EQUIPMENT.....	10
5.6 INTERPRETATION OF RESULTS.....	11
6.0 SAFETY AND INDUSTRIAL HYGIENE PROGRAMS	12
6.1 CONFINED SPACES.....	12
6.2 HEARING CONSERVATION	12

TABLE OF CONTENTS (Cont)

6.3	RESPIRATORY PROTECTION	12
6.4	HAZARD COMMUNICATION.....	12
6.5	PERSONAL PROTECTIVE EQUIPMENT.....	12
7.0	REFERENCES	13

APPENDICES

Appendix A Shop Drawing

Appendix B Personnel List

Appendix C Hazardous Materials List

Appendix D Analytical Results

Appendix E Training Certificates

Appendix F Photographs

Appendix G Recommendations for Surface Lead Dust in Armories

FINDINGS AND RECOMMENDATIONS

Findings	Recommendation	Risk Assessment Code
Ergonomic		
Computer workstations were observed with fixed chairs, armrests, keyboards and monitors.	Ergonomic issues with the desks and chairs should be corrected by fitting the workplace to the worker (Department of the Army Pamphlet 40-21, Chapter 4, Page 7, Section 4-3)	RAC 3
Lighting		
On the day of the survey, the illumination in the administrative area was inadequate in most offices.	Increase lighting in the administrative areas. While work is in progress, the administrative area shall be lighted by at least the minimum lighting intensities (ANSI/IESNA RP-1-04)	RAC 4
Asbestos		
Damaged floor tile containing greater than 1% asbestos is present throughout the Dining facility.	Remove and replace damaged asbestos-containing floor tile. Work should be completed by personnel trained in accordance with federal regulations (OSHA 29 CFR 1910.1001(k)(1))	RAC 3
Exposed ends or damaged asbestos-containing pipe insulation were present in the drill hall.	Repair or remove exposed ends or damaged asbestos-containing pipe insulation. Work should be completed by personnel trained in accordance with federal regulations (OSHA 29 CFR 1910.1001(k)(2))	RAC 3
Asbestos		
No site-specific asbestos operations and maintenance plan available.	Develop a site specific asbestos operations and maintenance plan to manage asbestos-containing materials by labeling of asbestos (OSHA 29 CFR 1910.1001 (j)(4)); employee information and training (OSHA 29 CFR 1910.1001 (j)(7)); housekeeping (OSHA 29 CFR 1910.1001 (k)); medical surveillance (OSHA 29 CFR 1910.1001 (l)(1)); record keeping (OSHA 29 CFR 1910.1001 (m)(1))	RAC 3

FINDINGS AND RECOMMENDATIONS (Cont)

Hazard Communication		
Chemical Inventory sheet did not list paints and thinners.	Label all secondary containers unless intended for immediate use (OSHA 1910.1200 (f)(4))	RAC 4
No site-specific hazard communication plan available.	Develop a site specific hazard communication plan to manage hazardous materials (OSHA 29 CFR 1910.1200 (e))	RAC 4
Mold		
Watermarks were observed throughout. Mold growth could become an issue if left unattended.	Determine and repair source of water. Replace water damaged building materials and implement a moisture management program to provide direction for future water incursions (Best management practice)	RAC 4

1.0 SUMMARY

At the request of the National Guard Bureau Region North Industrial Hygiene Office (NGB), URS Corporation (URS) conducted an industrial hygiene survey at the Tom's River Armory located at 1200 Whitesville Road in Tom's River, New Jersey 08755. This report includes an executive summary and a description of the site activities and findings and a list of conclusions and recommendations.

On March 17, 2005, Mr. **Non-Responsive** an industrial hygienist with URS, conducted a site visit to the Armory in Tom's River, New Jersey. The purpose of this site visit was to conduct an industrial hygiene survey, which included the collection of air samples, bulk samples, lighting measurements, and a review of site health and safety procedures. Armorer **Non-Responsive** of the New Jersey ARNG was Mr. **Non-Responsive** site contact for this survey.

This armory is a single-story building, with an attached drill hall, that is constructed primarily of brick and mortar. This facility is built on a concrete slab, with a flat, tar and pebble roof. The building was constructed in 1955 with additions in 1987. A shop layout drawing of the facility, which shows the locations where measurements were made during this survey, is contained in Appendix A.

2.0 ADMINISTRATIVE AREA

2.1 Operation Description

This building area contains multiple offices located throughout the building with desks and computer workstations. Computer workstations were assessed during the walkthrough for ergonomic issues. Computer workstation chairs could not be adjusted for height, the armrests were in a fixed position and keyboards in offices could not be adjusted. Computer monitors could not be adjusted for different individuals working at the workstations. If more than one person is using that station, then proper adjustments need to be made to accommodate each person. No complaints were made concerning workstations at the time of this survey.

Paints and thinners were located in the janitor's closet without any hazard communication data.

Asbestos-containing floor tile was in fair condition, with cracks in the mess hall.

2.2 Chemical and Physical Agents Sampled

On the day of the survey, relative humidity, carbon dioxide and carbon monoxide measurements were made in the drill hall, Dining facility, boiler room, daycare, maintenance area, 112th field artillery office 105, NCO club 118, 1st sergeants office 123, classroom and outside. These readings were all measured using a TSI Q-Trak TM (Model 8551). No indoor air quality complaints were received during this survey.

2.2.1 Relative Humidity

Relative humidity levels on the day of the survey ranged from 20.9 –22.6 % throughout the various building areas with an average of 21.6%. This average reading was below the recommended comfort range of 30.0% to 60.0% set by the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. (ANSI / ASHRAE Standard 55-2004).

2.2.2 Carbon Dioxide

Carbon dioxide concentrations ranged from a low of 450 to a spike of 576 parts per million (ppm), with an average of 504 ppm. The outside reading was 322 ppm.

Carbon dioxide is a normal constituent of the atmosphere and ranges from about 250 to 450 ppm. The major source of excess carbon dioxide in the indoor environment is people. Other sources can include open-flame heaters, fermentation processes, and motor vehicles. Carbon dioxide itself is not normally a cause of indoor air quality problems because concentrations must exceed 5,000 to 10,000 ppm before health effects such as headache, drowsiness, and increased respiration are noted. Typically, carbon dioxide is used as an indicator of the adequacy of fresh air intake. As the concentration of carbon dioxide increases, so do the background levels of other air contaminants. ASHRAE (62.1-2004) recommends that levels of carbon dioxide be maintained below 700 ppm above background level. Given a background level of 322 ppm on the day of the survey, the ASHRAE limit would be 1022 ppm.

2.2.3 Carbon Monoxide

Carbon monoxide concentrations ranged from 0 to 0.6 ppm on the day of the survey. ASHRAE recommends that average carbon monoxide concentrations not exceed 9 ppm. Typical average concentrations found in commercial buildings range from 0 to 6 ppm. The measured levels were below the ASHRAE guideline (62.1-2004) for indoor environments. Carbon monoxide was measured using a TSI Q-Track (Model 8551).

Key sources of carbon monoxide within indoor environments may include internal combustion engines, motor vehicle and forklift exhaust, tobacco smoke, space heaters, and improperly adjusted oil or gas burners. Health effects from exposure to elevated concentrations of carbon monoxide may include fatigue, impairment of visual acuity, irregular heartbeat, headache, nausea, and confusion.

2.2.4 Lighting

Lighting in the administrative area was measured using a Sper Scientific Ltd. Light Meter (Model 840020C). Table 2-1 below shows lighting measurements and the recommended lighting requirement (ANSI / IESNA RP -1-04 American National Standard Practice for Office Lighting).

Table 2-1
Lighting Measurements and Recommended Lighting Requirements

Location	Function	Measured Lighting (lux / foot candles)	Recommended Minimum Lighting (lux / foot candles)
Dining Facility	Cafeteria	484 / 45.0	200 / 20
Daycare	Daycare	392 / 36.4	200 / 20
Maintenance	Maintenance	266 / 24.7	300 / 30
112 th Field Artillery Office (105)	Administrative Duties	270 / 25.0	500 / 50
NCO Club (188)	Entertainment	264 / 24.5	200 / 20
1 st Sergeant's Office (123)	Administrative Duties	247 / 22.9	500 / 50
Classroom	Classroom	819 / 76.1	500 / 50

On the day of the survey the illumination in the administrative areas, and maintenance areas were inadequate.

2.2.5 Lead

Wipe testing for lead dust was conducted in the drill hall using Ghost Wipes™, which meet ASTM E 1792 standards. The analytical report from AMA is contained in Appendix D. Table 2-2 below shows the results of the lead sampling.

Table 2-2
Levels of Lead Dust Found in the Drill Hall

Sample Location	URS Sample Number	Area Wiped (ft ²)	Result (µg/ft ²)	Maximum Surface Contamination Level (µg/ft ²)
Room #112 – Mess Hall	0317-01	0.108	23	200
Blank	0317-06	N/A	0.94 µg	N/A

2.3 Ventilation System Evaluation

Not applicable to this operation.

2.4 Noise Measurements

Not applicable to this operation.

2.5 Personal Protective Equipment

Not applicable to this operation.

2.6 Interpretation of Results

GENERAL: In general, the administrative area was neat and orderly. The fire exits and extinguishers were marked and easily accessible.

ERGONOMICS: The ergonomic issues with regard to the desks, chairs and monitors should be corrected by fitting the workplace to the workers.

LIGHTING: On the day of the survey the illumination in the administrative area was inadequate in most offices. URS recommends increasing the area lighting or supplement task lighting for each workstation in the administrative areas. While work is in progress, the administrative area must be lighted by at least the minimum light intensities.

LEAD: The dust wipe sample collected from the Administrative area was found to contain below 200 micrograms/ square foot. This is the level recommended by the NGB (appendix G). Currently, there are no federal or state regulations that require removal of these materials prior to building demolition or renovation. The U.S. Occupational Safety and Health Administration (OSHA) regulations, 29 CFR 1910.1025 and 29 CFR 1926.62 are designed to protect workers potentially exposed to elevated airborne levels of lead from lead-based paint. The NGB has prepared a memorandum titled "Recommendations for Surface Lead Dust in Armories" which is provided in Appendix G.

ASBESTOS: Damaged asbestos-containing floor tile was observed throughout this area. It is recommended that the cracked tile be replaced with new, non-asbestos tile by an appropriately trained technician.

HAZARD COMMUNICATION: Unlisted containers of paints and thinners were observed in the janitor's closet.

3.0 FORMER INDOOR FIRING RANGE

3.1 Operation Description

The indoor firing range has been dismantled and this building area is now primarily used for storage.

3.2 Chemical and Physical Agents Sampled

3.2.1 Lead

Wipe testing for lead was not conducted in the former firing range. At the time of the inspection this area was locked and keys could not be located.

3.3 Ventilation System Evaluation

Not applicable to this operation.

3.4 Noise Measurements

Not applicable to this operation.

3.5 Personal Protective Equipment

Not applicable to this operation.

3.6 Interpretation of Results

LEAD: Lead sampling was not performed in this area.

4.0 DRILL HALL

4.1 Operation Description

The drill hall is a 5,000 square foot area with about a 30-foot high ceiling used for assembling personnel and storing vehicles. The walls are constructed of cinder blocks with a concrete floor. At the time of the industrial hygiene survey children were using the armory.

One damaged pipe fitting was observed in the Drill Hall.

4.2 Chemical and Physical Agents Sampled

4.2.1 Lighting

Lighting in the drill hall was measured using a Sper Scientific Ltd. Light Meter (Model 840020C). Table 4-1 below shows lighting measurements and the recommended lighting requirement (ANSI / IESNA RP -1-04 American National Standard Practice for Office Lighting).

Table 4-1
Lighting Measurements and Recommended Lighting Requirements

Location	Function	Measured Lighting (lux / foot candles)	Recommended Minimum Lighting (lux / foot candles)
Drill Floor	Exercises	561 / 52.1	200 / 20

4.2.2 Lead

Wipe testing for lead dust was conducted in the drill hall using Ghost Wipes™, which meet ASTM E 1792 standards. The analytical report from AMA is contained in Appendix D. Table 4-2 below shows the results of the lead sampling.

Table 4-2
Levels of Lead Dust Found in the Drill Hall

Sample Location	URS Sample Number	Area Wiped (ft ²)	Result (µg/ft ²)	Maximum Surface Contamination Level (µg/ft ²)
Drill Hall-Floor, outside maintenance	0317-02	0.108	42	200
Drill Hall-Floor Center	0317-03	0.108	41	200
Drill Hall-Floor, Outside Fmr. Firing Range	0317-04	0.108	50	200
Drill Hall-Floor, Outside Locker Storage	0317-05	0.108	56	200
Blank	0317-06	N/A	0.94 µg	N/A

Sample numbers and locations can be found on the site map in Appendix A.

4.3 Ventilation System Evaluation

Not applicable to this operation.

4.4 Noise Measurements

Not applicable to this operation.

4.5 Personal Protective Equipment

Not applicable to this operation.

4.6 Interpretation of Results

LEAD: Wipe samples collected from the drill hall for lead were found to be below allowable limits and require no further action at this time. The NGB has prepared a memorandum titled "Recommendations for Surface Lead Dust in Armories" which is provided in Appendix G.

ASBESTOS: The asbestos pipe insulation was observed to have (1) damaged fitting, (Photo # 0775). Repairs should be performed by an appropriately trained technician.

5.0 BOILER ROOM

5.1 Operation Description

The boiler room is a mechanical space constructed of cinder block walls with a concrete floor, containing a furnace and associated piping. Asbestos-containing pipe insulation was observed in the boiler room and appeared to be in good condition.

5.2 Chemical and Physical Agents Sampled

5.2.1 Lighting

Lighting in the boiler room was measured using a Sper Scientific Ltd. Light Meter (Model 840020C). Table 5-1 below shows lighting measurements and the recommended lighting requirement (ANSI / IESNA RP -1-04 American National Standard Practice for Office Lighting).

Table 5-1
Lighting Measurements and Recommended Lighting Requirements

Location	Function	Measured Lighting (lux / foot candles)	Recommended Minimum Lighting (lux / foot candles)
Boiler Room	Boiler Room	350 / 32.5	100 / 10

5.3 Ventilation System Evaluation

Not applicable to this operation.

5.4 Noise Measurements

Not applicable to this operation.

5.5 Personal Protective Equipment

Not applicable to this operation.

5.6 Interpretation of Results

ASBESTOS: Asbestos-containing pipe insulation in the boiler room was observed to be in good condition (Photos # 0776-75).

6.0 SAFETY AND INDUSTRIAL HYGIENE PROGRAMS

6.1 Confined Spaces

No safety program was found regarding confined spaces. No training records were found on site. A confined spaces program is not required for this site.

6.2 Hearing Conservation

No safety program was found regarding hearing conservation. No training records were found on site. A hearing conservation program is not required for this site.

6.3 Respiratory Protection

No safety program was found regarding respiratory protection. No training records were found on site. A respiratory protection program is not required for this site.

6.4 Hazard Communication

No program was found regarding hazard communication. No training records were found on site. A site-specific hazard communication program is required for this site and should include communication of hazards to employees, management of material safety data sheets, chemical labeling and spill protection.

6.5 Personal Protective Equipment

No safety program was found regarding personal protective equipment. No training records were found on site. A personal protective equipment program is not required for this site.

7.0 REFERENCES

American National Standards Institute

ANSI/IESNA RP-1-04: American National Standard Practice for Office Lighting

American Society of Heating Refrigerating and Air-Conditioning Engineers

ANSI/ASHRAE Standard 55-2004: Thermal Environmental Conditions for Human Occupancy

ANSI/ASHRAE Standard 62.1-2004: Ventilation for Acceptable Indoor Air Quality

Army Corps of Engineers

Safety and Health Requirements Manual EM 385-1-1 November 2003

Department of the Army

Ergonomics Program Pamphlet 40-21 (15 August 2003)

Policy and Responsibilities For Inspection, Evaluation and Operation of Army National Guard Indoor Firing Ranges (National Guard Regulation 385-15 30, 22 APR 96)

Department of Defense

DoD Hearing Conservation Program Standard 6055.12 April 1996

Creating an Ideal Workstation: A Step-by-Step Guide

U. S. Environmental Protection Agency

Asbestos Hazard Emergency Response Act (40 CFR Part 763)

National Emissions Standards for Hazardous Pollutants (40 CFR Part 61)

U. S. Housing and Urban Development

Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing (1995, 1997)

U. S. Occupational Safety and Health Administration

Standard for General Industry: 29 CFR 1910

December 22, 2005

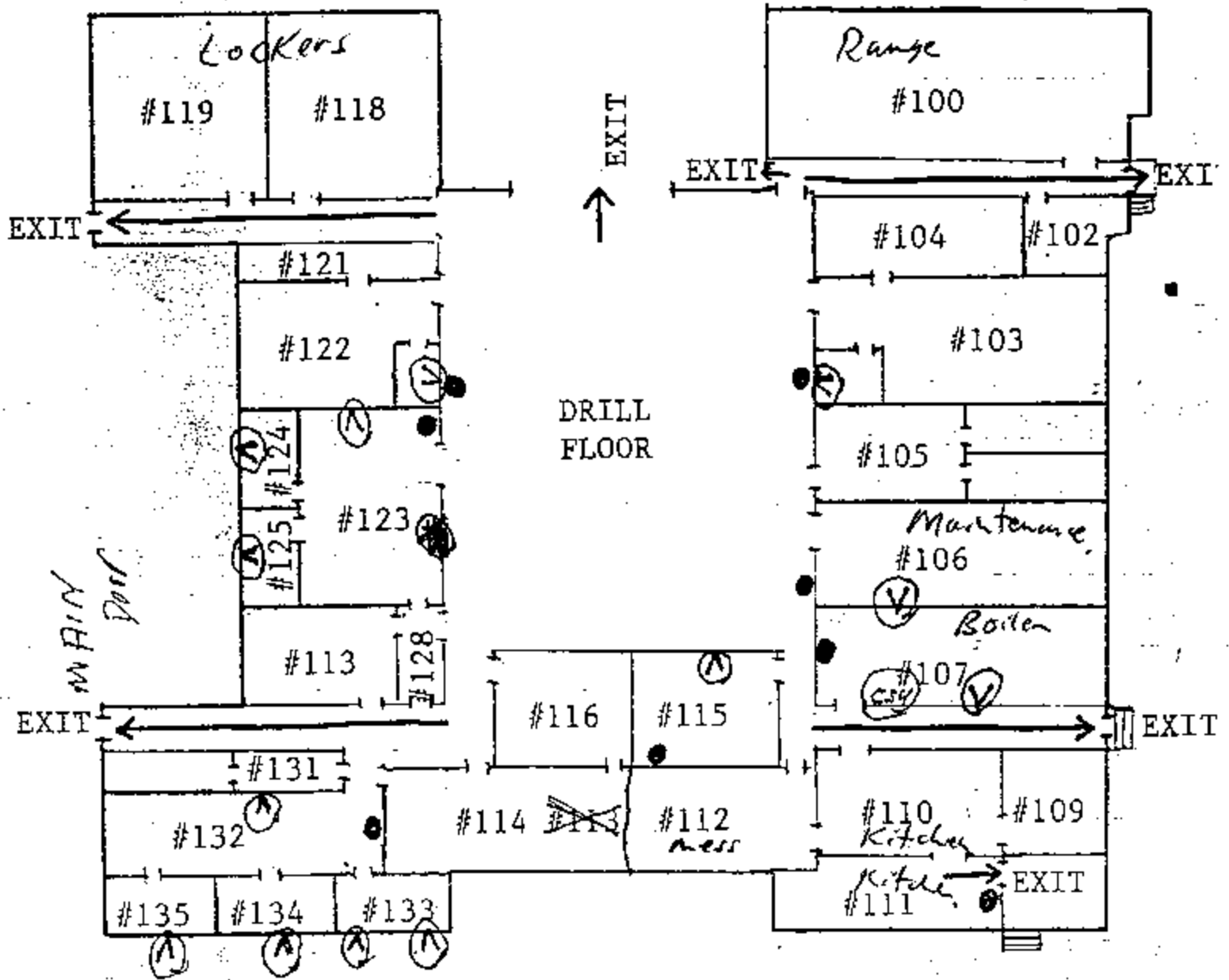
PN: 39741509 J:\Army National Guard\39741509 - Fort S. River, NJ\Reports\T.M.'s River Army - Reviewed rev 2.doc

URS

13

APPENDIX A
SHOP DRAWING

FIRE EXIT PLAN



● FIRE EXTINGUISHER LOCATIONS

→ FIRE EXIT LOCATIONS

A = JACK

6 PHONES

APPENDIX B
PERSONNEL LIST

BEST AVAILABLE COPY

NEW JERSEY ARMY NATIONAL GUARD

Battery C 3rd Battalion 112th Field Artillery

1200 Whitesville Road

Toms River, New Jersey 08753-4130

Non-Responsive



SFC, FA, NJARNG

Readiness NCO/Station Commander

APPENDIX C
HAZARDOUS MATERIALS LIST

BEST AVAILABLE COPY

NOT PROVIDED

APPENDIX D
ANALYTICAL RESULTS

CERTIFICATE OF ANALYSIS

Client: National Guard Bureau
Address: 301-111 Old Bay Lane, Attn: NGB-AVN-SI, State Military Reservation
Havre de Grace, Maryland 21078
Job Name: Armory
Job Location: Toms River, NJ
Job Number: Not Provided
P.O. Number: BPA #W912K6-04-A0002
Chain Of Custody: 128484
Date Analyzed: 7/1/2004
Person Submitting: [REDACTED]
Report Date: 22-Dec-05

Attention: [REDACTED] Page 1 of 1

Summary of Atomic Absorption Analysis for Lead

AMA Sample Number	Client Sample Number	Analysis Type	Sample Type	Air Volume (L)	Area Wiped (ft ²)	Reporting Limit	Final Result	Comments
0449186	0317-01	Furnace	Wipe	****	0.108	2.79 ug/ft ²	23 ug/ft ²	
0449187	0317-02	Furnace	Wipe	****	0.108	13.94 ug/ft ²	42 ug/ft ²	
0449188	0317-03	Furnace	Wipe	****	0.108	13.94 ug/ft ²	41 ug/ft ²	
0449189	0317-04	Furnace	Wipe	****	0.108	13.94 ug/ft ²	50 ug/ft ²	
0449190	0317-05	Furnace	Wipe	****	0.108	13.94 ug/ft ²	56 ug/ft ²	
0449191	0317-06	Furnace	Wipe Blank	****	N/A	0.30 ug	0.94 ug	

Analysis Method for Flame: Air, Wipes, Paints, and Soil/Solids: EPA 600/R-93/200(M)-7420; Water: SM-3111B
Analysis Method For Furnace: Air, Wipes, Paints, and Soil/Solids : EPA 600/R-93/200(M)-7421; Water: SM-3113B

N/A = Not Applicable mg/Kg = parts per million (ppm) by weight mg/L = parts per million (ppm)

%Pb = percent lead by weight ug = micrograms ug/L = parts per billion (ppb)

Note: All results have two significant digits. Any additional digits shown should not be considered when interpreting the result.

Non-Responsive

Analyst:

Technical Manager:

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public and these Laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from us. Sample types, locations and collection protocols are based upon the information provided by the persons submitting them and, unless collected by personnel of these Laboratories, we expressly disclaim any knowledge and liability for the accuracy and completeness of this information. Residual sample material will be discarded in accordance with the appropriate regulatory guidelines, unless otherwise requested by the client. NVLAP Accreditation applies only to polarized light microscopy of bulk samples and transmission electron microscopy of AHERA air samples. This report must not be used to claim, and does not imply product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government. All rights reserved. AMA Analytical Services, Inc.

An AIHA (#8863), NVLAP (#101143), & New York ELAP (#10920) Accredited Laboratory
4475 Forbes Blvd. • Lanham, MD 20706 • (301) 459-2640 • Toll Free (800) 346-0961 • Fax (301) 459-2643

APPENDIX E
TRAINING CERTIFICATES

Certificate of Training

Non-Responsive

For successful completion of an 8 Hour, 1 Day
Asbestos Inspector & Management Planner
Annual Refresher Training

MARCH 25, 2003

This training was approved and given in accordance with
 Regulations for Connecticut State Agencies
 RCSA 20-440-1-9 and RCSA 20-441 and meets the
 requirements of the EPA Revised MAP under TSCA Title II of 4/4/94

Presented by

Mystic Air Quality Consultants, Inc.
1204 North Road, Groton, CT 06340 (800) 247-7746

Certificate Number: IMPR10543

Exam Grade: 100%
 Exam Date: 03/25/2003

Expiration Date: 03/25/2004

Non-Responsive

4, CSP, RS

Training Director

APPENDIX F
PHOTOGRAPHS

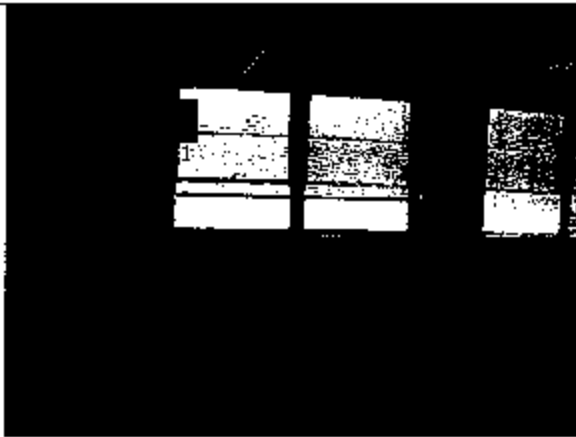


Photo 0759: Room 112 - Wipe sample 0317-01 (window sill)

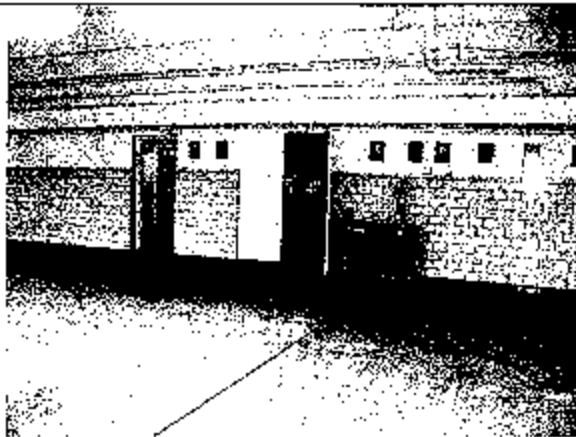


Photo 0760: Drill Hall - Wipe sample 0317-02



Photo 0761: Drill Hall - Wipe sample 0317-03

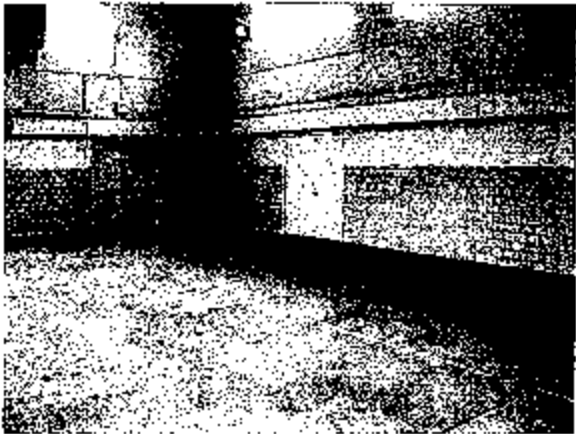


Photo 0762: Drill Hall - Wipe sample 0317-04

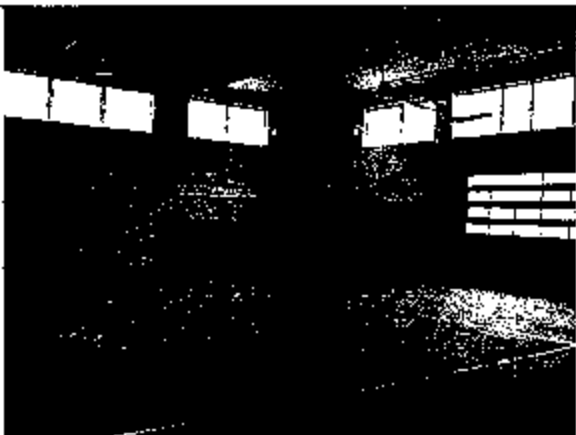


Photo 0763: Drill Hall - Wipe sample 0317-05

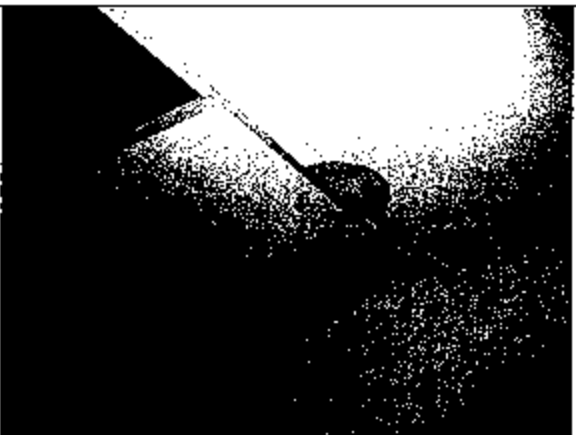


Photo 0770: Drill Hall - Water damage

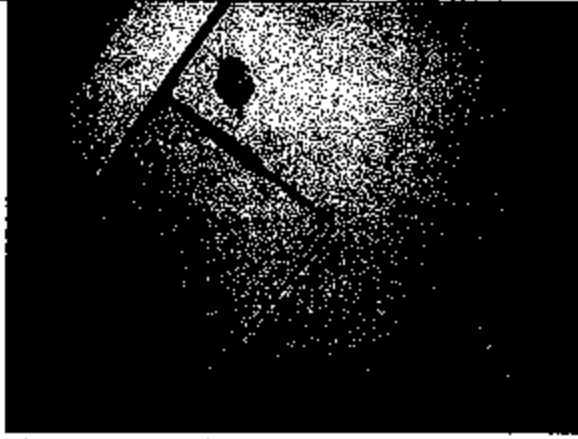


Photo 0771: Drill Hall -- Water damage

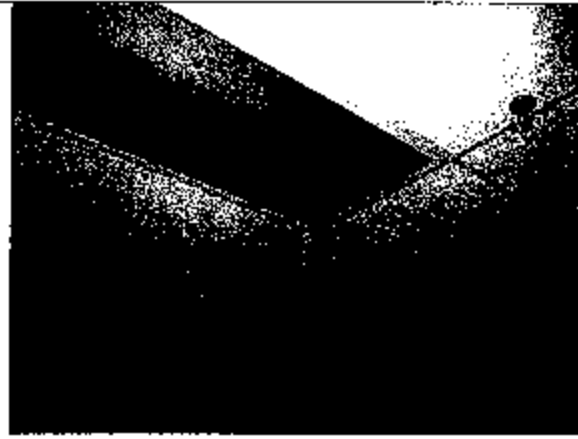


Photo 0773: Front Foyer -- Water damage

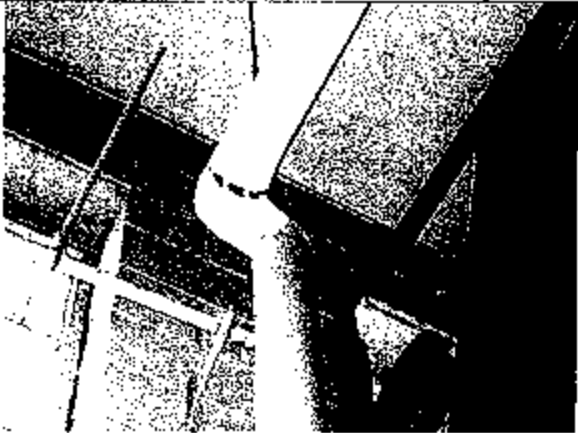


Photo 0775: Drill Hall -- Damage asbestos-containing pipe insulation

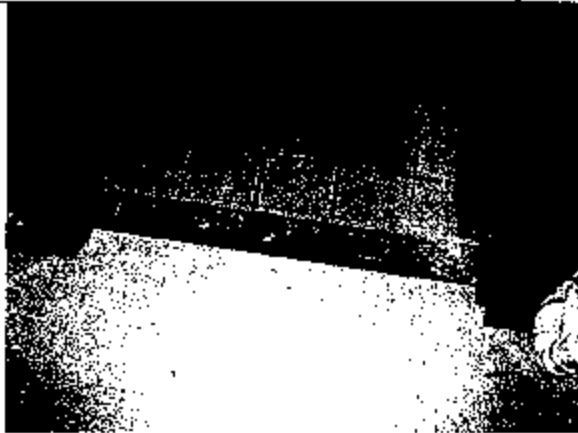


Photo 0778: Mess Hall -- Damaged asbestos-containing floor tile

APPENDIX G
RECOMMENDATIONS FOR SURFACE LEAD DUST IN ARMORIES

Subject: Recommendations for Surface Lead Dust in Armories

1. In armories that do not contain childcare facilities, the National Guard Bureau (NGB) Region North Industrial Hygiene Office recommends cleaning the areas in which sample results are greater than 200 micrograms per square foot ($\mu\text{g}/\text{ft}^2$). If a special function will be held in which children will be present in this facility, consider thoroughly cleaning the areas that will be accessible to children prior to the function. This guidance is based on professional judgment, risk assessments, adaptation of Occupational Safety and Health Administration (OSHA) guidance, and feasibility of cleaning to a certain level.

a. Environmental Protection Agency (EPA) standards (40 Code of Federal Regulations (CFR) 745.227(h)(3)) are not directly applicable because they are criteria for dust-lead hazards developed for floors ($40 \mu\text{g}/\text{ft}^2$) and windowsills ($250 \mu\text{g}/\text{ft}^2$) in residential dwellings and child occupied facilities. A child occupied facility is defined as a building, or portion of a building, constructed prior to 1978, visited regularly by the same child, 6 years of age or under, on at least two different days within any week (Sunday through Saturday period), provided that each day's visit lasts at least 3 hours and the combined weekly visit lasts at least 6 hours, and the combined annual visits last at least 60 hours. Most of the wipe samples in armories were collected in undisturbed areas and therefore, results are worst case scenarios and do not correlate to these standards.

b. OSHA has no specific requirement for work area surfaces. The lead standard (29 CFR 1910.1025(h)) states that all surfaces shall be maintained as free as practicable of accumulations of lead dust. In workplaces where lead dust is generated, surface levels may be much higher, but personnel exposures can be controlled by limiting airborne lead levels and following good cleanup and hygienic practices.

c. OSHA used to cite a level of $200 \mu\text{g}/\text{ft}^2$ in their Technical Manual and 29 CFR 1926.62 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.

d. In a report titled Derivation of Wipe Surface Screening Levels for Environmental Chemicals, the US Army Center for Health Promotion and Preventive Medicine (USACHPPM) has determined that $200 \mu\text{g}/\text{ft}^2$ is a safe surface contamination level. They have also applied these standards as the decontamination levels for surfaces in administrative offices.

e. It should be noted that levels above these recommendations do not necessarily mean there is a significant hazard to workers who are following good cleaning and hygienic practices since there is no correlation between wipe and air samples. Rather, we recommend these levels as a precautionary measure.

2. The NGB Occupational Health Branch is developing guidance for armories that are used as childcare facilities. All states will receive this guidance when it is completed. In the interim, we recommend the following actions:

a. Clean all areas that will be accessible to children to the EPA dust-lead standard for children 6 years of age or under ($40 \mu\text{g}/\text{ft}^2$ on floors and $250 \mu\text{g}/\text{ft}^2$ on windowsills).

b. Refer to the local authorities' regulations since they can be more stringent than federal regulations.

c. Post signs in the area to inform people of the presence of lead dust and its effects.

d. If soldiers clean weapons in the facility change the policy so that they cannot clean their weapons in the facility, or if they are allowed to clean their weapons indoors, they must clean the area by wet wiping and mopping the area when they are done.

e. If the paint is peeling, contact the state Environmental Office to test for lead content and provide recommendations.

3. Air samples collected on individuals in the armory were well below OSHA's permissible exposure limit for lead (29 CFR 1910.1025(c)) of $0.05 \text{ mg}/\text{m}^3$ averaged over an 8-hour day. Therefore, based on these conditions there is currently no overexposure to personnel from lead dust in this building.



1215 Manor Drive, Suite 205
Mechanicsburg, PA 17055
Phone: 717.590.7031
Fax: 717.590.7936
www.complianceplace.com

Industrial Hygiene Survey Report

National Guard Facility
Toms River Readiness Center

Prepared For: National Guard Bureau Region North IH
301-IH Old Bay Lane
Havre de Grace, MD 21078

Survey Location: Toms River Readiness Center
1200 Whitesville Road
Toms River, NJ 08755

Prepared By: Compliance Management International
1215 Manor Drive
Suite 205
Mechanicsburg, PA 17055

Survey Date: February 5, 2013

Report Date: March 31, 2013

Non-Responsive

Manager, Industrial Hygiene Services

Table of Contents

Section 1.0 Executive Summary	3
Section 2.0 Operation Description & Observations.....	4
Section 3.0 Lead Testing.....	5
Section 4.0 Lighting.....	7
Section 5.0 Indoor Air Quality.....	8
Section 6.0 Ventilation Survey	10
Section 7.0 Suspect Asbestos Containing Building Materials.....	11
Section 8.0 Equipment	12
Section 9.0 Limitations	13
Appendix A. Laboratory Analysis Report	14
Appendix B. Photographs	15
Appendix C. Floor Plan	16
Appendix D. References	17

Section 1.0 Executive Summary

An industrial hygiene survey was conducted on February 5, 2013, at the Toms River Readiness Center located at 1200 Whitesville Road Toms River, NJ 08755. The survey was performed by Mr. Non-Responsive

1. Lead surface and air samples were collected. Surface levels of lead exceeded 200 micrograms per square foot (ug/ft^2) in two locations. See Section 3.0 for sampling results.
2. Lighting levels met the American National Standard Institute/Illuminating Engineering Society of North America (ANSI/IESNA) recommended guideline in all areas tested. See Section 3.0 for sampling results.
3. Indoor air quality (IAQ) parameters of temperature, relative humidity, carbon monoxide and carbon dioxide (ventilation) were evaluated during the assessment.
 - a. Relative humidity levels were less than the US Army Center for Health Promotion and Preventive Medicine (USACHPPM) TG 277 recommended guideline of 30-60% in two indoor locations evaluated.
 - b. Temperature levels were less than the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) recommended guideline of 68-79 °F in two indoor locations evaluated.

See Section 5.0 for detailed sampling results

Section 2.0 Operation Description & Observations

The Toms River Readiness Center is mainly an administrative facility with a drill hall, offices, classroom, and converted firing range/storage areas. There were approximately 2 full-time employees stationed at this facility at the time of this survey.

The building was initially constructed in 1987. The building is one story with a brick exterior. The interior walls are concrete block, metal, or drywall. The floors are concrete, vinyl floor tile, terrazzo and carpet.

There is a central Heating, Ventilation, and Air-Conditioning (HVAC) system that supplies forced hot or cold air via a ductwork system. The HVAC system was reported to be new.

The area of the building that was once a firing range has been converted into a storage area. No firing range components remain. It was reported that lead abatement had been conducted in the firing range in the past.

It was reported the facility has a new roof.

There is no child-care facility in the building, although a child play room is present.

Overall housekeeping practices were adequate.

No ergonomic concerns were reported. Office areas have computer work stations. Work stations appeared properly designed. Personnel had supportive chairs.

Sgt. [Non-Responsive] and Sgt. [Non-Responsive] from the Army National Guard Safety office were onsite during the survey.

Section 3.0 Lead Testing

Due to the age of the building there is little potential for lead based paint to be present. However, the building does contain an area that was once an indoor firing range. This is a potential source of lead contamination. Various surfaces within the facility were screened for lead using surface/wipe samples. Surface/wipe samples were collected in accordance with the American Society for Testing and Materials (ASTM) E 1792 protocols. Air samples were collected using 0.8 um mixed cellulose ester (MCE) filter cassettes attached to low volume air sampling pumps. Blank samples were submitted to the laboratory for quality control purposes. Samples were sent to AMA Analytical Services, Inc., in Lanham, Maryland, for lead analysis using Environmental Protection Agency (EPA) Method 600/R-93/200 (M)-7420. A copy of the laboratory analysis report can be found in Appendix A.

Lead Testing Results Summary

Sample #	Location	Air ug/m ³	Surface ug/ft ²
1	Drill Hall	<6.6	*
2	Converted Firing Range	<6.6	*
3	Drill Hall – Floor	*	<110
4	Drill Hall – Top Amnesty Box	*	<110
5	Drill Hall – Block Wall Ledge	*	<110
6	Kitchen – Top of Ice Machine	*	<110
7	Kitchen – Metal Shelf	*	<110
8	Hallway Outside of Converted Firing Range – Floor	*	<110
9	Converted Firing Range - Floor	*	220
10	Converted Firing Range – Top of Wall Locker	*	130
11	Converted Firing Range – Metal Rack Shelf	*	<110
12	Classroom – Top of File Cabinet	*	<110
13	1 st Sergeant's Office –Top of Desk	*	<110
14	Lounge – Top of Book Shelf	*	<110
15	Office 105-A – Top of desk	*	<110
16	Kids Play Room – Carpeted Floor	*	<110
17	Detached Garage – Floor	*	1500
18	Blank – Wipe	*	<12
19	Blank – Air	<3	*
-	Criteria	50	200

Table Notes:

1. **Bolded** results exceed listed criteria
2. **ppm** = parts per million
3. **ug/ft²** = micrograms per square foot
4. **ug/m³** = micrograms per cubic meter
5. **ug** = micrograms

Source: NG PAM 420-15 Guidelines and Procedures for Rehabilitation and Conversion of Indoor Firing Ranges

The National Guard Bureau currently utilizes 200 micrograms per square foot (ug/ft²) as a benchmark for identifying lead-contaminated surfaces. This guideline is referenced in NG PAM 420-15 "Guidelines and Procedures for Rehabilitation and Conversion of Indoor Firing Ranges" as a satisfactory surface contamination level unless the facility is utilized as a childcare facility. In such cases, U.S. Department of Housing and Urban Development (HUD) limit of 40 ug/ft² on floors and 250 ug/ft² on windowsills should be observed. There is no child care provided at this facility.

Lead bulk, surface and air samples were collected. The following is a summary of the sample results from this survey.

- Surface levels of lead were at or above the recommended guideline of 200 ug/ft² in the following locations:
 - Converted Firing Range
 - Detached Garage

Cleaning procedures in those areas should be improved to maintain lead dust levels below 200 ug/ft².

- Air samples for lead were below the Occupational Safety and Health Administration (OSHA) Permissible Exposure Limit of 50 micrograms per cubic meter (ug/m³).
- No peeling paint was observed within the facility.

Section 4.0 Lighting

A lighting assessment was conducted throughout the facility. Measurements were collected using a Cooke Cal-Light 400L Precision Light Meter (Serial No. T11002). The light meter was last calibrated in April 2013. Measurements collected were compared to ANSI/IESNA RP-7-01 Lighting Industrial Facilities and RP-1-04 Office Lighting.

Light Survey Assessment Summary

Location	Foot Candles (FC)	Recommended Lighting (FC)	Sufficient Lighting
Classroom	58.8	30-50	Yes
Readiness NCO Office	38.5	30-50	Yes
1 st Sergeant's Office	32.5	30-50	Yes
Men's Bathroom	43.1	5	Yes
Women's Bathroom	72.4	5	Yes
Lounge	36.2	10	Yes
Weight Room	33.7	30	Yes
Drill Hall	30.8	30-50	Yes
Office 105	68.2	30-50	Yes
Kitchen	53.3	50	Yes
Detached Garage/Storage	19.3	10	Yes

Table Notes:

1. FC = Foot Candles
2. **Bolded** results did not meet listed criteria

Source: ANSI/IESNA RP-7-01 Lighting Industrial Facilities and RP-1-04 Office Lighting.

The lighting levels measured met the minimum recommended guideline in all areas tested.

Section 5.0 Indoor Air Quality

Survey measurements were made for ventilation and comfort parameters (carbon dioxide, temperature, carbon monoxide and relative humidity). The air quality measurements were collected using direct reading instrumentation for comfort parameters using a QTRAK IAQ Meter, Model 8554 (Serial #02041015). The IAQ Meter was last calibrated in August 2012.

The American Society of Heating, Refrigerating, and Air Conditioning Engineers, Inc. (ASHRAE) have developed indoor air quality guidelines for mechanically ventilated office buildings and commercial settings (ASHRAE standard 62.1-2010). ASHRAE specifies temperature ranges for human comfort (ASHRAE 55-2010). The US Army Technical Guide 277 Army Facilities Management Information Document on Mold Remediation, recommends maintaining a relative humidity range between 30 to 60%.

The following table summarizes the measurements collected.

IAQ Assessment Summary

Location	Temperature (°F)	Relative Humidity (%)	Carbon Dioxide (ppm)	Carbon Monoxide (ppm)
Classroom	67.4	26.6	652	0
Readiness NCO Office	68.2	24.4	627	0
Detached Garage	46.0	38.9	326	0
Outdoors	37.1	57.0	319	0
Criteria	68-79	30-60	<1,019	<9.0

Table Notes:

1. **Bolded** results exceed listed criteria
2. **ppm** = parts per million
3. **(%)** = percent relative humidity
4. **F** = degrees Fahrenheit

Sources: The American Society of Heating, Refrigerating, and Air Conditioning Engineers, Inc. (ASHRAE) 55-2010, 62.1-2010, Environmental Protection Agency (EPA) National Ambient Air Quality Standard (NAAQS) & The US Army Technical Guide 277 Army Facilities Management Information Document on Mold Remediation.

Summary of findings and recommendations:

- Relative humidity levels were less than the recommended guideline of 30-60% in the Classroom and Readiness NCO Office. Low relative humidity can cause the drying of the mucous tissues and an increased susceptibility to respiratory infection. Maintain relative humidity at 30-60%
- Temperature measurements were less than the recommended guideline of 68-79 degrees F in two locations. For comfort, we recommend that temperature be

maintained with the ASHRAE recommended guideline of 68-79 degrees F during occupied periods.

- Carbon dioxide levels were measured to evaluate building ventilation or the introduction of outdoor air into the building. The recommended limit of 1,019 parts per million (ppm) is obtained by adding 700 ppm to the outdoor measurement (319 ppm). Carbon dioxide levels measured did not exceed the recommended ceiling of 1,019 ppm. This indicates that outdoor air ventilation is adequate.
- Carbon monoxide levels measured were less than the recommended ceiling of 9 ppm.
- A visual inspection was conducted throughout accessible portions of the facility to assess sources or pathways of factors potentially deleterious to IAQ. The following observations were noted:
 - Overall housekeeping was good

Section 6.0 Ventilation Survey

There is a two bay detached garage at this facility. It is used primarily for storage. There is no regular vehicle maintenance performed in this area.

There are a total of two above floor exhausts located in the garage of the Toms River Readiness Center. All measurements were conducted at the face of each exhaust using a Velocicalc Plus Model 9555-P. Measurements were compared to the ACGIH Industrial Ventilation Manual requirements for above floor exhaust systems. The table below details measurement findings.

ABOVE FLOOR EXHAUST VENTILATION RATE SUMMARY

Location	Type of Hood	Exhaust Diameter	Measured Flow Rate (CFM)
Exhaust 1	Above Floor	7"	1357
Exhaust 2	Above Floor	7"	1455

Reference: Industrial Ventilation, A Manual of Recommended Practice for Design, 27th Edition, ACGIH.

EXAMPLES OF VEHICLE LEV SYSTEM REQUIREMENTS

Vehicle Nomenclature	Tailpipe Temp. (°F)	Engine Displacement (ft3)	Engine RPMs*	Exhaust Flow † (CFM)
M35A2, 2.5 Ton Cargo Truck	300	0.277	2,500	1,192
M1008 CUCV, SUV	267	0.219	3,800	1,370
M923A2, 5 Ton Cargo Truck	300	0.293	1,700	857
M996 HMMWV, All Terrain Vehicle	297	0.219	3,300	1,294

* Revolutions per Minute

† Includes 20% Safety Factor

The actual flow rate that is required in an overhead vehicle exhaust system varies depending on the engine tail pipe temperature, whether or not the vehicle is "under load" or idling, engine displacement, engine size, etc. As an example, a 15 Liter Engine running at 1,000 rpm with an exhaust gas temperature of 1,300 F (heavy load) would require an exhaust flow of 2,110 CFM. If vehicle maintenance is performed at this facility we recommend the vehicle exhaust system be utilized. It should be regularly inspected to determine if it is operating as designed and meets the minimum requirements as recommended by the American Conference of Governmental Industrial Hygienists (ACGIH) Industrial Ventilation: A Manual of Recommended Practice for Design (27th Edition).

Section 7.0 Suspect Asbestos Containing Building Materials

Based on the age of the building (e.g., constructed in 1987) it is unlikely asbestos-containing materials (ACM) would be present in the facility. The following suspect asbestos-containing material was noted at the time of this survey:

1. Asbestos pipe insulation throughout the facility >250 liner feet was visible, some areas of pipe insulation were labeled with asbestos warning stickers.
2. Mudded joint fittings >40 fittings were visible

The suspect asbestos-containing material was observed to be intact and in good condition. Inaccessible areas such as behind walls or crawlspaces were not inspected.

Section 8.0 Equipment

The following equipment was utilized during this survey. All sampling equipment was properly calibrated prior to use and verified for accuracy as applicable. See daily reports and calibrations logs for detailed information.

Equipment	Serial #	Calibration Date	Value
TSI QTrak IAQ Meter	02041015	8/2012	NA
Cal Light 400 Light Meter	T11002	4/2013	NA
TSI 4199 Calibrator	41460827002	8/2012	NA
SKC Air Sampling Pump	647610	2/5/2013	2.47 LPM
SKC Air Sampling Pump	647630	2/5/2013	2.46 LPM

Section 9.0 Limitations

This report summarizes our evaluation of the conditions observed at the above referenced location. Our findings are based upon our observations and sampling results obtained at the facility at the time of our visit. The report, results, and subsequent recommendations reported herein are also limited to the information available at the time it was prepared and investigated. Conditions may have been in effect prior to the sampling events that have changed over time and which cannot be predicted within the scope of this limited investigation. Any conditions discovered which deviate from the data contained in this report should be presented to us for our evaluation.

This report is intended for the exclusive use of the client. This report and the findings herein shall not, in whole or in part, be relied upon by any other parties, disseminated or conveyed to any other party without prior written consent of the National Guard Bureau, and Compliance Management International, Inc. The findings are relative to the dates of our site visits and should not be relied upon for substantially later dates.

Appendix A. Laboratory Analysis Report



CERTIFICATE OF ANALYSIS



Client:	National Guard Bureau	Job Name:	Toms River RC	Chain Of Custody:	515138
Address:	301-JH Old Bay Lane, Attn: ARNG-CJG-P, State Military Reservation Havre de Grace, Maryland 21078	Job Location:	NJ	Date Submitted:	2/12/2013
		Job Number:	Not Provided	Person Submitting:	Non-Responsive
		P.O. Number:	W912K6-09-A-0003	Date Analyzed:	2/18/2013
Attention:	Non-Responsive			Report Date:	2/18/2013

Summary of Atomic Absorption Analysis for Lead

Page 1 of 2

AMA Sample Number	Client Sample Number	Analysis Type	Sample Type	Air Volume (L)	Area Wiped (ft²)	Reporting Limit	Total ug	Final Result	Comments
13037418	1	Flame	Air	454	N/A	6.6 ug/m³	<3	<6.6 ug/m³	
13037419	2	Flame	Air	453	N/A	6.6 ug/m³	<3	<6.6 ug/m³	
13037420	3	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13037421	4	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13037422	5	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13037423	6	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13037424	7	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13037425	8	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13037426	9	Flame	Wipe	****	0.108	110 ug/ft²	24	220 ug/ft²	
13037427	10	Flame	Wipe	****	0.108	110 ug/ft²	14	130 ug/ft²	
13037428	11	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13037429	12	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13037430	13	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13037431	14	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13037432	15	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13037433	16	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13037434	17	Flame	Wipe	****	0.108	110 ug/ft²	170	1500 ug/ft²	
13037435	18	Flame	Wipe Blank	****	N/A	12 ug		<12 ug	
13037436	19	Flame	Air Blank	0	N/A	3 ug/m³		<3 ug	

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these Laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from us. Sample types, locations, and collection protocols are based upon the information provided by the persons submitting them and, unless collected by personnel of these Laboratories, we expressly disclaim any knowledge and liability for the accuracy and completeness of this information. Residual sample material will be discarded in accordance with the appropriate regulatory guidelines, unless otherwise requested by the client. This report must not be used to claim, and does not imply product certification, approval, or endorsement by NY ELAP, AIHA, or any agency of the Federal Government. All rights reserved. AMA Analytical Services, Inc.



CERTIFICATE OF ANALYSIS



Client:	National Guard Bureau	Job Name:	Toms River RC	Chain Of Custody:	515138
Address:	301-IH Old Bay Lane, Attn: ARNG-CJG-P, State Military Reservation Havre de Grace, Maryland 21078	Job Location:	NJ	Date Submitted:	2/12/2013
		Job Number:	Not Provided	Person Submitting:	Non-Responsive
		P.O. Number:	W912K6-09-A-0003	Date Analyzed:	2/18/2013
Attention:	Non-Responsive			Report Date:	2/18/2013

Summary of Atomic Absorption Analysis for Lead

Page 2 of 2

AMA Sample Number	Client Sample Number	Analysis Type	Sample Type	Air Volume (L)	Area Wiped (ft ²)	Reporting Limit	Total ug	Final Result	Comments
<p>Analysis Method for Flame: Air, Wipes, Paints, and Soil/Solids: EPA 600/R-93/200(M)-7000B; Water: SM-3111B Analysis Method For Furnace: Air, Wipes, Paints, and Soil/Solids : EPA 600/R-93/200(M)-7010; Water: SM-3113B N/A = Not Applicable mg/Kg = parts per million (ppm) on a dry weight basis mg/L = parts per million (ppm) %Pb = percent lead on a dry weight basis ug = micrograms ug/L = parts per billion (ppb) Note: All samples were received in good condition unless otherwise noted. Note: All results have two significant digits. Any additional digits shown should not be considered when interpreting the result. Air and Wipe results are not corrected for any blank results Final results for air and wipe samples are based on client supplied information nor verified by this laboratory. All results are to be considered preliminary and subject to change unless signed by the Technical Director or Deputy.</p>							See QC Summary for analytical results of quality control samples associated with these samples.		
Analy							Non-Responsive		
Technical Mana							Non-Responsive		

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these Laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from us. Sample types, locations, and collection protocols are based upon the information provided by the persons submitting them and, unless collected by personnel of these Laboratories, we expressly disclaim any knowledge and liability for the accuracy and completeness of this information. Residual sample material will be discarded in accordance with the appropriate regulatory guidelines, unless otherwise requested by the client. This report must not be used to claim, and does not imply product certification, approval, or endorsement by NY ELAP, AIHA, or any agency of the Federal Government. All rights reserved. AMA Analytical Services, Inc.

**AMA Analytical Services, Inc.**

Focused on Results www.amalab.com
 AIHA (#100470) NVLAP (#101143-0) NY ELAP (10920)
 4475 Forbes Blvd. • Lanham, MD 20706
 (301) 459-2640 • (800) 346-0961 • Fax (301) 459-2643

CHAIN OF CUSTODY

(Please Refer To This
Number For Inquires)

515138

Page 1 of 2

Mailing/Billing Information:

1. Client Name: National Guard Bureau
2. Address 1: 301-IH Old Bay Lane
3. Address 2: Attn: NGB-ARS-IHNE
4. Address 3: Havre de Grace, Maryland 21078
5. Phone #: (410) 942-0273 Fax #: (410) 942-0254

Submittal Information:

1. Job Name: Toms River-RC
2. Job Location: NJ
3. Job #: _____ RC #: W912K6-09-A-0003
4. Contact Person: _____ @ phone # (410) 942-0273
5. Submitted by: _____ signature: _____

Reporting Information (Results will be provided as soon as technically feasible):

AFTER HOURS (must be pre-scheduled) <input type="checkbox"/> Immediate Date Due: _____ <input type="checkbox"/> 24 Hours Time Due: _____ Comments: _____		NORMAL BUSINESS HOURS <input type="checkbox"/> Immediate <input checked="" type="checkbox"/> 3 Day <input type="checkbox"/> Next Day <input checked="" type="checkbox"/> 5 Day + <input type="checkbox"/> 2 Day Date Due: <u>8/19/13</u>		REPORT TO: <input checked="" type="checkbox"/> In Non-Responsive with Report <input checked="" type="checkbox"/> Email @ <u>Compliance place</u> <input type="checkbox"/> Fax @us.army.mil <input type="checkbox"/> Ver @us.army.mil	
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--

Asbestos Analysis

PCM Air – Please Indicate Filter Type:

- ☐ NIOSH 7400 _____ (QTY)
☐ Fiberglass _____ (QTY)

TEM Air – Please Indicate Filter Type:

- ☐ AHERA _____ (QTY)
☐ NIOSH 7402 _____ (QTY)
☐ Other (specify _____) _____ (QTY)

PLM Bulk

- ☐ EPA 600 – Visual Estimate _____ (QTY)
☐ EPA Point Count _____ (QTY)
☐ NY State Friable 198.1 _____ (QTY)
☐ Grav. Reduction ELAP 198.6 _____ (QTY)
☐ Other (specify _____) _____ (QTY)

MISC

- ☐ Vermiculite
☐ Asbestos Soil PLM__(Qual) PLM__(Quan) PLM/TEM__(Qual) PLM/TEM__(Quan)

TEM Bulk

- ☐ ELAP 198.4/Chatfield _____ (QTY)
☐ NY State PLM/TEM _____ (QTY)
☐ Residual Ash _____ (QTY)

TEM Dust

- ☐ Qual. (pres/abs) Vacuum/Dust _____ (QTY)
☐ Quan. (s/area) Vacuum D5755-95 _____ (QTY)
☐ Quan. (s/area) Dust D6480-99 _____ (QTY)

TEM Water

- ☐ Qual. (pres/abs)_____ (QTY)
☐ ELAP 198.2/EPA 100.2_____ (QTY)
☐ EPA 100.1_____ (QTY)

☒ All samples received in good condition unless otherwise noted.
(TEM Water samples _____ °C)

Metals Analysis

- ☒ Pb Paint Chip _____ (QTY)
☒ Pb Dust Wipe (wipe type Sheet) 16 (QTY)
☒ Pb Air 3 (QTY)
☐ Pb Soil/Solid : _____ (QTY)
☐ Pb TCLP _____ (QTY)
☐ Drinking Water ☐ Pb _____ (QTY) ☐ Cu _____ (QTY) ☐ As _____ (QTY)
☐ Waste Water ☐ Pb _____ (QTY) ☐ Cu _____ (QTY) ☐ As _____ (QTY)
☐ Pb Furnace (Media _____) _____ (QTY)

Fungal Analysis

Collection Apparatus for Spore Traps/Air Samples:

Collection Media

- ☐ Spore-Trap _____ (QTY) ☐ Surface Vacuum Dust _____ (QTY)
☐ Surface Swab _____ (QTY) ☐ Culturable ID Genus (Media _____) _____ (QTY)
☐ Surface Tape _____ (QTY) ☐ Culturable ID Species (Media _____) _____ (QTY)
☐ Other (Specify _____) _____ (QTY)

CLIENT CONTACT

(LABORATORY STAFF ONLY)

[illegible]

LABORATORY

1. Date/Time RCVD: 2 / 12 / 13 @ 1020 Via: Fed Ex By (Print): WV

2. Date/Time Analyzed: _____ / _____ / _____ @ _____ By (Print): _____ Sign: _____

Reading Room

4. Comments:

Signs

FQIA Requested Record #J-15-0085 (NH)

Time: _____ Initials: _____
Released by National Guard Bureau

Page 1249 of 1660

**AMA Analytical Services, Inc.**

Focused on Results www.amalab.com
 AIHA (#100470) NVLAP (#101143-0) NY ELAP (10920)
 4475 Forbes Blvd. • Lanham, MD 20706
 (301) 459-2640 • (800) 346-0961 • Fax (301) 459-2643

CHAIN OF CUSTODY

(Please Refer To This
 Number For Inquires)

515138

Page 2 of 2

Mailing/Billing Information:

1. Client Name: National Guard Bureau
 2. Address 1: 301-IH Old Bay Lane
 3. Address 2: Attn: NGB-ARS-IHNE
 4. Address 3: Hayre de Grace, Maryland 21078
 5. Phone #: (410) 942-0273 Fax #: (410) 942-0254

Submittal Information:

1. Job Name: _____
 2. Job Location: _____
 3. Job #: _____
 4. Contact Person: **Non-Responsive** @ phone # (410) 942-0273
 5. Submitted by: _____ Signature: _____

Reporting Information (Results will be provided as soon as technically feasible):

AFTER HOURS (must be pre-scheduled) <input type="checkbox"/> Immediate Date Due: _____ <input type="checkbox"/> 24 Hours Time Due: _____ Comments: _____		NORMAL BUSINESS HOURS <input type="checkbox"/> Immediate <input type="checkbox"/> 3 Day <input type="checkbox"/> Results Required By Noon <input type="checkbox"/> Next Day <input type="checkbox"/> 5 Day + (Every Attempt Will Be <input type="checkbox"/> 2 Day Date Due: _____ Made to Accomodate)		REPORT TO: <input checked="" type="checkbox"/> Include COC/Field Data Sheets with Report <input checked="" type="checkbox"/> Email: Non-Responsive us.army.mil <input type="checkbox"/> Fax: _____ <input type="checkbox"/> Verbal: _____ us.army.mil
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Asbestos Analysis

PCM Air - Please Indicate Filter Type:

- ☐ NIOSH 7400 (QTY)
☐ Fiberglass (QTY)

TEM Air - Please Indicate Filter Type:

- ☐ AHERA (QTY)
☐ NIOSH 7402 (QTY)
☐ Other (specify) _____ (QTY)

PLM Bulk

- ☐ EPA 600 - Visual Estimate (QTY)
☐ EPA Point Count (QTY)
☐ NY State Friable 198.1 (QTY)
☐ Grav. Reduction ELAP 198.6 (QTY)
☐ Other (specify) _____ (QTY)

MISC

- ☐ Vermiculite
☐ Asbestos Soil PLM (Qual) PLM (Quan) PLM/TEM (Qual) PLM/TEM (Quan)

TEM Bulk

- ☐ ELAP 198.4/Chatfield (QTY)
☐ NY State PLM/TEM (QTY)
☐ Residual Ash (QTY)

TEM Dust

- ☐ Qual. (pres/abs) Vacuum/Dust (QTY)
☐ Quan. (s/area) Vacuum D5755-95 (QTY)
☐ Quan. (s/area) Dust D6480-99 (QTY)

TEM Water

- ☐ Qual. (pres/abs) (QTY)
☐ ELAP 198.2/EPA 100.2 (QTY)
☐ EPA 100.1 (QTY)

☐ All samples received in good condition unless otherwise noted.
 (TEM Water samples _____ °C)

Metals Analysis

- ☐ Pb Paint Chip (QTY)
☐ Pb Dust Wipe (wipe type School) 16 (QTY)
☐ Pb Air 3 (QTY)
☐ Pb Soil/Solid _____ (QTY)
☐ Pb TCLP (QTY)
☐ Drinking Water ☐ Pb (QTY) ☐ Cu (QTY) ☐ As (QTY)
☐ Waste Water ☐ Pb (QTY) ☐ Cu (QTY) ☐ As (QTY)
☐ Pb Furnace (Media _____) (QTY)

Fungal Analysis

- Collection Apparatus for Spore Traps/Air Samples: _____
 Collection Media _____
☐ Spore-Trap (QTY) ☐ Surface Vacuum Dust (QTY)
☐ Surface Swab (QTY) ☐ Culturable ID Genus (Media _____) (QTY)
☐ Surface Tape (QTY) ☐ Culturable ID Species (Media _____) (QTY)
☐ Other (Specify _____) (QTY)

CLIENT CONTACT

(LABORATORY STAFF ONLY)

CLIENT ID NUMBER	SAMPLE LOCATION/ IDENTIFICATION	DATE	VOLUME (LITERS)	WIPE AREA	TEM	PCM	PLM	LEAD	MOLD	AIR	BULK	DUST	WATER AND OTHER	SPORE TRAP	TAPE	SWAB	DATE/TIME	CONTACT	BY
13	1st Sgt. Office - Desk	2-5		100cm ²				X											
14	Lounge - Book Shelf							X											
15	Office 105-A - Desk							X											
16	Kids Play Room - Carpet floor							X											
17	Detached Garage - floor							X											
18	Blank - hallway							X											
19	Blank - Air		0					X											

LABORATORY

1. Date/Time RCVD: _____ / _____ / _____ @ _____ Via: _____ By (Print): _____ Sign: _____

2. Date/Time Analyzed: _____ / _____ / _____ @ _____ By (Print): _____ Sign: _____

3. Results Reported To: _____ Via: _____ Date: _____ / _____ / _____

4. Comments: _____

Post to NGB FOIA Reading Room
 May 2018 (DY)

BEST AVAILABLE COPY

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

Released by National Guard Bureau

Page 1250 of 1660

Appendix B. Photographs



Exterior of the facility



Exterior detached two bay garage used for storage only



Drill Hall



Converted firing range

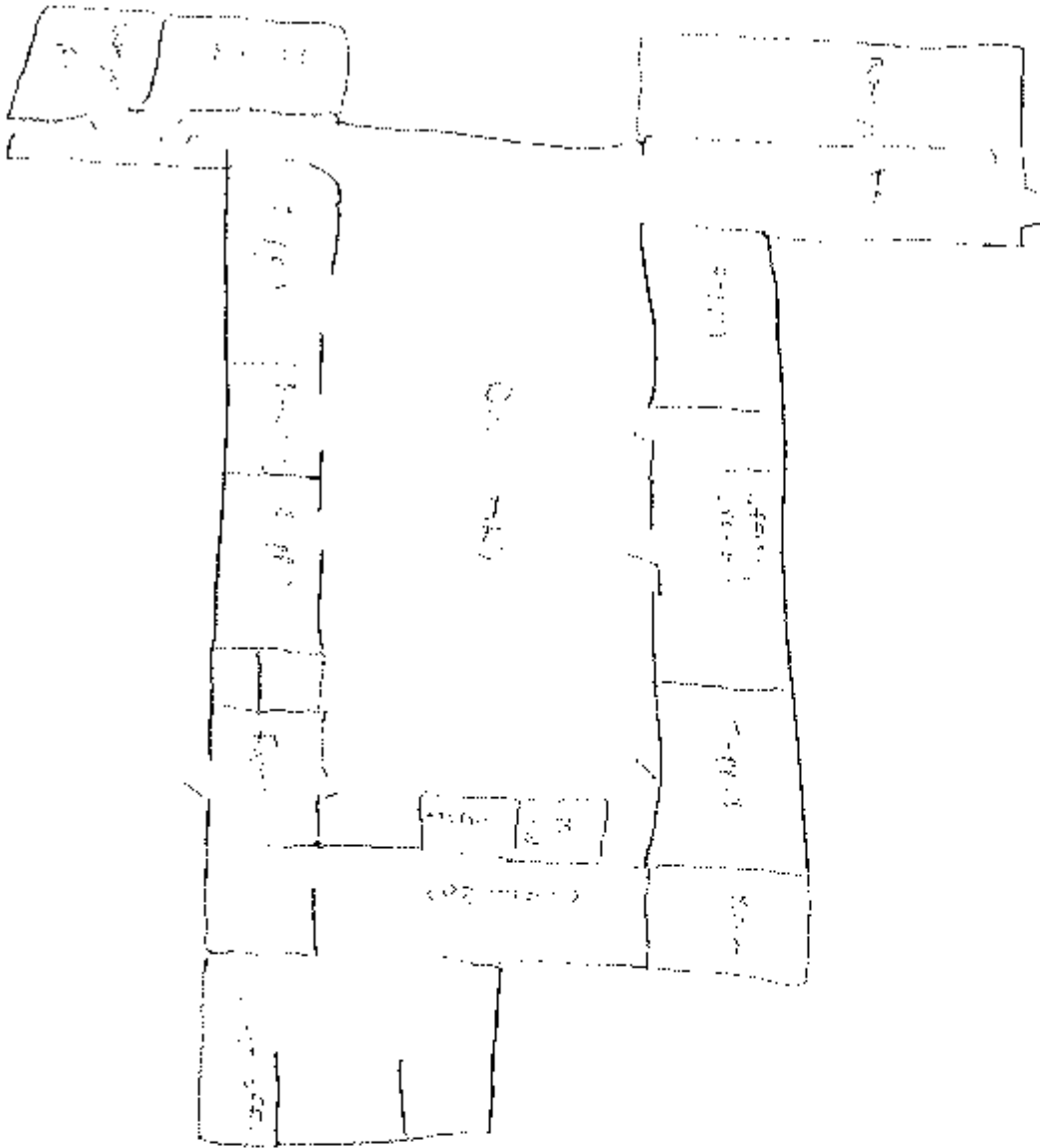


Asbestos pipe insulation and mudded joint fitting, labeled in some areas



Inside the detached two bay garage, with over head vehicle exhaust system

Appendix C. Floor Plan



Appendix D. References

1. Title 29 Code of Federal Regulations (CFR), Part 1910.1025, Occupational Safety and Health Administration, Occupational Exposure to Lead
2. American Conference of Governmental Industrial Hygienists (ACGIH) – Threshold Limit Values and Biological Exposure Indices, 2012 Edition.
3. Industrial Ventilation: A Manual of Recommended Practice for Design, 27th Edition.
4. ANSI/American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), Ventilation for Acceptable Indoor Air Quality, 62.1-2010.
5. RP-1-2004, Industrial Lighting, Illuminating Engineering Society of North America/ANSI.
6. RP-7-2001, Industrial Lighting, Illuminating Engineering Society of North America/ANSI.
7. National Emission Standard Hazardous Air Pollutants (NESHAP) – The standards for asbestos are contained in 40 CFR 61.140 through 61.157.
8. National Ambient Air Quality Standards (NAAQS) - National primary ambient air quality standards for carbon monoxide 40 CFR 50.8.
9. Environmental Protection Agency (EPA) standards [40 Code of Federal Regulations (CFR) 745.227(h)(3)].
10. Derivation of Wipe Surface Screening Levels for Environmental Chemicals, the US Army Center for Health Promotion and Preventive Medicine (USACHPPM).
11. The US Army Technical Guide 277 Army Facilities Management Information Document on Mold Remediation, February 2002.
12. NG PAM 420-15 Guidelines and Procedures for Rehabilitation and Conversion of Indoor Firing Ranges, 3 Nov 06.
13. ANSI/American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), Thermal Environmental Conditions for Human Occupancy, 55-2010.



Prepared For:

National Guard Bureau
Army National Guard
Region North Industrial Hygiene Office
301 – IH Old Bay Lane
Havre De Grace, Maryland 21078

Prepared By:

URS Corporation
5 Industrial Way
Salem, New Hampshire 03079

**FINAL
INDUSTRIAL HYGIENE SURVEY REPORT
WEST ORANGE ARMORY
WEST ORANGE, NEW JERSEY**

July 2006
PN: 39741509

Non-Responsive

A black rectangular box redacts the signature of the Office Manager. The text "Non-Responsive" is written in red across the top of the box.

Office Manager

Non-Responsive

A black rectangular box redacts the signature of the Project Manager. The text "Non-Responsive" is written in red across the top of the box.

Project Manager

TABLE OF CONTENTS

Section	Page
1.0 SUMMARY.....	1
2.0 ADMINISTRATIVE AREA	2
2.1 OPERATION DESCRIPTION.....	2
2.2 CHEMICAL AND PHYSICAL AGENTS SAMPLED	2
2.2.1 Relative Humidity	2
2.2.2 Carbon Dioxide.....	2
2.2.3 Carbon Monoxide	3
2.2.4 Lighting.....	3
2.2.5 Lead	4
2.2.6 Asbestos.....	5
2.3 VENTILATION SYSTEM EVALUATION.....	5
2.4 NOISE MEASUREMENTS	5
2.5 PERSONAL PROTECTIVE EQUIPMENT	6
2.6 INTERPRETATION OF RESULTS.....	6
3.0 FORMER INDOOR FIRING RANGE	7
3.1 OPERATION DESCRIPTION	7
3.2 CHEMICAL AND PHYSICAL AGENTS SAMPLED	7
3.2.1 Lead	7
3.3 VENTILATION SYSTEM EVALUATION.....	7
3.4 NOISE MEASUREMENTS	7
3.5 PERSONAL PROTECTIVE EQUIPMENT	7
3.6 INTERPRETATION OF RESULTS.....	8
4.0 DRILL HALL.....	9
4.1 OPERATION DESCRIPTION	9
4.2 CHEMICAL AND PHYSICAL AGENTS SAMPLED	9
4.2.1 Lead	9
4.2.2 Asbestos.....	9
4.3 VENTILATION SYSTEM EVALUATION.....	10
4.4 NOISE MEASUREMENTS	10
4.5 PERSONAL PROTECTIVE EQUIPMENT	10
4.6 INTERPRETATION OF RESULTS.....	10
5.0 BOILER ROOM.....	11
5.1 OPERATION DESCRIPTION	11
5.2 CHEMICAL AND PHYSICAL AGENTS SAMPLED	11
5.2.1 Asbestos.....	11
5.3 VENTILATION SYSTEM EVALUATION.....	11
5.4 NOISE MEASUREMENTS	11
5.5 PERSONAL PROTECTIVE EQUIPMENT	11
5.6 INTERPRETATION OF RESULTS.....	11
6.0 SAFETY AND INDUSTRIAL HYGIENE PROGRAMS	12
6.1 CONFINED SPACES	12
6.2 HEARING CONSERVATION.....	12
6.3 RESPIRATORY PROTECTION	12
6.4 HAZARD COMMUNICATION.....	12
6.5 PERSONAL PROTECTIVE EQUIPMENT	12
7.0 REFERENCES.....	13

TABLE OF CONTENTS (Cont)

APPENDICES

- Appendix A Armory Drawing
- Appendix B Personnel List
- Appendix C Hazardous Materials List
- Appendix D Analytical Results
- Appendix E Training Certificates
- Appendix F Photographs
- Appendix G Recommendations for Surface Lead Dust in Armories
- Appendix H Policy and Responsibilities for Inspection, Evaluation and Operation of Army National Guard Indoor Firing Ranges (National Guard Regulation 385-15, 30 December 2002)

FINDINGS AND RECOMMENDATIONS

Findings	Recommendation	Risk Assessment Code
Ergonomic		
Computer workstations were observed with fixed chairs, armrests, keyboards and monitors.	Ergonomic issues with the desks and chairs should be corrected by fitting the workplace to the worker (Department of the Army Pamphlet 40-21, Chapter 4, Page 7, Section 4-3)	RAC 3
Lighting		
On the day of the survey, the illumination in the administrative area was inadequate in most offices.	Increase lighting in the administrative areas. While work is in progress, the administrative area shall be lighted by at least the minimum lighting intensities (ANSI/IESNA RP-1-04)	RAC 4
Lead		
Lead was detected in wipe samples collected from several offices, the drill floor, and the former firing in amounts greater than 200 $\mu\text{g}/\text{ft}^2$	Further sampling should be conducted to assess the extent of the lead dust contamination. Personnel trained in accordance with the OSHA Lead Standard should clean the areas where lead was detected in quantities of greater than 200 micrograms per square foot (OSHA 29 CFR 1910.1025 (e)(1)(i))	RAC 4
Hazard Communication		
A site-specific hazard communication plan not available.	Maintain a site specific hazard communication plan to manage hazardous materials (OSHA 29 CFR 1910.1200 (e))	RAC 5
Mold		
Water damaged was observed throughout. Mold growth could become an issue if left unattended.	Determine and repair source of water. Replace water damaged building materials and implement a moisture management program to provide direction for future water incursions (Best management practice)	RAC 4

1.0 SUMMARY

At the request of the National Guard Bureau (NGB) Region North Industrial Hygiene Office, URS Corporation (URS) conducted an industrial hygiene survey at the Armory located at 1229 Pleasant Valley Way in West Orange, New Jersey 07052. This report includes an executive summary and a description of the site activities and findings and a list of conclusions and recommendations.

On April 2, 2004, Ms. [Non-Responsive] and Ms. [Non-Responsive] industrial hygienists with URS, conducted a site visit at the Armory in West Orange, New Jersey. The purpose of this site visit was to conduct an industrial hygiene survey, which included the collection of dust wipe samples, lighting measurements, and a review of site health and safety procedures. SGM [Non-Responsive] of the New Jersey ARNG was the site contact for this survey.

This armory is a two-story building, with a drill hall, that is constructed primarily of brick and mortar. This facility is built on a concrete slab, with a pitched roof. A construction date of the building was not available, but with asbestos and lead-based paint being present, the building had to have been constructed prior to 1981. A layout drawing of the facility, which shows the locations where measurements were made during this survey, is contained in Appendix A.

2.0 ADMINISTRATIVE AREA

2.1 Operation Description

This area contains multiple offices located throughout the building with desks and computer workstations, an auditorium, a gymnasium, classrooms, bathrooms and the club room. Computer workstations were assessed during the walkthrough for ergonomic issues. Several computer workstation chairs could not be adjusted for height. Several desks also had chairs with armrests in fixed positions. Computer monitors and/or keyboards could not be adjusted for different individuals working at the workstations. If more than one person is using that station, then proper adjustments need to be made to accommodate each person. No complaints were received by URS concerning workstations at the time of this survey.

Water-damaged ceiling tiles were observed in the hall outside the Armorer's office, the 2nd floor hallway, and the women's restroom.

2.2 Chemical and Physical Agents Sampled

On the day of the survey, relative humidity, carbon dioxide and carbon monoxide measurements were made in the 1st floor Recruiters Office, the 2nd floor center stairwell and outside. These readings were all measured using a TSI Q-Trak TM (Model 8551). No indoor air quality complaints were received during this survey.

2.2.1 Relative Humidity

Relative humidity on the day of the survey ranged from 43-45% throughout the various building areas with an average of 44%. The average reading was below the maximum recommended comfort level of 65% set by the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. (ANSI / ASHRAE Standard 62.1-2004).

2.2.2 Carbon Dioxide

Carbon dioxide concentrations ranged from a low of 725 to a spike of 968 parts per million (ppm), with an average of 846.5 ppm. The outside reading was 484 ppm.

Carbon dioxide is a normal constituent of the atmosphere and ranges from about 250 to 450 ppm. The major source of excess carbon dioxide in the indoor environment is people. Other sources can include open-flame heaters, fermentation processes, and motor vehicles. Carbon dioxide itself is not normally a cause of indoor air quality problems because concentrations must exceed 5,000 to 10,000 ppm before health effects such as headache, drowsiness, and increased respiration are noted. Typically, carbon dioxide is used as an indicator of the adequacy of fresh air intake. As the concentration of carbon dioxide increases, so do the background levels of other air contaminants.

ASHRAE recommends that levels of carbon dioxide be maintained below 700 ppm above the outside level. Given an outside level of 484 ppm on the day of the survey, the ASHRAE limit would be 1184 ppm.

2.2.3 Carbon Monoxide

The carbon monoxide concentration remained at 0 ppm on the day of the survey. ASHRAE (62.1-20004) recommends that average carbon monoxide concentrations not exceed 9 ppm. Typical average concentrations found in commercial buildings range from 0 to 6 ppm. The measured levels were below the ASHRAE guideline for indoor environments. Carbon monoxide was measured using a TSI Q-Track (Model 8551).

Key sources of carbon monoxide within indoor environments may include internal combustion engines, motor vehicle and forklift exhaust, tobacco smoke, space heaters, and improperly adjusted oil or gas burners. Health effects from exposure to elevated concentrations of carbon monoxide may include fatigue, impairment of visual acuity, irregular heartbeat, headache, nausea, and confusion.

2.2.4 Lighting

Lighting throughout the Armory was measured using a Sper Scientific Ltd. Light Meter (Model 840020C). Table 2-1 below shows lighting measurements and the

recommended lighting requirement (ANSI/IESNA RP-1-04 American National Standard Practice for Office Lighting).

Table 2-1
Lighting Measurements and Recommended Lighting Requirements

Location	Function	Measured Lighting Footcandles	Recommended Lighting Footcandles
First Floor			
Recruiter	Administrative Duties	20	50
Recruiter	Administrative Duties	60	50
Storage	Warehouse	69	10
Armorer's office	Administrative Duties	65	50
Supply Office	Administrative Duties	48	50
Second Floor			
Conference Room A	Administrative Duties	26	50
Office	Administrative Duties	24	50
Office	Administrative Duties	18	50
Office	Administrative Duties	19	50
Mail Room	General Work Area	21	30
Conference Room B	Administrative Duties	35	50
Office	Administrative Duties	26	50
Office	Administrative Duties	16	50
Office	Administrative Duties	21	50
Office	Administrative Duties	21	50
Women's Restroom	Toilet/Washroom	13	10
Office	Administrative Duties	60	10
Marshall Auditorium	Administrative Duties	8	50
Men's Restroom	Toilet/Washroom	60	10
Classroom	Administrative Duties	36	50
Classroom (Cubicles)	Administrative Duties	32	50
Classroom	Administrative Duties	44	50

On the day of the survey the illumination in the administrative area was inadequate in most offices.

2.2.5 Lead

Wipe testing for lead was conducted throughout the facility using Ghost Wipes™, which meet ASTM E 1792 standards. Several surfaces within the administrative areas were found to contain lead dust levels, which exceeded the maximum limit. The analytical

report from AMA is contained in Appendix D. Table 2-2 below shows the results of the lead sampling.

Table 2-2
Levels of Lead Dust Found in the Administrative Area

Sample Location	URS Sample Number	Area Wiped (ft ²)	Result (µg/ft ²)	Maximum Contamination Level (µg/ft ²)
Armorer's Office	WS-1	0.11	480	200
Recruiters Office	WS-2	0.11	60	200
Hall outside of Gymnasium	WS-3	0.11	18	200
Retention Room	WS-5	0.11	110	200
Office 2 nd Floor	WS-6	0.11	290	200
Back Entry to Kitchen	WS-7	0.11	140	200
Office at Conference Room	RWS-10	0.11	390	200
Stairwell at Gymnasium	RWS-11	0.11	280	200
Stairwell at Armorer's	RWS-12	0.11	38	200
Stairwell at Supply	RWS-13	0.11	160	200

Sample numbers and locations can be found on the site map in appendix A.

2.2.6 Asbestos

Observed suspect asbestos-containing materials (ACM) were found to be in good condition, therefore, bulk samples were not collected during the site visit. An asbestos survey had previously been conducted by ARNG personnel prior to the site visit and an Operations and Maintenance (O&M) plan is in place. Signs have been posted on bulletin boards warning personnel of the existence of ACM.

Ms. Sidlik's and Ms. Harkins' asbestos inspector training certificate is provided in Appendix E.

2.3 Ventilation System Evaluation

Not applicable to this operation.

2.4 Noise Measurements

Not applicable to this operation.

2.5 Personal Protective Equipment

Not applicable to this operation.

2.6 Interpretation of Results

GENERAL: In general, the administrative area was neat and orderly. The fire exits and extinguishers were marked and easily accessible.

ERGONOMICS: The ergonomic issues with regard to the desks, chairs and monitors need to be corrected by fitting the workplace to the workers.

LIGHTING: On the day of the survey the illumination in the administrative area was inadequate in most offices. URS recommends increasing the area lighting or supplement task lighting for each workstation in the administrative areas. While work is in progress the administrative area must be lighted by at least the minimum light intensities.

LEAD: Surfaces within the administrative areas were found to contain lead dust levels which exceeded the maximum limit set by the NGB Region North IH Office. The NGB Region North IH Office has prepared a memorandum titled "Recommendations for Surface Lead Dust in Armories" which is provided in Appendix G.

ASBESTOS: Observed suspect asbestos-containing materials were found to be in good condition. If asbestos-containing materials should become damaged, it is recommended that the damaged materials be replaced with new, non-asbestos material by an appropriately trained professional.

3.0 FORMER INDOOR FIRING RANGE

3.1 Operation Description

The indoor firing range has been converted into a storage area. The bullet traps and lane dividers have been removed.

3.2 Chemical and Physical Agents Sampled

3.2.1 Lead

Wipe testing for lead was conducted in the former indoor firing range using Ghost Wipes™, which meet ASTM E 1792 standards. The analytical report from AMA is contained in Appendix D. Table 3-1 below shows the results of the lead sampling.

Table 3-1
Levels of Lead Dust Found in the Former Firing Range

Sample Location	URS Sample Number	Area Wiped (ft ²)	Result (µg/ft ²)	Maximum Surface Contamination Level (µg/ft ²)
Cabinet	FR-01	0.11	400	200
Pipe Line	FR-02	0.11	40	200
Floor	FR-03	0.11	3100	200
Table Top	FR-04	0.11	50	200
Floor	FR-05	0.11	6100	200

Sample numbers and locations can be found on the site map in appendix A.

3.3 Ventilation System Evaluation

Not applicable to this operation.

3.4 Noise Measurements

Not applicable to this operation.

3.5 Personal Protective Equipment

Not applicable to this operation.

3.6 Interpretation of Results

LEAD: Wipe samples collected from the former indoor firing range for lead were found to be above the NGB Region North IH Office recommended levels. The NGB Region North IH Office has prepared a memorandum titled "Recommendations for Surface Lead Dust in Armories" which is provided in Appendix G. Guidelines for the cleaning and rehabilitation of indoor firing ranges is provided in Appendix H.

4.0 DRILL HALL

4.1 Operation Description

The drill hall is a 7,500 square foot area with about a 30-foot high ceiling used for assembling personnel and storing vehicles. The walls are constructed of cinder blocks with a concrete floor, and roll up doors. At the time of the industrial hygiene survey, the drill hall was set up for use as soccer fields.

4.2 Chemical and Physical Agents Sampled

4.2.1 Lead

Wipe testing for lead dust was conducted in the drill hall using Ghost Wipes™, which meet ASTM E 1792 standards. The analytical report from AMA is contained in Appendix D. Table 4-1 below shows the results of the lead sampling.

Table 4-1
Levels of Lead Dust Found in the Drill Hall

Sample Location	URS Sample Number	Area Wiped (ft ²)	Result (µg/ft ²)	Maximum Surface Contamination Level (µg/ft ²)
Drill Hall-Fire Box	WS-04	0.11	1300	200
Drill Hall-Vending Machine	RWS-08	0.11	37	200
Drill Hall-floor	RWS-19	0.11	21	200

Sample numbers and locations can be found on the site map in Appendix A.

4.2.2 Asbestos

Observed suspect asbestos-containing materials (ACM) were found to be in good condition, therefore, bulk samples were not collected during the site visit. An asbestos survey had previously been conducted by ARNG personnel prior to the site visit and an Operations and Maintenance (O&M) plan is in place. Signs have been posted on bulletin boards warning personnel of the existence of ACM.

4.3 Ventilation System Evaluation

Not applicable to this operation.

4.4 Noise Measurements

Not applicable to this operation.

4.5 Personal Protective Equipment

Not applicable to this operation.

4.6 Interpretation of Results

LEAD: The drill hall fire box was found to contain lead dust levels which exceeded the maximum limit recommended by the NGB Region North IH Office. The NGB Region North IH Office has prepared a memorandum titled "Recommendations for Surface Lead Dust in Armories" which is provided in Appendix G. The floor wipe sample was well below the 200 microgram per square foot maximum limit.

ASBESTOS: Observed suspect asbestos-containing materials were found to be in good condition. If asbestos-containing materials should become damaged, it is recommended that the damaged materials be replaced with new, non-asbestos material by an appropriately trained professional.

5.0 BOILER ROOM

5.1 Operation Description

The boiler room is a mechanical space constructed of cinder block walls with a concrete floor, containing a furnace and associated piping.

5.2 Chemical and Physical Agents Sampled

5.2.1 Asbestos

Observed suspect asbestos-containing materials (ACM) were found to be in good condition, therefore, bulk samples were not collected during the site visit. An asbestos survey had previously been conducted by ARNG personnel prior to the site visit and an Operations and Maintenance (O&M) plan is in place. Signs have been posted on bulletin boards warning personnel of the existence of ACM.

5.3 Ventilation System Evaluation

Not applicable to this operation.

5.4 Noise Measurements

Not applicable to this operation.

5.5 Personal Protective Equipment

Not applicable to this operation.

5.6 Interpretation of Results

ASBESTOS: Observed suspect asbestos-containing materials were found to be in good condition. If asbestos-containing materials should become damaged, it is recommended that the damaged materials be replaced with new, non-asbestos material by an appropriately trained professional.

6.0 SAFETY AND INDUSTRIAL HYGIENE PROGRAMS

6.1 Confined Spaces

No safety program was found regarding confined spaces. No training records were found on site. A confined spaces program is not required for this site.

6.2 Hearing Conservation

No safety program was found regarding hearing conservation. No training records were found on site. A hearing conservation program is not required for this site.

6.3 Respiratory Protection

No safety program was found regarding respiratory protection. No training records were found on site. A respiratory protection program is not required for this site.

6.4 Hazard Communication

No training records were found on site. A site-specific hazard communication program is required for this site and should include communication of hazards to employees, management of material safety data sheets, chemical labeling and spill protection. At the time of the site visit, a chemical inventory was being created.

6.5 Personal Protective Equipment

No safety program was found regarding personal protective equipment. No training records were found on site. A personal protective equipment program is not required for this site.

7.0 REFERENCES

American National Standards Institute

ANSI/IESNA RP-1-04: American National Standard Practice for Office Lighting

American Society of Heating Refrigerating and Air-Conditioning Engineers

ANSI/ASHRAE Standard 62.1-2004: Ventilation for Acceptable Indoor Air Quality

Department of the Army

Ergonomics Program Pamphlet 40-21 (15 August 2003)

Policy and Responsibilities for Inspection, Evaluation and Operation of Army National Guard Indoor Firing Ranges (National Guard Regulation 385-15 30 December 2002)

Department of Defense

DoD Hearing Conservation Program Standard 6055.12 April 1996

Creating an Ideal Workstation: A Step-by-Step Guide

U. S. Environmental Protection Agency

Asbestos Hazard Emergency Response Act (40 CFR Part 763)

National Emissions Standards for Hazardous Pollutants (40 CFR Part 61)

U. S. Housing and Urban Development

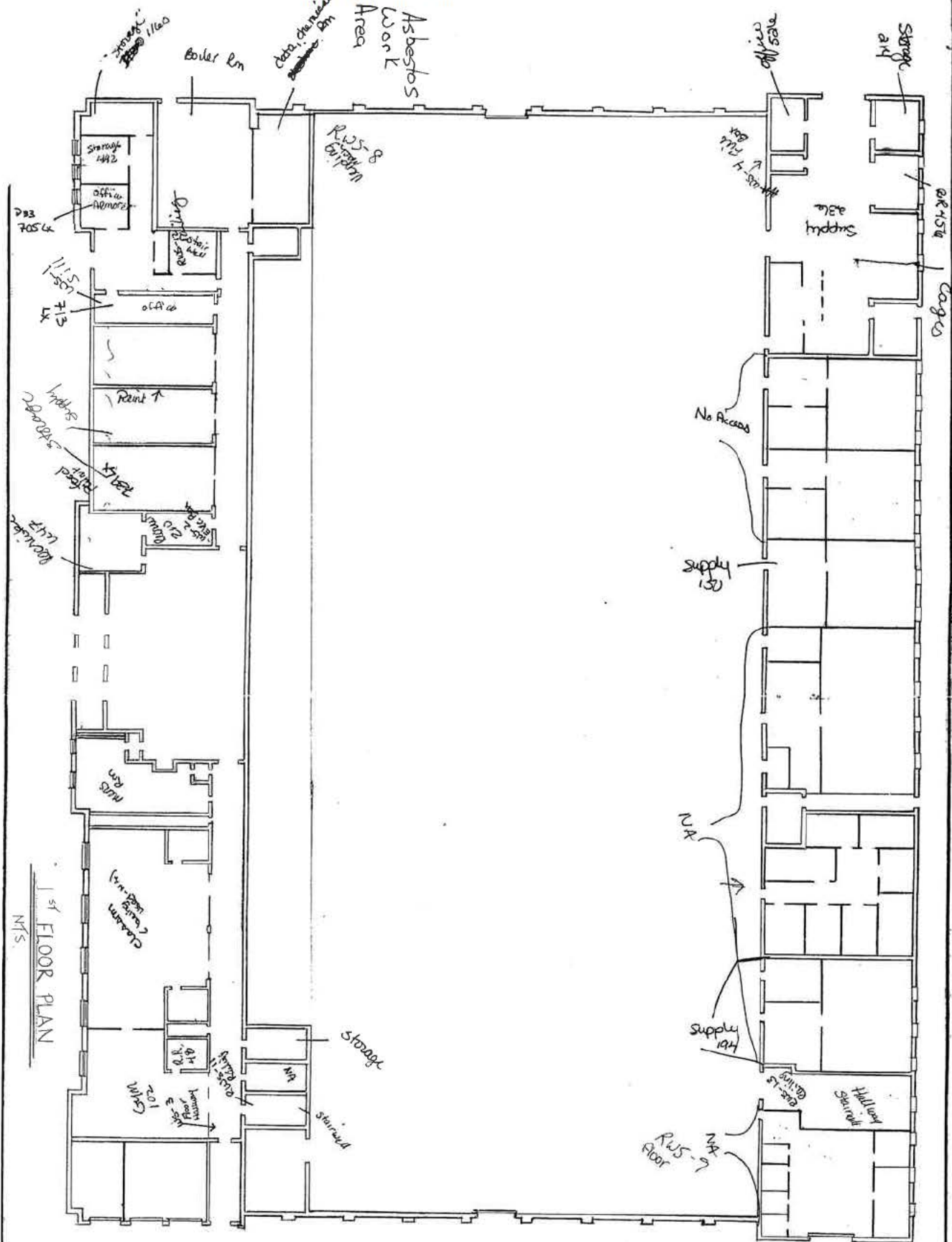
Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing (1995, 1997)

U. S. Occupational Safety and Health Administration

Standard for General Industry: 29 CFR 1910

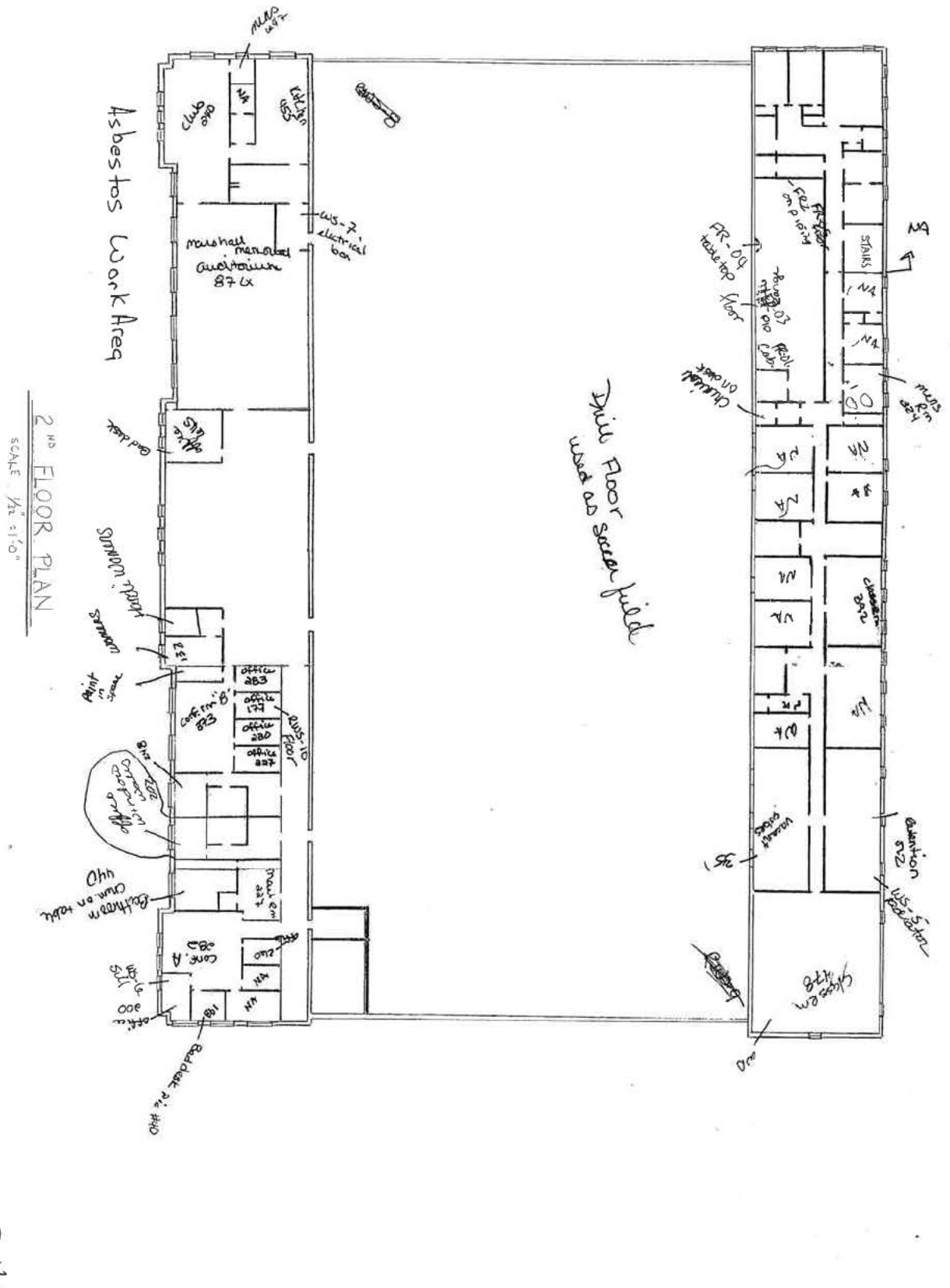
APPENDIX A
ARMORY DRAWING

BEST AVAILABLE COPY



NEW JERSEY DEPARTMENT OF MILITARY AND VETERANS' AFFAIRS * ENGINEERING BUREAU

SHEET TITLE 1st Floor Plan	PROJECT TITLE WEST ORANGE ARMORY 1315 PLEASANT VALLEY WAY, W. ORANGE	SCALE DATE	DRAWN BY FOIA Requested	DRAWING NO.
		APPROVED BY	Record # 115-0085 (NH) Released by National Guard Bureau	



SHEET TITLE

PROJECT TITLE

SCALE

DRAWN BY

DRAWING NO.

WEST BEST AVAILABLE COPY
1315 PLEASANT VALLEY WAY, W. ORANGE

DATE	FOIA Requested	Record #
APPROVED BY	Released by	National Guard Bureau

Page 1277 of 1660

APPENDIX B
PERSONNEL LIST

BEST AVAILABLE COPY

NOT PROVIDED

APPENDIX C
HAZARDOUS MATERIALS LIST

BEST AVAILABLE COPY

NOT PROVIDED

APPENDIX D

ANALYTICAL RESULTS

CERTIFICATE OF ANALYSIS

NVLAP
NY ELAP
AIHA

Posted to NGB FOIA Reading Room
May 2018

Client: National Guard Bureau
Address: 301-TH Old Bay Lane, Attn: NGB-AVN-SI,
State Military Reservation
Havre de Grace, Maryland 21078
Job Name: Army/Bldg. 1/Bldg. 2
Job Location: West Orange, NJ
Job Number: Not Provided
P.O. Number: BPA #W912KG-04-A0002
Chain Of Custody: 128455
Date Analyzed: 6/4/2004
Person Submitting: [REDACTED]
Report Date: 17-Jun-04

Page 1 of 3

Summary of Atomic Absorption Analysis for Lead

AMA Sample Number	Client Sample Number	Analysis Type	Sample Type	Air Volume (L)	Area Wiped (ft ²)	Reporting Limit	Final Result	Comments
0448594	WS-01	Flame	Wipe	***	0.111	108.01 ug/ft ²	480 ug/ft ²	
0448595	WS-2	Furnace	Wipe	***	0.111	33.75 ug/ft ²	60 ug/ft ²	
0448596	WS-3	Furnace	Wipe	***	0.111	2.70 ug/ft ²	18 ug/ft ²	
0448597	WS-4	Flame	Wipe	***	0.111	108.01 ug/ft ²	1300 ug/ft ²	
0448598	WS-5	Furnace	Wipe	***	0.111	67.51 ug/ft ²	110 ug/ft ²	
0448599	WS-6	Flame	Wipe	***	0.111	108.01 ug/ft ²	290 ug/ft ²	
0448600	WS-7	Furnace	Wipe	***	0.111	67.51 ug/ft ²	140 ug/ft ²	
0448601	RWS-8	Furnace	Wipe	***	0.111	33.75 ug/ft ²	37 ug/ft ²	
0448602	RWS-9	Furnace	Wipe	***	0.111	2.70 ug/ft ²	21 ug/ft ²	
0448603	RWS-10	Flame	Wipe	***	0.111	108.01 ug/ft ²	390 ug/ft ²	
0448604	RWS-11	Flame	Wipe	***	0.111	108.01 ug/ft ²	280 ug/ft ²	
0448605	RWS-12	Furnace	Wipe	***	0.111	13.50 ug/ft ²	38 ug/ft ²	
0448606	RWS-13	Furnace	Wipe	***	0.111	67.51 ug/ft ²	160 ug/ft ²	
0448607	WS-14	Flame	Wipe	***	0.111	108.01 ug/ft ²	1700 ug/ft ²	
0448608	WS-15	Furnace	Wipe	***	0.111	67.51 ug/ft ²	230 ug/ft ²	
0448609	WS-16	Furnace	Wipe	***	0.111	2.70 ug/ft ²	18 ug/ft ²	
0448610	WS-17	Furnace	Wipe	***	0.111	67.51 ug/ft ²	240 ug/ft ²	
0448611	WS-18	Flame	Wipe	***	0.111	108.01 ug/ft ²	670 ug/ft ²	
0448612	WS-19	Furnace	Wipe	***	0.111	67.51 ug/ft ²	260 ug/ft ²	
0448613	WS-20	Furnace	Wipe	***	0.111	13.50 ug/ft ²	20 ug/ft ²	

AMA Analytical Services, Inc. is not responsible for the quality or condition of the sample or condition of the equipment used in the analysis. As a mutual protection to clients, the public and these Laboratories, all samples submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from the client. Sample types, locations and collection protocols are based upon the information provided by the person submitting the samples. Unless otherwise requested by the client, NVLAP Accreditation applies only to polarized light microscopy of bulk samples and transmission electron microscopy of AHERA air samples. This report must not be used to claim, and does not imply product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

All rights reserved. AMA Analytical Services, Inc.
An AIHA (88863), NVLAP (#101143), & New York ELAP (#10920) Accredited Laboratory
4475 Forbes Blvd. • Lanham, MD 20706 • (301) 459-2640 • Toll Free (800) 346-0961 • Fax (301) 459-2643

CERTIFICATE OF ANALYSIS

NVLAP
NY ELAP
AIHA

Client: National Guard Bureau
Address: 301 Old Bay Lane, Attn: NGB-AVN-SL
State Military Reservation
Havre de Grace, Maryland 21078
Job Name: Armory/Bldg 1/Bldg. 2
Job Location: West Orange, NJ
Job Number: Not Provided
P.O. Number: BPA #W912K6-04-A0002
Chain of Custody: 128455
Date Analyzed: 6/4/2004
Person Submitting: [REDACTED]
Report Date: 17-Jun-04

Page 2 of 3

Summary of Atomic Absorption Analysis for Lead

AMA Sample Number	Client Sample Number	Analysis Type	Sample Type	Air Volume (L)	Area Wiped (ft ²)	Reporting Limit	Final Result	Comments
0448614	WS-21	Flame	Wipe	***	0.111	108.01 ug/ft ²	430 ug/ft ²	
0448615	WS-22	Flame	Wipe	***	0.111	108.01 ug/ft ²	370 ug/ft ²	
0448616	WS-23	Flame	Wipe	***	0.111	108.01 ug/ft ²	720 ug/ft ²	
0448617	WS-24	Flame	Wipe	***	0.111	108.01 ug/ft ²	2200 ug/ft ²	
0448618	WS-25	flame	Wipe	***	0.111	67.51 ug/ft ²	120 ug/ft ²	
0448619	WS-26	Flame	Wipe	***	0.111	108.01 ug/ft ²	480 ug/ft ²	
0448620	FR-01	Flame	Wipe	***	0.111	108.01 ug/ft ²	400 ug/ft ²	
0448621	FR-02	flame	Wipe	***	0.111	33.75 ug/ft ²	40 ug/ft ²	
0448622	FR-03	Flame	Wipe	***	0.111	108.01 ug/ft ²	3100 ug/ft ²	
0448623	FR-04	flame	Wipe	***	0.111	33.75 ug/ft ²	50 ug/ft ²	
0448624	FR-05	Flame	Wipe	***	0.111	108.01 ug/ft ²	6100 ug/ft ²	
0448625	Engine Shop (1)	Flame	Air	328	N/A	9.15 ug/m ³	< 9.1 ug/m ³	
0448626	Machine Shop (2)	Flame	Air	378	N/A	7.94 ug/m ³	< 7.9 ug/m ³	
0448627	Welding Shop (3)	Flame	Air	168	N/A	17.86 ug/m ³	< 18 ug/m ³	

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public and these Laboratories, the report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity without prior written authorization from us. Sample types, locations and collection protocols are based upon the information provided by the persons submitting them and, unless collected by personnel of these Laboratories, we expressly disclaim any knowledge and liability for the accuracy and completeness of this information. Residual sample material will be discarded in accordance with the appropriate regulatory guidelines, unless otherwise requested by the client. NVLAP Accreditation applies only to polarized light microscopy of bulk samples and transmission electron microscopy of AHERA air samples. This report must not be used to claim, and does not imply product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

All rights reserved. AMA Analytical Services, Inc.
An AIHA (#8863), NVLAP (#101143), & New York ELAP (#10920) Accredited Laboratory
4475 Forbes Blvd. • Lanham, MD 20706 • (301) 459-2640 • Toll Free (800) 346-0961 • Fax (301) 459-2643

CERTIFICATE OF ANALYSIS

NVLAP
NY ELAP
AIHA

Client: National Guard Bureau
Address: 301-JH Old Bay Lane, Attn: NGB-AVN-SI,
State Military Reservation
Havre de Grace, Maryland 21078

Job Name: Army/Bldg 1/Bldg. 2
Job Location: West Orange, NJ
Job Number: Not Provided
P.O. Number: BPA #W912KG-04-A0002

Chain Of Custody: 128455
Date Analyzed: 6/4/2004
Person Submitting: [Redacted]
Report Date: 17-Jun-04

Attention:

Page 3 of 3

Summary of Atomic Absorption Analysis for Lead

AMA Sample Number	Client Sample Number	Analysis Type	Sample Type	Air Volume (L)	Area Wiped (ft ²)	Reporting Limit	Final Result	Comments
-------------------	----------------------	---------------	-------------	----------------	-------------------------------	-----------------	--------------	----------

Analysis Method for Flame: Air, Wipes, Paints, and Soil/Solids: EPA 600/R-93/200(M)-7420; Water: SM-3111B

Analysis Method For Furnace: Air, Wipes, Paints, and Soil/Solids : EPA 600/R-93/200(M)-7421; Water: SM-3113B

N/A: Not Applicable mg/Kg = parts per million (ppm) by weight mg/L = parts per million (ppm)

%A = percent lead by weight ug = micrograms ug/L = parts per billion (ppb)

Note: All results have two significant digits. Any additional digits shown should not be considered when interpreting the result.

Analyst:

Technical Manager:

Non-Responsive

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public and these Laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from us. Sample types, locations and collection protocols are based upon the information provided by the persons submitting them and, unless collected by personnel of these Laboratories, we expressly disclaim any knowledge and ability for the accuracy and completeness of this information. Residual sample material will be discarded in accordance with the appropriate regulatory guidelines, unless otherwise requested by the client. NVLAP Accreditation applies only to polarized light microscopy of bulk samples and transmission electron microscopy of AHERA air samples. This report must not be used to claim, and does not imply product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

All rights reserved. AMA Analytical Services, Inc.

An AIHA (#8863), NVLAP (#101143), & New York ELAP (#10928) Accredited Laboratory
4475 Forbes Blvd. • Lanham, MD 20706 • (301) 459-2640 • Toll Free (800) 346-0961 • Fax (301) 459-2643

APPENDIX E
TRAINING CERTIFICATES

Certificate of Training

Non-Responsive

For successful completion of a 4 Hour, 1/2 Day
**Asbestos Building Inspector
 Annual Refresher Training**

DECEMBER 5, 2003

This training was approved and given in accordance with the
 Regulations for Connecticut State Agencies
 RCSA 20 - 440 - 1-9 and RCSA 20 - 441 and meets the
 requirements of the EPA Revised MAP under TSCA Title II of 4/4/94.

Presented by

Mystic Air Quality Consultants, Inc.

1204 North Road, Groton, CT 06340 (800) 247-7746

Certificate Number: ABIRF11392

Exam Grade: 87%

Exam Date: 12/05/2003

Date: 12/05/2004

Non-Responsive

, CSP, RS

Training Director

<h1>Certificate of Training</h1>	
<div>Non-Responsive</div>	
<p>For successful completion of a 4 Hour, 1/2 Day Asbestos Building Inspector Annual Refresher Training JULY 17, 2003</p>	
<p>This training was approved and given in accordance with the Regulations for Connecticut State Agencies RCSA 20 - 440 - 1.9 and RCSA 20 - 441 and meets the requirements of the EPA Revised MAP under TSCA Title II of 4/4/94.</p>	
<p>Presented by Mystic Air Quality Consultants, Inc. 1204 North Road, Groton, CT 06340 (800) 247-7746</p>	
<div>Non-Responsive</div>	<p>Expiration Date: 07/17/2004</p>
<p>81RF10892</p>	<p>Exam Grade: 97% Exam Date: 07/17/2003</p>
<div>Non-Responsive</div>	<p>CSP, RS Training Director</p>

APPENDIX F
PHOTOGRAPHS



Photo 2:
Boiler Room



Photo 4:
Visible Fire Extinguisher-Outside Armorer's
Office



Photo 1:
Exterior



Photo 3:
"Right to Know" Center-Outside Armorer's
Office



Photo 6:
Water Damaged Ceiling Tile



Photo 8:
Unobstructed Flammable Cabinet-Phone/Data
Room



Photo 5:
9" x 9" Brown Floor Tile-Hall Outside
Armorer's Office



Photo 7:
Chemical Storage-Phone/Data Room



Photo 10:
Unadjustable Work Station-2nd Floor Office



Photo 12:
Storage Closet with Paint-@ Conference
Room B



Photo 9:
Unadjustable Workstation-Recruiter's Office



Photo 11:
Unstored Chemicals-Bathroom @ Mailroom



Photo 14:
Flammable Cabinet-Drill Hall



Photo 16:
Unlabeled Containers-Storage @
Former Firing Range

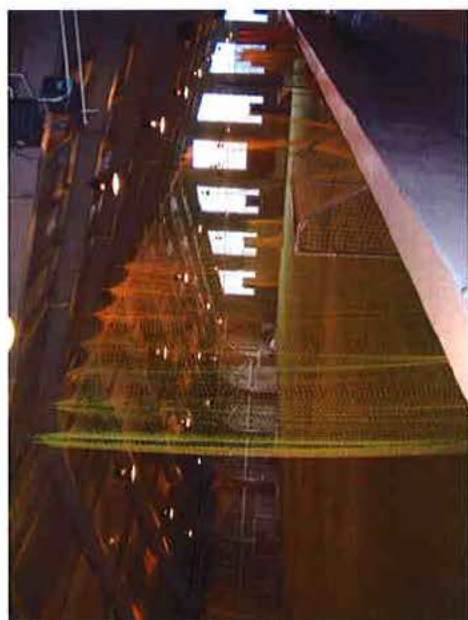


Photo 13:
Drill Hall Layout



Photo 15:
Former Firing Range

APPENDIX G
RECOMMENDATIONS FOR SURFACE LEAD DUST IN ARMORIES

Subject: Recommendations for Surface Lead Dust in Armories

1. In armories that do not contain childcare facilities, the National Guard Bureau (NGB) Region North Industrial Hygiene Office recommends cleaning the areas in which sample results are greater than 200 micrograms per square foot ($\mu\text{g}/\text{ft}^2$). If a special function will be held in which children will be present in this facility, consider thoroughly cleaning the areas that will be accessible to children prior to the function. This guidance is based on professional judgment, risk assessments, adaptation of Occupational Safety and Health Administration (OSHA) guidance, and feasibility of cleaning to a certain level.

a. Environmental Protection Agency (EPA) standards (40 Code of Federal Regulations (CFR) 745.227(h)(3)) are not directly applicable because they are criteria for dust-lead hazards developed for floors ($40 \mu\text{g}/\text{ft}^2$) and windowsills ($250 \mu\text{g}/\text{ft}^2$) in residential dwellings and child occupied facilities. A child occupied facility is defined as a building, or portion of a building, constructed prior to 1978, visited regularly by the same child, 6 years of age or under, on at least two different days within any week (Sunday through Saturday period), provided that each day's visit lasts at least 3 hours and the combined weekly visit lasts at least 6 hours, and the combined annual visits last at least 60 hours. Most of the wipe samples in armories were collected in undisturbed areas and therefore, results are worst case scenarios and do not correlate to these standards.

b. OSHA has no specific requirement for work area surfaces. The lead standard (29 CFR 1910.1025(h)) states that all surfaces shall be maintained as free as practicable of accumulations of lead dust. In workplaces where lead dust is generated, surface levels may be much higher, but personnel exposures can be controlled by limiting airborne lead levels and following good cleanup and hygienic practices.

c. OSHA used to cite a level of $200 \mu\text{g}/\text{ft}^2$ in their Technical Manual and 29 CFR 1926.62 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.

d. In a report titled Derivation of Wipe Surface Screening Levels for Environmental Chemicals, the US Army Center for Health Promotion and Preventive Medicine (USACHPPM) has determined that $200 \mu\text{g}/\text{ft}^2$ is a safe surface contamination level. They have also applied these standards as the decontamination levels for surfaces in administrative offices.

e. It should be noted that levels above these recommendations do not necessarily mean there is a significant hazard to workers who are following good cleaning and hygienic practices since there is no correlation between wipe and air samples. Rather, we recommend these levels as a precautionary measure.

2. The NGB Occupational Health Branch is developing guidance for armories that are used as childcare facilities. All states will receive this guidance when it is completed. In the interim, we recommend the following actions:

a. Clean all areas that will be accessible to children to the EPA dust-lead standard for children 6 years of age or under ($40 \mu\text{g}/\text{ft}^2$ on floors and $250 \mu\text{g}/\text{ft}^2$ on windowsills).

b. Refer to the local authorities' regulations since they can be more stringent than federal regulations.

c. Post signs in the area to inform people of the presence of lead dust and its effects.

d. If soldiers clean weapons in the facility change the policy so that they cannot clean their weapons in the facility, or if they are allowed to clean their weapons indoors, they must clean the area by wet wiping and mopping the area when they are done.

e. If the paint is peeling, contact the state Environmental Office to test for lead content and provide recommendations.

3. Air samples collected on individuals in the armory were well below OSHA's permissible exposure limit for lead (29 CFR 1910.1025(c)) of $0.05 \text{ mg}/\text{m}^3$ averaged over an 8-hour day. Therefore, based on these conditions there is currently no overexposure to personnel from lead dust in this building.

APPENDIX H

POLICY AND RESPONSIBILITIES FOR INSPECTION, EVALUATION AND OPERATION OF ARMY NATIONAL GUARD INDOOR FIRING RANGES (NATIONAL GUARD REGULATION 385-15, 30 DECEMBER 2002)

NGB-AVS-SG

SUBJECT: All States (Log Number P01-0075) Army National Guard (ARNG) Safety and Occupational Health Program – POLICY AND RESPONSIBILITIES FOR INSPECTION, EVALUATION AND OPERATION OF ARMY NATIONAL GUARD INDOOR FIRING RANGES

ADDENDUM**GUIDELINES FOR IFR REHABILITATION, CONVERSION, AND CLEANING****CONTENTS (Listed by paragraph number)**

	Paragraph
Purpose	1
References	2
Explanation of Abbreviations and Terms	3
Policy and Procedures	4
Goal	5
Background	6
Wipe Sample Media	7
Wipe Sampling Protocol	8
Range Cleaning Instructions	9
Cleaning Stored Contaminated Equipment	10
Contaminated Sand and Lead Waste	11
Medical Surveillance	12
Worker Education	13
Personal Protection Equipment	14
Housekeeping	15
Maintenance	16
Range Rehabilitation	17
Conversion of Indoor Firing Ranges	18
Deviation	19
Appendices	
Appendix A - General Procedures for Collecting Wipe Samples	
Appendix B - Sampling Strategy for Collection of Wipe Samples	
Appendix C - Interpretation of Sample Results (Prior to Cleaning)	
Appendix D - Interpretation of Sample Results (After Cleaning)	
Appendix E - Recommended Sample Media and Containers	
Appendix F - Examples of Computation of Lead Levels from Wipe Sample Results	
Appendix G - Surface Wipe Sample Sheet	
Appendix H - Air Sampling Sheet	
Appendix I - Glossary	

Purpose

1. This addendum establishes policy and procedures for rehabilitation, conversion, and cleaning of ARNG indoor firing ranges.

2. References

Related publications are listed below.

- a. DODI 6055.1 (Department of Defense Instruction, Occupational Safety and Health (OSH) Program).
- b. AR 11-34 (The Army Respiratory Protection Program).
- c. AR 40-5 (Preventive Medicine).
- d. NGR 385-15 Policy, Responsibilities, and Procedures for Inspection, Evaluation, and Operation of ARNG Indoor Firing Ranges).
- e. 29 Code of Federal Regulations (CFR), Part 1910, Occupational Safety and Health Standards
- f. OSHA Technical Manual, Edition VII.
- g. DHEW NIOSH 76-130 (Lead Exposure and Design Considerations for Indoor Firing Ranges).

NGB-AVS-SG

SUBJECT: All States (Log Number P01-0075) Army National Guard (ARNG) Safety and Occupational Health Program – POLICY AND RESPONSIBILITIES FOR INSPECTION, EVALUATION AND OPERATION OF ARMY NATIONAL GUARD INDOOR FIRING RANGES

3. Explanation of Abbreviations and Terms

Abbreviations and special terms used in this publication are listed in the glossary.

4. Policy and Procedures

Conversion of Ranges. Indoor firing ranges can be safely rehabilitated or converted for other uses, such as a storage area, kitchen, or office space, provided the following –

- a. Previously active ranges must be thoroughly decontaminated and cleaned to acceptable levels.
- b. The level of cleanliness is to be determined by sampling. The Occupational Safety and Health Administration's (OSHA) Technical Manual, 5th Edition, provides guidance on the methods and techniques needed to collect wipe samples (Appendix A).

(1) Wipe samples must be collected and analyzed prior to and after cleaning.

(2) Post-cleaning surface wipe sample results must be less than or equal to 200 micrograms per square feet (ug/sq ft). The sampling strategy, which is the amount and location of wipe samples to be collected, is provided in Appendix B. Methods for interpreting the sample results are contained in Appendix C and D.

c. Equipment/items previously stored in the range must be decontaminated and cleaned to acceptable levels.

(1) Samples must be collected from equipment/items stored in the range. Sample selection is critical, because the number of items stored and length of storage differs from range to range. The amount and location of the samples, should be representative of the areas where lead dust is most likely to accumulate. The more samples collected, the better the statistical comparison of the results.

(2) Samples must be collected from the smooth surfaces of the equipment/items, in so much as possible. Results of samples collected from a rough surface will be inaccurate due to the minimal surface contact of the media. Further, the likelihood of tearing the media filter is greater on rough surfaces.

(3) Samples should also be collected on items stored the longest period of time, and which have not been disturbed. Items stored closest to the bullet trap and firing line are likely to have higher concentrations of lead dust. Methods for interpreting the sample results are contained in Appendix C and D.

5. Goal

To ensure every indoor firing range is free of lead dust, and to reduce the number of unsafe ARNG indoor firing ranges.

6. Background

The Environmental Protection Agency (EPA) identifies lead as a highly toxic metal. Elemental lead is indestructible, and common in the environment. Lead can enter the body by inhalation (breathing) or ingestion (eating). In addition, lead is a cumulative poison. It accumulates in the blood, bones, and organs, including the kidneys, brain and liver. Effects include nervous and reproductive system disorders, delays in neurological and physical development, cognitive and behavioral changes, and hypertension. Symptoms include loss of appetite, difficulty sleeping, irritability, fatigue, headache, and inability to concentrate. It can stay in the bones for decades. Worker awareness and training are important to ensure that employees can recognize the symptoms of exposure and get prompt medical attention.

7. Wipe Sample Media

a. OSHA Technical Manual provides the necessary guidance on the technique needed to collect wipe samples (Appendix A). Only distilled or deionized water will be used to saturate dry sample media. At least one field blank filter must be submitted with each sample sheet. The field blank must be from the same lot, and labeled as a blank on the sample sheet. Appendix E identifies how and where to obtain sample media. Use the following guidance for determining media acceptability.

(1) Acceptable Media consists of –

(a) Ghost Wipes™ (PREFERRED METHOD)- Pre moistened

(b) Thirty-seven (37) millimeters (mm) mixed cellulose ester (MCE) filters, with or without the cassettes.

(c) Eleven (11) centimeter (cm) diameter Whatman™ #40 paper

NGB-AVS-SG

SUBJECT: All States (Log Number P01-0075) Army National Guard (ARNG) Safety and Occupational Health Program -- POLICY AND RESPONSIBILITIES FOR INSPECTION, EVALUATION AND OPERATION OF ARMY NATIONAL GUARD INDOOR FIRING RANGES

(2) Unacceptable Media consists of but is not limited to—

- (a) Cotton balls
- (b) Baby wipes or wet wipes

b. Documentation of Sample Collection. A Surface Wipe Sample Sheet must be completed and submitted with samples to your supporting laboratory. A copy of this form is located in Appendix G. Refer to Appendix A on how to collect wipe samples.

8. Wipe Sampling Protocol
See Appendix A.

9. Ranges Cleaning Instructions

a. Written procedures, such as a scope of work, or Standing Operating Procedure (SOP) that complies with all federal, state and local regulations must be established prior to decontamination operations. The range ventilation system will be in operation during range cleaning to ensure that a negative pressure environment is maintained. In the absence of mechanical ventilation system, all doors and windows will be sealed to eliminate fugitive emissions. A High Efficiency Particulate Air (HEPA) filtered vacuum system is the preferred method of cleanup followed by wet wiping of the range. The HEPA vacuum is designed to collect loose surface lead dust particles.

b. Any general purpose cleaning solution can be used. However, Spic and Span™ has been found to be an effective cleaning solution by other Army organizations. Mix new solutions of cleaning solution frequency. Wet wiping will require dual containers of water; one container for wetting the applicator (mops, rags, sponge, etc.) and the other container for rinsing the applicator after the dust has been wiped from the surfaces. When placed in containers, wastewater should be left to evaporate.

c. PROPERLY DISPOSE OF ALL HAZARDOUS WASTE. DO NOT PLACE LEAD CONTAMINATED WASTE INTO THE SEWER SYSTEM OR ONTO THE GROUND.

d. Mop-heads, sponges and rags will be discarded as hazardous waste following cleanup.

e. Wet cleaning by a high-pressure system is prohibited, as this method may embed the lead into the substratum and generate large quantities of unwanted hazardous waste.

f. Dry sweeping is not permitted.

g. All surface areas of the range must be cleaned. Do not remove the coating on smooth painted surfaces that are properly sealed.

h. Wood floors should receive a coat of deck enamel or urethane; concrete floors should be sealed with deck enamel and linoleum or tile floors should be waxed.

i. A progression of cleaning from top to bottom and from behind the steel backstop to the firing line should be used. After removing the sand, if applicable, and the steel backstop, areas in front of and behind the bullet trap along with the steel backstop plate(s) should be cleaned. Next, clean the ceiling, lights, baffles, retrieval system, heating system(s), and ventilation duct(s). Acoustical material should be vacuumed and removed rather than painted over.

j. A Toxic Characteristic Leaching Procedures (TCLP) test for lead only may need to be performed on the acoustical material. A TCLP test will determine if the material is classified as "hazardous" and can be disposed of in a sanitary landfill. Contact your State Environmental Office for assistance before arranging for this laboratory testing. The floor should be the last surface cleaned, starting at the bullet trap and ending behind the firing line.

k. After wet wiping all surfaces, permit the area to dry. Vacuum all surface areas until no dust or residue can be seen using the HEPA.

l. A thorough visual inspection to detect dust should be made following cleanup and prior to collecting post surface wipe samples.

m. As a variety of conditions exist in ranges, unique situation may arise and specific written guidance from your Regional Industrial Hygiene Office may be required.

10. Cleaning Stored Contaminated Equipment

a. Equipment contaminated (sample result is higher than 200 micrograms/sq ft) with lead dust must be decontaminated before it is removed from the range.

NGB-AVS-SG

SUBJECT: All States (Log Number P01-0075) Army National Guard (ARNG) Safety and Occupational Health Program -- POLICY AND RESPONSIBILITIES FOR INSPECTION, EVALUATION AND OPERATION OF ARMY NATIONAL GUARD INDOOR FIRING RANGES

b. Equipment located near the bullet trap and firing line should be cleaned first and then removed. The cleaning method depends on the size of the equipment and the material it is comprised of, i.e. metal, wood, concrete, porous, non-porous, smooth or rough finish etc. However, either HEPA vacuum or the wet wipe method will be used. Refer to paragraph 9 for additional guidance.

c. Every attempt should be made to clean and reclaim items since disposing of equipment, as hazardous waste is costly and wasteful. Only as a last resort will the item be discarded as hazardous waste. Porous items, such as office partitions and carpet that were present during firing should be considered grossly contaminated and be discarded unless analysis proves otherwise. Consult your State Environmental Office for the proper hazardous waste disposal methods.

11. Contaminated Sand and Lead Waste

Consult your State Environmental Office for specific disposal guidance to ensure compliance with local laws and regulations.

12. Medical Surveillance

a. A pre-placement medical examination is required for all individuals involved with range cleanup operations. Consult 29 CFR 1910.1025 for additional information on medical surveillance requirements.

A medical examination must include—

- (1) A detailed work and medical history
- (2) A thorough physical examination
- (3) A respirator use evaluation
- (4) A blood pressure measurement
- (5) Blood sample analysis to include:
 - (a) A baseline blood lead level
 - (b) A complete blood count (CBC)
 - (c) Blood urea nitrogen (BUN)
- (6) Serum creatinine
- (7) Zinc protoporphyrin
- (8) A routine urine analysis
- (9) Recordkeeping

b. Air Monitoring. Worker breathing zone (BZ) air samples must be collected to ensure personnel are not overexposed to airborne lead during the cleanup phase. Representative air samples will be collected on all personnel involved in the cleanup operation. These exposure levels will be used to evaluate work practices and personal protective equipment. Within five (5) working days after receipt of monitoring results, each employee will be notified in writing of the air sampling results. Contact your Regional Industrial Hygiene Office for additional information pertaining to air sampling.

13. Worker Education

OSHA 29 CFR 1910.1025 requires that workers who are potentially exposed to any lead level shall be informed of the content of Appendix A and B of this standard. 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 irritations exists. The training program shall be repeated for personnel currently involved in range cleanup operations, at least annually, this training must be documented on DD Form 1556 or DD Form 1556-1 and filed permanently in the employee's Official Personnel File (OPF) or the soldier's Official Military Personnel File (OMPF). As a minimum, complete blocks 1, 2, 3, 7, 8, 11, 12, 13, 17, 18, 24, 33 and 36 of DD Form 1556. Place the following statement in block 18, "Do not destroy, retain this record for the duration of employment/service plus 30 years." The employer will assure that each employee is informed of the following:

- a. The content of the standard and its appendices.
- b. The specific nature of operations that could result in exposure to lead above the action level.
- c. The purpose, proper selection, fitting, use and limitations of respirators.
- d. The purpose and a description of medical surveillance program.
- e. Eating and drinking are prohibited in lead contaminated areas.
- f. Smoking and smoking materials will not be permitted in contaminated areas.

NGB-AVS-SG

SUBJECT: All States (Log Number P01-0075) Army National Guard (ARNG) Safety and Occupational Health Program – POLICY AND RESPONSIBILITIES FOR INSPECTION, EVALUATION AND OPERATION OF ARMY NATIONAL GUARD INDOOR FIRING RANGES

- g. Employees must wash their hands and other exposed skin whenever they leave the work area.
- h. The engineering controls and work practices associated with the individual's job assignment.
- i. The contents of any compliance plan in effect.

14. Personal Protective Equipment

For housekeeping and rehabilitation the employer shall select respirators from among those approved for protection against lead dust, fume, and mist by the National Institute for Occupational Safety and Health (NIOSH). The employer shall institute a respiratory protection program in accordance with 29 CFR 1910.134. As a minimum, personnel conducting the decontamination of the range will be provided with the following personal protective equipment.

a. Employees engaged in range rehabilitation and/or range conversion, the employer shall provide at no cost to the employee, and assure that the employee uses appropriate protective work clothing and equipment such as, but not limited to:

- (1) Protective coveralls with hood and shoe covers or disposable Tyvek™ full body suit.
- (2) Disposable rubber gloves; and disposable shoe coverlets (If necessary).
- (3) Full-face air purifying respirator with P-100 cartridges.

b. The employer shall provide the clothing required in a clean and dry condition at least daily to employees engaged in the conversion of indoor firing ranges.

c. The employer shall provide for the cleaning, laundering, or disposal of used or contaminated protective clothing and equipment.

d. The employer shall assure that all protective clothing is removed at the completion of a work shift only in areas designated for that purpose (Change Areas or Change Rooms).

e. The employer will ensure that contaminated protective clothing that is to be cleaned, laundered, or disposed of, is placed in a closed container in the change area that seals sufficiently enough to prevent dispersion of lead dust.

f. The employer will further inform in writing any person who cleans or launders protective clothing or equipment of the potentially harmful effects of exposure to lead.

15. Housekeeping

This chapter applies to all active indoor ranges classified as "safe" for use. To keep the range operating properly and to keep possible hazards to a minimum, a routine housekeeping/ maintenance program is essential.

a. The employer must establish a housekeeping program sufficient to maintain all surfaces as free as practicable of accumulations of lead dust. To this end the range will be clean at the conclusion of each firing day.

b. The range ventilation system will be in operation during all cleaning operations, to ensure a negative pressure environment is maintained.

c. Ranges will be cleaned by using the wet method or vacuuming. A HEPA (High Efficiency Particulate Air) filtered vacuum system is the preferred method of meeting this requirement. The use of compressed air to clean floors is absolutely prohibited. If the wet method is utilized the floor should be equipped with a floor drain, and collection system. When there is no collection system, the water can be allowed to slowly evaporate leaving lead deposits/sludge. The deposits/sludge can then be collected, placed in metal drums, and stored for future delivery to an authorized hazardous waste disposal site. Drums must be labeled to identify contents, in accordance with the hazardous waste program.

d. A NIOSH approved respirator (P-100) for protection against lead dust, fume, and mist will be worn at all times while cleaning.

e. When cleaning start behind the firing line forward, cleaning the floor and horizontal surfaces.

16. Maintenance

The following are the minimum maintenance requirements, which must be performed quarterly by the range custodian, or by a person designated by the facility commander.

a. Inspect the ventilation system fan for condition of belts to ensure that they are not frayed or slipping.

NGB-AVS-SG

SUBJECT: All States (Log Number P01-0075) Army National Guard (ARNG) Safety and Occupational Health Program -- POLICY AND RESPONSIBILITIES FOR INSPECTION, EVALUATION AND OPERATION OF ARMY NATIONAL GUARD INDOOR FIRING RANGES

- b. Evaluate static pressure and compare to the baseline static pressure reading. Any changes will be reported through the safety manager to the Regional Industrial Hygienist.
- c. Inspect Louvers, if applicable, to ensure they are opening fully.
- d. Inspect the bullet trap for pitting or other damage and for sharp edges on venetian blind type bullet traps.
- e. Bullet Trap. The bullet trap will be cleaned every 480 hours of operation at a minimum, or when the trap is three quarters full.
- f. The range ventilation system will be operational during all bullet trap cleaning procedures.
- g. All personnel involved in cleaning of the bullet trap will wear a NIOSH approved respirator, and proper personal protective equipment.
- h. All debris from the bullet trap will be collected, package and turned in, in accordance with guidance from the environmental office.

17. Range Rehabilitation.

This chapter applies to all indoor firing ranges that have been identified as candidates for rehabilitation. This chapter further provides guidance for cleaning and/or sampling that might be required prior to the start of rehabilitation.

- a. The portion(s) of the range to under go rehabilitation must be sampled to determine the level of lead contamination. Wipe samples will be taken per the established sampling protocol. See Appendix A.
- b. All personnel involved in range rehabilitation will wear a NIOSH approved respirator (P-100), and proper personal protective equipment as prescribed in paragraph 14 above.
- c. Prior to start of rehabilitation the environmental office must be notified to determine the disposition of lead containing debris.

18. Conversion of Indoor Ranges

Prior to the start of decontamination, employers must ensure that all procedures to be used comply with Federal, State, and local regulations. To ensure that all lead contamination is removed the following procedure is established.

- a. All ranges slated for conversion will be inspected and evaluated.
- b. All equipment stored in the range, if applicable, prior to the start of decontamination must be sampled, decontaminated, re-sampled and removed or turned in as lead contaminated material. See paragraph 10 above.
- c. All acoustical tiles and/or sound proofing material (if applicable) must be removed and turned in as lead contaminated material through the environmental office.
- d. The backstop, bullet trap, target retrieval system and firing line stations must be removed and turned in as lead containing material through the environmental office.
- e. Light fixtures and ventilation system grills must be removed and decontaminated.
- f. Ventilation system ducts need to be decontaminated or removed and replaced.
- g. The exhaust fans and/or the complete ventilation air-handling unit (if applicable) must be decontaminated or removed.
- h. Cover all openings of any component previously decontaminated prior to start of interior decontamination of the firing range.

19. Deviation

Deviations from this guidance will require a written exception to policy from your Regional Industrial Hygiene Office. Questions and/or comments regarding this subject should be directed to your Regional Industrial Hygiene Office or Chief, National Guard Bureau, Attn: NGB-AVS-S, 111 South George Mason Drive, Arlington, VA 22204-1382.

NGB-AVS-SG

SUBJECT: All States (Log Number P01-0075) Army National Guard (ARNG) Safety and Occupational Health Program – POLICY AND RESPONSIBILITIES FOR INSPECTION, EVALUATION AND OPERATION OF ARMY NATIONAL GUARD INDOOR FIRING RANGES

APPENDIX A GENERAL PROCEDURES FOR COLLECTING WIPE SAMPLES

A-1 If multiple samples are to be collected at the work site, prepare a rough sketch of the area(s) or room(s), which are to be wipe sampled.

A-2 A new set of clean, impervious gloves should be used for each sample to avoid contamination of the media by previous samples and to prevent contact with the substance.

A-3 (1) If using Ghost Wipes™, tear open the individually sealed package. Remove the moistened wipe. Unfold the wipe.

(2) If using a dry media such as MCE or Whatman™ filter, moisten the filter with distilled or deionized water prior to sampling.

A-4 Place a 10 cm by 10 cm template on the area to be wiped.

A-5 Apply uniform firm pressure while wiping the area inside the template.

A-6 To insure that all portions of the partitioned area are wiped, start at the outside edge and progress toward the center making progress toward the center making concentric squares decreasing in size.

A-7 After collecting a sample, fold the filter or wipe inward and place into a container and number it. Note the number at the sample location on the sketch.

A-8 At least one blank filter treated in the same fashion but without wiping, should be submitted to the laboratory.

APPENDIX B SAMPLING STRATEGY FOR COLLECTION OF WIPE SAMPLES

B-1 Prior to cleaning the ranges, the three samples must be collected and analyzed for total lead dust on each surface, i.e., floor, ceiling, backstop, and wall to include the plenum wall, if applicable. In addition, a total of 3 samples should be collected from areas which have been least disturbed by airflow. Established walkways should be avoided.

B-2 Samples should be staggered to different areas of the range. A grid system should be utilized. Each range surface areas should be divided evenly into 3 by 3 sections. Samples should not be collected on all one section of a wall or end of the building.

APPENDIX C INTERPRETATION OF SAMPLE RESULTS (PRIOR TO CLEANING)

C-1 200 micrograms/sq ft or LESS

If all sample results are 200-micrograms/sq ft or less, the range can be converted and/or used for any purpose.

C-2 BETWEEN 201 and 200,000 micrograms/sq ft

Range must be decontaminated. Continued with cleaning instructions listed in paragraph 9 Sample results will be used to establish a baseline.

C-3 Over 200,000 micrograms/sq ft

Your sample media may not be capable of collecting additional lead dust and results that are above 200,000 micrograms/sq ft, and should be considered suspect.

NGB-AVS-SG

SUBJECT: All States (Log Number P01-0075) Army National Guard (ARNG) Safety and Occupational Health Program -- POLICY AND RESPONSIBILITIES FOR INSPECTION, EVALUATION AND OPERATION OF ARMY NATIONAL GUARD INDOOR FIRING RANGES

APPENDIX C (Continued)

C-4 High sample results may exist due to personnel walking or moving equipment/vehicles over the range surface causing the lead dust to be "ground" into the substratum. For examples, a maintenance activity may have oversprayed paint or spilled solvents onto the surface Regional Industrial Hygiene Office for specific guidance.

APPENDIX D**INTERPRETATION OF SAMPLE RESULTS (AFTER CLEANING)**

D-1 200 micrograms/sq. ft or less

If all sample results are less than 200 micrograms/sq ft, the range can be converted and/or used for any purpose after a coat of lead-free latex paint is applied.

APPENDIX E**RECOMMENDED SAMPLE MEDIA AND CONTAINERS**

E-1 The following is a list of vendors, which supply the media and containers necessary to collect air and lead surface wipe samples. The information is provided to assist in obtaining the proper media and containers. Alternative vendors are available and may be utilized, if known. Contact your Regional Industrial Hygiene Office for additional assistance or clarification.

E-2 Pre-loaded 3 piece cassette with mixed cellulose ester (MCE) filter and pad, 37 millimeter (mm), pore size 0.8 microns, breathing zone (BZ) and general area (GA) air samples.

<u>Order From</u>	<u>Catalog Number</u>
a. Millipore Corp. Ashdy Road Bedford, MA 01730 617-275-9200 800-225-1380	MAWP-037-A0
b. Gelman Sciences 600 South Wagner Rd Ann Arbor, MI 48106 313-665-0651 800-521-1520	64678 (GN-4)
c. Supelco, Inc. Supelco Park Bellefonte, PA 16823 800-247-6628 800-359-3041	2-3368M

E-3 37 mm MCE Filter with pad, no cassette included, for lead surface wipe samples.

<u>Order From</u>	<u>Catalog Number</u>
a. Supelco Inc. Supelco Park Bellefonte, PA 16823	2-3381IM

NGB-AVS-SG

SUBJECT: All States (Log Number P01-0075) Army National Guard (ARNG) Safety and Occupational Health Program -- POLICY AND RESPONSIBILITIES FOR INSPECTION, EVALUATION AND OPERATION OF ARMY NATIONAL GUARD INDOOR FIRING RANGES

APPENDIX E (Continued)

800-247-6628
800-359-3041

b. Millipore Corp. AAWP-037-00
Ashdy Road
Bedford, MA 01730
617-275-9200
800-225-1380

c. SKC, Inc. 225-5
334 Valley View Rd.
Eighty Four, PA 15330
412-941-9701
800-752-8472

Numbers 40 Whatman papers 110 centimeters in diameter, used for surface wipe samples

Order From Catalog Number

1100-1100 1100-1100
1100-1100 1100-1100
1100-1100 1100-1100
1100-1100 1100-1100
1100-1100 1100-1100

1100-1100 1100-1100
1100-1100 1100-1100
1100-1100 1100-1100
1100-1100 1100-1100
1100-1100 1100-1100

1100-1100 1100-1100
1100-1100 1100-1100
1100-1100 1100-1100
1100-1100 1100-1100
1100-1100 1100-1100

E-5. Glass container (25 milliliter) for collection and shipment of media.

Order From Catalog Number

a. Pierce Chemical Co. 13219 (screw cap)
P.O. Box 117
Rockford, IL 61105
815-968-0747
800-874-3723

b. Alltech Associates, Inc. 95321 (screw cap)
Applied Science Labs
2051 Waukegan Rd.
Deerfield, IL 60015
312-948-8600

NGB-AVS-SG

SUBJECT: All States (Log Number P01-0075) Army National Guard (ARNG) Safety and Occupational Health Program – POLICY AND RESPONSIBILITIES FOR INSPECTION, EVALUATION AND OPERATION OF ARMY NATIONAL GUARD INDOOR FIRING RANGES

APPENDIX E (Continued)

800-255-8324

E-6. Ghost Wipes™.

<u>Order From</u>	<u>Catalog Number</u>
-------------------	-----------------------

Environmental Express	SC4200
490 Wando Park Blvd.	
Mt. Pleasant, SC 29464	
1-800-343-5319	

E-7. Ghost Wipe™ Containers

<u>Order From</u>	<u>Catalog Number</u>
-------------------	-----------------------

Environmental Express	SC499
490 Wando Park Blvd.	
Mt. Pleasant, SC 29464	
1-800-343-5319	

E-8. Plastic ziplock bags can be obtained through the Army logistics system. Many sizes are available. Contact your supporting logistics branch for assistance.

E-9. Distilled water can be purchased at larger grocery stores, usually by the gallon, at a cost of approximately \$1.25. Deionized water can be obtained at local and state water labs or a hospital.

APPENDIX F

EXAMPLES OF COMPUTATION OF LEAD LEVELS FROM WIPE SAMPLE RESULTS

Sample results will be returned in the form of micrograms. The results must be converted to micrograms per square foot. This can be accomplished by following the examples listed below:

$$\frac{75 \text{ ug}}{100 \text{ cm}^2} \times \frac{929 \text{ cm}^2}{1 \text{ sq ft}}$$

$$\frac{75 \times 929}{100} = \frac{69675}{100} = 696.75 \text{ ug/sq ft}$$

ug – Microgram

Cm2 – Centimeters squared

Sq ft – Square foot

NGB-AVS-SG

SUBJECT: All States (Log Number P01-0075) Army National Guard (ARNG) Safety and Occupational Health Program -- POLICY AND RESPONSIBILITIES FOR INSPECTION, EVALUATION AND OPERATION OF ARMY NATIONAL GUARD INDOOR FIRING RANGES

APPENDIX H
AIR SAMPLING SHEET

Industrial Hygiene Air Sample Sheet							
Return Address				Point of Contact (name/phone #)			
				Samples Collected By			
Sampled Facility	City	State	Location (bldg/area)				
Description of Operation	___ Persons Exposed		___ Hrs/Day		Method of Collection		
Analysis Desired							
Sampling Data							
Sample No.							
Pump No.							B
Time On							L
Time Off							A
Total Time (min)							N
Flow Rate (LPM)							K
Volume (liters)							
GA/BZ							
Employee Name/ID							
Laboratory No.							
Calibration Information							
Pump No.	Calibration (LPM)		Rotameter Setting	Date			
	Pre-Use	Post-Use					
Name of Calibrator		Calibration Date		Pump Manufacturer			
Comments to Lab:							

NGB-AVS-SG

SUBJECT: All States (Log Number P01-0075) Army National Guard (ARNG) Safety and Occupational Health Program -- POLICY AND RESPONSIBILITIES FOR INSPECTION, EVALUATION AND OPERATION OF ARMY NATIONAL GUARD INDOOR FIRING RANGES

APPENDIX I
ABBREVIATIONS AND TERMS

Section I
Abbreviations

ARNG

Army National Guard

BUN

Blood urea nitrogen

BZ

Breathing zone

CBC

Complete blood count

CFR

Code of Federal Regulations

cm

Centimeter

DHEW

Department of Health, Education and Welfare

EPA

Environmental Protection Agency

GA

General area

OMPF

Official Military Personnel File

OPF

Official Personnel File

OSHA

Occupational Safety and Health Administration

TCLP

Toxic Characteristic Leaching Procedures

ug/sq ft

Micrograms per square foot

NGB-AVS-SG

SUBJECT: All States (Log Number P01-0075) Army National Guard (ARNG) Safety and Occupational Health Program -- POLICY AND RESPONSIBILITIES FOR INSPECTION, EVALUATION AND OPERATION OF ARMY NATIONAL GUARD INDOOR FIRING RANGES

APPENDIX I (Continued)

Section II Terms

HEPA

Refers to high efficiency particulate air filter systems capable of capturing up to 99.97 percent of particles 0.3 microns in size or larger.

Lead-Contaminated Range

It is assumed that all indoor ranges, which have been fired in, are lead-contaminated.

Wipe Sample

The terms wipe, swipe, or smear samples are used synonymously to describe the techniques utilized for assessing lead surface contamination.



1215 Manor Drive, Suite 205
Mechanicsburg, PA 17055
Phone: 717.590.7031
Fax: 717.590.7936
www.complianceplace.com

Industrial Hygiene Survey Report

National Guard Facility
West Orange Readiness Center

Prepared For: National Guard Bureau Region North IH
301-IH Old Bay Lane
Havre de Grace, MD 21078

Survey Location: West Orange Readiness Center
1299 Pleasant Valley way
West Orange, NJ, 07052

Prepared By: Compliance Management International, Inc.
1215 Manor Drive
Suite 205
Mechanicsburg, PA 17055

Survey Date: March 20, 2013

Report Date: April 26, 2013

Non-Responsive

Manager, Industrial Hygiene Services

Table of Contents

Section 1.0 Executive Summary	3
Section 2.0 Operation Description & Observations.....	4
Section 3.0 Lead Testing.....	5
Section 4.0 Lighting.....	7
Section 5.0 Indoor Air Quality.....	9
Section 6.0 Suspect Asbestos Containing Building Materials.....	11
Section 7.0 Equipment	12
Section 8.0 Limitations	13
Appendix A. Laboratory Analysis Report	14
Appendix B. Photographs	15
Appendix C. Floor Plan	16
Appendix D. References	17

Section 1.0 Executive Summary

An industrial hygiene survey was conducted on March 20, 2013, at the West Orange Readiness Center located at 1299 Pleasant Valley Way, West Orange, NJ 07052. The survey was performed by Mr. Non-Responsive.

1. Lead surface and air samples were collected. Surface levels of lead exceeded 200 micrograms per square foot (ug/ft^2) in one location. Cleaning procedures should be improved and remedial action should be taken to maintain lead levels below 200 ug/ft^2 . See Section 3.0 for detailed sampling results.
2. Lighting levels did not meet the American National Standards Institute/Illuminating Engineering Society of North America (ANSI/IESNA) recommended guideline in four locations. See Section 4.0 for detailed findings.
3. Indoor air quality (IAQ) parameters of temperature, relative humidity, carbon monoxide and carbon dioxide (ventilation) were evaluated during the assessment.
 - a. Temperature levels met the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) recommended guideline of 68-79 °F in areas sampled.
 - b. The relative humidity level was below the US Army Center for Health Promotion and Preventive Medicine (USACHPPM) TG 277 recommended guideline of 30-60% in all locations sampled.
 - c. CO levels were less than the National Ambient Air Quality Standard (NAAQS) recommended ceiling of 9 ppm.
 - d. CO₂ levels met the ASHRAE 62.1-2010 recommended guidelines for mechanically ventilated office buildings and commercial settings.

See Section 5.0 for detailed sampling results.

4. Dust was evident throughout the facility. Overall housekeeping practices should be improved. See Section 5.0 for detailed findings.
5. Water-stained ceiling tiles were observed in the facility. See Section 5.0 for detailed findings.
6. Several areas have suspect asbestos containing floor tiles. The floor tiles intact are in good condition. See Section 6.0 for detailed findings.

Section 2.0 Operation Description & Observations

The West Orange Readiness Center is mainly an administrative facility with a sports arena, offices, classrooms, and a converted firing range area (currently a classroom). There were approximately 20 full-time employees stationed at this facility at the time of this survey.

The building is reported to have been built in 1937. It is a two-story structure. The exterior is brick. The interior walls are brick and concrete block with drywall in some of the offices. The floors are concrete, carpet, and floor tiles.

The heating system consists of two oil-fired steam generating units. There is a central A/C unit that services the north administrative offices. Several of the remaining offices have window A/C units.

There is no child-care facility in the building.

Dust is evident throughout the facility. Overall housekeeping practices should be improved.

No ergonomic concerns were reported. Office areas have computer work stations. Work stations appeared to be properly designed. Personnel had supportive chairs.

This facility has a converted firing range that is now used as a classroom. It was not accessible at the time of this survey.

Section 3.0 Lead Testing

Various surfaces within the facility were screened for lead using surface/wipe samples. Surface/wipe samples were collected in accordance with the American Society for Testing and Materials (ASTM) E 1792 protocols. Air samples were collected using 0.8 um mixed cellulose ester (MCE) filter cassettes attached to low volume air sampling pumps. Blank samples were submitted to the laboratory for quality control purposes. Samples were sent to AMA Analytical Services, Inc., in Lanham, Maryland, for lead analysis using Environmental Protection Agency (EPA) Method 600/R-93/200 (M)-7420. A copy of the laboratory analysis report can be found in Appendix A.

Lead Testing Results Summary

Sample #	Location	Air ug/m ³	Surface ug/ft ²
1	Drill Hall	<6	*
2	B Troop HQ	<5.9	*
3	Blank	<3	*
4	Drill Hall Floor	*	<110
5	Drill Hall Steel Girder	*	250
6	Drill Hall B Troop Storage Cabinet	*	<110
7	Food Services Cabinet	*	<110
8	Food Services Dining Mantle	*	<110
9	2 nd Floor B Troop Corridor Floor	*	<110
10	B Troop HQ TV	*	<110
11	Mail Room Monitor	*	<110
12	ASVAP Test Room Cabinet	*	<110
13	1 st Floor North Corridor Floor	*	<110
14	Exercise Room A/C Unit	*	<110
15	Lobby Chair Molding	*	<110
16	Supply Room Cabinet	*	<110
17	Armorer's Office First Aid Kit	*	<110
18	North Side 2 nd Floor Corridor Floor	*	170
19	North Side 50 th BSTB Office Shelf	*	<110
20	North Side Copy Room A/C Unit	*	<110
21	Converted Firing Range Outside Entrance	*	<110
-	Criteria	50	200

Table Notes:

1. **Bolded** results exceed listed criteria
2. **ppm** = parts per million
3. **ug/ft²** = micrograms per square foot
4. **ug/m³** = micrograms per cubic meter
5. **ug** = micrograms

Sources:

1. NG PAM 420-15 Guidelines and Procedures for Rehabilitation and Conversion of Indoor Firing Ranges
2. OSHA 29CFR1910.1025 Lead Standard

The National Guard Bureau currently utilizes 200 micrograms per square foot (ug/ft^2) as a benchmark for identifying lead-contaminated surfaces. This guideline is referenced in NG PAM 420-15 "Guidelines and Procedures for Rehabilitation and Conversion of Indoor Firing Ranges" as a satisfactory surface contamination level unless the facility is utilized as a childcare facility. In such cases, U.S. Department of Housing and Urban Development (HUD) limit of $40 \text{ ug}/\text{ft}^2$ on floors and $250 \text{ ug}/\text{ft}^2$ on windowsills should be observed. There is no child care provided at this facility.

Lead surface and air samples were collected. The following is a summary of the sample results from this survey.

- Surface levels of lead were above the recommended guideline of $200 \text{ ug}/\text{ft}^2$ in the following location:
 - Drill Hall – Steel Girder

Cleaning procedures should be improved to maintain lead levels on surfaces below the recommended guideline of $200 \text{ ug}/\text{ft}^2$.

- Air samples for lead were below the Occupational Safety and Health Administration (OSHA) Permissible Exposure Limit of 50 micrograms per cubic meter (ug/m^3).

Section 4.0 Lighting

A lighting assessment was conducted throughout the facility. Measurements were collected using a Cooke Cal-Light 400L Precision Light Meter (Serial No. K98364). The light meter was last calibrated in April 2012. Measurements collected were compared to ANSI/IESNA RP-7-01 Lighting Industrial Facilities and RP-1-04 Office Lighting.

Light Survey Assessment Summary

Location	Foot Candles (FC)	Recommended Lighting (FC)	Sufficient Lighting
Armorer's Office 1	19.2	30-50	No
Armorer's Office 2	112.6	30-50	Yes
Armorer's Lobby	20.4	10	Yes
RRBAV Office	84.5	30-50	Yes
Boiler Room	30.3	30	Yes
Boiler Corridor	14.2	5	Yes
Supply Room	116.0	30	Yes
Recruiter's Office	110.7	30-50	Yes
Lobby	6.3	10	No
Men's Toilet	28.3	5	Yes
South Corridor	9.9	5	Yes
South Corridor Classroom	62.9	30-50	Yes
Exercise Room	30.8	30	Yes
RSTA HQ Office	51.9	30-50	Yes
Mail Room	31.0	30	Yes
FRG EO Office	59.1	30-50	Yes
2-42 Conference Meeting	34.1	30	Yes
B Troop Meeting	27.3	30	No
2nd Floor Lobby	8.2	10	No
Women's Toilet	36.6	5	Yes
Food Services Dining	14.9	10	Yes
Food Services Prep	76.5	50	Yes
Drill Hall	20.6	10	Yes
North Side 2 nd Floor Corridor	8.1	5	Yes
SFC Non-Responsive Office	123.5	30-50	Yes
Copy Room	40.6	30-50	Yes
A Company Orderly Room Meeting	40.2	30-50	Yes

Table Notes:

1. FC = Foot Candles
2. **Bolded** results did not meet listed criteria

Source: ANSI/IESNA RP-7-01 Lighting Industrial Facilities and RP-1-04 Office Lighting.

The lighting level did not meet the minimum recommended guideline in the Armorer's Office, 1st and 2nd Floors Lobbies, and B Troop Meeting Room. Lighting should be improved in these areas.

Section 5.0 Indoor Air Quality

Survey measurements were made for comfort parameters and ventilation (temperature, relative humidity, carbon dioxide, and carbon monoxide). The air quality measurements were collected using direct reading instrumentation for comfort parameters using a QTRAK IAQ Meter, Model 7565 (Serial #02041015). The IAQ Meter was last calibrated in August 2012.

The American Society of Heating, Refrigerating, and Air Conditioning Engineers, Inc. (ASHRAE) have developed indoor air quality guidelines for mechanically ventilated office buildings and commercial settings (ASHRAE standard 62.1-2010). ASHRAE specifies temperature ranges for human comfort (ASHRAE 55-2010). The US Army Technical Guide 277 Army Facilities Management Information Document on Mold Remediation, recommends maintaining a relative humidity range between 30 to 60%.

The following table summarizes the measurements collected.

IAQ Assessment Summary

Location	Temperature (°F)	Relative Humidity (%)	Carbon Dioxide (ppm)	Carbon Monoxide (ppm)
Outdoors	48.6	26.8	324	0.0
Armorer's Office	73.9	19.2	647	0.4
RSTA HQ	71.8	20.6	501	0.0
SFC Non-Responsive s Office	73.0	23.6	516	0.0
Criteria	68-79	30-60	<1,024	<9

Table Notes:

1. **Bolded** results exceed listed criteria
2. **ppm** = parts per million
3. **(%)** = percent relative humidity
4. **°F** = degrees Fahrenheit

Sources: The American Society of Heating, Refrigerating, and Air Conditioning Engineers, Inc. (ASHRAE) 55-2010, 62.1-2010, Environmental Protection Agency (EPA) National Ambient Air Quality Standard (NAAQS) & The US Army Technical Guide 277 Army Facilities Management Information Document on Mold Remediation.

Summary of findings and recommendations:

- Temperature measurements met the recommended 68-79°F in all occupied areas.
- Relative humidity levels were below the recommended guidelines in all sampled areas. Low relative humidity can cause the drying of the mucous tissues and an increased susceptibility to respiratory infection. Relative humidity should be maintained at 30-60%.
- Carbon dioxide levels were measured to evaluate building ventilation or the introduction of outdoor air into the building. The recommended ceiling is obtained by adding 700 ppm to the measured outdoor carbon dioxide level for this survey. For this survey, carbon dioxide levels did not exceed the recommended ceiling of 1,024 ppm. This is an indication that outdoor air ventilation is adequate.
- Carbon monoxide levels measured were less than the recommended ceiling of 9 ppm. The recommended ceiling of 9 ppm referenced in the above table is the National Ambient Air Quality Standard for carbon monoxide.
- A visual inspection was conducted throughout accessible portions of the facility to assess sources or pathways of factors potentially deleterious to IAQ. The following observations were noted:
 - Dust is evident throughout the facility. Cleaning efforts should be improved.
 - Water-stained ceiling tiles were observed in the facility. All sources of water infiltration should be identified and repaired. Water stained ceiling tile should be removed and replaced.

Section 6.0 Suspect Asbestos Containing Building Materials

The following suspect asbestos containing material (ACM) was noted at the time of this survey:

1. Several areas have 9"x9" suspect ACM floor tiles (approximately 1,000 square feet). The flooring was intact and not sampled.

Inaccessible areas such as behind walls or crawlspaces were not inspected. ACM could potentially be present in these areas.

Section 7.0 Equipment

The following equipment was utilized during this survey. All sampling equipment was properly calibrated prior to use and verified for accuracy as applicable. See daily reports and calibrations logs for detailed information.

Equipment	Serial #	Calibration Date	Value
TSI QTrak IAQ Meter	02041015	8/2012	NA
Cal Light 400 Light Meter	K98364	4/2012	NA
TSI 4199 Calibrator	41460827002	8/2012	NA
SKC Air Sampling Pump	647631	3/20/13	2.77 LPM
SKC Air Sampling Pump	647610	3/20/13	2.81 LPM

Section 8.0 Limitations

This report summarizes our evaluation of the conditions observed at the above referenced location. Our findings are based upon our observations and sampling results obtained at the facility at the time of our visit. The report, results, and subsequent recommendations reported herein are also limited to the information available at the time it was prepared and investigated. Conditions may have been in effect prior to the sampling events that have changed over time and which cannot be predicted within the scope of this limited investigation. Any conditions discovered which deviate from the data contained in this report should be presented to us for our evaluation.

This report is intended for the exclusive use of the client. This report and the findings herein shall not, in whole or in part, be relied upon by any other parties, disseminated or conveyed to any other party without prior written consent of the National Guard Bureau, and Compliance Management International, Inc. The findings are relative to the dates of our site visits and should not be relied upon for substantially later dates.

Appendix A. Laboratory Analysis Report



CERTIFICATE OF ANALYSIS



Client:	National Guard Bureau	Job Name:	3KNJ IH Survey	Chain Of Custody:	515376
Address:	301-IH Old Bay Lane, Attn: ARNG-CJG-P, State Military Reservation Havre de Grace, Maryland 21078	Job Location:	Not Provided	Date Submitted:	3/22/2013
Attention:	Non-Responsive	Job Number:	Not Provided	Person Submitting:	Non-Responsive
		P.O. Number:	W912K6-09-A-0003	Date Analyzed:	3/29/2013
				Report Date:	3/29/2013

Summary of Atomic Absorption Analysis for Lead

Page 2 of 2

AMA Sample Number	Client Sample Number	Analysis Type	Sample Type	Air Volume (L)	Area Wiped (ft ²)	Reporting Limit	Total ug	Final Result	Comments
13046615	20	Flame	Wipe	****	0.108	110 ug/ft ²	<12	<110 ug/ft ²	
13046616	21	Flame	Wipe	****	0.108	110 ug/ft ²	<12	<110 ug/ft ²	

Analysis Method for Flame: Air, Wipes, Paints, and Soil/Solids: EPA 600/R-93/200(M)-7000B; Water: SM-3111B
 Analysis Method For Furnace: Air, Wipes, Paints, and Soil/Solids : EPA 600/R-93/200(M)-7010; Water: SM-3113B
 N/A = Not Applicable mg/Kg = parts per million (ppm) on a dry weight basis mg/L = parts per million (ppm)

%Pb = percent lead on a dry weight basis ug = micrograms ug/L = parts per billion (ppb)

Note: All samples were received in good condition unless otherwise noted.

Note: All results have two significant digits. Any additional digits shown should not be considered when interpreting the result.

Air and Wipe results are not corrected for any blank results

Final results for air and wipe samples are based on client supplied information nor verified by this laboratory.

All results are to be considered preliminary and subject to change unless signed by the Technical Director or Deputy.

Non-Responsive

Technical Manager: **Non-Responsive**

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these Laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from us. Sample types, locations, and collection protocols are based upon the information provided by the persons submitting them and, unless collected by personnel of these Laboratories, we expressly disclaim any knowledge and liability for the accuracy and completeness of this information. Residual sample material will be discarded in accordance with the appropriate regulatory guidelines, unless otherwise requested by the client. This report must not be used to claim, and does not imply product certification, approval, or endorsement by NY ELAP, AIHA, or any agency of the Federal Government. All rights reserved. AMA Analytical Services, Inc.



CERTIFICATE OF ANALYSIS



Client:	National Guard Bureau	Job Name:	3KNJ IH Survey	Chain Of Custody:	515376
Address:	301-IH Old Bay Lane, Attn: ARNG-CJG-P, State Military Reservation Havre de Grace, Maryland 21078	Job Location:	Not Provided	Date Submitted:	3/22/2013
Attention:	Non-Responsive	Job Number:	Not Provided	Person Submitting:	Non-Responsive
		P.O. Number:	W912K6-09-A-0003	Date Analyzed:	3/29/2013
				Report Date:	3/29/2013

Summary of Atomic Absorption Analysis for Lead

Page 1 of 2

AMA Sample Number	Client Sample Number	Analysis Type	Sample Type	Air Volume (L)	Area Wiped (ft ²)	Reporting Limit	Total ug	Final Result	Comments
13046596	1	Flame	Air	499	N/A	6 ug/m ³	<3	<6 ug/m ³	
13046597	2	Flame	Air	506	N/A	5.9 ug/m ³	<3	<5.9 ug/m ³	
13046598	3	Flame	Air Blank	0	N/A	3 ug/m ³		<3 ug	
13046599	4	Flame	Wipe	****	0.108	110 ug/ft ²	<12	<110 ug/ft ²	
13046600	5	Flame	Wipe	****	0.108	110 ug/ft ²	27	250 ug/ft ²	
13046601	6	Flame	Wipe	****	0.108	110 ug/ft ²	<12	<110 ug/ft ²	
13046602	7	Flame	Wipe	****	0.108	110 ug/ft ²	<12	<110 ug/ft ²	
13046603	8	Flame	Wipe	****	0.108	110 ug/ft ²	<12	<110 ug/ft ²	
13046604	9	Flame	Wipe	****	0.108	110 ug/ft ²	<12	<110 ug/ft ²	
13046605	10	Flame	Wipe	****	0.108	110 ug/ft ²	<12	<110 ug/ft ²	
13046606	11	Flame	Wipe	****	0.108	110 ug/ft ²	<12	<110 ug/ft ²	
13046607	12	Flame	Wipe	****	0.108	110 ug/ft ²	<12	<110 ug/ft ²	
13046608	13	Flame	Wipe	****	0.108	110 ug/ft ²	<12	<110 ug/ft ²	
13046609	14	Flame	Wipe	****	0.108	110 ug/ft ²	<12	<110 ug/ft ²	
13046610	15	Flame	Wipe	****	0.108	110 ug/ft ²	<12	<110 ug/ft ²	
13046611	16	Flame	Wipe	****	0.108	110 ug/ft ²	<12	<110 ug/ft ²	
13046612	17	Flame	Wipe	****	0.108	110 ug/ft ²	<12	<110 ug/ft ²	
13046613	18	Flame	Wipe	****	0.108	110 ug/ft ²	18	170 ug/ft ²	
13046614	19	Flame	Wipe	****	0.108	110 ug/ft ²	<12	<110 ug/ft ²	

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these Laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from us. Sample types, locations, and collection protocols are based upon the information provided by the persons submitting them and, unless collected by personnel of these Laboratories, we expressly disclaim any knowledge and liability for the accuracy and completeness of this information. Residual sample material will be discarded in accordance with the appropriate regulatory guidelines, unless otherwise requested by the client. This report must not be used to claim, and does not imply product certification, approval, or endorsement by NY ELAP, AIHA, or any agency of the Federal Government. All rights reserved. AMA Analytical Services, Inc.

**AMA Analytical Services, Inc.**

Focused on Results www.amalab.com
AIHA (#100470) NVLAP (#101143-0) NY-ELAP (10920)
4475 Forbes Blvd. • Lanham, MD 20706
(301) 459-2640 • (800) 346-0961 • Fax (301) 459-2643

CHAIN OF CUSTODY(Please Refer To This
Number For Inquires)1082
515376**Mailing/Billing Information:**

1. Client Name: National Guard Bureau
2. Address 1: 301-1H Old Bay Lane
3. Address 2: Attn: NGBARS-JHNE
4. Address 3: Havre de Grace, Maryland 21078
5. Phone #: (410) 942-0273 Fax #: (410) 942-0254

Submission Information:

1. 3KNJ 1H Survey
2. Non-Responsive
3. Job #: PO. #: W912K6-09-A-0003
4. Contact Person: Non-Responsive
5. Non-Responsive

Reporting Information (Results will be provided as soon as technically feasible):**AFTER HOURS (must be pre-scheduled)**

- ☐ Immediate Date Due: _____
☐ 24 Hours Time Due: _____
Comments: _____

- ☐ Immediate ☐ 3 Day ☐ Results Required By Noon
☒ Next Day ☒ 1 Day + 3/29/13 (Every Attempt Will Be
☐ 2 Day Date Due: _____ Made to Accommodate)

REPORT TO:

- ☒ In Report complianceplace.com
☐ Fax us.army.mil
☐ Ver us.army.mil

PCMAIR - Please Indicate Filter Type:

- ☐ NIOSH 7400 (QTY)
☐ Fiberglass (QTY)

TEMAIR - Please Indicate Filter Type:

- ☐ AHERA (QTY)
☐ NIOSH 7402 (QTY)
☐ Other (specify) (QTY)

PLM Bulk

- ☐ EPA 600 - Visual Estimate (QTY)
☐ EPA Point Count (QTY)
☐ NY State Friable 198.1 (QTY)
☐ Grav. Reduction ELAP 198.6 (QTY)
☐ Other (specify) (QTY)

MISC

- ☐ Vermiculite
☐ Asbestos Soil PLM (Qual) PLM (Qual) PLM/TEM (Qual) PLM/TEM (Qual)

TEMA Bulk

- ☐ ELAP 198.4/Chatfield (QTY)
☐ NY State PLM/TEMA (QTY)
☐ Residual Ash (QTY)

TEMA Dust

- ☐ Qual. (pres/abs) Vacuum/Dust (QTY)
☐ Quan. (s/area) Vacuum D5755-95 (QTY)
☐ Quan. (s/area) Dust D6480-99 (QTY)

TEMA Water

- ☐ Qual. (pres/abs) (QTY)
☐ ELAP 198.2/BPA 100.2 (QTY)
☐ EPA 100.1 (QTY)

☒ All samples received in good condition unless otherwise noted.
(TEMA Water samples _____ °C)

TEMA Analysis

- ☐ Pb Paint Chip (QTY)
☒ Pb Dust Wipe (wipe type GHOST) (QTY)
☒ Pb Air 3 (QTY)
☐ Pb Soil/Solid (QTY)
☐ Pb TCLP (QTY)
☐ Drinking Water ☐ Pb (QTY) ☐ Cu (QTY) ☐ As (QTY)
☐ Waste Water ☐ Pb (QTY) ☐ Cu (QTY) ☐ As (QTY)
☐ Pb Furnace (Media) (QTY)

TEMA Analysis

- Collection Apparatus for Spore Traps/Air Samples: _____
Collection Media _____
☐ Spore-Trap (QTY) ☐ Surface Vacuum Dust (QTY)
☐ Surface Swab (QTY) ☐ Culturable ID Genus (Media) (QTY)
☐ Surface Tape (QTY) ☐ Culturable ID Species (Media) (QTY)
☐ Other (Specify) (QTY)

CLIENT CONTACT**(LABORATORY STAFF ONLY)**

CLIENT ID NUMBER	SAMPLE LOCATION/ IDENTIFICATION	VOLUME DATE (LITERS)	WIPED AREA	TEM	PCM	PLM	LEAD	MOLD	AIR	BULK	DUST	WATER	SPORE TRAP	TAPE	SWAB	Date/Time:	Contact:	By:
1	Drill Hall	3/20/13 499					X											
2	HQ B Tread Off	506					X											
3	Blank																	
4	Drill Hall Floor		100 cm ²				X											
5	Drill Hall Steel Girder						X											
6	Drill Hall BTRP STOR CAB						X											
7	Kitchen Cabinet						X											
8	Food Srvs Dining Mantle						X											
9	2nd Floor BTRP COFIR						X											
10	BTRP HQ TV						X											
11	Mail Rm monitor						X											
12	ASVAD Test Rm Cabinet						X											

LABORATORY STAFF ONLY:

Posted to NGB FOIA Reading Room
May, 2018

1. Date/Time RCVD: 3/22/13 @ 0800 Via FEDEX By (Print): _____
2. Date/Time Analyzed: _____ @ _____ By (Print): _____
3. Results Reported To: _____
4. Comments: 945 0135 1322

BEST AVAILABLE COPY

Non-Responsive

Time: _____ Initials: _____
FOIA Requested Record #J-15-0085 (NH)
Released by National Guard Bureau
Page 1328 of 1660

**AMA Analytical Services, Inc.**

Focused on Results www.amalab.com
AIIHA (#100470) NVLAP (#101143-0) NY ELAP (10920)
4475 Forbes Blvd. • Lanham, MD 20706
(301) 459-2640 • (800) 346-0961 • Fax (301) 459-2643

CHAIN OF CUSTODY

(Please Refer To This
Number For Inquires)

515376

2082

Mailing/Billing Information:

1. Client Name: National Guard Bureau
2. Address 1: 301-1H Old Bay Lane
3. Address 2: Attn: NGB-ARS-JHNE
4. Address 3: Havre de Grace, Maryland 21078
5. Phone #: (410) 942-0273 Fax #: (410) 942-0254

Submittal Information:

1. SKNT
2. W Orange
3. Job #: W912K6-09-A-0003
4. Contact Person: Non-Responsive @ phone # (410) 942-0273
5. Non-Responsive

Reporting Information (Results will be provided as soon as technically feasible):**AFTER HOURS (must be pre-scheduled)**

- ☐ Immediate Date Due: _____
☐ 24 Hours Time Due: _____

Comments: _____

- ☐ Immediate
☒ Next Day
☐ 2 Day

- ☐ 3 Day
☐ 5 Day +
Date Due: _____

- ☐ Results Required By Noon
(Every Attempt Will Be
Made to Accommodate)

REPORT TO:

- ☒ Include CCM/Field Data Sheets with Report
☒ Non-Responsive complianceplace.com
☐ Fax us.army.mil
☐ Ver us.army.mil

PCMAir - Please Indicate Filter Type:

- ☐ NIOSH 7400 (QTY)
☐ Fiberglass (QTY)

TEMAir - Please Indicate Filter Type:

- ☐ AHERA (QTY)
☐ NIOSH 7402 (QTY)
☐ Other (specify) _____ (QTY)

PLM Bulk

- ☐ EPA 600 - Visual Estimate (QTY)
☐ EPA Point Count (QTY)
☐ NY State Friable 198.1 (QTY)
☐ Grav. Reduction ELAP 198.6 (QTY)
☐ Other (specify) _____ (QTY)

MISC

- ☐ Vermiculite
☐ Asbestos Soil PLM (Qual) PLM (Qual) PLM/TEM (Qual) PLM/TEM (Qual)

TEM Bulk

- ☐ ELAP 198.4/Chatfield (QTY)
☐ NY State PLM/TEM (QTY)
☐ Residual Ash (QTY)

TEM Dust

- ☐ Qual. (pres/abs) Vacuum/Dust (QTY)
☐ Quan. (s/area) Vacuum D5755-95 (QTY)
☐ Quan. (s/area) Dust D6480-99 (QTY)

TEM Water

- ☐ Qual. (pres/abs) (QTY)
☐ ELAP 198.2/EPA 100.2 (QTY)
☐ EPA 100.1 (QTY)

- ☐ All samples received in good condition unless otherwise noted.
(TEM Water samples _____ °C)

Vegetal Samples

- ☐ Pb Paint Chip (QTY)
☐ Pb Dust Wipe (wipe type G405T) 18 (QTY)
☒ Pb Air 3 (QTY)
☐ Pb Soil/Solid (QTY)
☐ Pb TCLP (QTY)
☐ Drinking Water ☐ Pb (QTY) ☐ Cu (QTY) ☐ As (QTY)
☐ Waste Water ☐ Pb (QTY) ☐ Cu (QTY) ☐ As (QTY)
☐ Pb Furnace (Media _____) (QTY)

Spore Traps

Collection Apparatus for Spore Traps/Air Samples: _____

Collection Media _____

- ☐ Spore-Trap (QTY) ☐ Surface Vacuum Dust (QTY)
☐ Surface Swab (QTY) ☐ Culturable ID Genus (Media _____) (QTY)
☐ Surface Tape (QTY) ☐ Culturable ID Species (Media _____) (QTY)
☐ Other (Specify) _____ (QTY)

CLIENT CONTACT

(LABORATORY STAFF ONLY)

CLIENT ID NUMBER	SAMPLE LOCATION/ IDENTIFICATION	DATE	VOLUME (LITERS)	WIPE AREA	TEM	PCM	PLM	LEAD	MOLD	AIR	BULK	DUST	WATER	SPORE TRAP	TAPE	SWAB	Date/Time:	Contact:	By:
13	1st LORRY FLOOR	3/20/19		100cm ²															
14	EXERCISE ROOM: A/c UNIT																		
15	Lobby moulding EDBE																		
16	Supply Room Cabinet																		
17	Armorer's Office 1st Aid Kit																		
18	North Side 2nd Floor EIR																		
19	" 5th Floor OFFICE shelf																		
20	" Copy Rm A/c UNIT																		
21	outside CFR FLOOR																		

LABORATORY**STAFF ONLY:**

Posted to: NGB FOIA Reading Room
May, 2018

1. Date/Time RCYD: _____ / _____ / _____ @ _____ Via: _____ By (Print): _____ Sign: _____
2. Date/Time Analyzed: _____ / _____ / _____ @ _____ By (Print): _____ Sign: _____
3. Results Reported To: _____ Date: _____ / _____ / _____ Time: _____ Initials: _____
4. Comments: _____

BEST AVAILABLE COPY

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

Released by National Guard Bureau

Page 1329 of 1660

Appendix B. Photographs



West Orange Armory Front

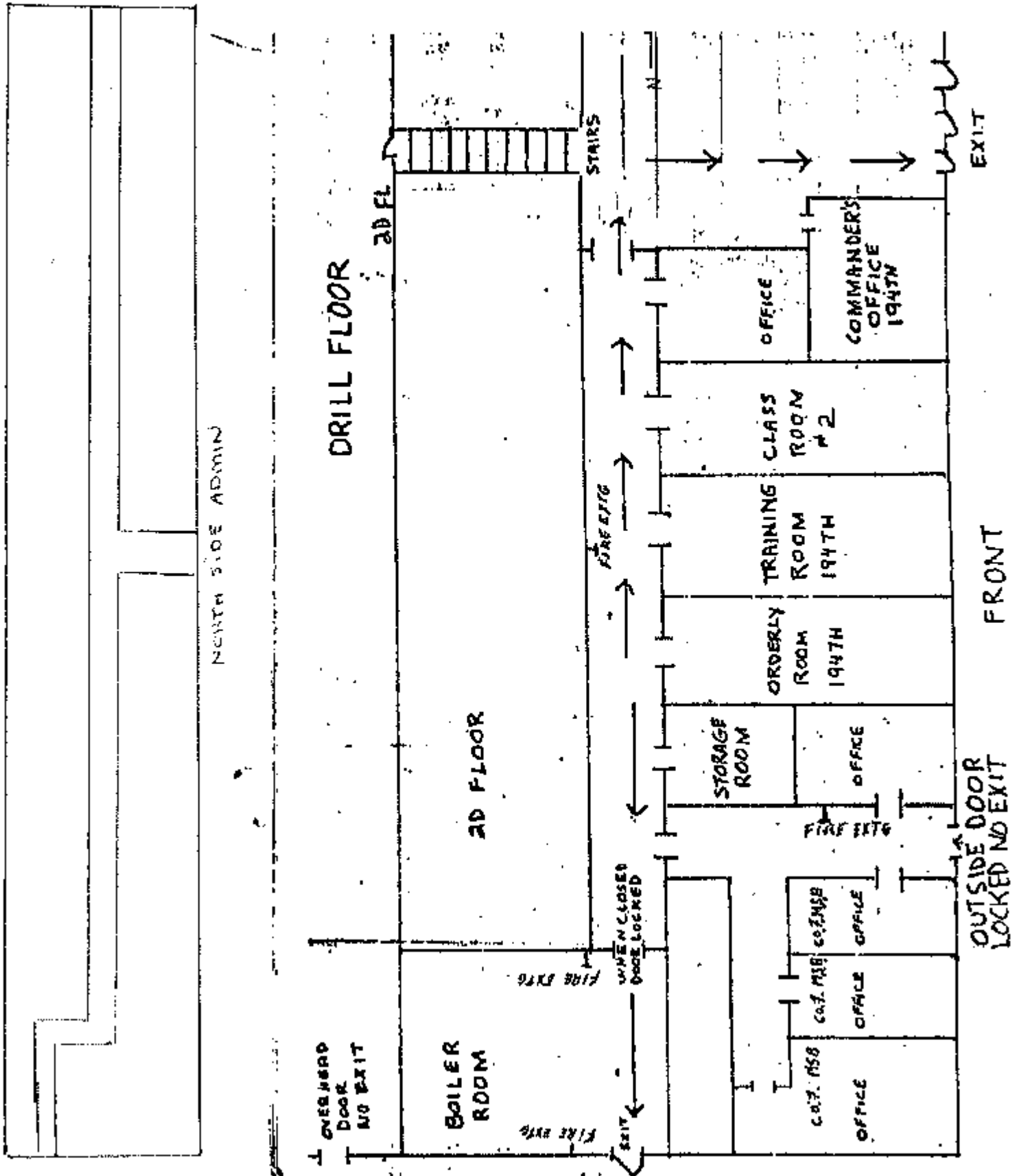


SACM Floor Tile



Water Stained Ceiling Tiles

Appendix C. Floor Plan



West Canger, NJ

Appendix D. References

1. Title 29 Code of Federal Regulations (CFR), Part 1910.1025, Occupational Safety and Health Administration, Occupational Exposure to Lead.
2. American Conference of Governmental Industrial Hygienists (ACGIH) – Threshold Limit Values and Biological Exposure Indices, 2011 Edition.
3. Industrial Ventilation: A Manual of Recommended Practice for Design, 27th Edition.
4. ANSI/American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), Ventilation for Acceptable Indoor Air Quality, 62.1-2010.
5. RP-1-2004, Industrial Lighting, Illuminating Engineering Society of North America/ANSI.
6. RP-7-2001, Industrial Lighting, Illuminating Engineering Society of North America/ANSI.
7. National Emission Standard Hazardous Air Pollutants (NESHAP) – The standards for asbestos are contained in 40 CFR 61.140 through 61.157.
8. National Ambient Air Quality Standards (NAAQS) - National primary ambient air quality standards for carbon monoxide 40 CFR 50.8.
9. Environmental Protection Agency (EPA) standards [40 Code of Federal Regulations (CFR) 745.227(h) (3)].
10. Derivation of Wipe Surface Screening Levels for Environmental Chemicals, the US Army Center for Health Promotion and Preventive Medicine (USACHPPM).
11. The US Army Technical Guide 277 Army Facilities Management Information Document on Mold Remediation, February 2002.
12. NG PAM 420-15 Guidelines and Procedures for Rehabilitation and Conversion of Indoor Firing Ranges, 3 Nov 06.
13. ANSI/American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), Thermal Environmental Conditions for Human Occupancy, 55-2010.



1215 Manor Drive, Suite 205
Mechanicsburg, PA 17055
Phone: 717.590.7031
Fax: 717.590.7936
www.complianceplace.com

Industrial Hygiene Survey Report

National Guard Facility
Washington Readiness Center

Prepared For: National Guard Bureau Region North IH
301-IH Old Bay Lane
Havre de Grace, MD 21078

Survey Location: Washington Readiness Center
550 State Route 57
Port Murray, NJ, 07865

Prepared By: Compliance Management International, Inc.
1215 Manor Drive
Suite 205
Mechanicsburg, PA 17055

Survey Date: February 28, 2013

Report Date: April 3, 2013

Non-Responsive

Senior Industrial Hygienist

Table of Contents

Section 1.0 Executive Summary	3
Section 2.0 Operation Description & Observations.....	4
Section 3.0 Lead Testing.....	5
Section 4.0 Lighting.....	7
Section 5.0 Indoor Air Quality.....	9
Section 6.0 Ventilation Survey	11
Section 7.0 Suspect Asbestos Containing Building Materials.....	12
Section 8.0 Equipment	13
Section 9.0 Limitations	14
Appendix A. Laboratory Analysis Report	15
Appendix B. Photographs	16
Appendix C. Floor Plan	17
Appendix D. References	18

Section 1.0 Executive Summary

An industrial hygiene survey was conducted on February 28, 2013, at the Washington Readiness Center located at 550 State Route 57, Port Murray, NJ 07865. The survey was performed by Mr. Non-Responsive.

1. Lead surface and air samples were collected. Surface levels of lead were below the NG PAM 420-15 "Guidelines and Procedures for Rehabilitation and Conversion of Indoor Firing Ranges" benchmark of 200 micrograms per square foot (ug/ft^2) in all locations. Air samples for lead were below the Occupational Safety and Health Administration (OSHA) Permissible Exposure Limit of 50 micrograms per cubic meter (ug/m^3). See Section 3.0 for detailed findings.
2. Lighting levels did not meet the American National Standard Institute/Illuminating Engineering Society of North America (ANSI/IESNA) recommended guideline in five locations. See Section 4.0 for detailed findings.
3. Indoor air quality (IAQ) parameters of temperature, relative humidity, carbon monoxide and carbon dioxide (ventilation) were evaluated during the assessment.
 - a. Relative humidity levels were below the US Army Center for Health Promotion and Preventive Medicine (USACHPPM) TG 277 recommended guideline of 30-60% in three locations.
 - b. Temperature levels were below the American Society of Heating, Refrigerating, and Air Conditioning Engineers, Inc. (ASHRAE) recommended guideline of 68-79 degrees °F in one location.
 - c. CO levels were less than the National Ambient Air Quality Standard (NAAQS) recommended ceiling of 9 ppm.
 - d. CO₂ levels met the ASHRAE 62.1-2010 recommended guidelines for mechanically ventilated office buildings and commercial settings.

See Section 5.0 for detailed findings.

4. Several water-stained ceiling tiles were observed in the facility. There were no active water leaks observed at the time of this survey. See Section 5.0 for detailed findings.
5. Flow rates of the above floor vehicle exhausts were insufficient. See Section 6.0 for detailed findings.
6. No suspect asbestos containing materials (ACM) were identified in this survey. See Section 7.0 for detailed findings.

Section 2.0 Operation Description & Observations

The Washington Readiness Center is mainly an administrative facility with a drill hall, offices and classrooms, attached vehicle maintenance garage, and converted firing range/storage area. There were approximately 9 full-time employees stationed at this facility at the time of this survey.

The building was initially constructed in the 1980s. It is a two-story structure with a brick exterior. The interior walls are concrete block with drywall in some of the offices. The floors are concrete, floor tile, and carpet.

The Heating, Ventilation, and Air-Conditioning (HVAC) system consists of a natural-gas fired forced hot water furnace for heat. Air conditioning to administrative areas is supplied by a rooftop unit.

The area of the building that was once a firing range has been converted into a storage area. No firing range components remain.

There is no child-care facility in the building.

Overall housekeeping practices were good.

No ergonomic concerns were reported. Office areas have computer work stations. Work stations appeared properly designed. Personnel had supportive chairs.

Section 3.0 Lead Testing

Various surfaces within the facility were screened for lead using surface/wipe samples. Surface/wipe samples were collected in accordance with the American Society for Testing and Materials (ASTM) E 1792 protocols. Air samples were collected using 0.8 um mixed cellulose ester (MCE) filter cassettes attached to low volume air sampling pumps. Blank samples were submitted to the laboratory for quality control purposes. Samples were sent to AMA Analytical Services, Inc., in Lanham, Maryland, for lead analysis using Environmental Protection Agency (EPA) Method 600/R-93/200 (M)-7420. A copy of the laboratory analysis report can be found in Appendix A.

Lead Testing Results Summary

Sample #	Location	Air ug/m ³	Surface ug/ft ²
1	Drill Hall	<4.8	*
2	145A	<4.9	*
3	Blank	<3	*
4	Drill Hall – Floor Ctr.	*	<110
5	Drill Hall – Soda Machine	*	<110
6	Drill Hall - Fan	*	<110
7	Food Services - Frig	*	<110
8	Converted Firing Range - Floor	*	<110
9	Converted Firing Range - Contents	*	<110
10	Converted Firing Range – Outside entrance	*	<110
11	Classroom 1 - Shelf	*	<110
12	155 - Shelf	*	<110
13	145 – File Cabinet	*	<110
14	209 - Cabinet	*	<110
15	208 – Wall cabinet	*	<110
16	207 - Floor	*	<110
17	206 – Wall A/C Unit	*	<110
18	Corridor - @ Stairs 1 - Floor	*	<110
19	Corridor - @ Stairs 2 - Floor	*	<110
20	146 – Supply Vent	*	<110
21	132 - Floor	*	<110
-	Criteria	50	200

Table Notes:

1. **Bolded** results exceed listed criteria
2. **ppm** = parts per million
3. **ug/ft²** = micrograms per square foot
4. **ug/m³** = micrograms per cubic meter
5. **ug** = micrograms

Sources:

1. NG PAM 420-15 Guidelines and Procedures for Rehabilitation and Conversion of Indoor Firing Ranges
2. OSHA 29CFR1910.1025 Lead Standard

The National Guard Bureau currently utilizes 200 micrograms per square foot (ug/ft^2) as a benchmark for identifying lead-contaminated surfaces. This guideline is referenced in NG PAM 420-15 "Guidelines and Procedures for Rehabilitation and Conversion of Indoor Firing Ranges" as a satisfactory surface contamination level unless the facility is utilized as a childcare facility. In such cases, U.S. Department of Housing and Urban Development (HUD) limit of 40 ug/ft^2 on floors and 250 ug/ft^2 on windowsills should be observed. There is no child care provided at this facility.

Lead surface and air samples were collected. The following is a summary of the sample results from this survey.

- Surface levels of lead were below the recommended guideline of 200 ug/ft^2 in all locations sampled.
- Air samples for lead were below the Occupational Safety and Health Administration (OSHA) Permissible Exposure Limit of 50 micrograms per cubic meter (ug/m^3).

Section 4.0 Lighting

A lighting assessment was conducted throughout the facility. Measurements were collected using a Cooke Cal-Light 400L Precision Light Meter (Serial No. K98364). The light meter was last calibrated in April 2012. Measurements collected were compared to ANSI/IESNA RP-7-01 Lighting Industrial Facilities and RP-1-04 Office Lighting.

Light Survey Assessment Summary

Location	Foot Candles (FC)	Recommended Lighting (FC)	Sufficient Lighting
Conference 145 Meeting	39.1	30	Yes
Office 145A	41.3	30-50	Yes
Office 145B	69.2	30-50	Yes
Office 146	76.1	30-50	Yes
Food Services Prep	27.8	50	No
Food Services Storage	26.2	5	Yes
Drill Hall	38.4	10	Yes
Office 155	88.4	30-50	Yes
Classroom 2	54.5	30-50	Yes
Men's Toilet	10.1	5	Yes
West Lobby	64.7	10	Yes
Orderly Office	86.4	30-50	Yes
Orderly Office A	76.7	30-50	Yes
Orderly Office B	73.1	30-50	Yes
Classroom 1	16.2	30-50	No
132 storage Bulk	29.3	10	Yes
Con. Firing Range Storage	20.1	10	Yes
East Lobby	38.8	10	Yes
Office 209	46.5	30-50	Yes
Office 209A	51.6	30-50	Yes
Office 209B	59.6	30-50	Yes
FTSS Office A	74.2	30-50	Yes
FTSS Office B	52.4	30-50	Yes
Conference Room 208 Meeting	43.7	30	Yes
Office 201	64.2	30-50	Yes
Men's Toilet 2 nd Floor	27.3	5	Yes
Office 204	33.8	30-50	Yes
Exercise Room	36.8	30	Yes
Training 206	67.3	30-50	Yes
Corridor 2 nd Floor	31.0	5	Yes
Storage 210 Bulk	45.3	10	Yes
Classroom 6 Video	63.2	30-50	Yes
Boiler Room	22.1	30	No
Garage	27.0	75	No
Office 162	43.0	30-50	Yes
Storage Room 164	0.0	10	No

Table Notes:

1. FC = Foot Candles
2. **Bolded** results did not meet listed criteria

Source: ANSI/IESNA RP-7-01 Lighting Industrial Facilities and RP-1-04 Office Lighting.

The lighting level did not meet the minimum recommended guideline in the Food Services Preparation Area, Classroom 1, Boiler Room, Garage, and Storage Room 164. Lighting should be improved in these areas.

Section 5.0 Indoor Air Quality

Survey measurements were made for ventilation and comfort parameters (carbon dioxide, temperature, carbon monoxide and relative humidity). The air quality measurements were collected using direct reading instrumentation for comfort parameters using a QTRAK IAQ Meter, Model 7565 (Serial #02041015). The IAQ Meter was last calibrated in August 2012.

The American Society of Heating, Refrigerating, and Air Conditioning Engineers, Inc. (ASHRAE) have developed indoor air quality guidelines for mechanically ventilated office buildings and commercial settings (ASHRAE standard 62.1-2010). ASHRAE specifies temperature ranges for human comfort (ASHRAE 55-2010). The US Army Technical Guide 277 Army Facilities Management Information Document on Mold Remediation, recommends maintaining a relative humidity range between 30 to 60%.

The following table summarizes the measurements collected.

IAQ Assessment Summary

Location	Temperature (°F)	Relative Humidity (%)	Carbon Dioxide (ppm)	Carbon Monoxide (ppm)
Outdoors	41.0	70.4	375	1.4
Office 155	60.1	34.6	487	0.1
Orderly Office	71.8	27.3	627	0.7
Office 209B	70.2	26.6	576	0.7
Office 201	70.7	28.5	682	1.2
Criteria	68-79	30-60	<1,075	<9

Table Notes:

1. **Bolded** results exceed listed criteria
2. **ppm** = parts per million
3. **(%)** = percent relative humidity
4. **F** = degrees Fahrenheit

Sources: The American Society of Heating, Refrigerating, and Air Conditioning Engineers, Inc. (ASHRAE) 55-2010, 62.1-2010, Environmental Protection Agency (EPA) National Ambient Air Quality Standard (NAAQS) & The US Army Technical Guide 277 Army Facilities Management Information Document on Mold Remediation.

Summary of findings and recommendations:

- Temperature measurements were below the recommended 68-79 °F in Office 155. Temperature should be maintained at 68-79 °F.
- Relative humidity levels were below the recommended guidelines in three sampled areas. Low relative humidity can cause the drying of the mucous tissues and an increased susceptibility to respiratory infection. Relative humidity should be maintained at 30-60%.
- Carbon dioxide levels were measured to evaluate building ventilation or the introduction of outdoor air into the building. The recommended ceiling is obtained by adding 700 ppm to the measured outdoor carbon dioxide level. For this survey, carbon dioxide levels did not exceed the recommended ceiling of 1,075 ppm. This is an indication that outdoor air ventilation is adequate.
- Carbon monoxide levels measured were less than the recommended ceiling of 9 ppm. The recommended ceiling of 9 ppm referenced in the above table is the National Ambient Air Quality Standard for carbon monoxide
- A visual inspection was conducted throughout accessible portions of the facility to assess sources or pathways of factors potentially deleterious to IAQ. The following observations were noted:
 - Overall housekeeping was good.
 - Several water-stained ceiling tiles were observed in the facility. All sources of water infiltration should be identified and repaired. Water stained ceiling tile should be removed and replaced.

Section 6.0 Ventilation Survey

There is a two bay attached garage at this facility. It is used primarily for light vehicle maintenance. Minor maintenance tasks can be performed on an as needed basis. There is an eye wash station, first aid station, fire extinguisher, and material safety data sheets in this area. There is a PPE station containing eye, ear, hand, and foot protection.

There are two above floor exhausts located in the garage of the Washington Readiness Center. All measurements were conducted at the face of each exhaust using a Velocicalc Plus Model 9555-P. Measurements were compared to the ACGIH Industrial Ventilation Manual requirements for above floor exhaust systems. The table below details measurement findings.

ABOVE FLOOR EXHAUST VENTILATION RATE SUMMARY

Location	Type of Hood	Exhaust Diameter	Measured Flow Rate (CFM)
Exhaust 1	Above Floor	8"x 9" (elliptical)	44.0
Exhaust 2	Above Floor	8"x 9" (elliptical)	48.3

Reference: Industrial Ventilation, A Manual of Recommended Practice for Design, 27th Edition, ACGIH.

EXAMPLES OF VEHICLE LEV SYSTEM REQUIREMENTS

Vehicle Nomenclature	Tailpipe Temp. (°F)	Engine Displacement (ft3)	Engine RPMs*	Exhaust Flow † (CFM)
M35A2, 2.5 Ton Cargo Truck	300	0.277	2,500	1,192
M1008 CUCV, SUV	267	0.219	3,800	1,370
M923A2, 5 Ton Cargo Truck	300	0.293	1,700	857
M996 HMMWV, All Terrain Vehicle	297	0.219	3,300	1,294

* Revolutions per Minute

† Includes 20% Safety Factor

The actual flow rate that is required in an overhead vehicle exhaust system varies depending on the engine tail pipe temperature, whether or not the vehicle is "under load" or idling, engine displacement, engine size, etc. As an example, a 15 Liter Engine running at 1,000 rpm with an exhaust gas temperature of 1,300 F (heavy load) would require an exhaust flow of 2,110 CFM. If vehicle maintenance is performed at this facility we recommend the vehicle exhaust system be utilized. It should be regularly inspected to determine if it is operating as designed and meets the minimum requirements as recommended by the American Conference of Governmental Industrial Hygienists (ACGIH) Industrial Ventilation: A Manual of Recommended Practice for Design (27th Edition).

Section 7.0 Suspect Asbestos Containing Building Materials

Based on the age of the building (built in the 1980's) it is unlikely that asbestos containing materials are present in the facility. However, at the time of this survey CMI personnel did note insulation that was in poor condition on the boiler breeching and exhaust pipe. As a precaution, two bulk samples were collected for analysis by polarized light microscopy. No asbestos was detected in any of the samples collected. See the enclosed laboratory analysis report for detailed sampling results.

Inaccessible areas such as behind walls or crawlspaces were not inspected. ACM could potentially be present in these areas.

Section 8.0 Equipment

The following equipment was utilized during this survey. All sampling equipment was properly calibrated prior to use and verified for accuracy as applicable. See daily reports and calibrations logs for detailed information.

Equipment	Serial #	Calibration Date	Value
TSI QTrak IAQ Meter	02041015	8/2012	NA
Cal Light 400 Light Meter	K98364	4/2012	NA
TSI 4199 Calibrator	41460827002	8/2012	NA
SKC Air Sampling Pump	647631	2/27/13	2.56 LPM
SKC Air Sampling Pump	647610	2/27/13	2.54 LPM

Section 9.0 Limitations

This report summarizes our evaluation of the conditions observed at the above referenced location. Our findings are based upon our observations and sampling results obtained at the facility at the time of our visit. The report, results, and subsequent recommendations reported herein are also limited to the information available at the time it was prepared and investigated. Conditions may have been in effect prior to the sampling events that have changed over time and which cannot be predicted within the scope of this limited investigation. Any conditions discovered which deviate from the data contained in this report should be presented to us for our evaluation.

This report is intended for the exclusive use of the client. This report and the findings herein shall not, in whole or in part, be relied upon by any other parties, disseminated or conveyed to any other party without prior written consent of the National Guard Bureau, and Compliance Management International, Inc. The findings are relative to the dates of our site visits and should not be relied upon for substantially later dates.

Appendix A. Laboratory Analysis Report



CERTIFICATE OF ANALYSIS



Client:	National Guard Bureau	Job Name:	3KNJ	Chain Of Custody:	515247
Address:	301-IH Old Bay Lane, Attn: ARNG-CJG-P, State Military Reservation Havre de Grace, Maryland 21078	Job Location:	Washington	Date Submitted:	3/4/2013
		Job Number:	Not Provided	Person Submitting:	Non-Responsive
		P.O. Number:	W912K6-09-A-0003	Date Analyzed:	3/8/2013
Attention:	Non-Responsive			Report Date:	3/8/2013

Summary of Atomic Absorption Analysis for Lead

Page 1 of 2

AMA Sample Number	Client Sample Number	Analysis Type	Sample Type	Air Volume (L)	Area Wiped (ft ²)	Reporting Limit	Total ug	Final Result	Comments
13041766	1	Flame	Air	620	N/A	4.8 ug/m ³	<3	<4.8 ug/m ³	
13041767	2	Flame	Air	612	N/A	4.9 ug/m ³	<3	<4.9 ug/m ³	
13041768	3	Flame	Air Blank	0	N/A	3 ug/m ³		<3 ug	
13041769	4	Flame	Wipe	****	0.108	110 ug/ft ²	<12	<110 ug/ft ²	
13041770	5	Flame	Wipe	****	0.108	110 ug/ft ²	<12	<110 ug/ft ²	
13041771	6	Flame	Wipe	****	0.108	110 ug/ft ²	<12	<110 ug/ft ²	
13041772	7	Flame	Wipe	****	0.108	110 ug/ft ²	<12	<110 ug/ft ²	
13041773	8	Flame	Wipe	****	0.108	110 ug/ft ²	<12	<110 ug/ft ²	
13041774	9	Flame	Wipe	****	0.108	110 ug/ft ²	<12	<110 ug/ft ²	
13041775	10	Flame	Wipe	****	0.108	110 ug/ft ²	<12	<110 ug/ft ²	
13041776	11	Flame	Wipe	****	0.108	110 ug/ft ²	<12	<110 ug/ft ²	
13041777	12	Flame	Wipe	****	0.108	110 ug/ft ²	<12	<110 ug/ft ²	
13041778	13	Flame	Wipe	****	0.108	110 ug/ft ²	<12	<110 ug/ft ²	
13041779	14	Flame	Wipe	****	0.108	110 ug/ft ²	<12	<110 ug/ft ²	
13041780	15	Flame	Wipe	****	0.108	110 ug/ft ²	<12	<110 ug/ft ²	
13041781	16	Flame	Wipe	****	0.108	110 ug/ft ²	<12	<110 ug/ft ²	
13041782	17	Flame	Wipe	****	0.108	110 ug/ft ²	<12	<110 ug/ft ²	
13041783	18	Flame	Wipe	****	0.108	110 ug/ft ²	<12	<110 ug/ft ²	
13041784	19	Flame	Wipe	****	0.108	110 ug/ft ²	<12	<110 ug/ft ²	

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these Laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from us. Sample types, locations, and collection protocols are based upon the information provided by the persons submitting them and, unless collected by personnel of these Laboratories, we expressly disclaim any knowledge and liability for the accuracy and completeness of this information. Residual sample material will be discarded in accordance with the appropriate regulatory guidelines, unless otherwise requested by the client. This report must not be used to claim, and does not imply product certification, approval, or endorsement by NY ELAP, AIHA, or any agency of the Federal Government. All rights reserved. AMA Analytical Services, Inc.



CERTIFICATE OF ANALYSIS



Client: National Guard Bureau
Address: 301-IH Old Bay Lane, Attn: ARNG-CJG-P,
 State Military Reservation
 Havre de Grace, Maryland 21078
Attention: **Non-Responsive**

Job Name: 3KNJ
Job Location: Washington
Job Number: Not Provided
P.O. Number: W912K6-09-A-0003

Chain Of Custody: 515247
Date Submitted: 3/4/2013
Person Submitting: **Non-Responsive**
Date Analyzed: 3/8/2013 **Report Date:** 3/8/2013

Summary of Atomic Absorption Analysis for Lead

Page 2 of 2

AMA Sample Number	Client Sample Number	Analysis Type	Sample Type	Air Volume (L)	Area Wiped (ft²)	Reporting Limit	Total ug	Final Result	Comments
13041785	20	Flame	Wipe	****	0.108	110	ug/ft²	<12	<110 ug/ft²
13041786	21	Flame	Wipe	****	0.108	110	ug/ft²	<12	<110 ug/ft²

Analysis Method for Flame: Air, Wipes, Paints, and Soil/Solids: EPA 600/R-93/200(M)-7000B; Water: SM-3111B
 Analysis Method For Furnace: Air, Wipes, Paints, and Soil/Solids : EPA 600/R-93/200(M)-7010; Water: SM-3113B
 N/A = Not Applicable mg/Kg = parts per million (ppm) on a dry weight basis mg/L = parts per million (ppm)
 %Pb = percent lead on a dry weight basis ug = micrograms ug/L = parts per billion (ppb)

Note: All samples were received in good condition unless otherwise noted.

Note: All results have two significant digits. Any additional digits shown should not be considered when interpreting the result.

Air and Wipe results are not corrected for any blank results

Final results for air and wipe samples are based on client supplied information nor verified by this laboratory.

All results are to be considered preliminary and subject to change unless signed by the Technical Director or Deputy.

See QC Summary for analytical results of quality control samples associated with these samples.

Analyst:

Technical Manager:

Non-Responsive

Non-Responsive

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these Laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from us. Sample types, locations, and collection protocols are based upon the information provided by the persons submitting them and, unless collected by personnel of these Laboratories, we expressly disclaim any knowledge and liability for the accuracy and completeness of this information. Residual sample material will be discarded in accordance with the appropriate regulatory guidelines, unless otherwise requested by the client. This report must not be used to claim, and does not imply product certification, approval, or endorsement by NY ELAP, AIHA, or any agency of the Federal Government. All rights reserved. AMA Analytical Services, Inc.

**AMA Analytical Services, Inc.**

Focused on Results www.amalab.com

AIHA (#100470) NVLAP (#101143-0) NY ELAP (10920)

4475 Forbes Blvd. • Lanham, MD 20706

(301) 459-2640 • (800) 346-0961 • Fax (301) 459-2643

CHAIN OF CUSTODY(Please Refer To This
Number For Inquiries)

515247

page 1 of 2

Mailing/Billing Information:

- Client Name: National Guard Bureau
- Address 1: 301-JH Old Bay Lane
- Address 2: Attn: NGB-ARS-IHNE
- Address 3: Havre de Grace, Maryland 21078
- Phone #: (410) 942-0273 Fax #: (410) 942-0254

Submittal Information:

- Job # 3ENJ
- Location Washington
- Job #: _____ P.O. #: W912K6-09-A-0003
- Contact Person: Non-Responsive Phone #: (410) 942-0273
- Submitter: Non-Responsive

Reporting Information (Results will be provided as soon as technically feasible):

AFTER HOURS (must be pre-scheduled) <input type="checkbox"/> Immediate Date Due: _____ <input type="checkbox"/> 24 Hours Time Due: _____ Comments: _____		NORMAL BUSINESS HOURS <input type="checkbox"/> Immediate <input checked="" type="checkbox"/> Next Day <input type="checkbox"/> 2 Day		<input type="checkbox"/> 3 Day <input checked="" type="checkbox"/> 5 Day + Date Due: <u>3/11/13</u>		<input type="checkbox"/> Results Required By Noon (Every Attempt Will Be Made to Accommodate)		REPORT TO: <input checked="" type="checkbox"/> Include with Report <input checked="" type="checkbox"/> Non-Responsive <input type="checkbox"/> Fax: <u>@us.army.mil</u> <input type="checkbox"/> Verb: <u>@us.army.mil</u>	
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	------------------------------------------------------------------------------------------------------------------------------------------------------	--	-----------------------------------------------------------------------------------------------------------	--	--------------------------------------------------------------------------------------------------	--	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--

Asbestos Analysis

- PCM Air** - Please Indicate Filter Type:
- ☐ NIOSH 7400 (QTY)
 - ☐ Fiberglass (QTY)
- TEM Air** - Please Indicate Filter Type:
- ☐ AHERA (QTY)
 - ☐ NIOSH 7402 (QTY)
 - ☐ Other (specify) (QTY)
- PLM Bulk**
- ☒ EPA 600 - Visual Estimate 2 (QTY)
 - ☐ EPA Point Count (QTY)
 - ☐ NY State Printable 198.1 (QTY)
 - ☐ Grav. Reduction ELAP 198.6 (QTY)
 - ☐ Other (specify) (QTY)

MISC

- ☐ Vermiculite
- ☐ Asbestos Soil PLM (Qual) PLM (Quant) PLM/TEM (Qual) PLM/TEM (Quant)

TEM Bulk

- ☐ ELAP 198.4/Chatfield (QTY)
- ☐ NY State PLM/TEM (QTY)
- ☐ Residual Ash (QTY)

TEM Dust

- ☐ Qual. (pres/abs) Vacuum/Dust (QTY)
- ☐ Quan. (s/area) Vacuum D5755-95 (QTY)
- ☐ Quan. (s/area) Dust D6480-99 (QTY)

TEM Water

- ☐ Qual. (pres/abs) (QTY)
- ☐ ELAP 198.2/EPA 100.2 (QTY)
- ☐ EPA 100.1 (QTY)

☒ All samples received in good condition unless otherwise noted.
 (TEM Water samples °C)

Metal Analysis

- ☐ Pb Paint Chip (QTY)
- ☒ Pb Dust Wipe (wipe type ghost) 18 (QTY)
- ☒ Pb Air 3 (QTY)
- ☐ Pb Soil/Solid (QTY)
- ☐ Pb TCLP (QTY)
- ☐ Drinking Water ☐ Pb (QTY) ☐ Cu (QTY) ☐ As (QTY)
- ☐ Waste Water ☐ Pb (QTY) ☐ Cu (QTY) ☐ As (QTY)
- ☐ Pb Furnace (Media) (QTY)

Fungal Analysis

- Collection Apparatus for Spore Traps/Air Samples: _____
- Collection Media _____
- ☐ Spore-Trap (QTY)
 - ☐ Surface Vacuum Dust (QTY)
 - ☐ Surface Swab (QTY)
 - ☐ Culturable ID Genus (Media) (QTY)
 - ☐ Surface Tape (QTY)
 - ☐ Culturable ID Species (Media) (QTY)
 - ☐ Other (Specify) (QTY)

CLIENT CONTACT

(LABORATORY STAFF ONLY)

CLIENT ID NUMBER	SAMPLE LOCATION/ IDENTIFICATION	DATE	VOLUME (LITERS)	WIPE AREA	TEM	PCM	PLM	LEAD	MOLD	AIR	BULK	DUST	WATER AND OTHER	SPORE TRAP	TAPE	SWAB	DATE/TIME	CONTACT	BY
1	DRILL HALL	2/28/13	620																
2	145A		6012																
3	BLANK																		
4	DH FLOOR CENTER			100cm ²															
5	DH SODA MACHINE																		
6	DH FAN																		
7	100 Food Prep Frig																		
8	CFR FLOOR																		
9	CFR CONTENTS																		
10	CFR OUTSIDE ENT FLOOR																		
11	CLASS 1 SHELF																		
12	155 SHELF																		

LABORATORY

STAFF ONLY:

Posted to NGB FOIA Reading Room To: _____
 May, 2018

- Date/Time RCVD: 3/4/13 @ GIS Via: Fedex By (Print): NKM Sign: _____
- Date/Time Analyzed: _____ / _____ / _____ @ _____ By (Print): _____ Sign: _____
- Comments: _____

BEST AVAILABLE COPY

Date: _____ / _____ / _____

Form Requested Record #15-0085 (NH)

Released by National Guard Bureau

Page 1353 of 1660

**AMA Analytical Services, Inc.**

Focused on Results www.amalab.com

AIHA (#100470) NVLAP (#101143-0) NY ELAP (10920)

4475 Forbes Blvd. • Lanham, MD 20706

(301) 459-2640 • (800) 346-0961 • Fax (301) 459-2643

CHAIN OF CUSTODY(Please Refer To This
Number For Inquiries)

515 247 page 2 of 2

Mailing/Billing Information:

- Client Name: National Guard Bureau
- Address 1: 301-JH Old Bay Lane
- Address 2: Attn: NGB-ARS-IHNE
- Address 3: Havre de Grace, Maryland 21078
- Phone #: (410) 942-0273 Fax #: (410) 942-0254

Submittal Information:

- Job Name: 3KNJ
- Location: Washington
- Job #: W912K6-09-A-0003
- Contact Person: Non-Responsive
- Signature: Non-Responsive

Reporting Information (Results will be provided as soon as technically feasible):

AFTER HOURS (must be pre-scheduled) <input type="checkbox"/> Immediate Date Due: _____ <input type="checkbox"/> 24 Hours Time Due: _____ Comments: _____		Normal Business Hours <input type="checkbox"/> Immediate <input type="checkbox"/> 3 Day <input type="checkbox"/> Results Required By Noon <input checked="" type="checkbox"/> Next Day <input type="checkbox"/> 5 Day + (Every Attempt Will Be Made to Accommodate) <input type="checkbox"/> 2 Day Date Due: _____		REPORT TO: <input checked="" type="checkbox"/> Include COC/Field Data Sheets with Report <input checked="" type="checkbox"/> <u>Non-Responsive</u> <u>complianceplace.com</u> <input type="checkbox"/> Fax <u>us.army.mil</u> <input type="checkbox"/> Ver <u>us.army.mil</u>
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Asbestos Analysis

- PCMAir** - Please Indicate Filter Type:
- ☐ NIOSH 7400 (QTY)
 - ☐ Fiberglass (QTY)
- TEMAir** - Please Indicate Filter Type:
- ☐ AHERA (QTY)
 - ☐ NIOSH 7402 (QTY)
 - ☐ Other (specify) _____ (QTY)

- PLM Bulk**
- ☐ EPA 600 - Visual Estimate (QTY)
 - ☐ EPA Point Count (QTY)
 - ☐ NY State Friable 198.1 (QTY)
 - ☐ Grav. Reduction ELAP 198.6 (QTY)
 - ☐ Other (specify) _____ (QTY)

- MISC**
- ☐ Vermiculite
 - ☐ Asbestos Soil PLM (Qual) PLM (Quan) PLM/TEM (Qual) PLM/TEM (Quan)

TEM Bulk

- ☐ ELAP 198.4/Chatfield (QTY)
- ☐ NY State PLM/TEM (QTY)
- ☐ Residual Ash (QTY)

TEM Dust

- ☐ Qual. (pres/abs) Vacuum/Dust (QTY)
- ☐ Quan. (s/area) Vacuum D5755-95 (QTY)
- ☐ Quan. (s/area) Dust D6480-99 (QTY)

TEM Water

- ☐ Qual. (pres/abs) (QTY)
- ☐ ELAP 198.2/EPA 100.2 (QTY)
- ☐ EPA 100.1 (QTY)

☐ All samples received in good condition unless otherwise noted.
(TEM Water samples _____ °C)

Metals Analysis

- ☐ Pb Paint Chip (QTY)
- ☒ Pb Dust Wipe (wipe type chose) (QTY)
- ☒ Pb Air 3 (QTY)
- ☐ Pb Soil/Solid (QTY)
- ☐ Pb TCLP (QTY)
- ☐ Drinking Water ☐ Pb (QTY) ☐ Cu (QTY) ☐ As (QTY)
- ☐ Waste Water ☐ Pb (QTY) ☐ Cu (QTY) ☐ As (QTY)
- ☐ Pb Furnace (Media) (QTY)

Fungal Analysis

- Collection Apparatus for Spore Traps/Air Samples: _____
- Collection Media _____
- ☐ Spore-Trap (QTY)
 - ☐ Surface Vacuum Dust (QTY)
 - ☐ Surface Swab (QTY)
 - ☐ Culturable ID Genus (Media) (QTY)
 - ☐ Surface Tape (QTY)
 - ☐ Culturable ID Species (Media) (QTY)
 - ☐ Other (Specify) _____ (QTY)

CLIENT CONTACT

(LABORATORY STAFF ONLY)

CLIENT ID NUMBER	SAMPLE LOCATION/IDENTIFICATION	DATE	VOLUME (LITERS)	WIPE AREA	TEM	PCM	PLM	LEAD	MOLD	AIR	BULK	DUST	WATER AND OTHER	SPORE TRAP	TAPE	SWAB	DATE/TIME	CONTACT	BY
13	145 File G/b	3/28/13		100cm ²				✓											
14	209 CABINET																		
15	208 WALL CAB																		
16	207 FLOOR																		
17	206 WALL A/C																		
18	Corridor @ Stair 2 F/R																		
19	Corridor @ "1" FLR																		
20	146 Supply Vent																		
21	132 FLOOR																		
22	Boiler Patch							✓											
23	Boiler Breach							✓											

LABORATORY

STAFF ONLY:

Posted to NGB FOIA

May, 2018

1. Date/Time RCVD: _____ / _____ / _____ @ _____ Via: _____ By (Print): _____ Sign: _____

2. Date/Time Analyzed: _____ / _____ / _____ @ _____ By (Print): _____ Sign: _____

3. Reading Room To: _____ BEST AVAILABLE COPY Date: _____ / _____ / _____

4. Comments: _____

FOIA Requested Record #15-0085 (NH)

Released by National Guard Bureau

Page 1354 of 1660

Appendix B. Photographs



Washington Main Entrance



Water Damaged Ceiling Tile at Office 130



Boiler Room Suspect ACM Patch Material



Boiler Room Suspect ACM Pipe Insulation



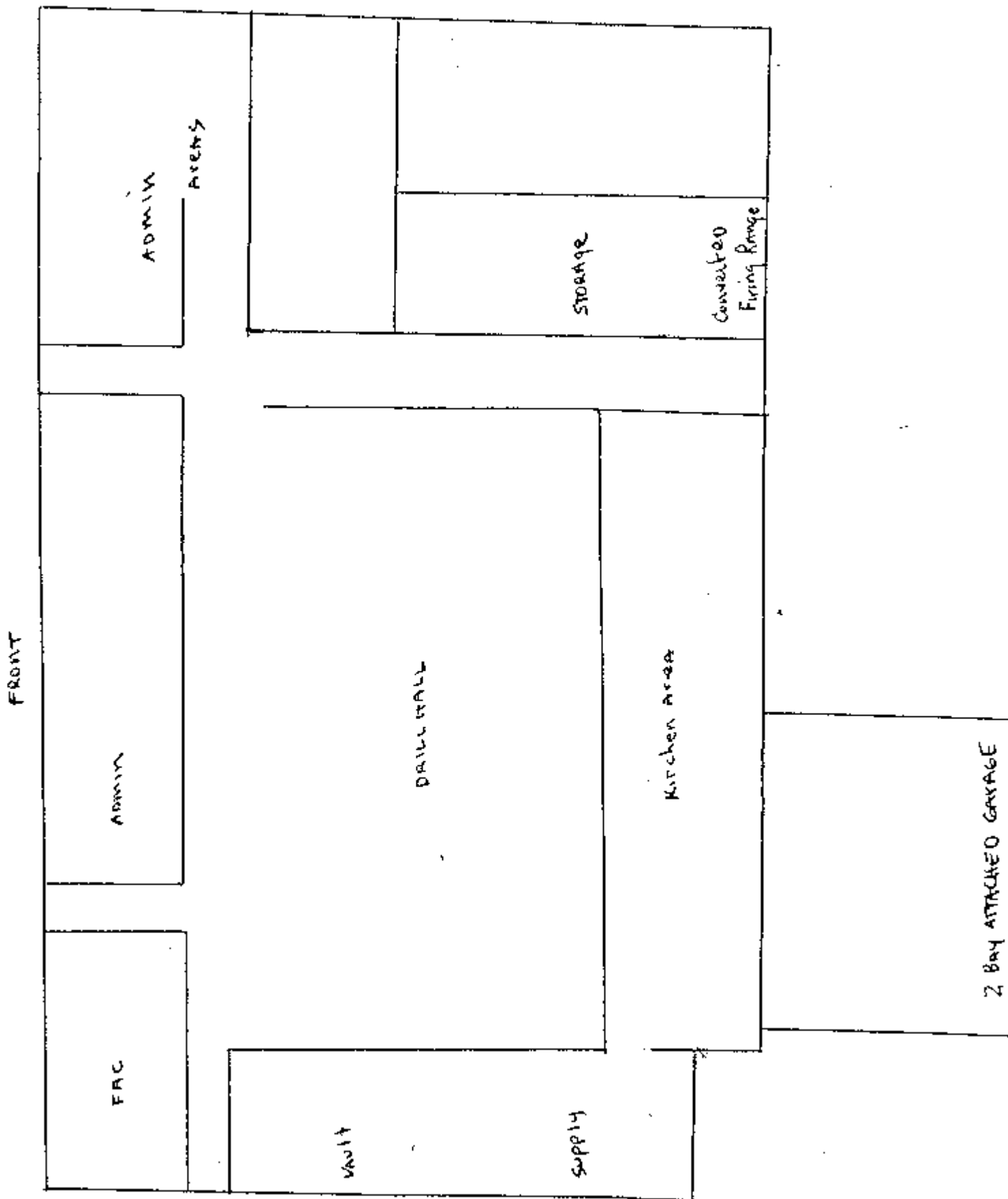
Attached Vehicle Maintenance Garage

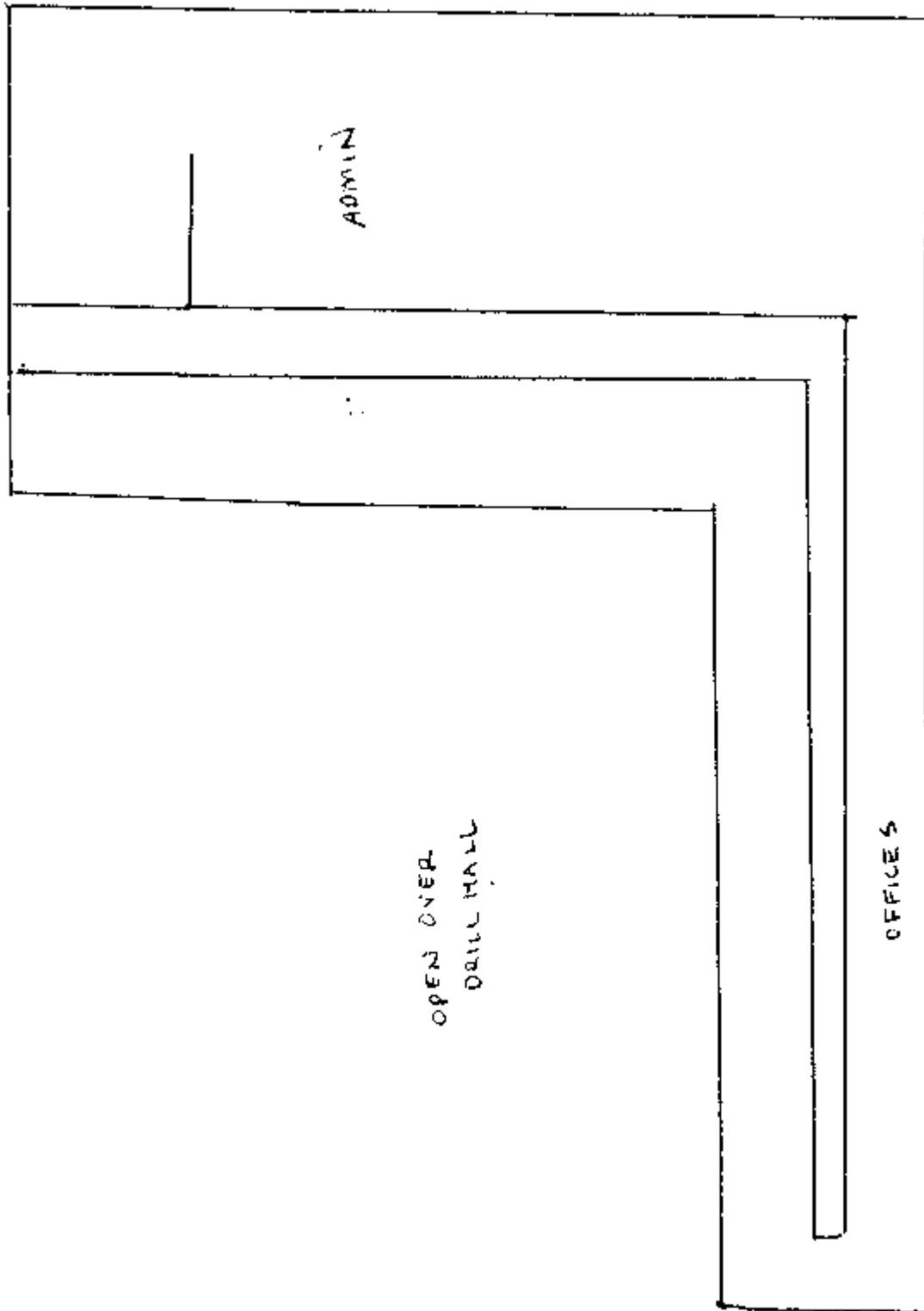


Vehicle Maintenance Exhaust Vents

Appendix C. Floor Plan

Washington Army





2ND FLOOR

Appendix D. References

1. Title 29 Code of Federal Regulations (CFR), Part 1910.1025, Occupational Safety and Health Administration, Occupational Exposure to Lead.
2. American Conference of Governmental Industrial Hygienists (ACGIH) – Threshold Limit Values and Biological Exposure Indices, 2012 Edition.
3. Industrial Ventilation: A Manual of Recommended Practice for Design, 27th Edition.
4. American National Standards Institute (ANSI)/American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), Ventilation for Acceptable Indoor Air Quality, 62.1-2010.
5. RP-1-2004, Industrial Lighting, Illuminating Engineering Society of North America/ANSI.
6. RP-7-2001, Industrial Lighting, Illuminating Engineering Society of North America/ANSI.
7. National Emission Standard Hazardous Air Pollutants (NESHAP) – The standards for asbestos are contained in 40 CFR 61.140 through 61.157.
8. National Ambient Air Quality Standards (NAAQS) - National primary ambient air quality standards for carbon monoxide 40 CFR 50.8.
9. Environmental Protection Agency (EPA) standards [40 Code of Federal Regulations (CFR) 745.227(h)(3)].
10. Derivation of Wipe Surface Screening Levels for Environmental Chemicals, the US Army Center for Health Promotion and Preventive Medicine (USACHPPM).
11. The US Army Technical Guide 277 Army Facilities Management Information Document on Mold Remediation, February 2002.
12. NG PAM 420-15 Guidelines and Procedures for Rehabilitation and Conversion of Indoor Firing Ranges, 3 Nov 06.
13. ANSI/American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), Thermal Environmental Conditions for Human Occupancy, 55-2010.

Prepared For:

National Guard Bureau
Army National Guard
Region North Industrial Hygiene Office
301 – IH Old Bay Lane
Havre De Grace, Maryland 21078

Prepared By:

URS Corporation
5 Industrial Way
Salem, New Hampshire 03079

**FINAL
INDUSTRIAL HYGIENE SURVEY REPORT
WESTFIELD ARMORY
WESTFIELD, NEW JERSEY**

May 2006
PN: 39741509

Non-Responsive



Office Manager

Non-Responsive



Project Manager

TABLE OF CONTENTS

Section	Page
1.0 SUMMARY	1
2.0 ADMINISTRATIVE AREA	2
2.1 OPERATION DESCRIPTION	2
2.2 CHEMICAL AND PHYSICAL AGENTS SAMPLED	2
2.2.1 Relative Humidity	2
2.2.2 Carbon Dioxide	2
2.2.3 Carbon Monoxide	3
2.2.4 Lighting	3
2.2.5 Lead	5
2.2.6 Asbestos	7
2.3 VENTILATION SYSTEM EVALUATION	7
2.4 NOISE MEASUREMENTS	7
2.5 PERSONAL PROTECTIVE EQUIPMENT	7
2.6 INTERPRETATION OF RESULTS	7
3.0 FORMER INDOOR FIRING RANGE	9
3.1 OPERATION DESCRIPTION	9
3.2 CHEMICAL AND PHYSICAL AGENTS SAMPLED	9
3.2.1 Lead	9
3.3 VENTILATION SYSTEM EVALUATION	9
3.4 NOISE MEASUREMENTS	9
3.5 PERSONAL PROTECTIVE EQUIPMENT	9
3.6 INTERPRETATION OF RESULTS	10
4.0 DRILL HALL	11
4.1 OPERATION DESCRIPTION	11
4.2 CHEMICAL AND PHYSICAL AGENTS SAMPLED	11
4.2.1 Lead	11
4.2.2 Asbestos	11
4.3 VENTILATION SYSTEM EVALUATION	11
4.4 NOISE MEASUREMENTS	12
4.5 PERSONAL PROTECTIVE EQUIPMENT	12
4.6 INTERPRETATION OF RESULTS	12
5.0 BOILER ROOM	13
5.1 OPERATION DESCRIPTION	13
5.2 CHEMICAL AND PHYSICAL AGENTS SAMPLED	13
5.2.1 Asbestos	13
5.3 VENTILATION SYSTEM EVALUATION	13
5.4 NOISE MEASUREMENTS	13
5.5 PERSONAL PROTECTIVE EQUIPMENT	13
5.6 INTERPRETATION OF RESULTS	13
6.0 SAFETY AND INDUSTRIAL HYGIENE PROGRAMS	14
6.1 CONFINED SPACES	14
6.2 HEARING CONSERVATION	14

TABLE OF CONTENTS (Continued)

6.3	RESPIRATORY PROTECTION	14
6.4	HAZARD COMMUNICATION.....	14
6.5	PERSONAL PROTECTIVE EQUIPMENT	14
7.0	REFERENCES	15

APPENDICES

Appendix A	Armory Drawing
Appendix B	Personnel List
Appendix C	Hazardous Materials List
Appendix D	Analytical Results
Appendix E	Training Certificates
Appendix F	Photographs
Appendix G	Recommendations for Surface Lead Dust in Armories

FINDINGS AND RECOMMENDATIONS

Findings	Recommendation	Risk Assessment Code
Ergonomic		
Computer workstations were observed with fixed chairs, armrests, keyboards and monitors.	Ergonomic issues with the desks and chairs should be corrected by fitting the workplace to the worker (Department of the Army Pamphlet 40-21, Chapter 4, Page 7, Section 4-3)	RAC 3
Lighting		
On the day of the survey, the illumination in the administrative area was inadequate in most offices.	Increase lighting in the administrative areas. While work is in progress, the administrative area shall be lighted by at least the minimum lighting intensities (ANSI/IESNA RP-1-04)	RAC 4
Lead		
Lead was detected in wipe samples collected from office #128B, Women's restroom #124, the drill floor, office #120A, and the basement stairwell in amounts greater than 200 µg/ft ²	Further sampling should be conducted to assess the extent of the lead dust contamination. Personnel trained in accordance with the OSHA Lead Standard should clean the areas where lead was detected in quantities of greater than 200 micrograms per square foot (OSHA 29 CFR 1910.1025 (e)(1)(ii))	RAC 4
Asbestos		
Known or suspect asbestos-containing materials were found to be in good condition.	Remove and replace any damaged asbestos-containing material. Work should be completed by personnel trained in accordance with federal regulations (OSHA 29 CFR 1910.1001(k)(1))	RAC 5
Hazard Communication		
A site-specific hazard communication plan available.	Maintain a site specific hazard communication plan to manage hazardous materials (OSHA 29 CFR 1910.1200 (e))	RAC 5

1.0 SUMMARY

At the request of the National Guard Bureau (NGB) Region North Industrial Hygiene Office, URS Corporation (URS) conducted an industrial hygiene survey at the Armory located at 500 Rahway Avenue in Westfield, New Jersey 07090. This report includes an executive summary and a description of the site activities and findings and a list of conclusions and recommendations.

On April 1, 2004, Ms. [Non-Responsive] an industrial hygienist with URS, conducted a site visit at the Armory in Westfield, New Jersey. The purpose of this site visit was to conduct an industrial hygiene survey, which included the collection of dust wipe samples, lighting measurements, and a review of site health and safety procedures. SGM [Non-Responsive] of the New Jersey ARNG was Mrs. [Non-Responsive]'s site contact for this survey.

This armory is a two-story building, with a drill hall, that is constructed primarily of brick and mortar. This facility is built on a concrete slab, with a pitched roof. A construction date of the building was not available, but with asbestos and lead-based paint being present, the building had to have been constructed prior to 1981. A layout drawing of the facility, which shows the locations where measurements were made during this survey, is contained in Appendix A.

2.0 ADMINISTRATIVE AREA

2.1 OPERATION DESCRIPTION

This area contains multiple offices located throughout the building with desks and computer workstations, a conference room, classrooms, bathrooms and the club room. Computer workstations were assessed during the walkthrough for ergonomic issues. A computer workstation chair could not be adjusted for height, the armrests were in a fixed position in office 128A (Photo # 2). Folding tables were being used in several offices as work stations where the keyboards could not be adjusted. Computer monitors could not be adjusted for different individuals working at the workstations. If more than one person is using that station, then proper adjustments need to be made to accommodate each person. No complaints were received by URS concerning workstations at the time of this survey.

2.2 CHEMICAL AND PHYSICAL AGENTS SAMPLED

2.2.1 Relative Humidity

Relative humidity levels on the day of the survey ranged from 47.9-55% throughout the various building areas with an average of 51.45%. This average reading was below the recommended maximum of 65% set by the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. (ANSI / ASHRAE Standard 62.1-2001).

2.2.2 Carbon Dioxide

Carbon dioxide concentrations ranged from a low of 571 to a spike of 966 parts per million (ppm), with an average of 768.5 ppm. The outside reading was 410 ppm.

Carbon dioxide is a normal constituent of the atmosphere and ranges from about 250 to 450 ppm. The major source of excess carbon dioxide in the indoor environment is people. Other sources can include open-flame heaters, fermentation processes, and motor vehicles. Carbon dioxide itself is not normally a cause of indoor air quality problems because concentrations must exceed 5,000 to 10,000 ppm before health effects such as headache, drowsiness, and increased respiration are noted. Typically,

carbon dioxide is used as an indicator of the adequacy of fresh air intake. As the concentration of carbon dioxide increases, so do the background levels of other air contaminants. ASHRAE (62.1-2004) recommends that levels of carbon dioxide be maintained below 700 ppm above background level. Given a background level of 410 ppm on the day of the survey, the ASHRAE limit would be 1110 ppm.

2.2.3 Carbon Monoxide

Carbon monoxide concentrations ranged from 1.6 to 3.9ppm on the day of the survey. ASHRAE recommends that average carbon monoxide concentrations not exceed 9 ppm. Typical average concentrations found in commercial buildings range from 0 to 6 ppm. The measured levels were below the ASHRAE guideline for indoor environments. Carbon monoxide was measured using a TSI Q-Track (Model 8551).

Key sources of carbon monoxide within indoor environments may include internal combustion engines, motor vehicle and forklift exhaust, tobacco smoke, space heaters, and improperly adjusted oil or gas burners. Health effects from exposure to elevated concentrations of carbon monoxide may include fatigue, impairment of visual acuity, irregular heartbeat, headache, nausea, and confusion.

2.2.4 Lighting

Lighting throughout the Armory was measured using a Sper Scientific Ltd. Light Meter (Model 840020C). Table 2-1 below shows lighting measurements and the recommended lighting requirement (ANSI / IESNA RP -1-04 American National Standard Practice for Office Lighting).

Table 2-1
Lighting Measurements and Recommended Lighting Requirements

Location	Function	Measured Lighting Illuminance (foot candles)	Minimum Lighting Illuminance (foot candles)
Basement Storage	Indoor stockroom	47	10
Basement Men's Rm	Restroom	28	10
Club Room	Break Room	7	10
Office #131A (Armorer)	Administrative Duties	37	50

Table 2-1 (Continued)
Lighting Measurements and Recommended Lighting Requirements

Location	Function	Measured Lighting Illuminance (foot candles)	Minimum Lighting Illuminance (foot candles)
Break Room #131	Break Room	28	10
COMSEC Office #130	Administrative Duties	53	50
Office #128 (DET B)	Administrative Duties	25	50
Office #128A	Administrative Duties	14	50
Office #128B	Administrative Duties	22	50
Office #128C	Administrative Duties	17	50
Office #127 (HHC Orderly Room)	Administrative Duties	26	50
Office #127A	Administrative Duties	24	50
Office #127B	Administrative Duties	21	50
Office #127C	Administrative Duties	15	50
Women's Room #124	Restroom	20	10
Men's Room #123	Restroom	20	10
Dining Room #118	Break Room	20	10
Mess Storage #114	Supply/Admin. Duties	37	50
Mess Hall #110	Break Room	39	10
Gym #107	Recreation	29	10
Server Room #106B	Administrative Duties	28	50
Lab/Classroom #106	Learning Center	13	50
Restroom #106C	Restroom	33	10
Storage #105	Supply Area	8	10
Office #104	Administrative Duties	28	50
Office #104A	Administrative Duties	22	50
Office #103 (Recruiter)	Administrative Duties	38	50
Restroom #103	Restroom	21	10
Office #101 (XO)	Administrative Duties	24	50
Restroom #101	Restroom	8	10
Storage #102	Supply Area	19	10
Boiler Room	Mechanical	29	30
Classroom #222	Learning Center	22	50
Classroom #221	Learning Center	19	50
Classroom #220	Learning Center	18	50
Classroom #219	Learning Center	15	50
Office #215	Administrative Duties	28	50
Copier Room #212A	General Work Area	52	30
Office #212B	Administrative Duties	82	50
Office #212C	Administrative Duties	61	50
Office #212D	Administrative Duties	79	50
Office #212E	Administrative Duties	59	50

May 5, 2006

URS

PN: 39741509; J1 Army National Guard 39741509 - Westfield NJ Reports Westfield - Reviewed Final.doc

4

Posted to NGB FOIA Reading Room
May, 2018

BEST AVAILABLE COPY

FOIA Requested Record #J-15-0085 (NH)
Released by National Guard Bureau
Page 1370 of 1660

Table 2-1 (Continued)
Lighting Measurements and Recommended Lighting Requirements

Location	Function	Measured Lighting Illuminance (foot candles)	Minimum Lighting Illuminance (foot candles)
Break Room #212F	Break Room	41	10
Office #212G	Administrative Duties	103	50
Storage #211	Supply Area	15	10
Office #210	Administrative Duties	25	50
Office #210A	Administrative Duties	14	50
Office #210B	Administrative Duties	6	50
Office #210C	Administrative Duties	253	50
Office #210D	Administrative Duties	29	50
Office #209	Administrative Duties	15	50
Office #209A	Administrative Duties	12	50
Office #209B	Administrative Duties	26	50
Heritage Room	Recreation	4	30
Classroom #203/204	Learning Center	14	50
Office #201 (CMDR)	Administrative Duties	11	50
Office #200 (CSM)	Administrative Duties	15	50
Restroom #200	Restroom	7	10
Storage #300	Supply Area	9	10

On the day of the survey the illumination in the administrative area was inadequate in most offices.

2.2.5 Lead

Wipe testing for lead was conducted throughout the administrative area using Ghost Wipes™, which meet ASTM E 1792 standards. Several surfaces within the administrative areas were found to contain lead dust levels, which exceeded the maximum limit. The analytical report from AMA Analytical Services, Inc. (AMA) is contained in Appendix D. Table 2-2 below shows the results of the lead sampling.

Table 2-2
Levels of Lead Dust Found in the Administrative Area

Sample Location	URS Sample Number	Area Wiped	Result ($\mu\text{g}/\text{ft}^2$)	Maximum Surface Contamination Level ($\mu\text{g}/\text{ft}^2$)
Men's Shower-Basement	WS-1	12"x12"	95	200
Room 128B	WS-2	12"x12"	220	200
Room 127	WS-3	12"x12"	41	200
Women's Room 124	WS-4	12"x12"	300	200
Storage Rm 114	WS-5	12"x12"	30	200
Computer Lab Rm 106	WS-6	12"x12"	17	200
Office Rm 104A	WS-7	12"x12"	39	200
Boiler Rm	WS-8	12"x12"	50	200
Classroom Rm 219	WS-11	12"x12"	37	200
Office 210A	WS-14	12"x12"	390	200
Classroom Rm 204	WS-15	12"x12"	57	200
2 nd Floor Hallway	RWS-16	12"x12"	34	200
2 nd Floor Hallway	RWS-17	12"x12"	53	200
Office 103-Towel Holder	RWS-18	12"x12"	29	200
Room 131A-File Cabinet	RWS-19	12"x12"	18	200
Basement Stairwell	RWS-20	12"x12"	780	200

Sample numbers and locations can be found on the site map in Appendix A.

One paint chip sample was collected in an area where paint was peeling and sent to AMA for analysis. The sample was found not to contain lead in a concentration above the U.S. Housing and Urban Development (HUD) Lead-Based Paint Guidelines. Levels of lead greater than 0.5% by weight are referred to as "lead-containing" (Section 1017 of the Residential Lead-Based Paint Hazard Reduction Act of 1992 (also referred to as Title X)). Table 2-3 below shows the results of the lead paint testing.

Table 2-3
Level of Lead in Paint Found in the Administrative Area

Sample Location	URS Sample Number	Reporting Limit (% by Weight)	Final Result (% by Weight)
Men's Shower-Basement	LBP-1	0.01	0.24

Sample numbers and locations can be found on the site map in Appendix A.

The analytical report from AMA is contained in Appendix D.

2.2.6 Asbestos

Observed suspect asbestos-containing materials (ACM) were found to be in good condition, therefore, bulk samples were not collected during the site visit. An asbestos survey was conducted by ARNG personnel prior to the site visit and an Operations and Maintenance (O&M) plan was in place. Signs have been posted on bulletin boards warning personnel of the presence of ACM.

Ms. Non-Responsive asbestos inspector training certificate is provided in Appendix E.

2.3 VENTILATION SYSTEM EVALUATION

Not applicable to this operation.

2.4 NOISE MEASUREMENTS

Not applicable to this operation.

2.5 PERSONAL PROTECTIVE EQUIPMENT

Not applicable to this operation.

2.6 INTERPRETATION OF RESULTS

GENERAL: In general, the administrative area was neat and orderly. The fire exits and extinguishers were marked and easily accessible.

ERGONOMICS: The ergonomic issues regarding the desks, chairs and monitors should to be corrected by fitting the workplace to the workers.

LIGHTING: On the day of the survey the illumination in the administrative area was inadequate in most offices. URS recommends increasing the area lighting or supplement task lighting for each workstation in the administrative areas. While work is in progress the administrative area must be lighted by at least the minimum light intensities.

LEAD: Surfaces within the administrative areas were found to contain lead dust levels which exceeded the maximum limit set by the Army National Guard. URS recommends that these areas be decontaminated by personnel trained in accordance with the OSHA law standard (29 CRR 1910.1025). The NGB Region North Industrial Hygiene Office has prepared a memorandum titled "Recommendations for Surface Lead Dust in Armories" which is provided in Appendix G.

ASBESTOS: Observed suspect asbestos-containing materials were found to be in good condition. If an asbestos-containing material should become damaged, it is recommended that the damaged material be replaced with new, non-asbestos material by an appropriately trained professional.

3.0 FORMER INDOOR FIRING RANGE

3.1 OPERATION DESCRIPTION

The indoor firing range has been completely renovated and is now occupied by office space.

3.2 CHEMICAL AND PHYSICAL AGENTS SAMPLED

3.2.1 Lead

Wipe testing for lead was conducted in the former indoor firing range using Ghost Wipes™, which meet ASTM E 1792 standards. The analytical report from AMA is contained in Appendix D. Table 3-1 below shows the results of the lead sampling.

**Table 3-1
Levels of Lead Dust Found in the Former Firing Range**

Sample Location	URS Sample Number	Area Wiped	Result (µg/ft ²)	Maximum Surface Contamination Level (µg/ft ²)
Room 212F-Window Sill	WS-12	12"x12"	15	200
Room 212A-Window Sill	WS-13	12"x12"	27	200

Prior to the renovation of the firing range, the space was sampled for lead. These previous results were not available during the site visit.

Sample numbers and locations can be found on the site map in Appendix A.

3.3 VENTILATION SYSTEM EVALUATION

Not applicable to this operation.

3.4 NOISE MEASUREMENTS

Not applicable to this operation.

3.5 PERSONAL PROTECTIVE EQUIPMENT

Not applicable to this operation.

3.6 INTERPRETATION OF RESULTS

LEAD: Wipe samples collected from the former indoor firing range for lead were found to be below allowable limits and require no further action at this time. The NGB Region North Industrial Hygiene Office has prepared a memorandum titled "Recommendations for Surface Lead Dust in Armories" which is provided in Appendix G.

May 5, 2006

PN: 39741509 J:_Army National Guard\39741505 - Westfield, NJ\Repons\Westfield - Reviewed Final.doc

URS

10

4.0 DRILL HALL

4.1 OPERATION DESCRIPTION

The drill hall is a 7,500 square foot area with about a 30-foot high ceiling used for assembling personnel and storing vehicles. The walls are constructed of cinder blocks with a concrete floor, with roll up doors. At the time of the industrial hygiene survey, the drill hall was being prepped for a Flower and Home Expo.

4.2 CHEMICAL AND PHYSICAL AGENTS SAMPLED

4.2.1 Lead

Wipe testing for lead dust was conducted in the drill hall using Ghost Wipes™, which meet ASTM E 1792 standards. The analytical report from AMA is contained in Appendix D. Table 4-1 below shows the results of the lead sampling.

Table 4-1
Levels of Lead Dust Found in the Drill Hall

Sample Location	URS Sample Number	Area Wiped	Result ($\mu\text{g}/\text{ft}^2$)	Maximum Surface Contamination Level ($\mu\text{g}/\text{ft}^2$)
Drill Hall-Ledge	WS-09	12"x12"	220	200
Drill Hall-Ledge	WS-10	12"x12"	280	200

Sample numbers and locations can be found on the site map in Appendix A.

4.2.2 Asbestos

Observed suspect asbestos-containing materials (ACM) were found to be in good condition, therefore, bulk samples were not collected during the site visit. An asbestos survey was conducted by ARNG personnel prior to the site visit and an Operations and Maintenance (O&M) plan is in place. Signs have been posted on bulletin boards warning personnel of the existence of ACM.

4.3 VENTILATION SYSTEM EVALUATION

Not applicable to this operation.

4.4 NOISE MEASUREMENTS

Not applicable to this operation.

4.5 PERSONAL PROTECTIVE EQUIPMENT

Not applicable to this operation.

4.6 INTERPRETATION OF RESULTS

LEAD: Surfaces within the drill hall were found to contain lead dust levels which exceeded the maximum limit set by the Army National Guard. URS recommends that these areas be decontaminated by personnel trained in accordance with the OSHA law standard (29 CRR 1910.1025). The NGB Region North Industrial Hygiene Office has prepared a memorandum titled "Recommendations for Surface Lead Dust in Armories" which is provided in Appendix G.

ASBESTOS: Observed suspect asbestos-containing materials were found to be in good condition. If an asbestos-containing material should become damaged, it is recommended that the damaged material be replaced with new, non-asbestos material by an appropriately trained professional.

5.0 BOILER ROOM

5.1 OPERATION DESCRIPTION

The boiler room is a mechanical space constructed of cinder block walls with a concrete floor, containing a furnace and associated piping.

5.2 CHEMICAL AND PHYSICAL AGENTS SAMPLED

5.2.1 Asbestos

Observed suspect asbestos-containing materials (ACM) were found to be in good condition, therefore, bulk samples were not collected during the site visit. An asbestos survey was conducted by ANG personnel prior to the site visit and an Operations and Maintenance (O&M) plan is in place. Warning signs have been posted on bulletin boards warning personnel of the existence of ACM. ACM insulation was abated from the boiler prior to the site visit.

5.3 VENTILATION SYSTEM EVALUATION

Not applicable to this operation.

5.4 NOISE MEASUREMENTS

Not applicable to this operation.

5.5 PERSONAL PROTECTIVE EQUIPMENT

Not applicable to this operation.

5.6 INTERPRETATION OF RESULTS

ASBESTOS: Observed suspect asbestos-containing materials were found to be in good condition. If an asbestos-containing material should become damaged, it is recommended that the damaged material be replaced with new, non-asbestos material by an appropriately trained professional.

6.0 SAFETY AND INDUSTRIAL HYGIENE PROGRAMS

6.1 CONFINED SPACES

No safety program was found regarding confined spaces. No training records were found on site. A confined spaces program is not required for this site.

6.2 HEARING CONSERVATION

No safety program was found regarding hearing conservation. No training records were found on site. A hearing conservation program is not required for this site.

6.3 RESPIRATORY PROTECTION

No safety program was found regarding respiratory protection. No training records were found on site. A respiratory protection program is not required for this site.

6.4 HAZARD COMMUNICATION

No program was found regarding hazard communication. No training records were found on site. A site-specific hazard communication program is required for this site and should include communication of hazards to employees, management of material safety data sheets, chemical labeling and spill protection. At the time of the site visit, a chemical inventory was being created.

6.5 PERSONAL PROTECTIVE EQUIPMENT

No safety program was found regarding personal protective equipment. No training records were found on site. A personal protective equipment program is not required for this site.

7.0 REFERENCES

American National Standards Institute

ANSI/ESNA RP-1-04: American National Standard Practice for Office Lighting

American Society of Heating Refrigerating and Air-Conditioning Engineers

ANSI/ASHRAE Standard 62.1-2004: Ventilation for Acceptable Indoor Air Quality

Department of the Army

Ergonomics Program Pamphlet 40-21 (15 August 2003)

Policy and Responsibilities for Inspection, Evaluation and Operation of Army
National Guard Indoor Firing Ranges (National Guard Regulation 385-15 30
December 2002)

Department of Defense

DoD Hearing Conservation Program Standard 6055.12 April 1996

Creating an Ideal Workstation: A Step-by-Step Guide

U. S. Environmental Protection Agency

Asbestos Hazard Emergency Response Act (40 CFR Part 763)

National Emissions Standards for Hazardous Pollutants (40 CFR Part 61)

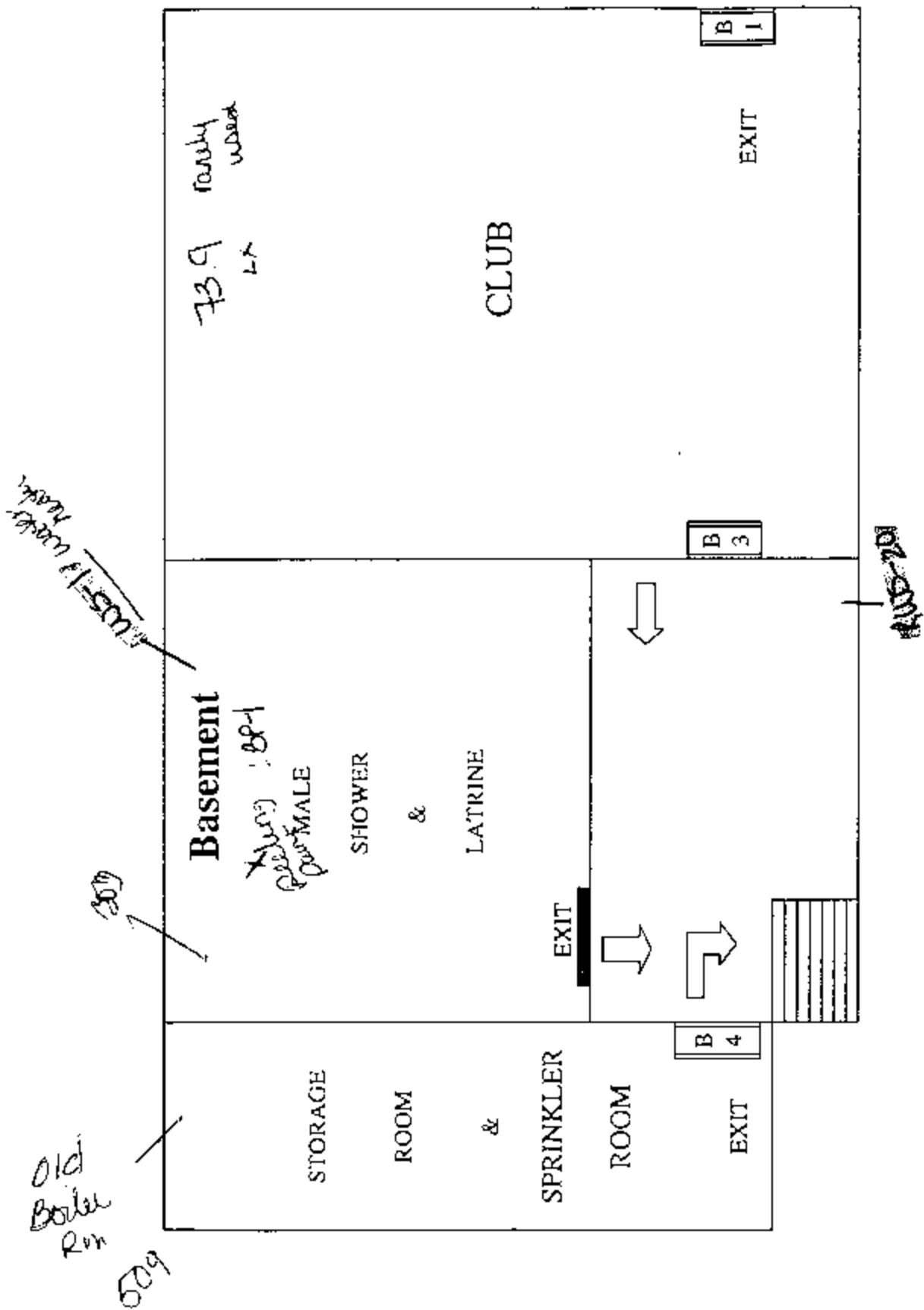
U. S. Housing and Urban Development

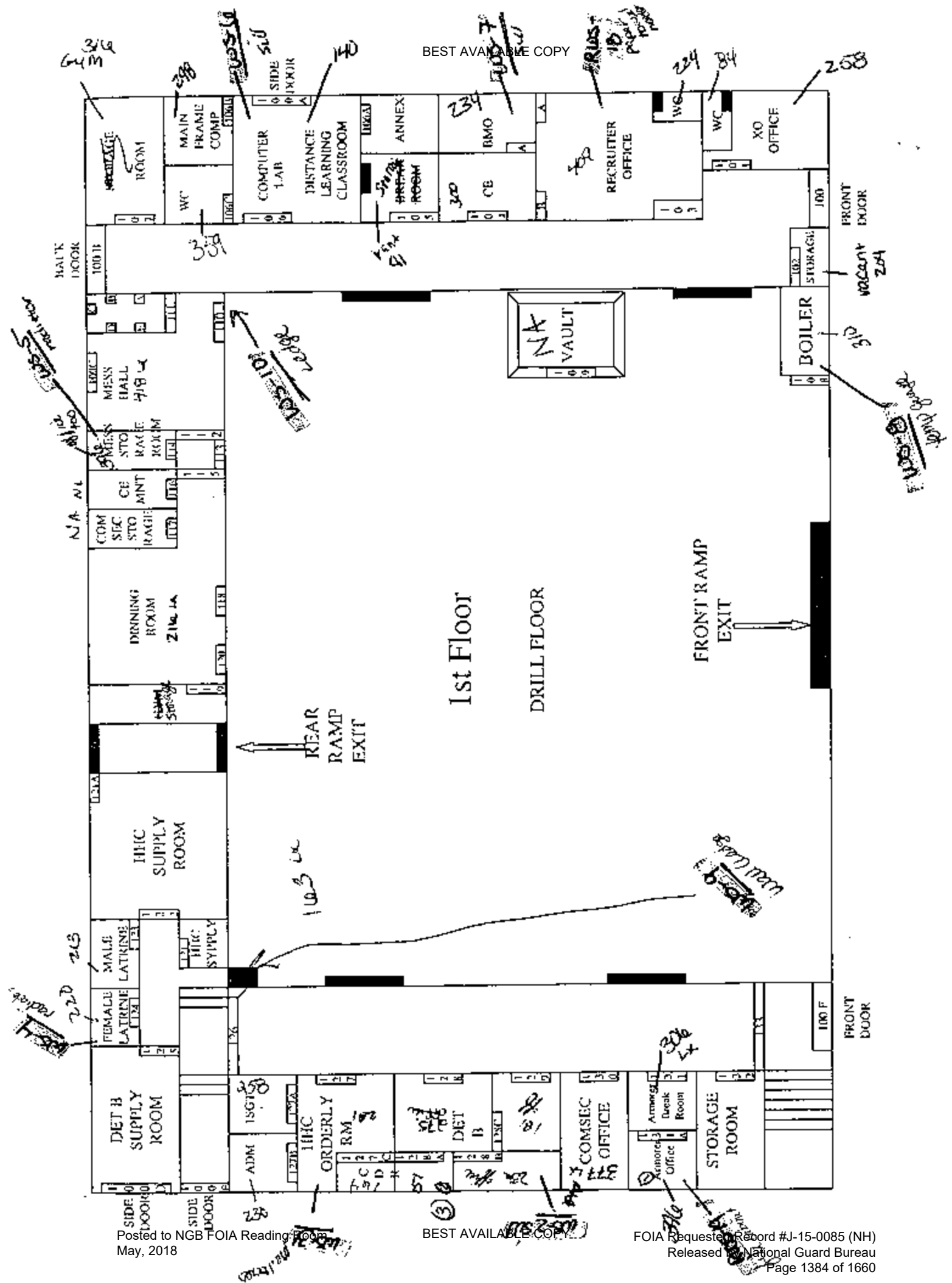
Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in
Housing (1995, 1997)

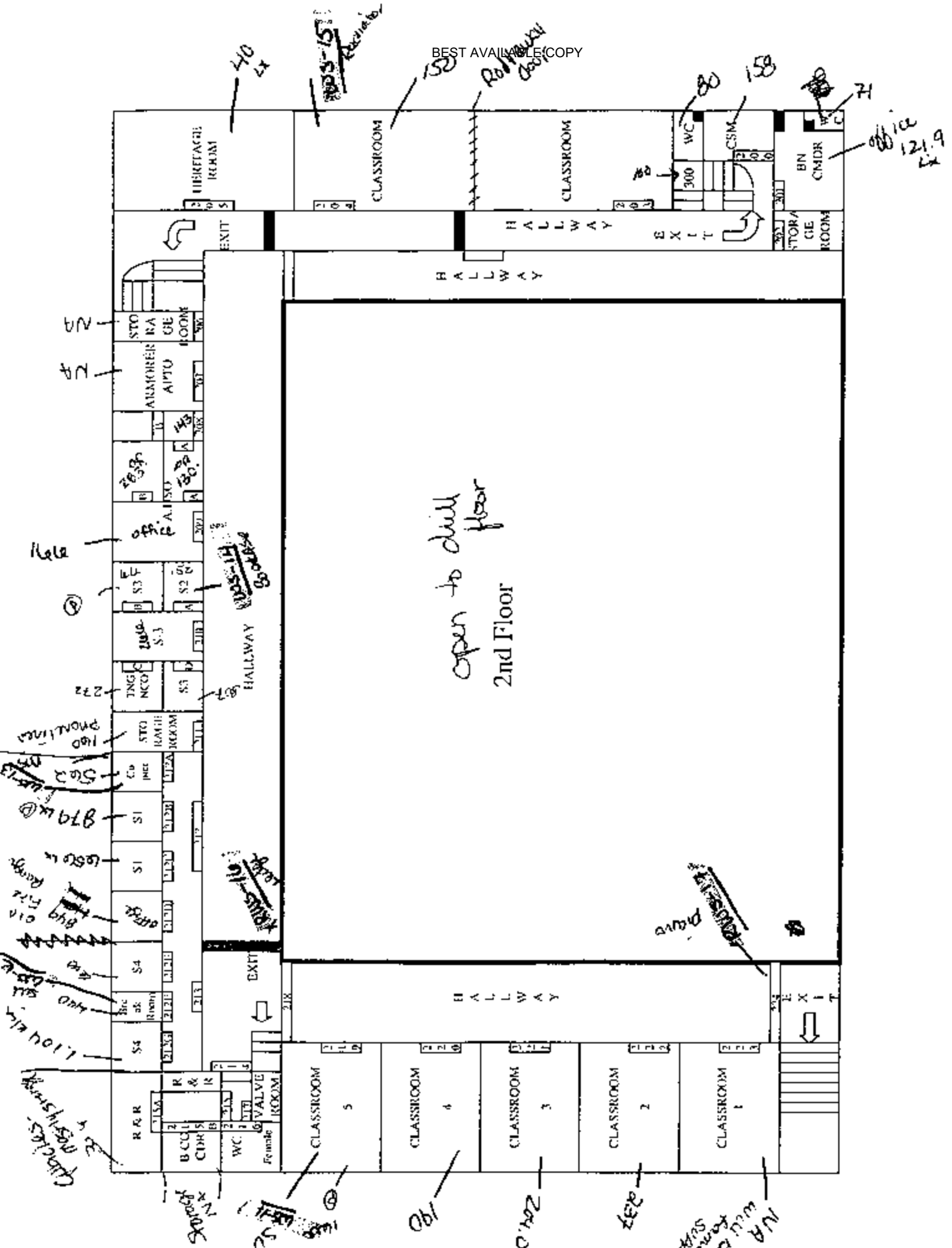
U. S. Occupational Safety and Health Administration

Standard for General Industry: 29 CFR 1910

APPENDIX A
ARMORY DRAWING







APPENDIX B
PERSONNEL LIST

BEST AVAILABLE COPY

NOT PROVIDED

APPENDIX C
HAZARDOUS MATERIALS LIST

BEST AVAILABLE COPY

NOT PROVIDED

APPENDIX D
ANALYTICAL RESULTS

CERTIFICATE OF ANALYSIS

NYELAP
NY ELAP
AIHA

Client: National Guard Bureau
Address: 301-IE OM Bay Lane, Attn: NGB-AVNS-02,
State Military Reservation
Havre de Grace, Maryland 21078

Job Name: Army
Job Location: Westfield, NJ

Job Number: Not Provided
P.O. Number: BPA #W012K6-04-A0002

Chain Of Custody: 128464
Date Analyzed: 6/24/2004

Person Submitting: [Redacted]
Report Date: 25-Jun-04

Attention: [Redacted]

Page 1 of 2

Summary of Atomic Absorption Analysis for Lead

AMA Sample Number	Client Sample Number	Analyte Type	Sample Type	Air Volume (L)	Area Wipe (m²)	Reporting Limit	Final Result	Comments
0448792	WS-01	Furnace	Wipe	0.000	0.111	33.75 ug/m²	95 ug/m²	
0448793	WS-02	Furnace	Wipe	0.000	0.111	67.51 ug/m²	220 ug/m²	
0448794	WS-03	Furnace	Wipe	0.000	0.111	13.50 ug/m²	41 ug/m²	
0448795	WS-04	Furnace	Wipe	0.000	0.111	108.01 ug/m²	300 ug/m²	
0448796	WS-05	Furnace	Wipe	0.000	0.111	13.50 ug/m²	30 ug/m²	
0448797	WS-06	Furnace	Wipe	0.000	0.111	2.70 ug/m²	17 ug/m²	
0448798	WS-07	Furnace	Wipe	0.000	0.111	13.50 ug/m²	39 ug/m²	
0448799	WS-08	Furnace	Wipe	0.000	0.111	13.50 ug/m²	50 ug/m²	
0448800	WS-09	Furnace	Wipe	0.000	0.111	67.51 ug/m²	220 ug/m²	
0448801	WS-10	Furnace	Wipe	0.000	0.111	108.01 ug/m²	280 ug/m²	
0448802	WS-11	Furnace	Wipe	0.000	0.111	13.50 ug/m²	37 ug/m²	
0448803	WS-12	Furnace	Wipe	0.000	0.111	13.50 ug/m²	15 ug/m²	
0448804	WS-13	Furnace	Wipe	0.000	0.111	13.50 ug/m²	27 ug/m²	
0448805	WS-14	Furnace	Wipe	0.000	0.111	108.01 ug/m²	290 ug/m²	
0448806	WS-15	Furnace	Wipe	0.000	0.111	13.50 ug/m²	57 ug/m²	
0448807	RWS-16	Furnace	Wipe	0.000	0.111	13.50 ug/m²	34 ug/m²	
0448808	RWS-17	Furnace	Wipe	0.000	0.111	33.75 ug/m²	53 ug/m²	
0448809	RWS-18	Furnace	Wipe	0.000	0.111	13.50 ug/m²	29 ug/m²	
0448810	RWS-19	Furnace	Wipe	0.000	0.111	13.50 ug/m²	18 ug/m²	
0448811	RWS-20	Furnace	Wipe	0.000	0.111	108.01 ug/m²	780 ug/m²	

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of any product. As a mutual protection to clients, the public and these Laboratories, the report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from the Laboratories. For the accuracy and completeness of this information, the Laboratories warrant that the samples analyzed were collected by personnel of these Laboratories, we expressly disclaim any knowledge and warranty only to pertinent light microscopy of bulk samples and transmission electron microscopy of AERDA air samples. This report must not be used in claim, and does not imply product certification, approval, or endorsement by NYELAP, NIST, or any agency of the Federal Government.

All rights reserved. AMA Analytical Services, Inc.

As AIHA (88863), NYELAP (810143), & New York ELAP (810928) Accredited Laboratory
4675 Forbes Blvd. • Lanham, MD 20706 • (301) 459-2640 • Toll Free (800) 346-0961 • Fax (301) 459-2643

CERTIFICATE OF ANALYSIS

NVLAP
NY ELAP
AIHA

Client: National Guard Bureau
Address: 101-JH Old Bay Lane, Attn: NCB-AVN-SL, State Military Reservation
Havre de Grace, Maryland 21078

Job Name: Ammunition
Job Location: Westfield, NJ
Job Number: Not Provided
P.O. Number: BPA #W912K6-04-A0002

Chain of Custody: 124464
Date Analyzed: 6/25/2004

Person Submitting: [Redacted]
Report Date: 25-Jun-04

Attention: [Redacted]

Page 2 of 2

Summary of Atomic Absorption Analysis for Lead

AMA Sample Number	Client Sample Number	Analysis Type	Sample Type	Air Volume (L)	Area Wiped (ft ²)	Reporting Unit	Final Result	Comments
-------------------	----------------------	---------------	-------------	----------------	-------------------------------	----------------	--------------	----------

0448812	LBP-1	Flame	Paint Chip	1000	N/A	0.01 %Pb	0.24 %Pb	
---------	-------	-------	------------	------	-----	----------	----------	--

Analysis Method for Flame: Air, Wipes, Paints, and Soil/Solids: EPA 600/8-93/2000-7420; Water: SM-3111B
Analysis Method for Furnace: Air, Wipes, Paints, and Soil/Solids: EPA 600/8-93/2000-7421; Water: SM-3113B
PbA = Not Applicable mg/Kg = parts per million (ppm) by weight mg/L = parts per million (ppm)
%Pb = percent lead by weight ug = micrograms ug/L = parts per billion (ppb)
Note: All results have two significant digits. Any additional digits shown should not be considered when interpreting the result.

Non-Responsive

Analyst: [Redacted]

Technical Manager: [Redacted]

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a national proficiency to clients, the public and these Laboratories, the report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the conditions that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from the Laboratory. Sample types, locations and collection protocols are based upon the information provided by the person submitting them and, unless collected by personnel of these Laboratories, we expressly disclaim any knowledge and liability for the accuracy and completeness of this information. Additional sample material will be discarded in accordance with the appropriate regulatory guidelines, unless otherwise requested by the client. NVLAP Accreditation applies only to validated light microscopy of bulk samples and transmission electron microscopy of AMESA air samples. This report must not be used to claim, and does not imply product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

All rights reserved. AMA Analytical Services, Inc.

An AIHA (85863), NVLAP (010143), & New York ELAP (010920) Accredited Laboratory
4675 Forbes Blvd. • Landover, MD 20706 • (301) 459-2640 • Toll Free (800) 346-8961 • Fax (301) 459-2643

APPENDIX E
TRAINING CERTIFICATES

Certificate of Training

Non-Responsive

For successful completion of a 4 Hour, 1/2 Day

**Asbestos Building Inspector
Annual Refresher Training**

JULY 17, 2003

This training was approved and given in accordance with the
Regulations for Connecticut State Agencies
RCSA 20 - 440 - 1.9 and RCSA 20F - 441 and meets the
requirements of the EPA Revised MAP under TSCA Title II of 4/4/94.

Presented by

**Mystic Air Quality Consultants, Inc.
1204 North Road, Groton, CT 06340 (800) 247-7746**

IRE10892

Exam Grade: 97%

Exam Date: 07/17/2003

Date: 07/17/2004

Non-Responsive

CSP, RS

Training Director

APPENDIX F
PHOTOGRAPHS



Photo 1:
Armorer's Computer Table



Photo 3:
Room 128A Unadjustable Chair and Keyboard



Photo 2:
Room 128A-Unadjustable Chair and Table



Photo 4:
Dining Room Layout



Photo 6:
Boiler Room



Photo 8:
Club Room Layout



Photo 5:
Dining Room-Water Damaged Ceiling



Photo 7:
Basement Men's Room-Peeling Paint



Photo 10:
CSM Office-Adjustable Chair/Stationary Keyboard



Photo 12:
Room 210B-Desk

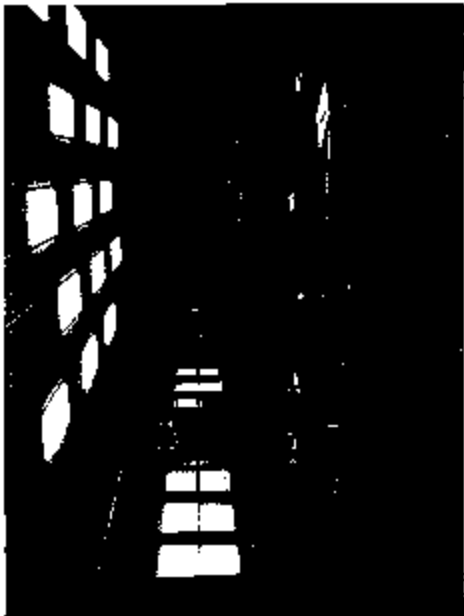


Photo 9:
Room 203/204 Classroom Layout



Photo 11:
Room 210B-Adjustable Chair on Folding Table

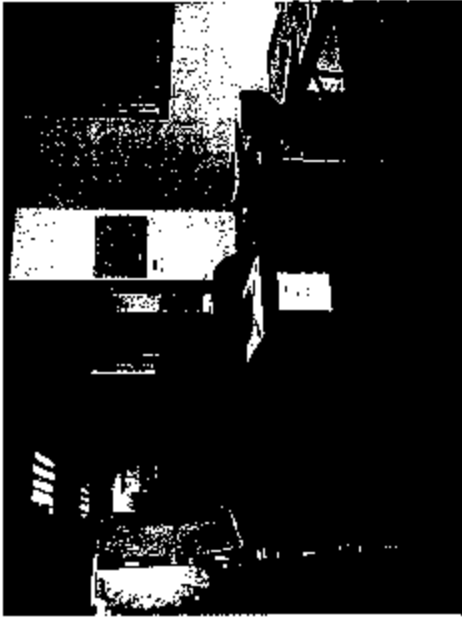


Photo 14:
Hallway @212/213-Old Firing Range



Photo 16:
Classroom #5-Desks



Photo 13:
Hallway @212/213-Old Firing Range
Folding Tables and Folding Chairs @ Workstations



Photo 15:
Room 212B-Adjustable Chair and Unadjustable
Keyboard



Photo 18:
Drill Hall Layout

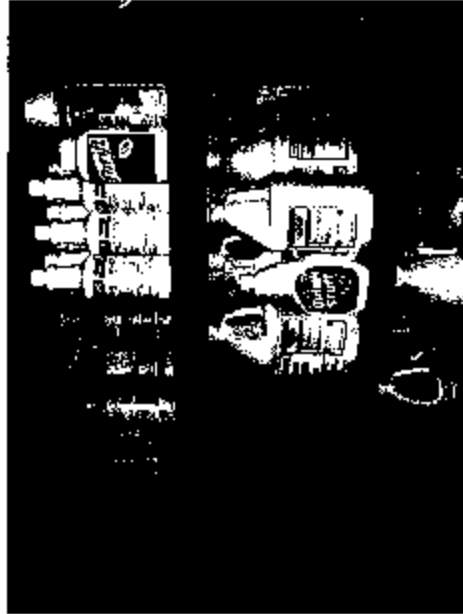


Photo 20:
Room 132-Labeled Chemicals



Photo 17:
Hallway @ Room 219-Accessible Fire
Extinguisher



Photo 19:
Drill Hall Layout

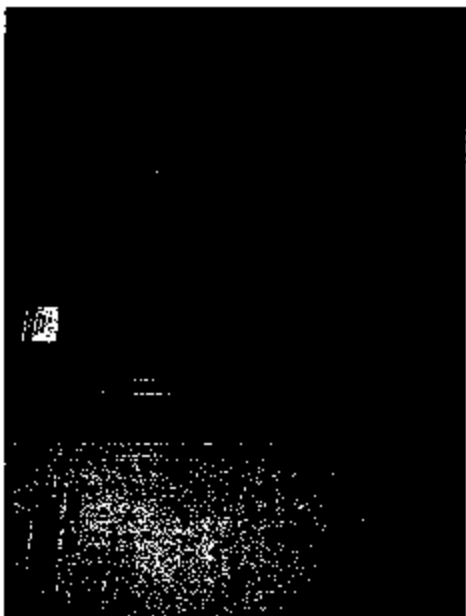


Photo 22:
Room 132-Flammable Cabinets



Photo 24:
Exterior



Photo 21:
Room 132-Labeled 5-Gallon Buckets



Photo 23:
Exterior

APPENDIX G
RECOMMENDATIONS FOR SURFACE LEAD DUST IN ARMORIES

Subject: Recommendations for Surface Lead Dust in Armories

1. In armories that do not contain childcare facilities, the National Guard Bureau (NGB) Region North Industrial Hygiene Office recommends cleaning the areas in which sample results are greater than 200 micrograms per square foot ($\mu\text{g}/\text{ft}^2$). If a special function will be held in which children will be present in this facility, consider thoroughly cleaning the areas that will be accessible to children prior to the function. This guidance is based on professional judgment, risk assessments, adaptation of Occupational Safety and Health Administration (OSHA) guidance, and feasibility of cleaning to a certain level.

a. Environmental Protection Agency (EPA) standards (40 Code of Federal Regulations (CFR) 745.227(h)(3)) are not directly applicable because they are criteria for dust-lead hazards developed for floors ($40 \mu\text{g}/\text{ft}^2$) and windowsills ($250 \mu\text{g}/\text{ft}^2$) in residential dwellings and child occupied facilities. A child occupied facility is defined as a building, or portion of a building, constructed prior to 1978, visited regularly by the same child, 6 years of age or under, on at least two different days within any week (Sunday through Saturday period), provided that each day's visit lasts at least 3 hours and the combined weekly visit lasts at least 6 hours, and the combined annual visits last at least 60 hours. Most of the wipe samples in armories were collected in undisturbed areas and therefore, results are worst case scenarios and do not correlate to these standards.

b. OSHA has no specific requirement for work area surfaces. The lead standard (29 CFR 1910.1025(h)) states that all surfaces shall be maintained as free as practicable of accumulations of lead dust. In workplaces where lead dust is generated, surface levels may be much higher, but personnel exposures can be controlled by limiting airborne lead levels and following good cleanup and hygienic practices.

c. OSHA used to cite a level of $200 \mu\text{g}/\text{ft}^2$ in their Technical Manual and 29 CFR 1926.62 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.

d. In a report titled Derivation of Wipe Surface Screening Levels for Environmental Chemicals, the US Army Center for Health Promotion and Preventive Medicine (USACHPPM) has determined that $200 \mu\text{g}/\text{ft}^2$ is a safe surface contamination level. They have also applied these standards as the decontamination levels for surfaces in administrative offices.

e. It should be noted that levels above these recommendations do not necessarily mean there is a significant hazard to workers who are following good cleaning and hygienic practices since there is no correlation between wipe and air samples. Rather, we recommend these levels as a precautionary measure.

2. The NGB Occupational Health Branch is developing guidance for armories that are used as childcare facilities. All states will receive this guidance when it is completed. In the interim, we recommend the following actions:

a. Clean all areas that will be accessible to children to the EPA dust-lead standard for children 6 years of age or under ($40 \mu\text{g}/\text{ft}^2$ on floors and $250 \mu\text{g}/\text{ft}^2$ on windowsills).

b. Refer to the local authorities' regulations since they can be more stringent than federal regulations.

c. Post signs in the area to inform people of the presence of lead dust and its effects.

d. If soldiers clean weapons in the facility, change the policy so that they cannot clean their weapons in the facility, or if they are allowed to clean their weapons indoors, they must clean the area by wet wiping and mopping the area when they are done.

e. If the paint is peeling, contact the state Environmental Office to test for lead content and provide recommendations.

3. Air samples collected on individuals in the armory were well below OSHA's permissible exposure limit for lead (29 CFR 1910.1025(c)) of $0.05 \text{ mg}/\text{m}^3$ averaged over an 8-hour day. Therefore, based on these conditions there is currently no overexposure to personnel from lead dust in this building.



1215 Manor Drive, Suite 205
Mechanicsburg, PA 17055
Phone: 717.590.7031
Fax: 717.590.7936
www.complianceplace.com

Industrial Hygiene Survey Report

National Guard Facility
Westfield Readiness Center

Prepared For: National Guard Bureau Region North IH
301-IH Old Bay Lane
Havre de Grace, MD 21078

Survey Location: Westfield Readiness Center
500 Rahway Avenue
Westfield, NJ 07090-3335

Prepared By: Compliance Management International, Inc.
1215 Manor Drive
Suite 205
Mechanicsburg, PA 17055

Survey Date: March 26, 2013

Report Date: April 26, 2013

Non-Responsive

Manager, Industrial Hygiene Services

Table of Contents

Section 1.0 Executive Summary	3
Section 2.0 Operation Description & Observations.....	5
Section 3.0 Lead Testing.....	6
Section 4.0 Lighting.....	8
Section 5.0 Indoor Air Quality.....	9
Section 6.0 Suspect Asbestos Containing Building Materials.....	11
Section 7.0 Equipment	12
Section 8.0 Limitations	13
Appendix A. Laboratory Analysis Report	14
Appendix B. Photographs	15
Appendix C. Floor Plan	16
Appendix D. References	17

Section 1.0 Executive Summary

An industrial hygiene survey was conducted on March 26, 2013, at the Westfield Readiness Center located at 500 Rahway Avenue, Westfield, NJ 07090. The survey was performed by Mr. Non-Responsive.

1. Lead bulk, surface and air samples were collected. Surface levels of lead did not exceed 200 micrograms per square foot (ug/ft²). See Section 3.0 for detailed sampling results.
2. Lighting levels did meet the American National Standards Institute/Illuminating Engineering Society of North America (ANSI/IESNA) recommended guideline in all locations. See Section 4.0 for detailed findings.
3. Indoor air quality (IAQ) parameters of temperature, relative humidity, carbon monoxide and carbon dioxide (ventilation) were evaluated during the assessment.
 - a. Temperature levels did not meet the ASHRAE recommended guideline of 68-79 degrees F in one location.
 - b. Relative humidity levels were less than the US Army Center for Health Promotion and Preventive Medicine (USACHPPM) TG 277 recommended guideline of 30-60% in four locations.
 - c. Carbon monoxide (CO) levels were less than the National Ambient Air Quality Standard (NAAQS) recommended ceiling of 9 ppm.
 - d. Carbon dioxide (CO₂) levels met the ASHRAE 62.1-2010 recommended guidelines for mechanically ventilated office buildings and commercial settings.

See Section 5.0 for detailed sampling results.

4. Several conditions or factors that could affect indoor air quality were observed at the time of this survey. This includes:
 - a. Reported roof leaks from hurricane Sandy.
 - b. Visible fungal growth in basement bathroom.
 - c. Some water damaged ceiling tiles were observed in several locations in the facility.
 - d. The parking lot was being repaved today: a petroleum odor and a blue haze were present in the facility.

See Section 5.0 for detailed findings.

5. One suspect asbestos containing material was observed. Floor tile (9"X9) was observed to be intact and in good condition. See Section 6.0 for detailed findings.

Section 2.0 Operation Description & Observations

The Westfield Readiness Center is mainly an administrative facility with a drill hall, offices, classroom, conference room, and converted firing range/office area. There were approximately 15 full-time employees stationed at this facility at the time of this survey.

The building was initially constructed in 1925. Two additions were added to the building however the dates of the additions were unknown. The building is a two-story and half basement structure with a brick exterior. The interior walls are concrete block, brick, plaster, and drywall. The floors are concrete, floor tile and some carpet.

The Heating, Ventilation, and Air-Conditioning (HVAC) system consists of 2 zones. There is a roof top unit for the office area that was once the converted firing range and an oil-fired forced water furnace for heat and window units for air conditioning in the remaining sections of the building.

The area of the building that was once a firing range has been converted into office space. No firing range components remain.

This facility received damage from hurricane Sandy. In the Tower room a large window was blown out, two skylights were broken and one was damaged. The roof also received damage. A significant amount of water entered the facility.

There is no child-care facility in the building.

Overall housekeeping practices were good.

No ergonomic concerns were reported. Office areas have computer work stations. Work stations appeared to be properly designed. Personnel had supportive chairs.

Section 3.0 Lead Testing

Due to the age of the building there is a high potential for lead based paint to be present. Various surfaces within the facility were screened for lead using surface/wipe samples. Surface/wipe samples were collected in accordance with the American Society for Testing and Materials (ASTM) E 1792 protocols. Air samples were collected using 0.8 um mixed cellulose ester (MCE) filter cassettes attached to low volume air sampling pumps. Blank samples were submitted to the laboratory for quality control purposes. Samples were sent to AMA Analytical Services, Inc., in Lanham, Maryland, for lead analysis using Environmental Protection Agency (EPA) Method 600/R-93/200 (M)-7420. A copy of the laboratory analysis report can be found in Appendix A.

Lead Testing Results Summary

Sample #	Location	Bulk (%)	Air ug/m ³	Surface ug/ft ²
1	Drill Hall	*	<4.6	*
2	Converted Firing Range/Office Space	*	<4.6	*
3	Drill Hall – Floor	*	*	<110
4	Drill Hall – North Wall Ledge	*	*	<110
5	Drill Hall – Top of Table	*	*	<110
6	Kitchen – Top of Microwave	*	*	<110
7	Kitchen – Top of Moveable Food Serving Station	*	*	<110
8	Dining Room – Top of Bottle Cooler	*	*	<110
9	Hallway – Outside Converted Firing Range/Office Space	*	*	<110
10	Converted Firing Range/Office Space – Top of Wall Locker	*	*	130
11	Converted Firing Range/Office Space – Carpet Floor	*	*	<110
12	Converted Firing Range/Office Space – HVAC Supply Diffuser	*	*	<110
13	Distributed Learning Classroom – Top of Desk	*	*	<110
14	Basement Bathroom - Floor	*	*	<110
15	Conference Room – Top of Table	*	*	<110
16	Command Sgt. Major Office – Top of Desk	*	*	<110
17	Classroom #2 – Top of Desk	*	*	<110
18	Armory Office – Book Shelf	*	*	<110
19	Blank Wipe	*	*	<12
20	Blank Air	*	<3	*
21	Bulk Paint Chip – Basement Bathroom Ceiling	0.03	*	*
-	Criteria	0.5	50	200

Table Notes:

1. **Bolded** results exceed listed criteria
2. **ppm** = parts per million
3. **ug/ft²** = micrograms per square foot
4. **ug/m³** = micrograms per cubic meter
5. **ug** = micrograms

Sources:

1. NG PAM 420-15 Guidelines and Procedures for Rehabilitation and Conversion of Indoor Firing Ranges
2. OSHA 29CFR1910.1025 Lead Standard

The National Guard Bureau currently utilizes 200 micrograms per square foot (ug/ft^2) as a benchmark for identifying lead-contaminated surfaces. This guideline is referenced in NG PAM 420-15 "Guidelines and Procedures for Rehabilitation and Conversion of Indoor Firing Ranges" as a satisfactory surface contamination level unless the facility is utilized as a childcare facility. In such cases, U.S. Department of Housing and Urban Development (HUD) limit of $40 \text{ ug}/\text{ft}^2$ on floors and $250 \text{ ug}/\text{ft}^2$ on windowsills should be observed. There is no child care provided at this facility.

Lead surface, air, and bulk samples were collected. The following is a summary of the sample results from this survey.

- Surface levels of lead were below the recommended guideline of $200 \text{ ug}/\text{ft}^2$ in all areas tested.
- Air samples for lead were below the Occupational Safety and Health Administration (OSHA) Permissible Exposure Limit of 50 micrograms per cubic meter (ug/m^3).
- Paint was observed to be peeling on the ceiling and walls in the basement bathroom, approximately 1,000 square feet of peeling paint. A bulk sample was collected and determined to contain 0.03% lead. This is less than the EPA definition of lead based paint (0.5%).

Section 4.0 Lighting

A lighting assessment was conducted throughout the facility. Measurements were collected using a Cooke Cal-Light 400L Precision Light Meter (Serial No. K98364). The light meter was last calibrated in April 2012. Measurements collected were compared to ANSI/IESNA RP-7-01 Lighting Industrial Facilities and RP-1-04 Office Lighting.

Light Survey Assessment Summary

Location	Foot Candles (FC)	Recommended Lighting (FC)	Sufficient Lighting
Office 103	46.1	30-50	Yes
Office 105	42.6	30-50	Yes
Classroom 106	38.2	30-50	Yes
Weight Room	72.4	30	Yes
Conference Room	61.9	30	Yes
Command Sgt. Maj. Office	33.7	30-50	Yes
Office 209	75.7	30-50	Yes
Office 210	49.6	30-50	Yes
Office 210 – B	104.5	30-50	Yes
Office 210 – C	42.6	30-50	Yes
Office 212 – G	99.1	30-50	Yes
Classroom 219	43.6	30-50	Yes
Classroom 220	36.1	30-50	Yes
Classroom 222	46.1	30-50	Yes
Armory Office	59.3	30-50	Yes
Drill Hall	66.1	10	Yes

Table Notes:

1. FC = Foot Candles
2. **Bolded** results did not meet listed criteria

Source: ANSI/IESNA RP-7-01 Lighting Industrial Facilities and RP-1-04 Office Lighting.

Lighting levels meet the minimum recommended guideline in all area tested

Section 5.0 Indoor Air Quality

Survey measurements were made for ventilation and comfort parameters (carbon dioxide, temperature, carbon monoxide and relative humidity). The air quality measurements were collected using direct reading instrumentation for comfort parameters using a QTRAK IAQ Meter, Model 7565 (Serial #02041015). The IAQ Meter was last calibrated in August 2012.

The American Society of Heating, Refrigerating, and Air Conditioning Engineers, Inc. (ASHRAE) have developed indoor air quality guidelines for mechanically ventilated office buildings and commercial settings (ASHRAE standard 62.1-2010). ASHRAE specifies temperature ranges for human comfort (ASHRAE 55-2010). The US Army Technical Guide 277 Army Facilities Management Information Document on Mold Remediation, recommends maintaining a relative humidity range between 30 to 60%.

The following table summarizes the measurements collected.

IAQ Assessment Summary

Location	Temperature (°F)	Relative Humidity (%)	Carbon Dioxide (ppm)	Carbon Monoxide (ppm)
Office 103	62.8	33.7	597	0.0
Weight Room	69.4	25.5	694	0.0
Conference Room	71.4	23.5	550	0.0
Command Sgt. Maj. Office	68.5	28.1	551	0.0
Office 212 – B	68.5	26.1	658	0.0
Outdoors	55.8	23.6	303	0.0
Criteria	68-79	30-60	<1,003	<9

Table Notes:

1. **Bolded** results exceed listed criteria
2. **ppm** = parts per million
3. **(%)** = percent relative humidity
4. **F** = degrees Fahrenheit

Sources: The American Society of Heating, Refrigerating, and Air Conditioning Engineers, Inc. (ASHRAE) 55-2010, 62.1-2010, Environmental Protection Agency (EPA) National Ambient Air Quality Standard (NAAQS) & The US Army Technical Guide 277 Army Facilities Management Information Document on Mold Remediation.

Summary of findings and recommendations:

- Temperature measurements did not meet the recommended 68-79°F in Office 103. Temperature should be maintained at 68-79 °F.
- Relative humidity levels were outside the recommended guidelines in all but one sampled areas. Low relative humidity can cause the drying of the mucous tissues

and an increased susceptibility to respiratory infection. Relative humidity should be maintained at 30-60%.

- Carbon dioxide levels were measured to evaluate building ventilation or the introduction of outdoor air into the building. The recommended ceiling is obtained by adding 700 ppm to the measured outdoor carbon dioxide level at the time of survey. For this survey, carbon dioxide levels did not exceed the recommended ceiling of 1,003 ppm. This is an indication that outdoor air ventilation is adequate.
- Carbon monoxide levels measured were less than the recommended ceiling of 9 ppm. The recommended ceiling of 9 ppm referenced in the above table is the National Ambient Air Quality Standard for carbon monoxide.
- A visual inspection was conducted throughout accessible portions of the facility to assess sources or pathways of factors potentially deleterious to IAQ. The following observations were noted:
 - Reported roof leaks from hurricane Sandy.
 - Visible fungal growth in basement bathroom.
 - Some water damaged ceiling tiles were observed in several locations in the facility.
 - The parking lot was being repaved today a petroleum odor and a blue haze was present in the facility.
 - Overall housekeeping was good.

Section 6.0 Suspect Asbestos Containing Building Materials

Due to the age of the building (parts greater than 90 years old); it is likely that asbestos-containing materials (ACM) are present in the facility. The following suspect ACM was noted at the time of this survey:

1. Floor tiles (9"x9") and associated mastic are present on the first and second floors. There is approximately 500 square feet of floor tile on the first floor and 3,000 square feet on the second floor. This material was intact and in good condition.

Inaccessible areas such as behind walls or crawlspaces were not inspected. ACM could potentially be present in these areas.

Section 7.0 Equipment

The following equipment was utilized during this survey. All sampling equipment was properly calibrated prior to use and verified for accuracy as applicable. See daily reports and calibrations logs for detailed information.

Equipment	Serial #	Calibration Date	Value
TSI QTrak IAQ Meter	02041015	8/2012	NA
Cal Light 400 Light Meter	K98364	4/2012	NA
TSI 4199 Calibrator	41460827002	8/2012	NA
SKC Air Sampling Pump	647610	3/26/13	2.59 LPM
SKC Air Sampling Pump	647631	3/26/13	2.60 LPM

Section 8.0 Limitations

This report summarizes our evaluation of the conditions observed at the above referenced location. Our findings are based upon our observations and sampling results obtained at the facility at the time of our visit. The report, results, and subsequent recommendations reported herein are also limited to the information available at the time it was prepared and investigated. Conditions may have been in effect prior to the sampling events that have changed over time and which cannot be predicted within the scope of this limited investigation. Any conditions discovered which deviate from the data contained in this report should be presented to us for our evaluation.

This report is intended for the exclusive use of the client. This report and the findings herein shall not, in whole or in part, be relied upon by any other parties, disseminated or conveyed to any other party without prior written consent of the National Guard Bureau, and Compliance Management International, Inc. The findings are relative to the dates of our site visits and should not be relied upon for substantially later dates.

Appendix A. Laboratory Analysis Report



CERTIFICATE OF ANALYSIS



Client:	National Guard Bureau	Job Name:	Westfield RC	Chain Of Custody:	515472
Address:	301-JH Old Bay Lane, Attn: ARNG-CJG-P, State Military Reservation Havre de Grace, Maryland 21078	Job Location:	Westfield, NJ	Date Submitted:	4/2/2013
		Job Number:	Not Provided	Person Submitting:	Non-Responsive
		P.O. Number:	W912K6-09-A-0003	Date Analyzed:	4/8/2013
Attention:	Non-Responsive			Report Date:	4/9/2013

Summary of Atomic Absorption Analysis for Lead

Page 1 of 2

AMA Sample Number	Client Sample Number	Analysis Type	Sample Type	Air Volume (L)	Area Wiped (ft²)	Reporting Limit	Total ug	Final Result	Comments
13049748	1	Flame	Air	653	N/A	4.6 ug/m³	<3	<4.6 ug/m³	
13049749	2	Flame	Air	655	N/A	4.6 ug/m³	<3	<4.6 ug/m³	
13049750	3	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13049751	4	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13049752	5	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13049753	6	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13049754	7	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13049755	8	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13049756	9	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13049757	10	Flame	Wipe	****	0.108	110 ug/ft²	14	130 ug/ft²	
13049758	11	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13049759	12	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13049760	13	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13049761	14	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13049762	15	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13049763	16	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13049764	17	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13049765	18	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13049766	19	Flame	Wipe Blank	****	N/A	12 ug		<12 ug	

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these Laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from us. Sample types, locations, and collection protocols are based upon the information provided by the persons submitting them and, unless collected by personnel of these Laboratories, we expressly disclaim any knowledge and liability for the accuracy and completeness of this information. Residual sample material will be discarded in accordance with the appropriate regulatory guidelines, unless otherwise requested by the client. This report must not be used to claim, and does not imply product certification, approval, or endorsement by NY ELAP, AIHA, or any agency of the Federal Government. All rights reserved. AMA Analytical Services, Inc.



CERTIFICATE OF ANALYSIS



Client:	National Guard Bureau	Job Name:	Westfield RC	Chain Of Custody:	515472
Address:	301-JH Old Bay Lane, Attn: ARNG-CJG-P, State Military Reservation Havre de Grace, Maryland 21078	Job Location:	Westfield, NJ	Date Submitted:	4/2/2013
		Job Number:	Not Provided	Person Submitting:	Non-Responsive
		P.O. Number:	W912K6-09-A-0003	Date Analyzed:	4/8/2013
Attention:	Non-Responsive			Report Date:	4/9/2013

Summary of Atomic Absorption Analysis for Lead

Page 2 of 2

AMA Sample Number	Client Sample Number	Analysis Type	Sample Type	Air Volume (L)	Area Wiped (ft²)	Reporting Limit	Total ug	Final Result	Comments
13049767	20	Flame	Air Blank	0	N/A	3 ug/m³		<3 ug	
13049768	21	Flame	Paint Chip	****	N/A	0.0086 %Pb		0.03 %Pb	

Analysis Method for Flame: Air, Wipes, Paints, and Soil/Solids: EPA 600/R-93/200(M)-7000B; Water: SM-3111B
 Analysis Method For Furnace: Air, Wipes, Paints, and Soil/Solids : EPA 600/R-93/200(M)-7010; Water: SM-3113B
 N/A = Not Applicable mg/Kg = parts per million (ppm) on a dry weight basis mg/L = parts per million (ppm)
 %Pb = percent lead on a dry weight basis ug = micrograms ug/L = parts per billion (ppb)

Note: All samples were received in good condition unless otherwise noted.

Note: All results have two significant digits. Any additional digits shown should not be considered when interpreting the result.

Air and Wipe results are not corrected for any blank results

Final results for air and wipe samples are based on client supplied information nor verified by this laboratory.

All results are to be considered preliminary and subject to change unless signed by the Technical Director or Deputy.

See QC Summary for analytical results of quality control samples associated with these samples.

Non-Responsive

Non-Responsive

An

Technical Manag

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these Laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from us. Sample types, locations, and collection protocols are based upon the information provided by the persons submitting them and, unless collected by personnel of these Laboratories, we expressly disclaim any knowledge and liability for the accuracy and completeness of this information. Residual sample material will be discarded in accordance with the appropriate regulatory guidelines, unless otherwise requested by the client. This report must not be used to claim, and does not imply product certification, approval, or endorsement by NY ELAP, AIHA, or any agency of the Federal Government. All rights reserved. AMA Analytical Services, Inc.

**AMA Analytical Services, Inc.**

Focused on Results www.amalab.com

AIHA (#100470) NVLAP (#101143-0) NY ELAP (10920)

4475 Forbes Blvd. • Lanham, MD 20706

(301) 459-2640 • (800) 346-0961 • Fax (301) 459-2643

(Please Refer To This
Number For Inquiries)**CHAIN OF CUSTODY**

515472

p1/2

Mailing/Billing Information:

1. Client Name: National Guard Bureau
2. Address 1: 301-JH Old Bay Lane
3. Address 2: Attn: NGB-ARS-IHNE
4. Address 3: Havre de Grace, Maryland 21078
5. Phone #: (410) 942-0273 Fax #: (410) 942-0254

Submittal Information:

1. Job Name: Westfield RC
2. Job Location: Westfield NJ
3. Job #: W912K6-09-A-0003
4. Contact Person: Non-Responsive @ phone # (410) 942-0273
5. Submitted by: Non-Responsive

Reporting Information (Results will be provided as soon as technically feasible):

AFTER HOURS (must be pre-scheduled) <input type="checkbox"/> Immediate Date Due: _____ <input type="checkbox"/> 24 Hours Time Due: _____ Comments: _____		NORMAL BUSINESS HOURS <input checked="" type="checkbox"/> Immediate- <u>NEM</u> <input type="checkbox"/> Next Day <input type="checkbox"/> 2 Day <input type="checkbox"/> 3 Day <input checked="" type="checkbox"/> 5 Day + <u>4/9/13</u> Date Due: _____		REPORT TO: <input checked="" type="checkbox"/> Include COC Field Data Sheets with Report <input checked="" type="checkbox"/> <u>Non-Responsive</u> <u>compliance place.com</u> <input type="checkbox"/> Fax <u>us.army.mil</u> <input type="checkbox"/> Ver <u>us.army.mil</u>	
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--

Asbestos Analysis

- PCMAir** - Please Indicate Filter Type:
- ☐ NIOSH 7400 (QTY)
 - ☐ Fiberglass (QTY)
- TEMAir** - Please Indicate Filter Type:
- ☐ AHERA (QTY)
 - ☐ NIOSH 7402 (QTY)
 - ☐ Other (specify) (QTY)
- PLM Bulk**
- ☐ EPA 600 - Visual Estimate (QTY)
 - ☐ EPA Point Count (QTY)
 - ☐ NY State Friable 198.1 (QTY)
 - ☐ Grav. Reduction ELAP 198.6 (QTY)
 - ☐ Other (specify) (QTY)
- MISC**
- ☐ Vermiculite
 - ☐ Asbestos Soil PLM (Qual) PLM (Quan) PLM/TEM (Qual) PLM/TEM (Quan)

TEM Bulk

- ☐ ELAP 198.4/Chatfield (QTY)
- ☐ NY State PLM/TEM (QTY)
- ☐ Residual Ash (QTY)

TEM Dust

- ☐ Qual. (pres/abs) Vacuum/Dust (QTY)
- ☐ Quan. (s/area) Vacuum D5755-95 (QTY)
- ☐ Quan. (s/area) Dust D6480-99 (QTY)

TEM Water

- ☐ Qual. (pres/abs) (QTY)
- ☐ ELAP 198.2/EPA 100.2 (QTY)
- ☐ EPA 100.1 (QTY)

☒ All samples received in good condition unless otherwise noted.
 (TEM Water samples °C)

Metals Analysis

- ☐ Pb Paint Chip (QTY)
- ☐ Pb Dust Wipe (wipe type ghost) 17 (QTY)
- ☐ Pb Air 3 (QTY)
- ☐ Pb Soil/Solid (QTY)
- ☐ Pb TCLP (QTY)
- ☐ Drinking Water ☐ Pb (QTY) ☐ Cu (QTY) ☐ As (QTY)
- ☐ Waste Water ☐ Pb (QTY) ☐ Cu (QTY) ☐ As (QTY)
- ☐ Pb Furnace (Media (QTY)) (QTY)

Fungal Analysis

- Collection Apparatus for Spore Traps/Air Samples: _____
- Collection Media _____
- ☐ Spore-Trap (QTY)
 - ☐ Surface Vacuum Dust (QTY)
 - ☐ Surface Swab (QTY)
 - ☐ Culturable ID Genus (Media (QTY)) (QTY)
 - ☐ Surface Tape (QTY)
 - ☐ Culturable ID Species (Media (QTY)) (QTY)
 - ☐ Other (Specify) (QTY)

CLIENT CONTACT

(LABORATORY STAFF ONLY)

CLIENT ID NUMBER	SAMPLE INFORMATION SAMPLE LOCATION/IDENTIFICATION	DATE	VOLUME (LITERS)	WIPE AREA	TEM	PCM	PLM	LEAD	MOLD	AIR	BULK	DUST	WATER	OTHER	SPORE TRAP	TAPE	SWAB	DATE/TIME	CONTACT	BY
1.	Drill Hall	3-26	653					X												
2.	Firing Range		655					X												
3.	Drill Hall floor			100 cm ²				X												
4.	Drill Hall locker							X												
5.	Drill Hall table							X												
6.	Kitchen - microwave							X												
7.	Kitchen's Food Station							X												
8.	Dining Room cooler							X												
9.	Hallway outside Range							X												
10.	Range - locker							X												
11.	Range - floor							X												
12.	Range - Supply Diffuser							X												

LABORATORY
 Posted to NGB FOIA Reading Room
 May, 2018
 (CUSTODY)

1. Date/Time RCVD: 4/2/13 @ 915 Via: FedEx By (Print): NEM Sign: _____
2. Results Analyzed: _____ @ _____
3. Results Reported To: _____ Via: _____ Date: _____ / _____ / _____
4. Comments: MUSO1351138

BEST AVAILABLE COPY

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

Time: Released by National Guard Bureau

Page 1421 of 1660

**AMA Analytical Services, Inc.**

Focused on Results www.amalab.com

AIHA (#100470) NVLAP (#101143-0) NY ELAP (10920)

4475 Forbes Blvd. • Lanham, MD 20706

(301) 459-2640 • (800) 346-0961 • Fax (301) 459-2643

CHAIN OF CUSTODY(Please Refer To This
Number For Inquiries)

515472 p.2/2

Mailing/Billing Information:

1. Client Name: National Guard Bureau
2. Address 1: 301-IH Old Bay Lane
3. Address 2: Attn: NGB-ARS-IHNE
4. Address 3: Havre de Grace, Maryland 21078
5. Phone #: (410) 942-0273 Fax #: (410) 942-0254

Submittal Information:

1. Job Name: Westfield RC
2. Job Location: _____
3. Job #: _____ P.O. #: W912K6-09-A-0003
4. Contact Person: Non-Responsive @ phone: Non-Responsive
5. Submitted by: Non-Responsive signatures: _____

Reporting Information (Results will be provided as soon as technically feasible):

AFTER HOURS (must be pre-scheduled) <input type="checkbox"/> Immediate Date Due: _____ <input type="checkbox"/> 24 Hours Time Due: _____ Comments: _____		NORMAL BUSINESS HOURS <input type="checkbox"/> Immediate <input type="checkbox"/> Next Day <input type="checkbox"/> 2 Day <input type="checkbox"/> 3 Day <input type="checkbox"/> 5 Day + Date Due: _____		<input type="checkbox"/> Results Required By Noon (Every Attempt Will Be Made to Accommodate)		REPORT TO: <input checked="" type="checkbox"/> Include COC/Field Data Sheets with Report <input checked="" type="checkbox"/> Email: <u>Non-Responsive@us.army.mil</u> <input type="checkbox"/> Fax: _____ <input type="checkbox"/> Verb: _____	
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	--------------------------------------------------------------------------------------------------	--	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--

Asbestos Analysis

- PCMAir** - Please Indicate Filter Type:
☐ NIOSH 7400 (QTY)
☐ Fiberglass (QTY)
- TEMAir** - Please Indicate Filter Type:
☐ AHERA (QTY)
☐ NIOSH 7402 (QTY)
☐ Other (specify) (QTY)
- PLM Bulk**
☐ EPA 600 - Visual Estimate (QTY)
☐ EPA Point Count (QTY)
☐ NY State Friable 198.1 (QTY)
☐ Grav. Reduction ELAP 198.6 (QTY)
☐ Other (specify) (QTY)

MISC

- ☐ Vermiculite
☐ Asbestos Soil PLM (Qual) PLM (Quan) PLM/TEM (Qual) PLM/TEM (Quan)

TEM Bulk

- ☐ ELAP 198.4/Chatfield (QTY)
☐ NY State PLM/TEM (QTY)
☐ Residual Ash (QTY)

TEM Dust

- ☐ Qual. (pres/abs) Vacuum/Dust (QTY)
☐ Quan. (s/area) Vacuum D5755-95 (QTY)
☐ Quan. (s/area) Dust D6480-99 (QTY)

TEM Water

- ☐ Qual. (pres/abs) (QTY)
☐ ELAP 198.2/EPA 100.2 (QTY)
☐ EPA 100.1 (QTY)

☐ All samples received in good condition unless otherwise noted.
 (TEM Water samples °C)

Metals Analysis

- ☐ Pb Paint Chip (QTY)
☐ Pb Dust Wipe (wipe type Shed up) (QTY)
☐ Pb Air (QTY)
☐ Pb Soil/Solid (QTY)
☐ Pb TCLP (QTY)
☐ Drinking Water ☐ Pb (QTY) ☐ Cu (QTY) ☐ As (QTY)
☐ Waste Water ☐ Pb (QTY) ☐ Cu (QTY) ☐ As (QTY)
☐ Pb Furnace (Media) (QTY)

Fungal Analysis

- Collection Apparatus for Spore Traps/Air Samples: _____
 Collection Media _____
☐ Spore-Trap (QTY) ☐ Surface Vacuum Dust (QTY)
☐ Surface Swab (QTY) ☐ Culturable ID Genus (Media) (QTY)
☐ Surface Tape (QTY) ☐ Culturable ID Species (Media) (QTY)
☐ Other (Specify) (QTY)

SAMPLE INFORMATION

CLIENT ID NUMBER	SAMPLE LOCATION/ IDENTIFICATION	DATE	VOLUME (LITERS)	WIPE AREA	TEM	PCM	PLM	LEAD	MOLD	AIR	BULK	DUST	WATER	OTHER	SPORE TRAP	TAPE	SWAB	CLIENT CONTACT (LABORATORY STAFF ONLY)
13	Distribution Leaking	3-26		100 cm				X										Date/Time: _____ Contact: _____ By: _____
14	Basement Bathroom							X										
15	Conference Room table							X										
16	Comm. Sgt. Maj. office							X										Date/Time: _____ Contact: _____ By: _____
17	Classroom #2							X										
18	Armory office							X										
19	Blank wipe			0				X										
20	Blank Air		0					X										Date/Time: _____ Contact: _____ By: _____
21	Blank Bathroom - Basement							X			X							

LABORATORY
 Posted to NGB FOIA Reading Room
 May 2018
 (CUSTODY)

1. Date/Time RCVD: _____ / _____ / _____ @ _____ Via: _____ By (Print): _____ Sign: _____

2. Results Reported To: _____ / _____ / _____ @ _____ Via: _____ Date: _____ / _____ / _____ Sign: _____

3. Results Reported To: _____ Via: _____ Date: _____ / _____ / _____ Sign: _____

4. Comments: _____

BEST AVAILABLE COPY

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

Time: Released by National Guard Bureau

Page 1422 of 1660

Appendix B. Photographs



Exterior of the facility



Drill Hall



Converted firing range area



Basement bathroom peeling paint and visible fungal growth

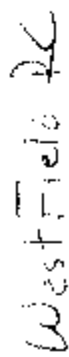


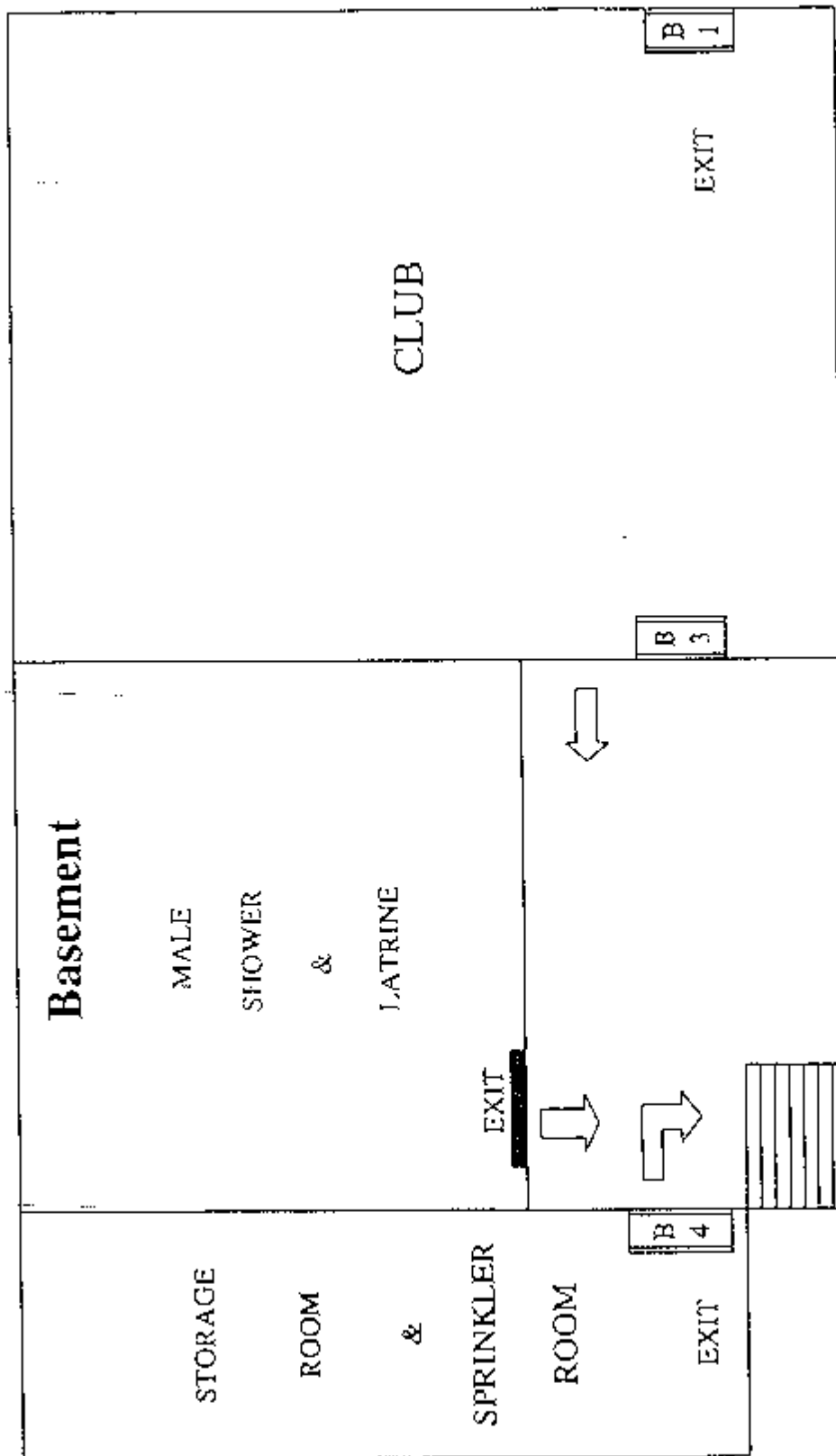
Suspect 9"X9" floor tile

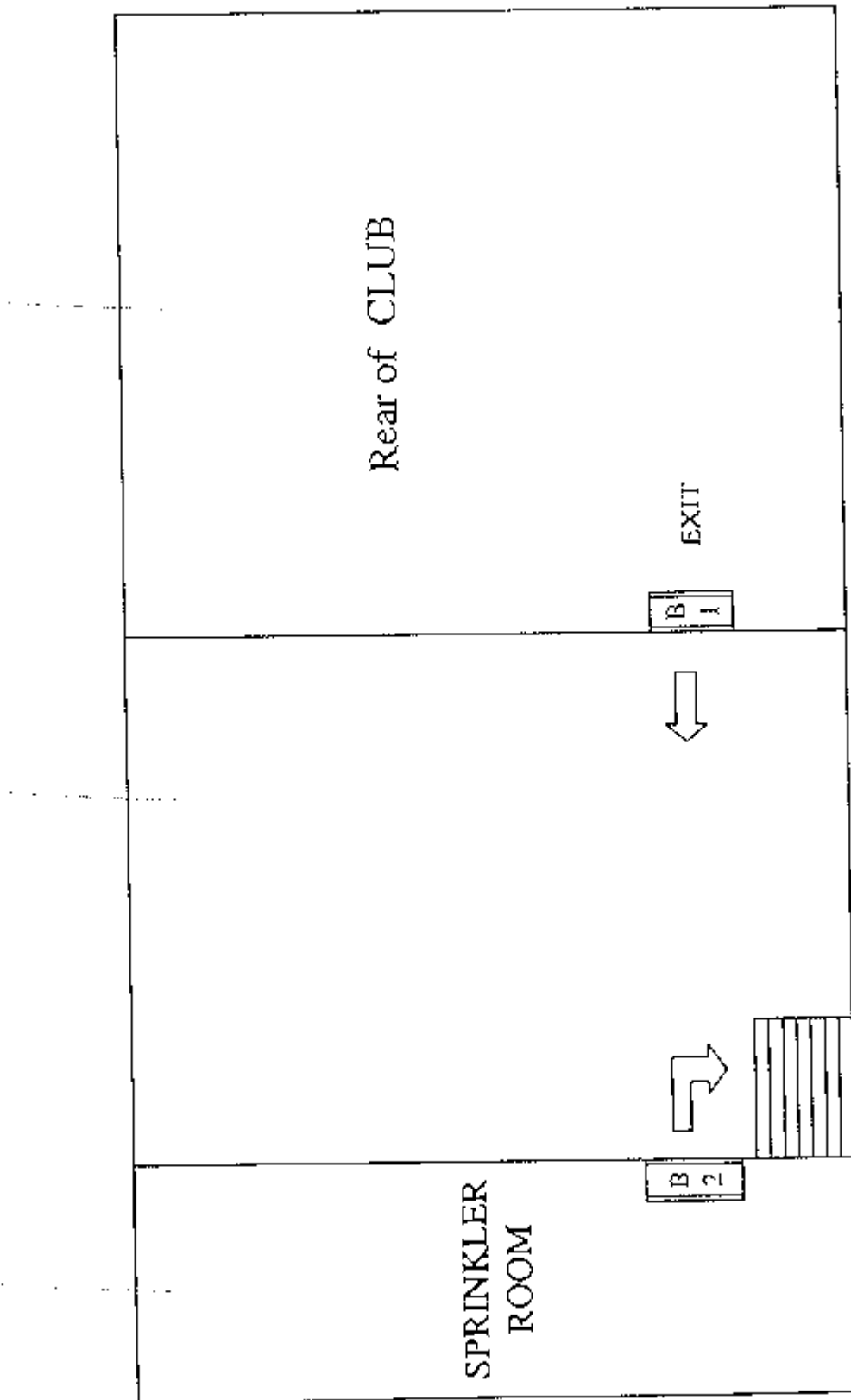


Tower room window was blown out during hurricane Sandy

Appendix C. Floor Plan







Appendix D. References

1. Title 29 Code of Federal Regulations (CFR), Part 1910.1025, Occupational Safety and Health Administration, Occupational Exposure to Lead.
2. American Conference of Governmental Industrial Hygienists (ACGIH) – Threshold Limit Values and Biological Exposure Indices, 2011 Edition.
3. Industrial Ventilation: A Manual of Recommended Practice for Design, 27th Edition.
4. ANSI/American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), Ventilation for Acceptable Indoor Air Quality, 62.1-2010.
5. RP-1-2004, Industrial Lighting, Illuminating Engineering Society of North America/ANSI.
6. RP-7-2001, Industrial Lighting, Illuminating Engineering Society of North America/ANSI.
7. National Emission Standard Hazardous Air Pollutants (NESHAP) – The standards for asbestos are contained in 40 CFR 61.140 through 61.157.
8. National Ambient Air Quality Standards (NAAQS) - National primary ambient air quality standards for carbon monoxide 40 CFR 50.8.
9. Environmental Protection Agency (EPA) standards [40 Code of Federal Regulations (CFR) 745.227(h) (3)].
10. Derivation of Wipe Surface Screening Levels for Environmental Chemicals, the US Army Center for Health Promotion and Preventive Medicine (USACHPPM).
11. The US Army Technical Guide 277 Army Facilities Management Information Document on Mold Remediation, February 2002.
12. NG PAM 420-15 Guidelines and Procedures for Rehabilitation and Conversion of Indoor Firing Ranges, 3 Nov 06.
13. ANSI/American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), Thermal Environmental Conditions for Human Occupancy, 55-2010.

Prepared For:

National Guard Bureau
Army National Guard
Region North Industrial Hygiene Office
301 – IH Old Bay Lane
Havre De Grace, Maryland 21078

Prepared By:

URS Corporation
5 Industrial Way
Salem, New Hampshire 03079

**INDUSTRIAL HYGIENE SURVEY REPORT
WOODBIDGE ARMORY
625 MAIN STREET
WOODBIDGE, NEW JERSEY**

January 2006
PN: 39741508

Non-Responsive

Office Manager

Non-Responsive

Project Manager

TABLE OF CONTENTS

Section	Page
1.0 SUMMARY	1
2.0 ADMINISTRATIVE AREA	2
2.1 OPERATION DESCRIPTION	2
2.2 CHEMICAL AND PHYSICAL AGENTS SAMPLED	2
2.2.1 Relative Humidity	2
2.2.2 Carbon Dioxide	2
2.2.3 Carbon Monoxide	3
2.2.4 Lighting	3
2.2.5 Lead	5
2.2.6 Asbestos	5
2.3 VENTILATION SYSTEM EVALUATION	5
2.4 NOISE MEASUREMENTS	6
2.5 PERSONAL PROTECTIVE EQUIPMENT	6
2.6 INTERPRETATION OF RESULTS	6
3.0 FORMER FIRING RANGE	7
3.1 OPERATION DESCRIPTION	7
3.2 CHEMICAL AND PHYSICAL AGENTS SAMPLED	7
3.2.1 Lead	7
3.3 VENTILATION SYSTEM EVALUATION	7
3.4 NOISE MEASUREMENTS	7
3.5 PERSONAL PROTECTIVE EQUIPMENT	8
3.6 INTERPRETATION OF RESULTS	8
4.0 DRILL HALL	9
4.1 OPERATION DESCRIPTION	9
4.2 CHEMICAL AND PHYSICAL AGENTS SAMPLED	9
4.2.1 Lead	9
4.3 VENTILATION SYSTEM EVALUATION	9
4.4 NOISE MEASUREMENTS	9
4.5 PERSONAL PROTECTIVE EQUIPMENT	9
4.6 INTERPRETATION OF RESULTS	10
5.0 BOILER ROOM	11
5.1 OPERATION DESCRIPTION	11
5.2 CHEMICAL AND PHYSICAL AGENTS SAMPLED	11
5.2.1 Asbestos	11
5.3 VENTILATION SYSTEM EVALUATION	11
5.4 NOISE MEASUREMENTS	11
5.5 PERSONAL PROTECTIVE EQUIPMENT	11
5.6 INTERPRETATION OF RESULTS	11
6.0 SAFETY AND INDUSTRIAL HYGIENE PROGRAMS	12
6.1 CONFINED SPACES	12
6.2 HEARING CONSERVATION	12

TABLE OF CONTENTS (Cont.)

6.3	RESPIRATORY PROTECTION	12
6.4	HAZARD COMMUNICATION.....	12
6.5	PERSONAL PROTECTIVE EQUIPMENT.....	12
7.0	REFERENCES	13

APPENDICES

Appendix A	Armory Drawings
Appendix B	Personnel List
Appendix C	Hazardous Materials List
Appendix D	Analytical Results
Appendix E	Training Certificates
Appendix F	Photographs
Appendix G	Recommendations For Surface Lead Dust In Armories
Appendix H	Policy and Responsibilities For Inspection, Evaluation and Operation of Army National Guard Indoor Firing Ranges (National Guard Regulation 385 – 15 30 December 2002)

FINDINGS AND RECOMMENDATIONS

Findings	Recommendation	Risk Assessment Code
Lighting		
On the day of the survey, the illuminance in the administrative area was inadequate in a majority of the offices.	Increase lighting in the administrative areas. While work is in progress, the administrative area shall be lighted by at least the minimum lighting intensities (ANSI / IESNA RP-1-04)	RAC 4
Lead		
Lead was detected in wipe samples collected in the former firing range in amounts greater than 200 µg/ft ²	Personnel trained in accordance with the OSHA Lead Standard should clean the drill hall where lead was detected in quantities of greater than 200 micrograms per square foot (OSHA 29 CFR 1910.1025(h)(1))	RAC 4
Asbestos		
A site specific asbestos operations and maintenance plan available but was not kept up to date.	Update the asbestos operations and maintenance plan to manage asbestos-containing materials (OSHA 29 CFR 1910.1001(j))	RAC 3
Hazard Communication		
No site specific hazard communication plan available.	Develop a site specific hazard communication plan to manage hazardous materials (OSHA 29 CFR 1910.1200(e))	RAC 4
Mold		
Watermarks were observed on the ceiling tiles. Mold growth could become an issue if left unattended.	Determine and repair source of water, Replace water damaged building materials and implement a moisture management program to provide direction for future water incursions (Best management practice)	RAC 4
Ergonomic		
Computer work stations were observed with fixed chairs, armrests, keyboards and monitors.	Ergonomic issues with the desks and chairs should be corrected by fitting the workplace to the worker (DoD, OSHA General Duty)	RAC 3

1.0 SUMMARY

At the request of the National Guard Bureau Region North Industrial Hygiene Office (NGB), URS Corporation (URS) conducted an industrial hygiene survey at the Woodbridge Armory located at 625 Main Street in Woodbridge, New Jersey 07095. This report includes an executive summary, a description of the survey protocol, a discussion of the survey evaluation and findings and a list of conclusions and recommendations.

On April 8, 2004, Ms. **Non-Responsive** an industrial hygienist with URS, conducted a site visit to the National Guard Armory located in Woodbridge, New Jersey. The purpose of this site visit was to conduct an industrial hygiene survey, which included the collection of air samples, bulk samples, lighting measurements, and a review of site health and safety procedures. Mr. **Non-Responsive** of the State of New Jersey was Ms. **Non-Responsive** site contact for the survey.

An armory layout drawing of the facility, which shows the locations where measurements were made during this survey, is contained in Appendix A.

2.0 ADMINISTRATIVE AREA

2.1 Operation Description

This building area contains multiple offices located throughout the building with desks and computer workstations. Computer workstations were assessed during the walkthrough for ergonomic issues. Computer workstation chairs and armrests were in a fixed position and keyboards could not be adjusted in several offices. Computer monitors could not be adjusted for different individuals working at the workstations. If more than one person is using that station, then proper adjustments need to be made to accommodate each person.

Water marks on the ceiling in the recruiter's office (Photos # 2 & # 3), Room 36A (Photo # 5), and Room 36B (Photo # 6) may indicate the potential for mold growth.

2.2 Chemical and Physical Agents Sampled

2.2.1 Relative Humidity

Relative humidity levels were measured using a TSI Q-Track (Model 8551). The indoor relative humidity on the day of the survey was 28%. This reading was below the recommended limit of 65% set by the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. (ANSI / ASHRAE Standard 62.1-2004).

2.2.2 Carbon Dioxide

On the day of the survey, carbon dioxide concentrations were measured. The indoor carbon dioxide concentration was 543 parts per million (ppm). The measured exterior reading was 502 ppm. Carbon dioxide levels were measured using a direct reading TSI Q-Track (Model 8551).

Carbon dioxide is a normal constituent of the atmosphere and ranges from about 250 to 450 ppm. The major source of excess carbon dioxide in the indoor environment is people. Other sources can include open-flame heaters, fermentation processes, and motor vehicles. Carbon dioxide itself is not normally a cause of indoor air quality

problems because concentrations must exceed 5,000 to 10,000 ppm before health effects such as headache, drowsiness, and increased respiration are noted. Typically, carbon dioxide is used as an indicator of the adequacy of fresh air intake. As the concentration of carbon dioxide increases, so do the background levels of other air contaminants.

ASHRAE (62.1-2004) recommends that levels of carbon dioxide be maintained below 700 ppm above background level. Given an exterior reading of 502 ppm on the day of the survey, the ASHRAE limit would be 1202 ppm.

2.2.3 Carbon Monoxide

Carbon monoxide was also measured in the Armory. The carbon monoxide concentration remained at 0 parts per million (ppm) throughout the survey period. This measured level was below the ASHRAE (62.1-2004) guideline for indoor environments. Carbon monoxide was measured using a TSI Q-Track (Model 8551).

Key sources of carbon monoxide within indoor environments include internal combustion engines, motor vehicle and forklift exhaust, tobacco smoke, space heaters, and improperly adjusted oil or gas burners. Health effects from exposure to elevated concentrations of carbon monoxide may include fatigue, impairment of visual acuity, irregular heartbeat, headache, nausea, and confusion. ASHRAE recommends that average carbon monoxide concentrations not exceed 9 ppm. Typical average concentrations found in commercial buildings range from 0 to 6 ppm.

2.2.4 Lighting

Lighting in the administrative area was measured using a Sper Scientific Ltd. Light Meter (Model 840020C). Table 2-1 below shows lighting measurements and the recommended lighting requirement (ANSI/IESNA RP-1-04)

Table 2-1
Lighting Measurements and Recommended Lighting Requirements

Location	Function	Measured Illuminance (lux / foot candles)	Recommended Illuminance (lux / foot candles)
Rooms 19, 21, 22 - Classrooms 1 & 2	Administrative Duties	536 / 49.8	500 / 50
Room 23 - Kitchen	Kitchen	282 / 26.2	500 / 50
Room 24 - Storage	Supply Area	402 / 37.3	500 / 50
Room 10 - Office	Administrative Duties	251 / 23.3	500 / 50
Recruiter's Office	Administrative Duties	218 / 20.3	500 / 50
Recruiters Office Break Room	Administrative Duties	332 / 30.8	500 / 50
Recruiter's Office C	Administrative Duties	463 / 43.0	500 / 50
Room 20 - Armorer's Office	Administrative Duties	367 / 34.1	500 / 50
Recruiter's Office A	Administrative Duties	371 / 34.5	500 / 50
Recruiter's Office E	Administrative Duties	235 / 21.8	500 / 50
Recruiter's Office Storage B	Supply Area	339 / 31.5	300 / 30
Recruiter's Office D	Administrative Duties	434 / 40.3	500 / 50
Room 6 Storage	Supply Area	393 / 36.5	300 / 30
Room 7 Copy Room	Administrative Duties	254 / 23.6	500 / 50
Room 2 - Office	Administrative Duties	289 / 26.8	500 / 50
Room 1 - Comm. Office	Administrative Duties	530 / 49.2	500 / 50
Room 3 - Office 1 st Sergeant	Administrative Duties	270 / 25.1	500 / 50
Room 9 - Office	Administrative Duties	325 / 30.2	500 / 50
Room 10B	Administrative Duties	256 / 23.8	500 / 50
Room 10A	Administrative Duties	409 / 38.0	500 / 50
Room 36B - Office	Administrative Duties	360 / 33.4	500 / 50
Room 36A - Storage	Supply Area	342 / 31.8	300 / 30
Room 33 - File Storage	Supply Area	242 / 22.5	300 / 30
Room 33A - Storage	Supply Area	67 / 6.2	300 / 30
Room 33B - Storage	Supply Area	82 / 7.6	300 / 30
Room 34 - Storage	Supply Area	282 / 26.2	300 / 30
Room 34A - Storage	Supply Area	104 / 9.7	300 / 30
Room 34B - Storage	Supply Area	107 / 9.9	300 / 30
Room 35 - Meeting Room	Administrative Duties	97 / 9.0	500 / 50

On the day of the survey the illuminance in the administrative area was inadequate in a few offices.

2.2.5 Lead

Wipe testing for lead was conducted in the former firing range using Ghost Wipes™, which meet ASTM E 1792 standards. The analytical report from AMA Analytical Services, Inc. (AMA) is contained in Appendix D. Table 2-2 below shows the results of the lead sampling.

Table 2-2
Levels of Lead Dust in the Administrative Area

Sample Location	URS Sample Number	Area Wiped (ft ²)	Result (µg/ft ²)	Maximum Acceptable Surface Contamination Level (µg/ft ²)
Kitchen – Windowsill	WS-01	0.111	<34	200
Recruiter's Office – Lounge	WS-02	0.111	19	200
Room 1 – Locker	WS-03	0.111	130	200
Room 9 – File Cabinet	WS-04	0.111	21	200
Room 36B – Windowsill	WS-05	0.111	11	200
Room 33 – Cabinet	WS-06	0.111	27	200
Room 34B – Table	WS-07	0.111	31	200
Room 22 – Floor	RWS-01	0.111	25	200
Room 36A – Windowsill	RWS-02	0.111	24	200
Hallway Outside Former Firing Range – Floor	RWS-03	0.111	72	200
Room 35 – Refrigerator	RWS-04	0.111	62	200

All wipe samples were found to contain lead at levels below the NGB recommended level.

2.2.6 Asbestos

Not applicable to this operation.

2.3 Ventilation System Evaluation

Not applicable to this operation.

January 30, 2006

PN: 39741508 : J:\Army National Guard\39741508 - Woodbridge - NJ\Reports\Woodbridge Armory Report Final.doc

URS

5

2.4 Noise Measurements

Not applicable to this operation.

2.5 Personal Protective Equipment

Not applicable to this operation.

2.6 Interpretation of Results

GENERAL: In general, the administrative area was neat and orderly. The fire exits and extinguishers were marked and easily accessible.

ERGONOMICS: The ergonomic issues regarding desks, chairs and monitors need to be corrected by fitting the workplace to the workers.

LIGHTING: On the day of the survey, the illuminance in the administrative area was inadequate in several offices. URS recommends increasing lighting in the few administrative areas. While work is in progress the administrative area must be lighted by at least the minimum light intensities.

LEAD: All wipe samples collected in the administrative area were found to contain lead dust levels below the recommended limit set by the National Guard Bureau (See Appendix G).

MOLD: The water stains on the ceilings could lead to mold problems if not addressed.

3.0 FORMER FIRING RANGE

3.1 Operation Description

The firing range has been dismantled and this building area is now primarily used for storage and training.

3.2 Chemical and Physical Agents Sampled

3.2.1 Lead

Wipe testing for lead was conducted in the former firing range using ghost wipes, which meet ASTM E 1792 standards. The analytical report from AMA is contained in Appendix D. Table 3-1 below shows the results of the lead sampling.

Table 3-1
Levels of Lead Dust Found in the Former Firing Range

Sample Location	URS Sample Number	Area Wiped (ft ²)	Result (µg/ft ²)	Maximum Acceptable Surface Contamination Level (µg/ft ²)
Former Firing Range- Windowsill	FR-01	0.111	41	200
Former Firing Range-Floor	FR-02	0.111	1200	200
Former Firing Range-Cabinet	FR-03	0.111	120	200
Former Firing Range-Floor	FR-04	0.111	2700	200
Former Firing Range-Radiator	FR-05	0.111	150	200

Two of the five dust wipe samples collected in this building area were found to contain elevated levels of lead.

3.3 Ventilation System Evaluation

Not applicable to this operation.

3.4 Noise Measurements

Not applicable to this operation.

3.5 Personal Protective Equipment

Not applicable to this operation.

3.6 Interpretation of Results

LEAD: Two of the five surface wipe samples collected in the former firing range were found to contain lead dust levels above the recommended limit set by the National Guard Bureau. The NGB has prepared a memorandum titled "Recommendations for Surface Lead Dust in Armories" which is provided in Appendix G. Guidance for the clean-up and rehabilitation of former indoor firing ranges can be located in Appendix H.

4.0 DRILL HALL

4.1 Operation Description

The drill hall is used for assembling personnel and storing equipment. The walls are constructed of cinder-block with a concrete floor.

4.2 Chemical and Physical Agents Sampled

4.2.1 Lead

Wipe testing for lead dust was conducted in the drill hall using ghost wipes, which meet ASTM E 1792 standards. The analytical report from AMA is contained in Appendix D. Table 4-1 below shows the results of the lead sampling.

Table 4-1
Levels of Lead Dust Found in the Drill Hall

Sample Location	URS Sample Number	Area Wiped (ft ²)	Result (µg/ft ²)	Maximum Safe Surface Contamination Level (µg/ft ²)
Drill Hall Outside Room #120 – Vending Machine	WS-08	0.111	100	200
Drill Hall – Floor	RWS-05	0.111	60	200

4.3 Ventilation System Evaluation

Not applicable to this operation.

4.4 Noise Measurements

Not applicable to this operation.

4.5 Personal Protective Equipment

Not applicable to this operation.

4.6 Interpretation of Results

LEAD: Both of the surface wipe samples collected in the drill hall were found to contain lead dust levels below the recommended limit set by the National Guard Bureau (See Appendix F).

5.0 BOILER ROOM

5.1 Operation Description

The boiler room is a mechanical space constructed of cinder block walls with a concrete floor, containing a furnace and associated piping.

5.2 Chemical and Physical Agents Sampled

5.2.1 Asbestos

According to the Armorer, there is asbestos insulation in the boiler room that was scheduled for abatement in the summer of 2004. There was an asbestos operations and maintenance plan on site which included a limited survey that was performed in 1986.

5.3 Ventilation System Evaluation

Not applicable to this operation.

5.4 Noise Measurements

Not applicable to this operation.

5.5 Personal Protective Equipment

Not applicable to this operation.

5.6 Interpretation of Results

Not applicable to this operation.

6.0 SAFETY AND INDUSTRIAL HYGIENE PROGRAMS

6.1 Confined Spaces

No safety program was found regarding confined spaces. No training records were found on site. A confined spaces program is required for this site with a confined space behind the old bullet trap of the former firing range.

6.2 Hearing Conservation

No safety program was found regarding hearing conservation. No training records were found on site. A hearing conservation program is not required for this site.

6.3 Respiratory Protection

No safety program was found regarding respiratory protection. No training records were found on site. A respiratory protection program is not required for this site.

6.4 Hazard Communication

No program was found regarding hazard communication. No training records were found on site. A site-specific hazard communication program is required for this site and should include communication of hazards to employees, management of material safety data sheets, chemical labeling and spill protection.

6.5 Personal Protective Equipment

No safety program was found regarding personal protective equipment. No training records were found on site. A personal protective equipment program is not required for this site.

7.0 REFERENCES

American National Standards Institute

ANSI/IESNA RP-1-04: American National Standard Practice for Office Lighting

American Society of Heating Refrigerating and Air-Conditioning Engineers

ANSI/ASHRAE Standard 55-2004: Thermal Environmental Conditions for Human Occupancy

ANSI/ASHRAE Standard 62.1-2004: Ventilation for Acceptable Indoor Air Quality

Department of the Army

Ergonomics Program Pamphlet 40-21 (15 August 2003)

Policy and Responsibilities For Inspection, Evaluation and Operation of Army National Guard Indoor Firing Ranges (National Guard Regulation 385-15, 30 December 2002)

Department of Defense

DoD Hearing Conservation Program Standard 6055.12 April 1996

Creating an Ideal Workstation: A Step-by-Step Guide

U. S. Environmental Protection Agency

Asbestos Hazard Emergency Response Act (40 CFR Part 763)

National Emissions Standards for Hazardous Pollutants (40 CFR Part 61)

U. S. Housing and Urban Development

Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing (1995, 1997)

U. S. Occupational Safety and Health Administration

Standard for General Industry: 29 CFR 1910

January 30, 2006

PN: 39741508 : J:_Arm, National Guard\39741508 - Woodbridge, NJ\Repos\Woodbridge Armory Report Final.doc

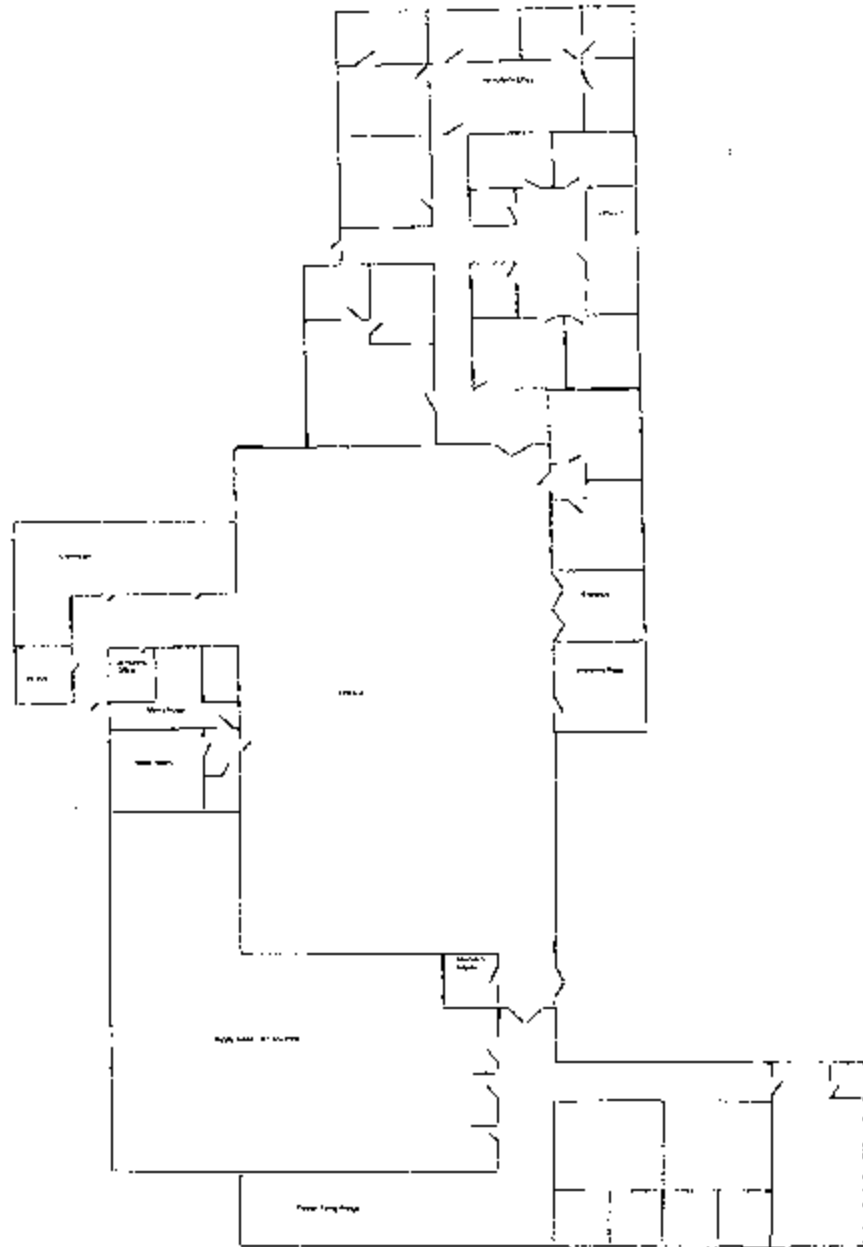
URS

13

APPENDIX A

ARMORY DRAWING





APPENDIX B

PERSONNEL LIST

BEST AVAILABLE COPY

NOT PROVIDED

APPENDIX C

HAZARDOUS MATERIALS LIST

BEST AVAILABLE COPY

NOT PROVIDED

APPENDIX D

ANALYTICAL RESULTS

CERTIFICATE OF ANALYSIS

NVLAP
NY ELAP
AIHA

Client: National Guard Bureau
Address: 301-1H OM Bay Lane, Attn: NGB-AVN-SL,
State Military Reservation
Havre de Grace, Maryland 21078
Job Name: Amory
Job Location: Woodbridge, NJ
Chain Of Custody: 128453
Date Analyzed: 6/11/2004
Person Submitting: [Redacted]
Report Date: 11-Jun-04

Attention: [Redacted]
P.O. Number: BPA #W912KG-04-A0002

Summary of Atomic Absorption Analysis for Lead

AMA Sample Number	Client Sample Number	Analysis Type	Sample Type	Air Volume (L)	Area Wiped (ft ²)	Reporting Limit	Final Result	Comments
0448526	WS-01	Furnace	Wipe	***	0.111	33.75 ug/ft ²	<	34 ug/ft ²
0448527	WS-02	Furnace	Wipe	***	0.111	2.70 ug/ft ²		19 ug/ft ²
0448528	WS-03	Furnace	Wipe	***	0.111	33.75 ug/ft ²		130 ug/ft ²
0448529	WS-04	Furnace	Wipe	***	0.111	2.70 ug/ft ²		21 ug/ft ²
0448530	WS-05	Furnace	Wipe	***	0.111	2.70 ug/ft ²		11 ug/ft ²
0448531	WS-06	Furnace	Wipe	***	0.111	13.50 ug/ft ²		27 ug/ft ²
0448532	WS-07	Furnace	Wipe	***	0.111	13.50 ug/ft ²		31 ug/ft ²
0448533	WS-08	Furnace	Wipe	***	0.111	33.75 ug/ft ²		100 ug/ft ²
0448534	RWS-01	Furnace	Wipe	***	0.111	13.50 ug/ft ²		25 ug/ft ²
0448535	RWS-02	Furnace	Wipe	***	0.111	13.50 ug/ft ²		24 ug/ft ²
0448536	RWS-03	Furnace	Wipe	***	0.111	13.50 ug/ft ²		72 ug/ft ²
0448537	RWS-04	Furnace	Wipe	***	0.111	13.50 ug/ft ²		62 ug/ft ²
0448538	RWS-05	Furnace	Wipe	***	0.111	13.50 ug/ft ²		60 ug/ft ²
0448539	FR-01	Furnace	Wipe	***	0.111	13.50 ug/ft ²		41 ug/ft ²
0448540	FR-02	Furnace	Wipe	***	0.111	135.01 ug/ft ²		1200 ug/ft ²
0448541	FR-03	Furnace	Wipe	***	0.111	33.75 ug/ft ²		170 ug/ft ²
0448542	FR-04	Furnace	Wipe	***	0.111	675.07 ug/ft ²		2700 ug/ft ²
0448543	FR-05	Furnace	Wipe	***	0.111	67.51 ug/ft ²		150 ug/ft ²

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public and these Laboratories, the report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, for any advertising or publicity matter without prior written authorization from the Laboratories. Sample types, locations and collection protocols are based upon the information provided by the persons submitting them and, unless collected by personnel of these Laboratories, we expressly disclaim any knowledge and liability for the accuracy and completeness of this information. Residual sample material will be discarded in accordance with the appropriate regulatory guidelines, unless otherwise requested by the client. NVLAP Accreditation applies only to polished light microscopy of bulk samples and transmission electron microscopy of AIHRA air samples. This report must not be used to claim, and does not imply product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government. All rights reserved. AMA Analytical Services, Inc.

An AIHA (#8863), NVLAP (#101143), & New York ELAP (#10920) Accredited Laboratory
4475 Forbes Blvd. • Landham, MD 20706 • (301) 459-2640 • Toll Free (800) 346-0961 • Fax (301) 459-2643

Chain Of Custody:	128453
Date Analyzed:	6/11/2004
Person Submitting:	[REDACTED]
Report Date:	11-Jun-04

Page 2 of 2

Summary of Atomic Absorption Analysis for Lead

AMA Sample Number	Client Sample Number	Analysis Type	Sample Type	Air Volume (L)	Area Wiped (ft ²)	Reporting Limit	Final Result	Comments
-------------------	----------------------	---------------	-------------	----------------	-------------------------------	-----------------	--------------	----------

Analysis Method for Flame: Air, Wipes, Paints, and Solids: EPA 600/R-93/200(M)-7420; Water: SM-311B

Analysis Method For Furnace: Air, Wipes, Paints, and Soil/Solids: EPA 600/R-93/200(M)-7421: Water: SM-3113B

mg/Kg = parts per million (ppm) by weight mo/L = parts per million (ppm)

ppb = parts per billion (ppb) ug = micrograms

Note: All results have two significant digits. Any additional digits shown should not be

considered when interpreting the result.

Analyt:

Technical Manager

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public and these Laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from the Laboratories. Sample types, locations and collection protocols are based upon the information provided by the persons submitting them and, unless collected by personnel of these Laboratories, we expressly disclaim any knowledge and ability for the accuracy and completeness of this information. Residual sample material will be discarded in accordance with the appropriate regulatory guidelines, unless otherwise requested by the client. NVLAP Accredited laboratories apply only to polarized light microscopy of bulk samples and transmission electron microscopy of AHERA air samples. This report must not be used to claim, and does not imply product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

All rights reserved. AMA Analytical Services, Inc.

All rights reserved. AMA Analytical Services, Inc.

An AIHA (#8863), NVLAP (# 101143), & New York ELAP (#10920) Accredited Laboratory

4475 Forbes Blvd. • Lanham, MD 20706 • (301) 459-2640 • Toll Free (800) 346-0961 • F# C301 450 2642

APPENDIX E

TRAINING CERTIFICATES

Certificate of Training

Non-Responsive

For successful completion of a 4 Hour, 1/2 Day

**Asbestos Building Inspector
Annual Refresher Training**

DECEMBER 5, 2003

This training was approved and given in accordance with the
Regulations for Connecticut State Agencies

RCSA 20 - 440 - 1-9 and RCSA 20 - 441 and meets the
requirements of the EPA Revised MAP under TSCA Title II of 4/4/94.

Presented by

Mystic Air Quality Consultants, Inc.

1204 North Road, Groton, CT 06340 (800) 247-7746

Certificate Number: ABIRF11392

Exam Grade: 87%

Expiration Date: 12/05/2004

Non-Responsive

H, CSP, RS

Exam Date: 12/05/2003

Non-Responsive

h, Training Director

APPENDIX F

PHOTOGRAPHS

URS**PHOTOGRAPHIC RECORD****Client Name:**
Army National Guard**Site Location:**
Woodbridge Armory**Project No.**
39741508**Photo No.**
1**Date:**
4/8/04**Description:**

Woodbridge Armory

**Photo No.**
2**Date:**
4/8/04**Description:**

Drill Hall – Right to Know Center



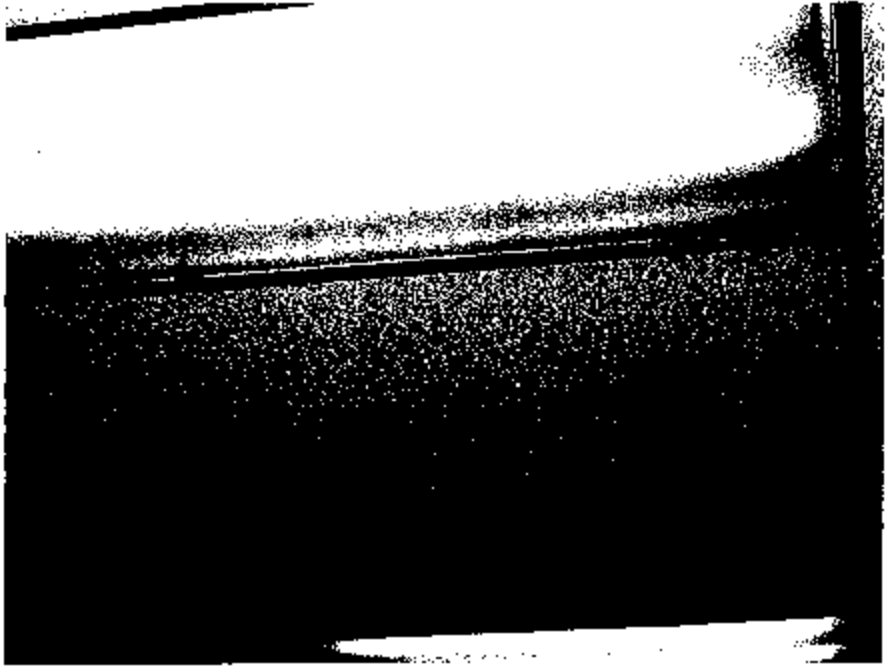

URS		PHOTOGRAPHIC RECORD	
Client Name: Army National Guard		Site Location: Woodbridge Armory	Project No. 39741508
Photo No. 3	Date: 4/8/04		
Description: Recruiter's Office – Water Stained Ceiling Tiles			

Photo No. 4	Date: 4/8/04	
Description: Recruiter's Office – Water Stained Ceiling Tiles		

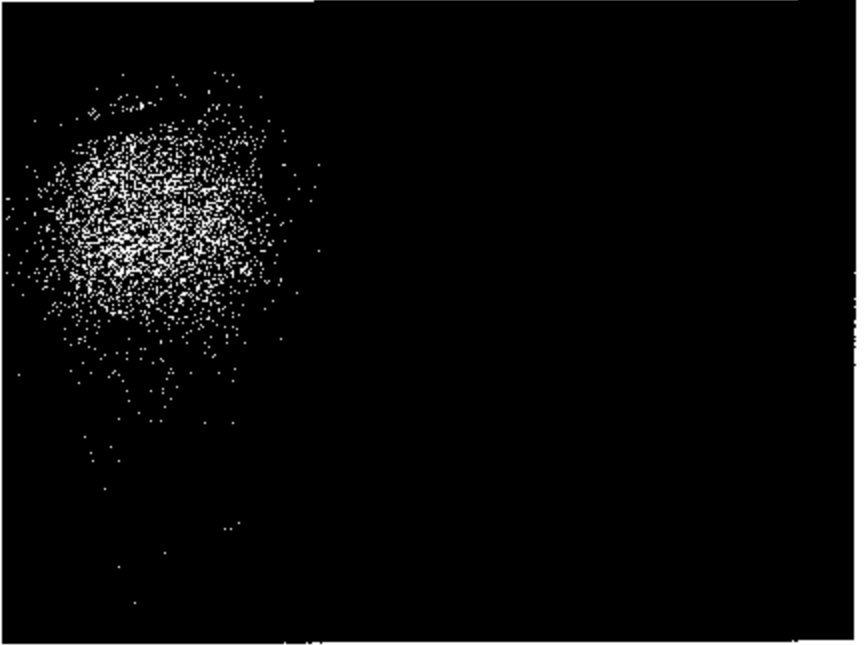
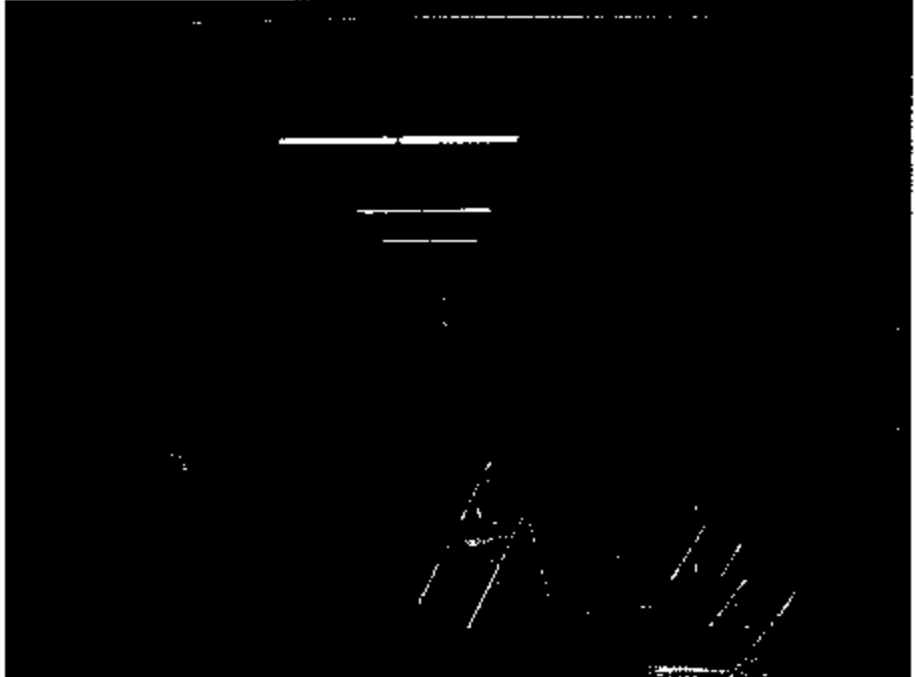
URS		PHOTOGRAPHIC RECORD	
Client Name: Army National Guard		Site Location: Woodbridge Armory	Project No. 39741508
Photo No. 5	Date: 4/8/04		
Description: Room 36A – Mold Growth on Ceiling Tile			

Photo No. 6	Date: 4/8/04	
Description: Former Firing Range – Now Used for training/storage		


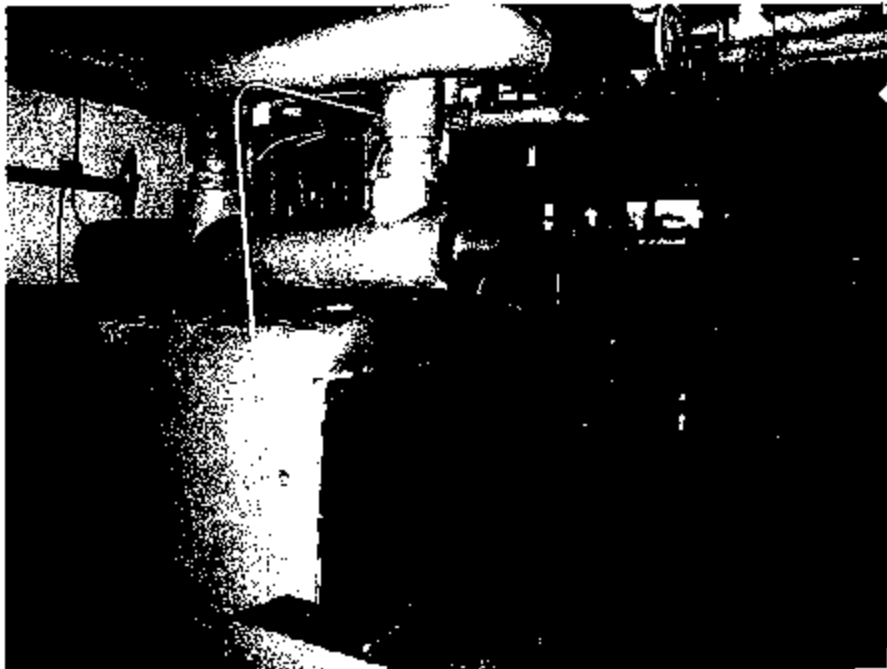
URS		PHOTOGRAPHIC RECORD	
Client Name: Army National Guard		Site Location: Woodbridge Armory	Project No. 39741508
Photo No. 7	Date: 4/8/04		
Description: Room 33B – Water Stains/Mold on Ceiling Tile			

Photo No. 8	Date: 4/8/04	
Description: Boiler Room		

APPENDIX G

RECOMMENDATIONS FOR SURFACE LEAD DUST IN ARMORIES

Subject: Recommendations for Surface Lead Dust in Armories

1. In armories that do not contain childcare facilities, the National Guard Bureau (NGB) Region North Industrial Hygiene Office recommends cleaning the areas in which sample results are greater than 200 micrograms per square foot ($\mu\text{g}/\text{ft}^2$). If a special function will be held in which children will be present in this facility, consider thoroughly cleaning the areas that will be accessible to children prior to the function. This guidance is based on professional judgment, risk assessments, adaptation of Occupational Safety and Health Administration (OSHA) guidance, and feasibility of cleaning to a certain level.

a. Environmental Protection Agency (EPA) standards (40 Code of Federal Regulations (CFR) 745.227(h)(3)) are not directly applicable because they are criteria for dust-lead hazards developed for floors ($40 \mu\text{g}/\text{ft}^2$) and windowsills ($250 \mu\text{g}/\text{ft}^2$) in residential dwellings and child occupied facilities. A child occupied facility is defined as a building, or portion of a building, constructed prior to 1978, visited regularly by the same child, 6 years of age or under, on at least two different days within any week (Sunday through Saturday period), provided that each day's visit lasts at least 3 hours and the combined weekly visit lasts at least 6 hours, and the combined annual visits last at least 60 hours. Most of the wipe samples in armories were collected in undisturbed areas and therefore, results are worst case scenarios and do not correlate to these standards.

b. OSHA has no specific requirement for work area surfaces. The lead standard (29 CFR 1910.1025(h)) states that all surfaces shall be maintained as free as practicable of accumulations of lead dust. In workplaces where lead dust is generated, surface levels may be much higher, but personnel exposures can be controlled by limiting airborne lead levels and following good cleanup and hygienic practices.

c. OSHA used to cite a level of $200 \mu\text{g}/\text{ft}^2$ in their Technical Manual and 29 CFR 1926.62 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.

d. In a report titled Derivation of Wipe Surface Screening Levels for Environmental Chemicals, the US Army Center for Health Promotion and Preventive Medicine (USACHPPM) has determined that $200 \mu\text{g}/\text{ft}^2$ is a safe surface contamination level. They have also applied these standards as the decontamination levels for surfaces in administrative offices.

e. It should be noted that levels above these recommendations do not necessarily mean there is a significant hazard to workers who are following good cleaning and hygienic practices since there is no correlation between wipe and air samples. Rather, we recommend these levels as a precautionary measure.

2. The NGB Occupational Health Branch is developing guidance for armories that are used as childcare facilities. All states will receive this guidance when it is completed. In the interim, we recommend the following actions:

a. Clean all areas that will be accessible to children to the EPA dust-lead standard for children 6 years of age or under ($40 \mu\text{g}/\text{ft}^2$ on floors and $250 \mu\text{g}/\text{ft}^2$ on windowsills).

b. Refer to the local authorities' regulations since they can be more stringent than federal regulations.

c. Post signs in the area to inform people of the presence of lead dust and its effects.

d. If soldiers clean weapons in the facility change the policy so that they cannot clean their weapons in the facility, or if they are allowed to clean their weapons indoors, they must clean the area by wet wiping and mopping the area when they are done.

e. If the paint is peeling, contact the state Environmental Office to test for lead content and provide recommendations.

3. Air samples collected on individuals in the armory were well below OSHA's permissible exposure limit for lead (29 CFR 1910.1025(c)) of $0.05 \text{ mg}/\text{m}^3$ averaged over an 8-hour day. Therefore, based on these conditions there is currently no overexposure to personnel from lead dust in this building.

APPENDIX H

POLICY AND RESPONSIBILITIES FOR INSPECTION, EVALUATION AND OPERATION OF ARMY NATIONAL GUARD INDOOR FIRING RANGES (NATIONAL GUARD REGULATION 385-15 30 DECEMBER 2002)

NGB-AVS-SG

SUBJECT: All States (Log Number P01-0075) Army National Guard (ARNG) Safety and Occupational Health Program – POLICY AND RESPONSIBILITIES FOR INSPECTION, EVALUATION AND OPERATION OF ARMY NATIONAL GUARD INDOOR FIRING RANGES

ADDENDUM

GUIDELINES FOR IFR REHABILITATION, CONVERSION, AND CLEANING

CONTENTS (Listed by paragraph number)

	Paragraph
Purpose	1
References	2
Explanation of Abbreviations and Terms	3
Policy and Procedures	4
Goal	5
Background	6
Wipe Sample Media	7
Wipe Sampling Protocol	8
Range Cleaning Instructions	9
Cleaning Stored Contaminated Equipment	10
Contaminated Sand and Lead Waste	11
Medical Surveillance	12
Worker Education	13
Personal Protection Equipment	14
Housekeeping	15
Maintenance	16
Range Rehabilitation	17
Conversion of Indoor Firing Ranges	18
Deviation	19

Appendices

- Appendix A - General Procedures for Collecting Wipe Samples
- Appendix B - Sampling Strategy for Collection of Wipe Samples
- Appendix C - Interpretation of Sample Results (Prior to Cleaning)
- Appendix D - Interpretation of Sample Results (After Cleaning)
- Appendix E - Recommended Sample Media and Containers
- Appendix F - Examples of Computation of Lead Levels from Wipe Sample Results
- Appendix G - Surface Wipe Sample Sheet
- Appendix H - Air Sampling Sheet
- Appendix I - Glossary

Purpose

1. This addendum establishes policy and procedures for rehabilitation, conversion, and cleaning of ARNG indoor firing ranges.

2. References

Related publications are listed below.

- a. DODI 6055.1 (Department of Defense Instruction, Occupational Safety and Health (OSH) Program).
- b. AR 11-34 (The Army Respiratory Protection Program).
- c. AR 40-5 (Preventive Medicine).
- d. NGR 385-15 Policy, Responsibilities, and Procedures for Inspection, Evaluation, and Operation of ARNG Indoor Firing Ranges).
- e. 29 Code of Federal Regulations (CFR), Part 1910, Occupational Safety and Health Standards
- f. OSHA Technical Manual, Edition VII.
- g. DHEW NIOSH 76-130 (Lead Exposure and Design Considerations for Indoor Firing Ranges).

NGB-AVS-SG

SUBJECT: All States (Log Number P01-0075) Army National Guard (ARNG) Safety and Occupational Health Program – POLICY AND RESPONSIBILITIES FOR INSPECTION, EVALUATION AND OPERATION OF ARMY NATIONAL GUARD INDOOR FIRING RANGES

3. Explanation of Abbreviations and Terms

Abbreviations and special terms used in this publication are listed in the glossary.

4. Policy and Procedures

Conversion of Ranges. Indoor firing ranges can be safely rehabilitated or converted for other uses, such as a storage area, kitchen, or office space, provided the following –

- a. Previously active ranges must be thoroughly decontaminated and cleaned to acceptable levels.
- b. The level of cleanliness is to be determined by sampling. The Occupational Safety and Health Administration's (OSHA) Technical Manual, 5th Edition, provides guidance on the methods and techniques needed to collect wipe samples (Appendix A).

(1) Wipe samples must be collected and analyzed prior to and after cleaning.

(2) Post-cleaning surface wipe sample results must be less than or equal to 200 micrograms per square foot (ug/sq ft). The sampling strategy, which is the amount and location of wipe samples to be collected, is provided in Appendix B. Methods for interpreting the sample results are contained in Appendix C and D.

c. Equipment/items previously stored in the range must be decontaminated and cleaned to acceptable levels.

(1) Samples must be collected from equipment/items stored in the range. Sample selection is critical, because the number of items stored and length of storage differs from range to range. The amount and location of the samples, should be representative of the areas where lead dust is most likely to accumulate. The more samples collected, the better the statistical comparison of the results.

(2) Samples must be collected from the smooth surfaces of the equipment/items, in so much as possible. Results of samples collected from a rough surface will be inaccurate due to the minimal surface contact of the media. Further, the likelihood of tearing the media filter is greater on rough surfaces.

(3) Samples should also be collected on items stored the longest period of time, and which have not been disturbed. Items stored closest to the bullet trap and firing line are likely to have higher concentrations of lead dust. Methods for interpreting the sample results are contained in Appendix C and D.

5. Goal

To ensure every indoor firing range is free of lead dust, and to reduce the number of unsafe ARNG indoor firing ranges.

6. Background

The Environmental Protection Agency (EPA) identifies lead as a highly toxic metal. Elemental lead is indestructible, and common in the environment. Lead can enter the body by inhalation (breathing) or ingestion (eating). In addition, lead is a cumulative poison. It accumulates in the blood, bones, and organs, including the kidneys, brain and liver. Effects include nervous and reproductive system disorders, delays in neurological and physical development, cognitive and behavioral changes, and hypertension. Symptoms include loss of appetite, difficulty sleeping, irritability, fatigue, headache, and inability to concentrate. It can stay in the bones for decades. Worker awareness and training are important to ensure that employees can recognize the symptoms of exposure and get prompt medical attention.

7. Wipe Sample Media

a. OSHA Technical Manual provides the necessary guidance on the technique needed to collect wipe samples (Appendix A). Only distilled or deionized water will be used to saturate dry sample media. At least one field blank filter must be submitted with each sample sheet. The field blank must be from the same lot, and labeled as a blank on the sample sheet. Appendix E identifies how and where to obtain sample media. Use the following guidance for determining media acceptability.

(1) Acceptable Media consists of –

(a) Ghost Wipes™ (PREFERRED METHOD)- Pre moistened

(b) Thirty-seven (37) millimeters (mm) mixed cellulose ester (MCE) filters, with or without the cassettes.

REPRODUCTION OF THIS DOCUMENT IS PROHIBITED

NGB-AVS-SG

SUBJECT: All States (Log Number P01-0075) Army National Guard (ARNG) Safety and Occupational Health Program -- POLICY AND RESPONSIBILITIES FOR INSPECTION, EVALUATION AND OPERATION OF ARMY NATIONAL GUARD INDOOR FIRING RANGES

(2) Unacceptable Media consists of but is not limited to—

- (a) Cotton balls
- (b) Baby wipes or wet wipes

b. Documentation of Sample Collection. A Surface Wipe Sample Sheet must be completed and submitted with samples to your supporting laboratory. A copy of this form is located in Appendix G. Refer to Appendix A on how to collect wipe samples.

8. Wipe Sampling Protocol
See Appendix A.

9. Ranges Cleaning Instructions

a. Written procedures, such as a scope of work, or Standing Operating Procedure (SOP) that complies with all federal, state and local regulations must be established prior to decontamination operations. The range ventilation system will be in operation during range cleaning to ensure that a negative pressure environment is maintained. In the absence of mechanical ventilation system, all doors and windows will be sealed to eliminate fugitive emissions. A High Efficiency Particulate Air (HEPA) filtered vacuum system is the preferred method of cleanup followed by wet wiping of the range. The HEPA vacuum is designed to collect loose surface lead dust particles.

b. Any general purpose cleaning solution can be used. However, Spic and Span™ has been found to be an effective cleaning solution by other Army organizations. Mix new solutions of cleaning solution frequently. Wet wiping will require dual containers of water; one container for wetting the applicator (mops, rags, sponge, etc.) and the other container for rinsing the applicator after the dust has been wiped from the surfaces. When placed in containers, wastewater should be left to evaporate.

c. PROPERLY DISPOSE OF ALL HAZARDOUS WASTE. DO NOT PLACE LEAD CONTAMINATED WASTE INTO THE SEWER SYSTEM OR ONTO THE GROUND.

d. Mop-heads, sponges and rags will be discarded as hazardous waste following cleanup.

e. Wet cleaning by a high-pressure system is prohibited, as this method may embed the lead into the substratum and generate large quantities of unwanted hazardous waste.

f. Dry sweeping is not permitted.

g. All surface areas of the range must be cleaned. Do not remove the coating on smooth painted surfaces that are properly sealed.

h. Wood floors should receive a coat of deck enamel or urethane; concrete floors should be sealed with deck enamel and linoleum or tile floors should be waxed.

i. A progression of cleaning from top to bottom and from behind the steel backstop to the firing line should be used. After removing the sand, if applicable, and the steel backstop, areas in front of and behind the bullet trap along with the steel backstop plate(s) should be cleaned. Next, clean the ceiling, lights, baffles, retrieval system, heating system(s), and ventilation duct(s). Acoustical material should be vacuumed and removed rather than painted over.

j. A Toxic Characteristic Leaching Procedures (TCLP) test for lead only may need to be performed on the acoustical material. A TCLP test will determine if the material is classified as "hazardous" and can be disposed of in a sanitary landfill. Contact your State Environmental Office for assistance before arranging for this laboratory testing. The floor should be the last surface cleaned, starting at the bullet trap and ending behind the firing line.

k. After wet wiping all surfaces, permit the area to dry. Vacuum all surface areas until no dust or residue can be seen using the HEPA.

l. A thorough visual inspection to detect dust should be made following cleanup and prior to collecting post surface wipe samples.

m. As a variety of conditions exist in ranges, unique situation may arise and specific written guidance from your Regional Industrial Hygiene Office may be required.

10. Cleaning Stored Contaminated Equipment

a. Equipment contaminated (sample result is higher than 200 micrograms/sq ft) with lead dust must be decontaminated before it is removed from the range.

NGB-AVS-SG

SUBJECT: All States (Log Number P01-0075) Army National Guard (ARNG) Safety and Occupational Health Program – POLICY AND RESPONSIBILITIES FOR INSPECTION, EVALUATION AND OPERATION OF ARMY NATIONAL GUARD INDOOR FIRING RANGES

b. Equipment located near the bullet trap and firing line should be cleaned first and then removed. The cleaning method depends on the size of the equipment and the material it is comprised of, i.e. metal, wood, concrete, porous, non-porous, smooth or rough finish etc. However, either HEPA vacuum or the wet wipe method will be used. Refer to paragraph 9 for additional guidance.

c. Every attempt should be made to clean and reclaim items since disposing of equipment, as hazardous waste is costly and wasteful. Only as a last resort will the item be discarded as hazardous waste. Porous items, such as office partitions and carpet that were present during firing should be considered grossly contaminated and be discarded unless analysis proves otherwise. Consult your State Environmental Office for the proper hazardous waste disposal methods.

11. Contaminated Sand and Lead Waste

Consult your State Environmental Office for specific disposal guidance to ensure compliance with local laws and regulations.

12. Medical Surveillance

a. A pre-placement medical examination is required for all individuals involved with range cleanup operations. Consult 29 CFR 1910.1025 for additional information on medical surveillance requirements. A medical examination must include—

- (1) A detailed work and medical history
- (2) A thorough physical examination
- (3) A respirator use evaluation
- (4) A blood pressure measurement
- (5) Blood sample analysis to include:
 - (a) A baseline blood lead level
 - (b) A complete blood count (CBC)
 - (c) Blood urea nitrogen (BUN)
- (6) Serum creatinine
- (7) Zinc protoporphyrin
- (8) A routine urine analysis
- (9) Recordkeeping

b. Air Monitoring. Worker breathing zone (BZ) air samples must be collected to ensure personnel are not overexposed to airborne lead during the cleanup phase. Representative air samples will be collected on all personnel involved in the cleanup operation. These exposure levels will be used to evaluate work practices and personal protective equipment. Within five (5) working days after receipt of monitoring results, each employee will be notified in writing of the air sampling results. Contact your Regional Industrial Hygiene Office for additional information pertaining to air sampling.

13. Worker Education

OSHA 29 CFR 1910.1025 requires that workers who are potentially exposed to any lead level shall be informed of the content of Appendix A and B of this standard. 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 irritations exists. The training program shall be repeated for personnel currently involved in range cleanup operations, at least annually, this training must be documented on DD Form 1556 or DD Form 1556-1 and filed permanently in the employee's Official Personnel File (OPF) or the soldier's Official Military Personnel File (OMPF). As a minimum, complete blocks 1, 2, 3, 7, 8, 11, 12, 13, 17, 18, 24, 33 and 38 of DD Form 1556. Place the following statement in block 18, "Do not destroy, retain this record for the duration of employment/service plus 30 years." The employer will assure that each employee is informed of the following:

- a. The content of the standard and its appendices.
- b. The specific nature of operations that could result in exposure to lead above the action level.
- c. The purpose, proper selection, fitting, use and limitations of respirators.
- d. The purpose and a description of medical surveillance program.
- e. Eating and drinking are prohibited in lead contaminated areas.
- f. Smoking and smoking materials will not be permitted in contaminated areas.

NGB-AVS-SG

SUBJECT: All States (Log Number P01-0075) Army National Guard (ARNG) Safety and Occupational Health Program – POLICY AND RESPONSIBILITIES FOR INSPECTION, EVALUATION AND OPERATION OF ARMY NATIONAL GUARD INDOOR FIRING RANGES

- g. Employees must wash their hands and other exposed skin whenever they leave the work area.
- h. The engineering controls and work practices associated with the individual's job assignment.
- i. The contents of any compliance plan in effect.

14. Personal Protective Equipment

For housekeeping and rehabilitation the employer shall select respirators from among those approved for protection against lead dust, fume, and mist by the National Institute for Occupational Safety and Health (NIOSH). The employer shall institute a respiratory protection program in accordance with 29 CFR 1910.134. As a minimum, personnel conducting the decontamination of the range will be provided with the following personal protective equipment.

a. Employees engaged in range rehabilitation and/or range conversion, the employer shall provide at no cost to the employee, and assure that the employee uses appropriate protective work clothing and equipment such as, but not limited to:

- (1) Protective coveralls with hood and shoe covers or disposable Tyvek™ full body suit.
- (2) Disposable rubber gloves; and disposable shoe coverlets (if necessary).
- (3) Full-face air purifying respirator with P-100 cartridges.

b. The employer shall provide the clothing required in a clean and dry condition at least daily to employees engaged in the conversion of indoor firing ranges.

c. The employer shall provide for the cleaning, laundering, or disposal of used or contaminated protective clothing and equipment.

d. The employer shall assure that all protective clothing is removed at the completion of a work shift only in areas designated for that purpose (Change Areas or Change Rooms).

e. The employer will ensure that contaminated protective clothing that is to be cleaned, laundered, or disposed of, is placed in a closed container in the change area that seals sufficiently enough to prevent dispersion of lead dust.

f. The employer will further inform in writing any person who cleans or launders protective clothing or equipment of the potentially harmful effects of exposure to lead.

15. Housekeeping

This chapter applies to all active indoor ranges classified as "safe" for use. To keep the range operating properly and to keep possible hazards to a minimum, a routine housekeeping/ maintenance program is essential.

a. The employer must establish a housekeeping program sufficient to maintain all surfaces as free as practicable of accumulations of lead dust. To this end the range will be clean at the conclusion of each firing day.

b. The range ventilation system will be in operation during all cleaning operations, to ensure a negative pressure environment is maintained.

c. Ranges will be cleaned by using the wet method or vacuuming. A HEPA (High Efficiency Particulate Air) filtered vacuum system is the preferred method of meeting this requirement. The use of compressed air to clean floors is absolutely prohibited. If the wet method is utilized the floor should be equipped with a floor drain, and collection system. When there is no collection system, the water can be allowed to slowly evaporate leaving lead deposits/sludge. The deposits/sludge can then be collected, placed in metal drums, and stored for future delivery to an authorized hazardous waste disposal site. Drums must be labeled to identify contents, in accordance with the hazardous waste program.

d. A NIOSH approved respirator (P-100) for protection against lead dust, fume, and mist will be worn at all times while cleaning.

e. When cleaning start behind the firing line forward, cleaning the floor and horizontal surfaces.

16. Maintenance

The following are the minimum maintenance requirements, which must be performed quarterly by the range custodian, or by a person designated by the facility commander.

a. Inspect the ventilation system fan for condition of belts to ensure that they are not frayed or slipping.

NGB-AVS-SG

SUBJECT: All States (Log Number P01-0075) Army National Guard (ARNG) Safety and Occupational Health Program – POLICY AND RESPONSIBILITIES FOR INSPECTION, EVALUATION AND OPERATION OF ARMY NATIONAL GUARD INDOOR FIRING RANGES

- b. Evaluate static pressure and compare to the baseline static pressure reading. Any changes will be reported through the safety manager to the Regional Industrial Hygienist.
- c. Inspect Louvers, if applicable, to ensure they are opening fully.
- d. Inspect the bullet trap for pitting or other damage and for sharp edges on venetian blind type bullet traps.
- e. Bullet Trap. The bullet trap will be cleaned every 480 hours of operation at a minimum, or when the trap is three quarters full.
- f. The range ventilation system will be operational during all bullet trap cleaning procedures.
- g. All personnel involved in cleaning of the bullet trap will wear a NIOSH approved respirator, and proper personal protective equipment.
- h. All debris from the bullet trap will be collected, package and turned in, in accordance with guidance from the environmental office.

17. Range Rehabilitation.

This chapter applies to all indoor firing ranges that have been identified as candidates for rehabilitation. This chapter further provides guidance for cleaning and/or sampling that might be required prior to the start of rehabilitation.

- a. The portion(s) of the range to under go rehabilitation must be sampled to determine the level of lead contamination. Wipe samples will be taken per the established sampling protocol. See Appendix A.
- b. All personnel involved in range rehabilitation will wear a NIOSH approved respirator (P-100), and proper personal protective equipment as prescribed in paragraph 14 above.
- c. Prior to start of rehabilitation the environmental office must be notified to determine the disposition of lead containing debris.

18. Conversion of Indoor Ranges

Prior to the start of decontamination, employers must ensure that all procedures to be used comply with Federal, State, and local regulations. To ensure that all lead contamination is removed the following procedure is established.

- a. All ranges slated for conversion will be inspected and evaluated.
- b. All equipment stored in the range, if applicable, prior to the start of decontamination must be sampled, decontaminated, re-sampled and removed or turned in as lead contaminated material. See paragraph 10 above.
- c. All acoustical tiles and/or sound proofing material (if applicable) must be removed and turned in as lead contaminated material through the environmental office.
- d. The backstop, bullet trap, target retrieval system and firing line stations must be removed and turned in as lead containing material through the environmental office.
- e. Light fixtures and ventilation system grills must be removed and decontaminated.
- f. Ventilation system ducts need to be decontaminated or removed and replaced.
- g. The exhaust fans and/or the complete ventilation air-handling unit (if applicable) must be decontaminated or removed.
- h. Cover all openings of any component previously decontaminated prior to start of interior decontamination of the firing range.

19. Deviation

Deviations from this guidance will require a written exception to policy from your Regional Industrial Hygiene Office. Questions and/or comments regarding this subject should be directed to your Regional Industrial Hygiene Office or Chief, National Guard Bureau, Attn: NGB-AVS-S, 111 South George Mason Drive, Arlington, VA 22204-1382.

NGB-AVS-SG

SUBJECT: All States (Log Number P01-0075) Army National Guard (ARNG) Safety and Occupational Health Program -- POLICY AND RESPONSIBILITIES FOR INSPECTION, EVALUATION AND OPERATION OF ARMY NATIONAL GUARD INDOOR FIRING RANGES

**APPENDIX A
GENERAL PROCEDURES FOR COLLECTING WIPE SAMPLES**

A-1 If multiple samples are to be collected at the work site, prepare a rough sketch of the area(s) or room(s), which are to be wipe sampled.

A-2 A new set of clean, impervious gloves should be used for each sample to avoid contamination of the media by previous samples and to prevent contact with the substance.

A-3 (1) If using Ghost Wipes™, tear open the individually sealed package. Remove the moistened wipe. Unfold the wipe.

(2) If using a dry media such as MCE or Whatman™ filter, moisten the filter with distilled or deionized water prior to sampling.

A-4 Place a 10 cm by 10 cm template on the area to be wiped.

A-5 Apply uniform firm pressure while wiping the area inside the template.

A-6 To insure that all portions of the partitioned area are wiped, start at the outside edge and progress toward the center making progress toward the center making concentric squares decreasing in size.

A-7 After collecting a sample, fold the filter or wipe inward and place into a container and number it. Note the number at the sample location on the sketch.

A-8 At least one blank filter treated in the same fashion but without wiping, should be submitted to the laboratory.

**APPENDIX B
SAMPLING STRATEGY FOR COLLECTION OF WIPE SAMPLES**

B-1 Prior to cleaning the ranges, the three samples must be collected and analyzed for total lead dust on each surface, i.e., floor, ceiling, backstop, and wall to include the plenum wall, if applicable. In addition, a total of 3 samples should be collected from areas which have been least disturbed by airflow. Established walkways should be avoided.

B-2 Samples should be staggered to different areas of the range. A grid system should be utilized. Each range surface areas should be divided evenly into 3 by 3 sections. Samples should not be collected on all one section of a wall or end of the building.

**APPENDIX C
INTERPRETATION OF SAMPLE RESULTS (PRIOR TO CLEANING)**

C-1 200 micrograms/sq ft or LESS

If all sample results are 200-micrograms/sq ft or less, the range can be converted and/or used for any purpose.

C-2 BETWEEN 201 and 200,000 micrograms/sq ft

Range must be decontaminated. Continued with cleaning instructions listed in paragraph 9 Sample results will be used to establish a baseline.

C-3 Over 200,000 micrograms/sq ft

Your sample media may not be capable of collecting additional lead dust and results that are above 200,000 micrograms/sq ft, and should be considered suspect.

NGB-AVS-3G

SUBJECT: All States (Log Number P01-0075) Army National Guard (ARNG) Safety and Occupational Health Program -- POLICY AND RESPONSIBILITIES FOR INSPECTION, EVALUATION AND OPERATION OF ARMY NATIONAL GUARD INDOOR FIRING RANGES

APPENDIX C (Continued)

C-4 High sample results may exist due to personnel walking or moving equipment/vehicles over the range surface causing the lead dust to be "ground" into the substratum. For examples, a maintenance activity may have oversprayed paint or spilled solvents onto the surface. Regional Industrial Hygiene Office for specific guidance.

APPENDIX D**INTERPRETATION OF SAMPLE RESULTS (AFTER CLEANING)**

D-1 200 micrograms/sq. ft or less

If all sample results are less than 200 micrograms/sq ft, the range can be converted and/or used for any purpose after a coat of lead-free latex paint is applied.

APPENDIX E**RECOMMENDED SAMPLE MEDIA AND CONTAINERS**

E-1 The following is a list of vendors, which supply the media and containers necessary to collect air and lead surface wipe samples. The information is provided to assist in obtaining the proper media and containers. Alternative vendors are available and may be utilized, if known. Contact your Regional Industrial Hygiene Office for additional assistance or clarification.

E-2 Pre-loaded 3 piece cassette with mixed cellulose ester (MCE) filter and pad, 37 millimeter (mm), pore size 0.8 microns, breathing zone (BZ) and general area (GA) air samples.

<u>Order From</u>	<u>Catalog Number</u>
-------------------	-----------------------

- | | |
|--------------------------------------------------------------------------------------------------|--------------|
| a. Millipore Corp.
Ashdy Road
Bedford, MA 01730
617-275-9200
800-225-1380 | MAWP-037-A0 |
| b. Gelman Sciences
600 South Wagner Rd
Ann Arbor, MI 48106
313-665-0651
800-521-1520 | 64678 (GN-4) |
| c. Supelco, Inc.
Supelco Park
Bellefonte, PA 16823
800-247-6628
800-359-3041 | 2-3368M |

E-3 37 mm MCE Filter with pad, no cassette included, for lead surface wipe samples.

<u>Order From</u>	<u>Catalog Number</u>
-------------------	-----------------------

- | | |
|---------------------------------------------------------|----------|
| a. Supelco Inc.
Supelco Park
Bellefonte, PA 16823 | 2-3381IM |
|---------------------------------------------------------|----------|

NGB-AVS-SG

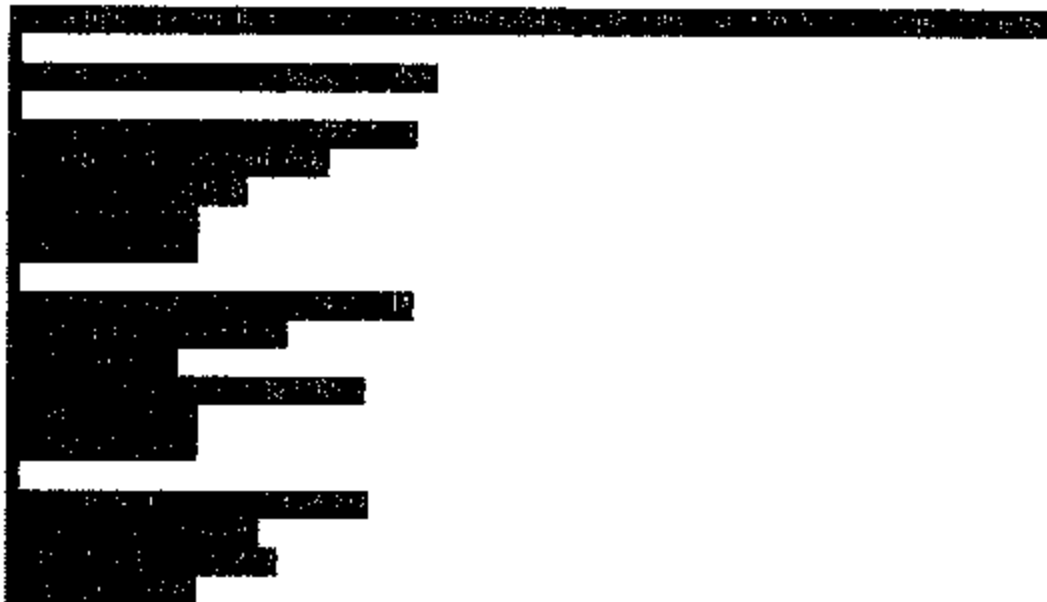
SUBJECT: All States (Log Number P01-0075) Army National Guard (ARNG) Safety and Occupational Health Program – POLICY AND RESPONSIBILITIES FOR INSPECTION, EVALUATION AND OPERATION OF ARMY NATIONAL GUARD INDOOR FIRING RANGES

APPENDIX E (Continued)

800-247-6628
800-359-3041

b. Millipore Corp. AAWP-037-00
Ashby Road
Bedford, MA 01730
617-275-9200
800-225-1380

c. SKC, Inc. 225-5
334 Valley View Rd.
Eighty Four, PA 15330
412-941-9701
800-752-8472



E-5. Glass container (25 milliliter) for collection and shipment of media.

<u>Order From</u>	<u>Catalog Number</u>
-------------------	-----------------------

a. Pierce Chemical Co. P.O. Box 117 Rockford, IL 61105 815-968-0747 800-874-3723	13219 (screw cap)
----------------------------------------------------------------------------------------------	-------------------

b. Altech Associates, Inc. Applied Science Labs 2051 Waukegan Rd. Deerfield, IL 60015 312-948-8600	95321 (screw cap)
----------------------------------------------------------------------------------------------------------------	-------------------

NGB-AVS-SG

SUBJECT: All States (Log Number P01-0075) Army National Guard (ARNG) Safety and Occupational Health Program – POLICY AND RESPONSIBILITIES FOR INSPECTION, EVALUATION AND OPERATION OF ARMY NATIONAL GUARD INDOOR FIRING RANGES

APPENDIX E (Continued)

800-255-8324

E-6. Ghost Wipes™.

Order From Catalog Number

Environmental Express SC4200
490 Wando Park Blvd.
Mt. Pleasant, SC 29464
1-800-343-5319

E-7. Ghost Wipe™ Containers

Order From Catalog Number

Environmental Express SC499
490 Wando Park Blvd.
Mt. Pleasant, SC 29464
1-800-343-5319

E-8. Plastic ziplock bags can be obtained through the Army logistics system. Many sizes are available. Contact your supporting logistics branch for assistance.

E-9. Distilled water can be purchased at larger grocery stores, usually by the gallon, at a cost of approximately \$1.25. Deionized water can be obtained at local and state water labs or a hospital.

APPENDIX F

EXAMPLES OF COMPUTATION OF LEAD LEVELS FROM WIPE SAMPLE RESULTS

Sample results will be returned in the form of micrograms. The results must be converted to micrograms per square foot. This can be accomplished by following the examples listed below.

$$\frac{75 \text{ ug}}{100 \text{ cm}^2} \times \frac{929 \text{ cm}^2}{1 \text{ sq ft}} = \frac{75 \times 929}{100} = \frac{69675}{100} = 696.75 \text{ ug/sq ft}$$

ug – Microgram

Cm2 – Centimeters squared

Sq ft – Square foot

NGE-AVS-SG

SUBJECT: All States (Log Number F01-0075) Army National Guard (ARNG) Safety and Occupational Health Program - POLICY AND RESPONSIBILITIES FOR INSPECTION, EVALUATION AND OPERATION OF ARMY NATIONAL GUARD INDOOR FIRING RANGES

APPENDIX G
SURFACE WIPE SAMPLING SHEET

Industrial Hygiene Surface Wipe Sample Sheet			
Return Address		Point of Contact (name & phone #)	
		Samples Collected By	
Sampled Facility	City	State	Location (bldg/area)
Description of Operation		Date Collected	Date Shipped
Analysis Desired			
Sampling Data			
Lab Use Only	Sample #	Results	Remarks
Comments to Lab:			

NGB-AVS-SG

SUBJECT: All States (Log Number P01-0075) Army National Guard (ARNG) Safety and Occupational Health Program - POLICY AND RESPONSIBILITIES FOR INSPECTION, EVALUATION AND OPERATION OF ARMY NATIONAL GUARD INDOOR FIRING RANGES

APPENDIX H
AIR SAMPLING SHEET

Industrial Hygiene Air Sample Sheet							
Return Address				Point of Contact (name/phone #)			
				Samples Collected By			
Sampled Facility	City	State	Location (bldg/area)				
Description of Operation	___ Persons Exposed		___ Hrs/Day		Method of Collection		
Analysis Desired							
Sampling Data							
Sample No.							
Pump No.							B
Time On							L
Time Off							A
Total Time (min)							N
Flow Rate (LPM)							K
Volume (liters)							
GA/BZ							
Employee Name/ID							
Laboratory No.							
Calibration Information							
Pump No.	Calibration (LPM)		Rotameter Setting	Date			
	Pre-Use	Post-Use					
Name of Calibrator		Calibration Date	Pump Manufacturer				
Comments to Lab:							

NGB-AVS-SG

SUBJECT: All States (Log Number P01-0075) Army National Guard (ARNG) Safety and Occupational Health Program – POLICY AND RESPONSIBILITIES FOR INSPECTION, EVALUATION AND OPERATION OF ARMY NATIONAL GUARD INDOOR FIRING RANGES

**APPENDIX I
ABBREVIATIONS AND TERMS**

**Section I
Abbreviations**

ARNG

Army National Guard

BUN

Blood urea nitrogen

BZ

Breathing zone

CBC

Complete blood count

CFR

Code of Federal Regulations

cm

Centimeter

DHEW

Department of Health, Education and Welfare

EPA

Environmental Protection Agency

GA

General area

OMPF

Official Military Personnel File

OPF

Official Personnel File

OSHA

Occupational Safety and Health Administration

TCLP

Toxic Characteristic Leaching Procedures

ug/sq ft

Micrograms per square foot

NGB-AVS-SG

SUBJECT: All States (Log Number P01-0075) Army National Guard (ARNG) Safety and Occupational Health Program – POLICY AND RESPONSIBILITIES FOR INSPECTION, EVALUATION AND OPERATION OF ARMY NATIONAL GUARD INDOOR FIRING RANGES

APPENDIX I (Continued)

Section II

Terms

HEPA

Refers to high efficiency particulate air filter systems capable of capturing up to 99.97 percent of particles 0.3 microns in size or larger.

Lead-Contaminated Range

It is assumed that all indoor ranges, which have been fired in, are lead-contaminated.

Wipe Sample

The terms wipe, swipe, or smear samples are use synonymously to describe the techniques utilized for assessing lead surface contamination.

BEST AVAILABLE COPY



1215 Manor Drive, Suite 205
Mechanicsburg, PA 17055
Phone: 717.590.7031
Fax: 717.590.7936
www.complianceplace.com

Industrial Hygiene Survey Report

National Guard Facility
Woodbridge Readiness Center

Prepared For: National Guard Bureau Region North IH
301-IH Old Bay Lane
Havre de Grace, MD 21078

Survey Location: Woodbridge Readiness Center
625 Main Street
Woodbridge, NJ 07095

Prepared By: Compliance Management International, Inc.
1215 Manor Drive
Suite 205
Mechanicsburg, PA 17055

Survey Date: March 27, 2013

Report Date: April 26, 2013

Non-Responsive

Manager, Industrial Hygiene Services

Table of Contents

Section 1.0 Executive Summary	3
Section 2.0 Operation Description & Observations.....	4
Section 3.0 Lead Testing.....	5
Section 4.0 Lighting.....	7
Section 5.0 Indoor Air Quality.....	8
Section 6.0 Suspect Asbestos Containing Building Materials.....	10
Section 7.0 Equipment	11
Section 8.0 Limitations	12
Appendix A. Laboratory Analysis Report	13
Appendix B. Photographs	14
Appendix C. Floor Plan	15
Appendix D. References	16

Section 1.0 Executive Summary

An industrial hygiene survey was conducted on March 27, 2013, at the Woodbridge Readiness Center located at 625 Main Street, Woodbridge, NJ 07095. The survey was performed by Mr. Non-Responsive.

1. Lead surface and air samples were collected. Surface levels of lead exceeded 200 micrograms per square foot ($\mu\text{g}/\text{ft}^2$) in two locations. See Section 3.0 for sampling results.
2. Lighting levels did not meet the American National Standards Institute/Illuminating Engineering Society of North America (ANSI/IESNA) recommended guideline in two locations. See Section 4.0 for detailed findings.
3. Indoor air quality (IAQ) parameters of temperature, relative humidity, carbon monoxide and carbon dioxide (ventilation) were evaluated during the assessment.
 - a. Temperature levels did not meet the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE 55-2010) recommended guideline of 68-79 degrees F in three locations.
 - b. Relative humidity levels were less than the US Army Center for Health Promotion and Preventive Medicine (USACHPPM) TG 177 recommended guideline of 30-60% in all locations.
 - c. Carbon monoxide (CO) levels were less than the National Ambient Air Quality Standard (NAAQS) recommended ceiling of 9 ppm.
 - d. Carbon dioxide (CO_2) levels met the ASHRAE 62.1-2010 recommended guidelines for mechanically ventilated office buildings and commercial settings.

See Section 5.0 for detailed sampling results

4. A visual inspection was performed for factors that could affect indoor air quality. Some water damaged ceiling tiles were observed in several locations. See Section 5.0 for detailed findings.
5. Suspect asbestos containing materials (ACM) were observed. Floor tile materials, pipe insulation, mudded joint fittings, and boiler breeching were observed to be intact and in good condition. See Section 6.0 for detailed report findings.

Section 2.0 Operation Description & Observations

The Woodbridge Readiness Center is mainly an administrative facility with a drill hall, offices, classroom, and converted firing range/storage areas. There were approximately 17 full-time employees stationed at this facility at the time of this survey.

The building was initially constructed in the 1961. The building is a one-story structure with a brick exterior. The interior walls are concrete block, brick, and drywall in some of the offices. The floors are concrete, floor tile and some carpet.

The Heating, Ventilation, and Air-Conditioning (HVAC) system consists of an oil-fired forced water furnace for heat and window units for air conditioning.

The area of the building that was once a firing range has been converted into a storage area. A lead warning sign is on the door restricting access yet the rooms is actively used for storage. No firing range components remain.

There is no child-care facility in the building.

Overall housekeeping practices were adequate.

No ergonomic concerns were reported. Office areas have computer work stations. Work stations appeared to be properly designed. Personnel had supportive chairs.

Section 3.0 Lead Testing

Due to the age of the building there is a high potential for lead based paint to be present. Various surfaces within the facility were screened for lead using surface/wipe samples. Surface/wipe samples were collected in accordance with the American Society for Testing and Materials (ASTM) E 1792 protocols. Air samples were collected using 0.8 um mixed cellulose ester (MCE) filter cassettes attached to low volume air sampling pumps. Blank samples were submitted to the laboratory for quality control purposes. Samples were sent to AMA Analytical Services, Inc., in Lanham, Maryland, for lead analysis using Environmental Protection Agency (EPA) Method 600/R-93/200 (M)-7420. A copy of the laboratory analysis report can be found in Appendix A.

Lead Testing Results Summary

Sample #	Location	Bulk (%)	Air ug/m ³	Surface ug/ft ²
1	Drill Hall	*	<5.4	*
2	Converted Firing Range	*	<5.4	*
3	Drill Hall – Floor	*	*	<110
4	Drill Hall – Top of Coke Machine	*	*	<110
5	Drill Hall – Top of Storage Box	*	*	<110
6	Kitchen – Top of Small Refrigerator	*	*	<110
7	Kitchen – Top of Paper Towel Dispenser	*	*	<110
8	Hallway – Floor Outside Converted Firing Range	*	*	<110
9	Converted Firing Range/Storage Area – Floor	*	*	1,200
10	Converted Firing Range/Storage Area – Top of Wall Locker	*	*	270
11	Converted Firing Range/Storage Area – Top of File Cabinet	*	*	<110
12	S-1 Office – Top of File Cabinet	*	*	<110
13	S-3 Office – Top of Desk	*	*	<110
14	Dining Room – Top of Radiator	*	*	<110
15	Recruiting Office – Top of Book Shelf	*	*	<110
16	Blank - Wipe	*	*	<12
17	Blank - Air	*	<3	*
-	Criteria	0.5	50	200

Table Notes:

1. **Bolded** results exceed listed criteria
2. **ppm** = parts per million
3. **ug/ft²** = micrograms per square foot
4. **ug/m³** = micrograms per cubic meter
5. **ug** = micrograms

Sources:

1. NG PAM 420-15 Guidelines and Procedures for Rehabilitation and Conversion of Indoor Firing Ranges
2. OSHA 29CFR1910.1025 Lead Standard

The National Guard Bureau currently utilizes 200 micrograms per square foot (ug/ft^2) as a benchmark for identifying lead-contaminated surfaces. This guideline is referenced in NG PAM 420-15 "Guidelines and Procedures for Rehabilitation and Conversion of Indoor Firing Ranges" as a satisfactory surface contamination level unless the facility is utilized as a childcare facility. In such cases, U.S. Department of Housing and Urban Development (HUD) limit of 40 ug/ft^2 on floors and 250 ug/ft^2 on windowsills should be observed. There is no child care provided at this facility.

Lead surface and air samples were collected. The following is a summary of the sample results from this survey.

- Surface levels of lead were above the recommended guideline of 200 ug/ft^2 in the Converted Firing Range/Storage area. Cleaning procedures should be improved to maintain lead levels on surfaces below the recommended guideline of 200 ug/ft^2 .
- Air samples for lead were below the Occupational Safety and Health Administration (OSHA) Permissible Exposure Limit of 50 micrograms per cubic meter (ug/m^3).
- No chipping or peeling paint was observed within the facility.

Section 4.0 Lighting

A lighting assessment was conducted throughout the facility. Measurements were collected using a Cooke Cal-Light 400L Precision Light Meter (Serial No. K98364). The light meter was last calibrated in April 2012. Measurements collected were compared to ANSI/IESNA RP-7-01 Lighting Industrial Facilities and RP-1-04 Office Lighting.

Light Survey Assessment Summary

Location	Foot Candles (FC)	Recommended Lighting (FC)	Sufficient Lighting
Drill Hall	10.7	10	Yes
Recruiting Office 1	77.3	30-50	Yes
Recruiting Office 2	45.1	30-50	Yes
Recruiting Office 3	54.8	30-50	Yes
Recruiting Office 4	38.8	30-50	Yes
Recruiting Office 5	36.0	30-50	Yes
Recruiting Office 6	34.0	30-50	Yes
Armory Supply Room	64.8	30	Yes
Dining Room	79.3	10	Yes
Kitchen	44.7	50	No
Converted Firing Range/Storage Area	17.3	30	No
S-3 Office	61.1	30-50	Yes
S-1 Office	49.1	30-50	Yes
Classroom	60.3	30-50	Yes

Table Notes:

1. FC = Foot Candles
2. **Bolded** results did not meet listed criteria

Source: ANSI/IESNA RP-7-01 Lighting Industrial Facilities and RP-1-04 Office Lighting.

The lighting level did not meet the minimum recommended guideline in the Converted Firing Range/Storage area and the Kitchen. Lighting should be improved in these areas.

Section 5.0 Indoor Air Quality

Survey measurements were made for ventilation and comfort parameters (carbon dioxide, temperature, carbon monoxide and relative humidity). The air quality measurements were collected using direct reading instrumentation for comfort parameters using a QTRAK IAQ Meter, Model 7565 (Serial #02041015). The IAQ Meter was last calibrated in August 2012.

The American Society of Heating, Refrigerating, and Air Conditioning Engineers, Inc. (ASHRAE) have developed indoor air quality guidelines for mechanically ventilated office buildings and commercial settings (ASHRAE standard 62.1-2010). ASHRAE specifies temperature and relative humidity ranges for human comfort (ASHRAE 55-2010). The US Army Technical Guide 277 Army Facilities Management Information Document on Mold Remediation, recommends maintaining a relative humidity range between 30 to 60%.

The following table summarizes the measurements collected.

IAQ Assessment Summary

Location	Temperature (°F)	Relative Humidity (%)	Carbon Dioxide (ppm)	Carbon Monoxide (ppm)
Drill Hall	63.9	27.7	488	0.0
Recruiting Office 1	66.9	26.5	496	0.0
S-3 Office	69.4	22.8	567	0.0
S-1 Office	69.4	25.7	593	0.0
BN. Commander's Office	67.1	22.8	468	0.0
Outdoors	52.0	30.4	270	0.0
Criteria	68-79	30-60	<970	<9

Table Notes:

1. **Bolded** results exceed listed criteria
2. **ppm** = parts per million
3. **(%)** = percent relative humidity
4. **F** = degrees Fahrenheit

Sources: The American Society of Heating, Refrigerating, and Air Conditioning Engineers, Inc. (ASHRAE) 55-2010, 62.1-2010, Environmental Protection Agency (EPA) National Ambient Air Quality Standard (NAAQS) & The US Army Technical Guide 277 Army Facilities Management Information Document on Mold Remediation.

Summary of findings and recommendations:

- Temperature measurements did not meet the recommended 68-79°F in the Drill Hall, Recruiting Office, and BN. Commander's Office. Temperature should be maintained at 68-79 °F.

- Relative humidity levels were outside the recommended guidelines in all sampled areas. Low relative humidity can cause the drying of the mucous tissues and an increased susceptibility to respiratory infection. Relative humidity should be maintained at 30-60%.
- Carbon dioxide levels were measured to evaluate building ventilation or the introduction of outdoor air into the building. The recommended ceiling is obtained by adding 700 ppm to the measured outdoor carbon dioxide level at the time of the survey. For this survey, carbon dioxide levels did not exceed the recommended ceiling of 970 ppm. This is an indication that outdoor air ventilation is adequate.
- Carbon monoxide levels measured were less than the recommended ceiling of 9 ppm. The recommended ceiling of 9 ppm referenced in the above table is the National Ambient Air Quality Standard for carbon monoxide.
- A visual inspection was conducted throughout accessible portions of the facility to assess sources or pathways of factors potentially deleterious to IAQ. The following observations were noted:
 - Water stained ceiling tiles should be removed and replaced.
 - Overall housekeeping was adequate.

Section 6.0 Suspect Asbestos Containing Building Materials

Due to the age of the building it is likely that asbestos-containing materials (ACM) are present in the facility. The following suspect ACM was noted at the time of this survey:

1. Floor tiles (9" x 9") and associated mastic are present in the Armor's storage closet. There is approximately 210 square feet of this material. The material was intact and in good condition but needs a fresh coat of wax.
2. Pipe insulation and mudded joint fittings are present and visible in some areas of the facility. Approximately 70 liner feet of pipe insulation is visible and 10 mudded joint fittings as well. This material was intact and in good condition.
3. Boiler breeching was intact but some areas of isolated damage were present.
4. One area of concern identified was the top surface of the boilers where insulation was observed to be in poor condition. A bulk sample of this insulation was collected and analyzed for asbestos content. No asbestos was identified in this material. See Appendix A Laboratory Analysis Report for detailed sample results.

Inaccessible areas such as behind walls or crawlspaces were not inspected. ACM could potentially be present in these areas.

Section 7.0 Equipment

The following equipment was utilized during this survey. All sampling equipment was properly calibrated prior to use and verified for accuracy as applicable. See daily reports and calibrations logs for detailed information.

Equipment	Serial #	Calibration Date	Value
TSI QTrak IAQ Meter	02041015	8/2012	NA
Cal Light 400 Light Meter	K98364	4/2012	NA
TSI 4199 Calibrator	41460827002	8/2012	NA
SKC Air Sampling Pump	647610	3/27/13	2.59 LPM
SKC Air Sampling Pump	647631	3/27/13	2.59 LPM

Section 8.0 Limitations

This report summarizes our evaluation of the conditions observed at the above referenced location. Our findings are based upon our observations and sampling results obtained at the facility at the time of our visit. The report, results, and subsequent recommendations reported herein are also limited to the information available at the time it was prepared and investigated. Conditions may have been in effect prior to the sampling events that have changed over time and which cannot be predicted within the scope of this limited investigation. Any conditions discovered which deviate from the data contained in this report should be presented to us for our evaluation.

This report is intended for the exclusive use of the client. This report and the findings herein shall not, in whole or in part, be relied upon by any other parties, disseminated or conveyed to any other party without prior written consent of the National Guard Bureau, and Compliance Management International, Inc. The findings are relative to the dates of our site visits and should not be relied upon for substantially later dates.

Appendix A. Laboratory Analysis Report



CERTIFICATE OF ANALYSIS

Client: National Guard Bureau Job Name: Woodbridge RC Chain Of Custody: 515475
 Address: 301-IH Old Bay Lane, Attn: ARNG-CJG-P, Job Location: NJ Date Analyzed: 4/9/2013
 State Military Reservation
 Havre de Grace, Maryland 21078 Job Number: Not Provided Person Submitting: Non-Responsive
 P.O. Number: W912K6-09-A-0003

Attention: Non-Responsive

Page 1 of 1

Summary of Polarized Light Microscopy

AMA Sample Number	Client Sample #	Total Asbestos	Chrysotile Percent	Amosite Percent	Crocidolite Percent	Other Asbestos Percent	Mineral Wool Percent	Fiberglass Percent	Organic Percent	Synthetic Percent	Other Percent	Particulate Percent	Sample Type	Sample Color	Homogeneity	Analyst ID	Comments
13049786	18	NAD	--	--	--	--	40	--	--	--	--	60	BL	Gray	Homogeneous	SW	

The following footnotes only apply to those samples which the total asbestos result is flagged with a note number.

- 1 TEM RECOMMENDATION - Please note, due to resolution limitations with optical microscopy and/or interference from matrix components of this sample, results which are reported via PLM as negative or trace (<1%) for asbestos may contain a significant quantity of asbestos. It is recommended that the additional analytical technique of TEM be used to check for asbestos fibers below the resolution limits of optical microscopy.
- 2 MATRIX REDUCTION RECOMMENDATION - Please note, due to interference from the matrix components of this sample, results which are reported via PLM as negative or trace (<1%) for asbestos may contain a significant quantity of asbestos which is obscured from view. It is recommended that the additional preparation technique of gravimetric reduction be performed on this sample to minimize the obscuring effects of matrix components, followed by reanalysis by PLM and/or TEM.

Analysis Method - EPA/600/R-93/116 dated July 1993

NAD = "No Asbestos Detected" TR = "Trace equals less than 1% of this component"

Uncertainty: For samples containing asbestos in range of 1-10% the CV is 0.43, 11-35% CV=0.55, >35 CV=0.23

All results are to be considered preliminary and subject to change unless signed by the Technical Director or Deputy.

Technical Director

Non-Responsive

Analyst(s)

Non-Responsive

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these Laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from us. Sample types, locations, and collection protocols are based upon the information provided by the persons submitting them and, unless collected by personnel of these Laboratories, we expressly disclaim any knowledge and liability for the accuracy and completeness of this information. Residual sample material will be discarded in accordance with the appropriate regulatory guidelines, unless otherwise requested by the client. NVLAP accreditation applies only to polarized light microscopy of bulk samples and transmission electron microscopy of AHERA air samples. This report must not be used to claim, and does not imply product certification, approval, or endorsement by NVLAP or any agency of the Federal Government. All rights reserved. AMA Analytical Services, Inc.


AMA Analytical Services, Inc.

Focused on Results www.amalab.com

AIHA (#100470) NVLAP (#101143-0) NY ELAP (10920)

4475 Forbes Blvd. • Lanham, MD 20706

(301) 459-2640 • (800) 346-0961 • Fax (301) 459-2643

CHAIN OF CUSTODY

 (Please Refer To This
Number For Inquiries)

515475

Mailing/Billing Information:

- Client Name: National Guard Bureau
- Address 1: 301-JH Old Bay Lane
- Address 2: Attn: NGB-ARS-IHNE
- Address 3: Havre de Grace, Maryland 21078
- Phone #: (410) 942-0273 Fax #: (410) 942-0254

Submittal Information:

- Woodbridge RC
- NY
- Job #: W912K6-09-A-0003
- Contact Person: Non-Responsive @ phone # (410) 942-0273
- Submittal #: Non-Responsive

Reporting Information (Results will be provided as soon as technically feasible):

AFTER HOURS (must be pre-scheduled) <input type="checkbox"/> Immediate Date Due: _____ <input type="checkbox"/> 24 Hours Time Due: _____ Comments: _____		NORMAL BUSINESS HOURS <input checked="" type="checkbox"/> Immediate <input type="checkbox"/> Next Day <input type="checkbox"/> 2 Day <input type="checkbox"/> 3 Day <input checked="" type="checkbox"/> 5 Day + <u>4/9/13</u> Date Due: _____		REPORT TO: <input checked="" type="checkbox"/> Include COC/Field Data Sheets with Report <input checked="" type="checkbox"/> <u>Non-Responsive</u> <input type="checkbox"/> Fax <input type="checkbox"/> Ver <u>us.army.mil</u>	
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--

ANALYSIS
PCM Air - Please Indicate Filter Type:

- ☐
- NIOSH 7400 (QTY)
-
- ☐
- Fiberglass (QTY)

TEM Air - Please Indicate Filter Type:

- ☐
- AHERA (QTY)
-
- ☐
- NIOSH 7402 (QTY)
-
- ☐
- Other (specify) (QTY)

PLM Bulk

- ☒
- EPA 600 - Visual Estimate (QTY)
-
- ☐
- EPA Point Count (QTY)
-
- ☐
- NY State Friable 198.1 (QTY)
-
- ☐
- Grav. Reduction ELAP 198.6 (QTY)
-
- ☐
- Other (specify) (QTY)

MISC

- ☐
- Vermiculite
-
- ☐
- Asbestos Soil PLM (Qual) PLM (Quant) PLM/TEM (Qual) PLM/TEM (Quant)

TEM Bulk

- ☐
- ELAP 198.4/Chatfield (QTY)
-
- ☐
- NY State PLM/TEM (QTY)
-
- ☐
- Residual Ash (QTY)

TEM Dust

- ☐
- Qual. (pres/abs) Vacuum/Dust (QTY)
-
- ☐
- Quan. (s/area) Vacuum D5755-95 (QTY)
-
- ☐
- Quan. (s/area) Dust D6480-99 (QTY)

TEM Water

- ☐
- Qual. (pres/abs) (QTY)
-
- ☐
- ELAP 198.2/EPA 100.2 (QTY)
-
- ☐
- EPA 100.1 (QTY)

☒ All samples received in good condition unless otherwise noted.
 (TEM Water samples °C)

ANALYSIS

- ☐
- Pb Paint Chip (QTY)
-
- ☒
- Pb Dust Wipe (wipe type
- Chisel
-)
- 14
- (QTY)
-
- ☒
- Pb Air
- 3
- (QTY)
-
- ☐
- Pb Soil/Solid (QTY)
-
- ☐
- Pb TCLP (QTY)
-
- ☐
- Drinking Water
- ☐
- Pb (QTY)
- ☐
- Cu (QTY)
- ☐
- As (QTY)
-
- ☐
- Waste Water
- ☐
- Pb (QTY)
- ☐
- Cu (QTY)
- ☐
- As (QTY)
-
- ☐
- Pb Furnace (Media) (QTY)

ANALYSIS

- Collection Apparatus for Spore Traps/Air Samples:**
-
- Collection Media**
-
- ☐
- Spore-Trap (QTY)
- ☐
- Surface Vacuum Dust (QTY)
-
- ☐
- Surface Swab (QTY)
- ☐
- Culturable ID Genus (Media) (QTY)
-
- ☐
- Surface Tape (QTY)
- ☐
- Culturable ID Species (Media) (QTY)
-
- ☐
- Other (Specify) (QTY)

CLIENT CONTACT

(LABORATORY STAFF ONLY)

CLIENT ID NUMBER	SAMPLE LOCATION/ IDENTIFICATION	DATE	VOLUME (LITERS)	WIPES ARBA	TEM	PCM	PLM	LEAD	MOLD	AIR	BULK	DUST	WATER	OTHER	SPORE TRAP	TAPE	SWAB	LABORATORY STAFF ONLY
1	Drill Hall	3-27	557					X										Date/Time: Contact: By:
2	Converted Range		557					X										
3	Drill Hall - Floor			100 cm				X										
4	Drill Hall - Coke Machine							X										
5	Drill Hall - Storage Box							X										Date/Time: Contact: By:
6	Kitchen - Bridge							X										
7	Kitchen - Paper Waste Disp							X										
8	Hall outside Range							X										
9	Range - Floor							X										Date/Time: Contact: By:
10	Range - Corridor							X										
11	Range - File Cabinet							X										
12	5-1 office - File Cabinet							X										

LABORATORY
STAFF ONLY
POSTED TO NGB FOIA Reading Room
(08/2008)

 1. Date/Time RCVD: 4/2/13

 2. Date/Time Analyzed: 4/9/13

 3. Results Reported To: Shirley Egan

 4. Comments: 945 0155 117

 Via: Fedex By (Print): Surat Watsey

 Via: email Date: 4/9/13

BEST AVAILABLE COPY

 Date: 4/9/13

 Sign: [Signature]

 Sign: [Signature]

 Time: 4/9/13

 Time: 4/9/13

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

Released by National Guard Bureau


AMA Analytical Services, Inc.

Focused on Results www.amalab.com

AIHA (#100470) NVLAP (#101143-0) NY ELAP (10920)

4475 Forbes Blvd. • Lanham, MD 20706

(301) 459-2640 • (800) 346-0961 • Fax (301) 459-2643

CHAIN OF CUSTODY

 (Please Refer To This
Number For Inquires)

Mailing/Billing Information:

- Client Name: National Guard Bureau
- Address 1: 301 IH Old Bay Lane
- Address 2: Attn: NGB-ARS-JHNE
- Address 3: Havre de Grace, Maryland 21078
- Phone #: (410) 942-0273 Fax #: (410) 942-0254

Submittal Information:

- 100-1000
- 100-1000
- Job #: W912K6-09-A-0003
- Contact Person: Non-Responsive @ phone # (410) 942-0273
- Signature: [Signature]

Reporting Information (Results will be provided as soon as technically feasible):

AFTER HOURS (must be pre-scheduled) <input type="checkbox"/> Immediate Date Due: _____ <input type="checkbox"/> 24 Hours Time Due: _____ Comments: _____		NORMAL BUSINESS HOURS <input type="checkbox"/> Immediate <input type="checkbox"/> Next Day <input type="checkbox"/> 2 Day		<input type="checkbox"/> 3 Day <input type="checkbox"/> 5 Day + Date Due: _____		<input type="checkbox"/> Results Required By Noon (Every Attempt Will Be Made to Accommodate)		REPORT TO: <input checked="" type="checkbox"/> Include COC/Field Data Sheets with Report <input checked="" type="checkbox"/> <u>Non-Responsive</u> <input type="checkbox"/> Fax: <u>us.army.mil</u> <input type="checkbox"/> Verbal: <u>us.army.mil</u>	
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	-------------------------------------------------------------------------------------------------------------------------------------------	--	---------------------------------------------------------------------------------------	--	-----------------------------------------------------------------------------------------------------	--	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--

ASBESTOS ANALYSIS

- PCM Air** - Please Indicate Filter Type:
- ☐ NIOSH 7400 (QTY)
 - ☐ Fiberglass (QTY)

TEM Air - Please Indicate Filter Type:

- ☐ AHERA (QTY)
- ☐ NIOSH 7402 (QTY)
- ☐ Other (specify) _____ (QTY)

PLM Bulk

- ☒ EPA 600 - Visual Estimate _____ (QTY)
- ☐ EPA Point Count _____ (QTY)
- ☐ NY State Friable 198.1 _____ (QTY)
- ☐ Grav. Reduction ELAP 198.6 _____ (QTY)
- ☐ Other (specify) _____ (QTY)

MISC

- ☐ Vermiculite
- ☐ Asbestos Soil PLM (Qual) PLM (Quan) PLM/TEM (Qual) PLM/TEM (Quan)

TEM Bulk

- ☐ ELAP 198.4/Chatfield _____ (QTY)
- ☐ NY State PLM/TEM _____ (QTY)
- ☐ Residual Ash _____ (QTY)

TEM Dust

- ☐ Qual. (pres/abs) Vacuum/Dust _____ (QTY)
- ☐ Quan. (s/area) Vacuum D5755-95 _____ (QTY)
- ☐ Quan. (s/area) Dust D6480-99 _____ (QTY)

TEM Water

- ☐ Qual. (pres/abs) _____ (QTY)
- ☐ ELAP 198.2/EPA 100.2 _____ (QTY)
- ☐ EPA 100.1 _____ (QTY)

☐ All samples received in good condition unless otherwise noted.
 (TEM Water samples _____ °C)

MOISTURE ANALYSIS

- ☐ Pb Paint Chip _____ (QTY)
- ☐ Pb Dust Wipe (wipe type SW-1) _____ (QTY)
- ☐ Pb Air 3 _____ (QTY)
- ☐ Pb Soil/Solid _____ (QTY)
- ☐ Pb TCLP _____ (QTY)
- ☐ Drinking Water ☐ Pb _____ (QTY) ☐ Cu _____ (QTY) ☐ As _____ (QTY)
- ☐ Waste Water ☐ Pb _____ (QTY) ☐ Cu _____ (QTY) ☐ As _____ (QTY)
- ☐ Pb Furnace (Media _____) _____ (QTY)

CONDENSATION ANALYSIS

- Collection Apparatus for Spore Traps/Air Samples: _____
- Collection Media _____
- ☐ Spore-Trap _____ (QTY)
- ☐ Surface Vacuum Dust _____ (QTY)
- ☐ Surface Swab _____ (QTY)
- ☐ Culturable ID Genus (Media _____) _____ (QTY)
- ☐ Surface Tape _____ (QTY)
- ☐ Culturable ID Species (Media _____) _____ (QTY)
- ☐ Other (Specify) _____ (QTY)

CLIENT CONTACT

(LABORATORY STAFF ONLY)

CLIENT ID NUMBER	SAMPLE LOCATION/ IDENTIFICATION	DATE	VOLUME (LITERS)	WIPE AREA	TEM	PCM	PLM	LEAD	MOLD	AIR	BULK	DUST	WATER AND OTHER	SPORE TRAP	TAPE	SWAB	DATE/TIME	CONTACT	BY
13	5-3 office - Desk	3-27		100				X											
14	Dining Rm. Radiator							X											
15	Recruiting Office Book Shelf							X											
16	Blank Wipe			0				X											
17	Blank Air		0					X											
18	Boiler Room - Boiler Insulation						X				X								

LABORATORY

STATE OF NJ FOIA

(May 2019)

- Date/Time RCVD: _____ / _____ / _____ @ _____ Via: _____ By (Print): _____ Sign: _____
- Date/Time Analyzed: _____ / _____ / _____ @ _____
- Results Reported To: _____ Via: _____ Date: _____ / _____ / _____ Time: _____
- Comments: _____

BEST AVAILABLE COPY

Sign: _____ FOIA Requested Record #J-15-0085 (NH)

Released by National Guard Bureau

Page 1507 of 1660



CERTIFICATE OF ANALYSIS



Client:	National Guard Bureau	Job Name:	Woodbridge RC	Chain Of Custody:	515475
Address:	301-JH Old Bay Lane, Attn: ARNG-CJG-P, State Military Reservation Havre de Grace, Maryland 21078	Job Location:	NJ	Date Submitted:	4/2/2013
		Job Number:	Not Provided	Person Submitting:	Non-Responsive
		P.O. Number:	W912K6-09-A-0003	Date Analyzed:	4/9/2013
Attention:	Non-Responsive			Report Date:	4/9/2013

Summary of Atomic Absorption Analysis for Lead

Page 1 of 2

AMA Sample Number	Client Sample Number	Analysis Type	Sample Type	Air Volume (L)	Area Wiped (ft²)	Reporting Limit	Total ug	Final Result	Comments
13049769	1	Flame	Air	557	N/A	5.4 ug/m³	<3	<5.4 ug/m³	
13049770	2	Flame	Air	557	N/A	5.4 ug/m³	<3	<5.4 ug/m³	
13049771	3	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13049772	4	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13049773	5	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13049774	6	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13049775	7	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13049776	8	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13049777	9	Flame	Wipe	****	0.108	110 ug/ft²	130	1200 ug/ft²	
13049778	10	Flame	Wipe	****	0.108	110 ug/ft²	29	270 ug/ft²	
13049779	11	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13049780	12	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13049781	13	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13049782	14	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13049783	15	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13049784	16	Flame	Wipe Blank	****	N/A	12 ug		<12 ug	
13049785	17	Flame	Air Blank	0	N/A	3 ug/m³		<3 ug	

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these Laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from us. Sample types, locations, and collection protocols are based upon the information provided by the persons submitting them and, unless collected by personnel of these Laboratories, we expressly disclaim any knowledge and liability for the accuracy and completeness of this information. Residual sample material will be discarded in accordance with the appropriate regulatory guidelines, unless otherwise requested by the client. This report must not be used to claim, and does not imply product certification, approval, or endorsement by NY ELAP, AIHA, or any agency of the Federal Government. All rights reserved. AMA Analytical Services, Inc.



CERTIFICATE OF ANALYSIS



Client: National Guard Bureau
Address: 301-1H Old Bay Lane, Attn: ARNG-CJG-P,
State Military Reservation
Havre de Grace, Maryland 21078

Job Name: Woodbridge RC
Job Location: NJ
Job Number: Not Provided
P.O. Number: W912K6-09-A-0003

Chain Of Custody: 515475
Date Submitted: 4/2/2013
Person Submitting: Non-Responsive
Date Analyzed: 4/9/2013
Report Date: 4/9/2013

Attention: Non-Responsive

Summary of Atomic Absorption Analysis for Lead

Page 2 of 2

AMA Sample Number	Client Sample Number	Analysis Type	Sample Type	Air Volume (L)	Area Wiped (ft ²)	Reporting Limit	Total ug	Final Result	Comments
-------------------	----------------------	---------------	-------------	----------------	-------------------------------	-----------------	----------	--------------	----------

Analysis Method for Flame: Air, Wipes, Paints, and Soil/Solids: EPA 600/R-93/200(M)-7000B; Water: SM-3111B
Analysis Method For Furnace: Air, Wipes, Paints, and Soil/Solids : EPA 600/R-93/200(M)-7010; Water: SM-3113B
N/A = Not Applicable mg/Kg = parts per million (ppm) on a dry weight basis mg/L = parts per million (ppm)

%Pb = percent lead on a dry weight basis ug = micrograms ug/L = parts per billion (ppb)

Note: All samples were received in good condition unless otherwise noted.

Note: All results have two significant digits. Any additional digits shown should not be considered when interpreting the result.

Air and Wipe results are not corrected for any blank results

Final results for air and wipe samples are based on client supplied information nor verified by this laboratory.

All results are to be considered preliminary and subject to change unless signed by the Technical Director or Deputy.

See QC Summary for analytical results of quality control samples associated with these samples.

Analyst

Technical Manager:

Non-Responsive

Non-Responsive

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these Laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from us. Sample types, locations, and collection protocols are based upon the information provided by the persons submitting them and, unless collected by personnel of these Laboratories, we expressly disclaim any knowledge and liability for the accuracy and completeness of this information. Residual sample material will be discarded in accordance with the appropriate regulatory guidelines, unless otherwise requested by the client. This report must not be used to claim, and does not imply product certification, approval, or endorsement by NY ELAP, AIHA, or any agency of the Federal Government. All rights reserved. AMA Analytical Services, Inc.

**AMA Analytical Services, Inc.**

Focused on Results www.amalab.com

AIHA (#100470) NVLAP (#101143-0) NY ELAP (10920)

4475 Forbes Blvd. • Lanham, MD 20706

(301) 459-2640 • (800) 346-0961 • Fax (301) 459-2643

CHAIN OF CUSTODY(Please Refer To This
Number For Inquiries)**515475**

p. 1/2

Mailing/Billing Information:

- Client Name: National Guard Bureau
- Address 1: 301-1H Old Bay Lane
- Address 2: Attn: NGB-ARS-JHNE
- Address 3: Havre de Grace, Maryland 21078
- Phone #: (410) 942-0273 Fax #: (410) 942-0254

Submittal Information:

- Job Name: Woodbridge RC
- Location: NT
- Job #: W912K6-09-A-0003
- Contact Person: Non-Responsive @ phone # (410) 942-0273
- Submitted by: Non-Responsive Signature: Non-Responsive

Reporting Information (Results will be provided as soon as technically feasible):

AFTER HOURS (must be pre-scheduled) <input type="checkbox"/> Immediate Date Due: _____ <input type="checkbox"/> 24 Hours Time Due: _____ Comments: _____		NORMAL BUSINESS HOURS <input checked="" type="checkbox"/> Immediate <input type="checkbox"/> Next Day <input type="checkbox"/> 2 Day <input type="checkbox"/> 3 Day <input checked="" type="checkbox"/> 5 Day + <u>4/4/13</u> Date Due: _____		REPORT TO: <input checked="" type="checkbox"/> Include Report <input checked="" type="checkbox"/> Fax: <u>Non-Responsive</u> <input type="checkbox"/> Verbal <u>compliance place</u> <u>s.army.mil</u>	
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--

Asbestos Analysis

- PCM Air** - Please Indicate Filter Type:
- ☐ NIOSH 7400 (QTY)
 - ☐ Fiberglass (QTY)
- TEM Air** - Please Indicate Filter Type:
- ☐ AHERA (QTY)
 - ☐ NIOSH 7402 (QTY)
 - ☐ Other (specify) _____ (QTY)
- PLM Bulk**
- ☒ EPA 600 - Visual Estimate 1 (QTY)
 - ☐ EPA Point Count (QTY)
 - ☐ NY State Friable 198.1 (QTY)
 - ☐ Grav. Reduction ELAP 198.6 (QTY)
 - ☐ Other (specify) _____ (QTY)
- MISC**
- ☐ Vermiculite
 - ☐ Asbestos Soil PLM (Qual) PLM (Quant) PLM/TEM (Qual) PLM/TEM (Quant)

TEM Bulk

- ☐ ELAP 198.4/Chatfield (QTY)
- ☐ NY State PLM/TEM (QTY)
- ☐ Residual Ash (QTY)

TEM Dust

- ☐ Qual. (pres/abs) Vacuum/Dust (QTY)
- ☐ Quan. (s/area) Vacuum D5755-95 (QTY)
- ☐ Quan. (s/area) Dust D6480-99 (QTY)

TEM Water

- ☐ Qual. (pres/abs) (QTY)
- ☐ ELAP 198.2/EPA 100.2 (QTY)
- ☐ EPA 100.1 (QTY)

☒ All samples received in good condition unless otherwise noted.
 (TEM Water samples _____ °C)

Metals Analysis

- ☐ Pb Paint Chip (QTY)
- ☒ Pb Dust Wipe (wipe type Sheet) 14 (QTY)
- ☒ Pb Air 3 (QTY)
- ☐ Pb Soil/Solid (QTY)
- ☐ Pb TCLP (QTY)
- ☐ Drinking Water ☐ Pb (QTY) ☐ Cu (QTY) ☐ As (QTY)
- ☐ Waste Water ☐ Pb (QTY) ☐ Cu (QTY) ☐ As (QTY)
- ☐ Pb Furnace (Media) (QTY)

Fungal Analysis

- Collection Apparatus for Spore Traps/Air Samples: _____
- Collection Media _____
- ☐ Spore-Trap (QTY)
 - ☐ Surface Vacuum Dust (QTY)
 - ☐ Surface Swab (QTY)
 - ☐ Culturable ID Genus (Media) (QTY)
 - ☐ Surface Tape (QTY)
 - ☐ Culturable ID Species (Media) (QTY)
 - ☐ Other (Specify) _____ (QTY)

CLIENT CONTACT

(LABORATORY STAFF ONLY)

CLIENT ID NUMBER	SAMPLE LOCATION/ IDENTIFICATION	DATE	VOLUME (LITERS)	WIPE AREA	TEM	PCM	PLM	LEAD	MOLD	AIR	BULK	DUST	WATER AND OTHER	SPORE TRAP	TAPE	SWAB	LABORATORY STAFF ONLY
1	Drill Hall	3-27	557					X									Date/Time: _____ Contact: _____ By: _____
2	Converted Range		557					X									
3	Drill Hall - floor			100 cm				X									
4	Drill Hall - coke machine							X									
5	Drill Hall - storage box							X									Date/Time: _____ Contact: _____ By: _____
6	Kitchen - Fridge							X									
7	Kitchen - Paper waste Disp							X									
8	Hall outside RANGE							X									
9	RANGE - floor							X									
10	RANGE - Locker							X									Date/Time: _____ Contact: _____ By: _____
11	RANGE - file cabinet							X									
12	S-1 office - file cabinet							X									

LABORATORY

Postcard NGB FOIA Reading Room

(May 2018)

- Date/Time RCVD: 4/2/13 @ 9:15 Via: FEDEX By (Print): MEM Sign: _____
- Date/Time Analyzed: _____ @ _____ Sign: _____
- Results Reported To: _____ Date: _____/_____/_____ Time: _____
- Comments: 7945035 1171

BEST AVAILABLE COPY

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

Released by National Guard Bureau

**AMA Analytical Services, Inc.**

Focused on Results www.amalab.com

AIHA (#100470) NVLAP (#101143-0) NY ELAP (10920)

4475 Forbes Blvd. • Lanham, MD 20706

(301) 459-2640 • (800) 346-0961 • Fax (301) 459-2643

CHAIN OF CUSTODY(Please Refer To This
Number For Inquires)

515475

p2/2

Mailing/Billing Information:

1. Client Name: National Guard Bureau
2. Address 1: 301-JH Old Bay Lane
3. Address 2: Attn: NGB-ARS-IHNE
4. Address 3: Havre de Grace, Maryland 21078
5. Phone #: (410) 942-0273 Fax #: (410) 942-0254

Submittal Information:

1. Job Name:
2. Job Location:
3. Job #: W912K6-09-A-0003
4. Contact Person: Non-Responsive @ phone # (410) 942-0273
5. Submitted by: Non-Responsive Signature: _____

Reporting Information (Results will be provided as soon as technically feasible):

AFTER HOURS (must be pre-scheduled) <input type="checkbox"/> Immediate Date Due: _____ <input type="checkbox"/> 24 Hours Time Due: _____ Comments: _____		NORMAL BUSINESS HOURS <input type="checkbox"/> Immediate <input type="checkbox"/> Next Day <input type="checkbox"/> 2 Day		<input type="checkbox"/> 3 Day <input type="checkbox"/> 5 Day + Date Due: _____		<input type="checkbox"/> Results Required By Noon (Every Attempt Will Be Made to Accommodate)		REPORT TO: <input checked="" type="checkbox"/> Include COC/Field Data Sheets with Report <input checked="" type="checkbox"/> <u>Non-Responsive</u> us.army.mil <input type="checkbox"/> Fax _____ <input type="checkbox"/> Ver _____ us.army.mil	
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	-------------------------------------------------------------------------------------------------------------------------------------------	--	---------------------------------------------------------------------------------------	--	--------------------------------------------------------------------------------------------------	--	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--

Asbestos Analysis

PCM Air - Please Indicate Filter Type:

- ☐
- NIOSH 7400 (QTY)
-
- ☐
- Fiberglass (QTY)

TEM Air - Please Indicate Filter Type:

- ☐
- AHERA (QTY)
-
- ☐
- NIOSH 7402 (QTY)
-
- ☐
- Other (specify) _____ (QTY)

PLM Bulk

- ☒
- EPA 600 - Visual Estimate (QTY)
-
- ☐
- EPA Point Count (QTY)
-
- ☐
- NY State Friable 198.1 (QTY)
-
- ☐
- Grav. Reduction ELAP 198.6 (QTY)
-
- ☐
- Other (specify) _____ (QTY)

MISC

- ☐
- Vermiculite
-
- ☐
- Asbestos Soil PLM (Qual) PLM (Quan) PLM/TEM (Qual) PLM/TEM (Quan)

TEM Bulk

- ☐
- ELAP 198.4/Chatfield (QTY)
-
- ☐
- NY State PLM/TEM (QTY)
-
- ☐
- Residual Ash (QTY)

TEM Dust

- ☐
- Qual. (pres/abs) Vacuum/Dust (QTY)
-
- ☐
- Quan. (s/area) Vacuum D5755-95 (QTY)
-
- ☐
- Quan. (s/area) Dust D6480-99 (QTY)

TEM Water

- ☐
- Qual. (pres/abs) (QTY)
-
- ☐
- ELAP 198.2/EPA 100.2 (QTY)
-
- ☐
- EPA 100.1 (QTY)

- ☐
- All samples received in good condition unless otherwise noted.
-
- (TEM Water samples _____ °C)

Metals Analysis

- ☒
- Pb Paint Chip (QTY)
-
- ☐
- Pb Dust Wipe (wipe type
- ghost
-)
- 14
- (QTY)
-
- ☐
- Pb Air
- 3
- (QTY)
-
- ☐
- Pb Soil/Solid _____ (QTY)
-
- ☐
- Pb TCLP (QTY)
-
- ☐
- Drinking Water
- ☐
- Pb (QTY)
- ☐
- Cu (QTY)
- ☐
- As (QTY)
-
- ☐
- Waste Water
- ☐
- Pb (QTY)
- ☐
- Cu (QTY)
- ☐
- As (QTY)
-
- ☐
- Pb Furnace (Media _____) (QTY)

Fungal Analysis

- Collection Apparatus for Spore Traps/Air Samples: _____
-
- Collection Media _____
-
- ☐
- Spore-Trap (QTY)
- ☐
- Surface Vacuum Dust (QTY)
-
- ☐
- Surface Swab (QTY)
- ☐
- Culturable ID Genus (Media _____) (QTY)
-
- ☐
- Surface Tape (QTY)
- ☐
- Culturable ID Species (Media _____) (QTY)
-
- ☐
- Other (Specify _____) (QTY)

SAMPLE INFORMATION**ANALYSIS****MATRIX****CLIENT CONTACT**

(LABORATORY STAFF ONLY)

CLIENT ID NUMBER	SAMPLE LOCATION/ IDENTIFICATION	DATE	VOLUME (LITERS)	WIPE AREA	TEM	PCM	PLM	LEAD	MOLD	AIR	BULK	DUST	WATER AND OTHERS	SPORE TRAP	TAPE	SWAB	Date/Time:	Contact:	By:
13	S-3 office - Desk	3-27		100cm				X											
14	Dining Rm. Radiator							X											
15	Recreation Office - Book Shelf							X											
16	Blank Wipe			0				X											
17	Blank Air		0					X											
18	Boiler Room - Boiler Insulation					X					X								

LABORATORY
 1. Date/Time RCVD: _____ / _____ / _____ @ _____ Via: _____ By (Print): _____ Sign: _____
 2. Date/Time Analyzed: _____ / _____ / _____ @ _____
 3. Results Reported To: _____ Via: _____ Date: _____ / _____ / _____
 4. Comments: _____

BEST AVAILABLE COPY

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

Released by National Guard Bureau

Page 1505 of 1660

Appendix B. Photographs



Exterior of the facility



Drill Hall



Suspect asbestos 9"X9" brown floor tile



Suspect asbestos boiler breeching insulation



Suspect asbestos pipe insulation and mudded joint fittings



Suspect asbestos friable boiler insulation damaged and in poor condition



Lead warning sign on door to converted firing range. The range is actively used for storage.



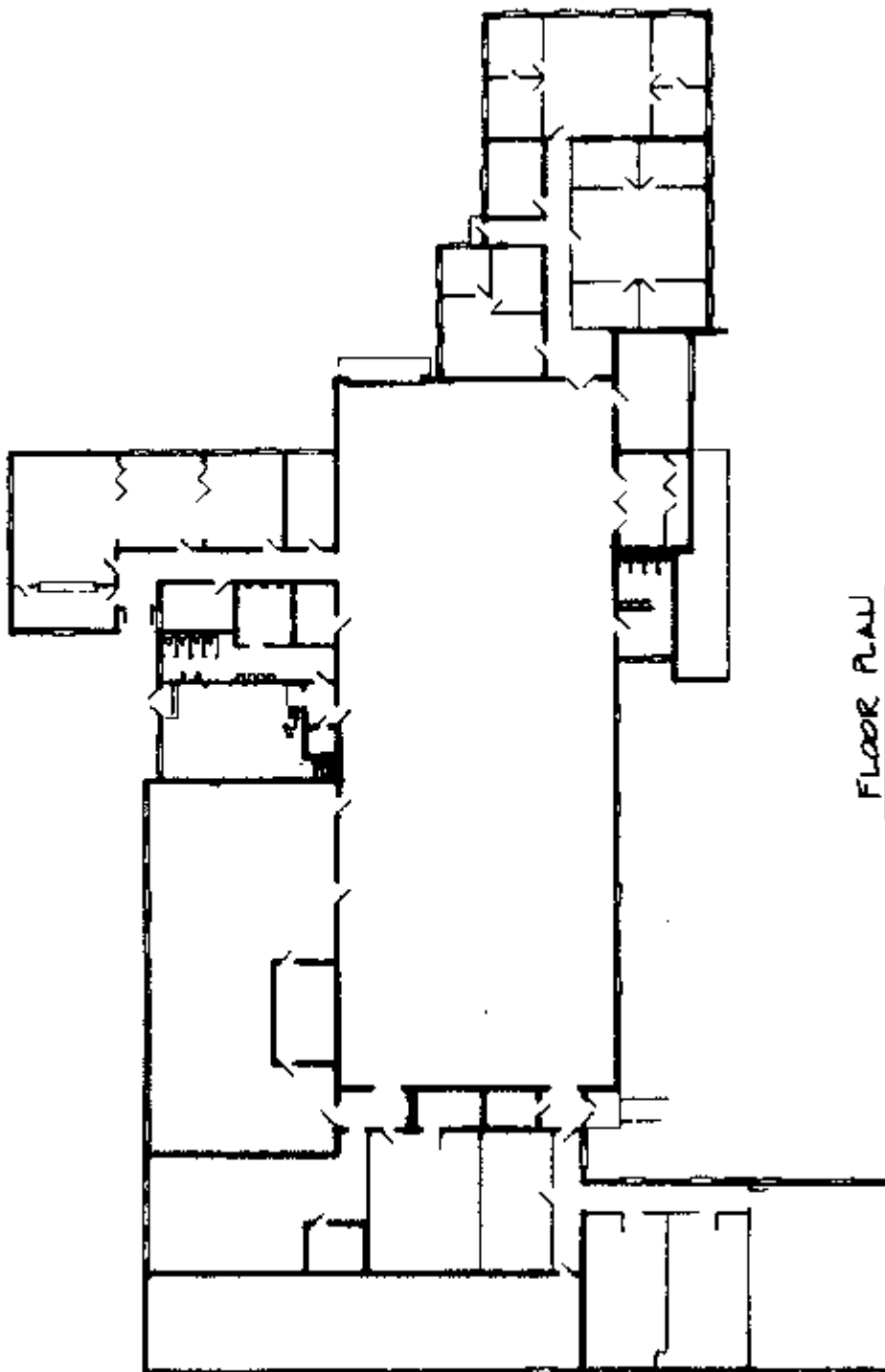
Converted firing range actively used as a storage area

Appendix C. Floor Plan



BEST AVAILABLE COPY

INTERIOR CONSIDERATIONS OF WOODBIDGE ARMORY



FLOOR PLAN
SCALE: 1/8" = 1'-0"

117th Combat Sustainment Support Battalion

WOODBIDGE ARMORY SITE VISIT



Appendix D. References

1. Title 29 Code of Federal Regulations (CFR), Part 1910.1025, Occupational Safety and Health Administration, Occupational Exposure to Lead.
2. American Conference of Governmental Industrial Hygienists (ACGIH) – Threshold Limit Values and Biological Exposure Indices, 2011 Edition.
3. Industrial Ventilation: A Manual of Recommended Practice for Design, 27th Edition.
4. ANSI/American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), Ventilation for Acceptable Indoor Air Quality, 62.1-2010.
5. RP-1-2004, Industrial Lighting, Illuminating Engineering Society of North America/ANSI.
6. RP-7-2001, Industrial Lighting, Illuminating Engineering Society of North America/ANSI.
7. National Emission Standard Hazardous Air Pollutants (NESHAP) – The standards for asbestos are contained in 40 CFR 61.140 through 61.157.
8. National Ambient Air Quality Standards (NAAQS) - National primary ambient air quality standards for carbon monoxide 40 CFR 50.8.
9. Environmental Protection Agency (EPA) standards [40 Code of Federal Regulations (CFR) 745.227(h) (3)].
10. Derivation of Wipe Surface Screening Levels for Environmental Chemicals, the US Army Center for Health Promotion and Preventive Medicine (USACHPPM).
11. The US Army Technical Guide 277 Army Facilities Management Information Document on Mold Remediation, February 2002.
12. NG PAM 420-15 Guidelines and Procedures for Rehabilitation and Conversion of Indoor Firing Ranges, 3 Nov 06.
13. ANSI/American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), Thermal Environmental Conditions for Human Occupancy, 55-2010.

Prepared For:

National Guard Bureau
Army National Guard
Region North Industrial Hygiene Office
301 – IH Old Bay Lane
Havre De Grace, Maryland 21078

Prepared By:

URS Corporation
5 Industrial Way
Salem, New Jersey 03079

**INDUSTRIAL HYGIENE SURVEY REPORT
WOODBURY ARMORY
WOODBURY, NEW JERSEY**

September 2006
PN: 39741509

Non-Responsive

Office Manager

Non-Responsive

Project Manager

TABLE OF CONTENTS

Section	Page
1.0 SUMMARY	1
2.0 ADMINISTRATIVE AREA	2
2.1 OPERATION DESCRIPTION	2
2.2 CHEMICAL AND PHYSICAL AGENTS SAMPLED	2
2.2.1 Relative Humidity	2
2.2.2 Carbon Dioxide.....	2
2.2.3 Carbon Monoxide.....	3
2.2.4 Lighting.....	3
2.2.5 Lead	4
2.2.6 Asbestos.....	5
2.3 VENTILATION SYSTEM EVALUATION.....	6
2.4 NOISE MEASUREMENTS	6
2.5 PERSONAL PROTECTIVE EQUIPMENT.....	6
2.6 INTERPRETATION OF RESULTS.....	6
3.0 FORMER INDOOR FIRING RANGE	8
3.1 OPERATION DESCRIPTION	8
3.2 CHEMICAL AND PHYSICAL AGENTS SAMPLED	8
3.2.1 Lead	8
3.3 VENTILATION SYSTEM EVALUATION.....	8
3.4 NOISE MEASUREMENTS	8
3.5 PERSONAL PROTECTIVE EQUIPMENT.....	9
3.6 INTERPRETATION OF RESULTS.....	9
4.0 DRILL HALL.....	10
4.1 OPERATION DESCRIPTION	10
4.2 CHEMICAL AND PHYSICAL AGENTS SAMPLED	10
4.2.1 Lead	10
4.3 VENTILATION SYSTEM EVALUATION.....	10
4.4 NOISE MEASUREMENTS	11
4.5 PERSONAL PROTECTIVE EQUIPMENT.....	11
4.6 INTERPRETATION OF RESULTS.....	11
5.0 BOILER ROOM.....	12
5.1 OPERATION DESCRIPTION	12
5.2 CHEMICAL AND PHYSICAL AGENTS SAMPLED	12
5.2.1 Lead	12
5.2.2 Asbestos.....	12
5.3 VENTILATION SYSTEM EVALUATION.....	13
5.4 NOISE MEASUREMENTS	13
5.5 PERSONAL PROTECTIVE EQUIPMENT.....	13
5.6 INTERPRETATION OF RESULTS.....	13
6.0 SAFETY AND INDUSTRIAL HYGIENE PROGRAMS	14
6.1 CONFINED SPACES	14
6.2 HEARING CONSERVATION.....	14
6.3 RESPIRATORY PROTECTION	14
6.4 HAZARD COMMUNICATION.....	14
6.5 PERSONAL PROTECTIVE EQUIPMENT.....	14
7.0 REFERENCES.....	15

TABLE OF CONTENTS (Cont)

APPENDICES

Appendix A Shop Drawing

Appendix B Personnel List

Appendix C Hazardous Materials List

Appendix D Analytical Results

Appendix E Training Certificates

Appendix F Photographs

Appendix G Recommendations for Surface Lead Dust in Armories

Appendix H Policy and Responsibilities For Inspection, Evaluation and Operation of
Army National Guard Indoor Firing Ranges (National Guard Regulation
385-15, 30 December 2002)

FINDINGS AND RECOMMENDATIONS

Findings	Recommendation	Risk Assessment Code
Ergonomic		
Computer work stations were observed with fixed chairs, armrests, keyboards and monitors.	Ergonomic issues with the desks and chairs should be corrected by fitting the workplace to the worker (DoD, OSHA General Duty)	RAC 3
Lighting		
On the day of the survey, the illuminance in the administrative area was inadequate.	Increase illumination through use of task lighting. (ANSI / IESNA RP-1-04)	RAC 4
Lead		
Lead was detected in wipe samples in amounts greater than 200 µg/ft ²	Personnel trained in accordance with the OSHA Lead Standard should clean the areas where lead was detected in quantities of greater than 200 micrograms per square foot (OSHA 29 CFR 1910.1025(h)(1))	RAC 3
Asbestos		
Damaged floor tile and pipe insulation and pipe fitting insulation containing greater than 1% asbestos or presumed to contain asbestos was present in this facility.	Remove and replace damaged asbestos-containing materials. Work should be completed by personnel trained in accordance with federal regulations (OSHA 29 CFR 1910.1001(k)(1))	RAC 3
A site specific asbestos operations and maintenance plan available, however there were no training records available and labeling of installed asbestos-containing materials has not been completed.	Implement the site specific asbestos operations and maintenance plan to manage asbestos-containing materials (OSHA 29 CFR 1910.1001(j))	RAC 3
Hazard Communication		
Unlisted containers of paints and thinners were observed in the janitor's closet.	Conduct an annual hazardous chemical inventory annually (OSHA 29 CFR 1910.1200(e)(1)(i))	RAC 4
A site specific hazard communication plan was not available.	Implement the site specific hazard communication plan to manage hazardous materials (OSHA 29 CFR 1910.1200(e))	RAC 4

1.0 SUMMARY

At the request of the National Guard Bureau (NGB) Region North Industrial Hygiene Office, URS Corporation (URS) conducted an industrial hygiene survey at the Woodbury Armory located at 658 North Evergreen Avenue in Woodbury, New Jersey 08096.

On March 10, 2004, Mr. **Non-Responsive** an industrial hygienist with URS, conducted a site visit to the Armory in Woodbury, New Jersey. The purpose of this site visit was to conduct an industrial hygiene survey, which included the collection of air samples, bulk samples, lighting measurements, and a review of site health and safety procedures. Due to equipment malfunction lead air samples were not collected. Armorer **Non-Responsive** **Non-Responsive** of the New Jersey ARNG was Mr. **Non-Responsive** site contact for this survey.

This armory is a two-story brick building, with an attached drill hall, that is constructed primarily of brick and mortar. This facility is built on a concrete slab, hardwood floors on the upper level with a pitched asphalt roof. The building was constructed in 1930's with additions in 1987. A shop layout drawing of the facility, which shows the locations where measurements were made during this survey, is contained in Appendix A.

2.0 ADMINISTRATIVE AREA

2.1 Operation Description

This building area contains multiple offices located throughout the building with desks and computer workstations. Computer workstations were assessed during the walkthrough for ergonomic issues. Computer workstation chairs could not be adjusted for height, the armrests were in a fixed position and keyboards in offices could not be adjusted. Computer monitors could not be adjusted for different individuals working at the workstations. If more than one person is using that station, then proper adjustments need to be made to accommodate each person.

2.2 Chemical and Physical Agents Sampled

On the day of the survey, relative humidity, carbon dioxide and carbon monoxide measurements were made in the drill hall, mess hall, boiler room, daycare, maintenance area, 112th field artillery office 105, NCO club 118, 1st sergeants office 123, classroom and outside. These readings were all made using a direct-reading TSI Q-Trak TM (Model 8551). No indoor air quality complaints were received by URS during this survey.

2.2.1 Relative Humidity

Relative humidity on the day of the survey ranged from 20.9 –22.6 % throughout the various building areas with an average of 21.6%. The average reading was below the recommended maximum level of 65% set by the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. (ANSI / ASHRAE Standard 62.1-2004).

2.2.2 Carbon Dioxide

Carbon dioxide concentrations ranged from 450 to 576 parts per million (ppm), with an average of 504 ppm. The outside reading was 322 ppm.

Carbon dioxide is a normal constituent of the atmosphere and ranges from about 250 to 450 ppm. The major source of excess carbon dioxide in the indoor environment is people. Other sources can include open-flame heaters, fermentation processes, and

motor vehicles. Carbon dioxide itself is not normally a cause of indoor air quality problems because concentrations must exceed 5,000 to 10,000 ppm before health effects such as headache, drowsiness, and increased respiration are noted. Typically, carbon dioxide is used as an indicator of the adequacy of fresh air intake. As the concentration of carbon dioxide increases, so do the background levels of other air contaminants.

ASHRAE recommends that levels of carbon dioxide be maintained below 700 ppm above the outside level. Given an outside reading of 322 ppm on the day of the survey, the ASHRAE limit would be 1,022 ppm.

2.2.3 Carbon Monoxide

Carbon monoxide concentrations ranged from 0 to 0.6 ppm on the day of the survey. ASHRAE (62.1-2004) recommends that average carbon monoxide concentrations not exceed 9 ppm. Typical average concentrations found in commercial buildings range from 0 to 6 ppm. The measured levels were below the ASHRAE guideline for indoor environments. Carbon monoxide was measured using a TSI Q-Track (Model 8551).

Key sources of carbon monoxide within indoor environments may include internal combustion engines, motor vehicle and forklift exhaust, tobacco smoke, space heaters, and improperly adjusted oil or gas burners. Health effects from exposure to elevated concentrations of carbon monoxide may include fatigue, impairment of visual acuity, irregular heartbeat, headache, nausea, and confusion.

2.2.4 Lighting

Lighting in the administrative area was measured using a Sper Scientific Ltd. Light Meter (Model 840020C). Table 2-1 below shows lighting measurements and the recommended lighting requirement (ANSI / IESNA RP-1-04 American National Standard Practice for Office Lighting).

Table 2-1
Lighting Measurements and Recommended Lighting Requirements

Location	Function	Measured Lighting Footcandles	Recommended Lighting Footcandles
Mess Hall	Cafeteria	45	20
Boiler Room	Boiler Room	32.5	10
Daycare	Daycare	36.4	20
Maintenance	Maintenance	24.7	30
112 th Field Artillery Office (105)	Administrative Duties	25.1	50
Drill Floor	Exercises	52.1	20
NCO Club (188)	Entertainment	24.5	20
1 st Sergeant's Office (123)	Administrative Duties	22.9	50
Classroom	Classroom	76.1	50

On the day of the survey the illumination in the administrative areas, and maintenance areas were inadequate in approximately half of the building areas.

2.2.5 Lead

One paint chip was collected from the center hall ceiling, as peeling paint was observed. Lead paint levels greater than 0.5% by weight are referred to as "lead-containing" (Section 1017 of the Residential Lead-Based Paint Hazard Reduction Act of 1992 (also referred to as Title X)). The paint chip sample from this location was found to contain less than 0.5% lead by weight.

Wipe testing for lead was conducted in the administrative area using ghost wipes, which meet ASTM E 1792 standards. The analytical report from AMA Analytical Services, Inc. (AMA) is contained in Appendix D. Table 2-2 below shows the results of the lead sampling.

Table 2-2
Levels of Lead Dust Found in the Administrative Area

Sample Location	URS Sample Number	Area Wiped (ft ²)	Result (µg/ft ²)	Maximum Surface Contamination Level (µg/ft ²)
Recruiter's Office at Heater	0310-09	0.108	27	200
Club Room – West	0310-10	0.108	63	200

September 25, 2006

PN: 39741509: J:_Army National Guard\39741509 - Woodbury, NJ\Reports\Woodbury Armory - Final.doc

Posted to NGB FOIA Reading Room

May, 2018

BEST AVAILABLE COPY

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

Released by National Guard Bureau

Page 1521 of 1660

URS

4

Table 2-2 (Cont)
Levels of Lead Dust Found in the Administrative Area

Sample Location	URS Sample Number	Area Wiped (ft ²)	Result (µg/ft ²)	Maximum Surface Contamination Level (µg/ft ²)
Renovation Area – Family Center	0310-11	0.108	25	
Hall Outside HBC Supply – Top of Electrical Box	0310-12	0.108	31	200
Room B-08 – Near Window	0310-13	0.108	650	200
Men's Shower – Top of Locker	0310-14	0.108	95	200
Blank	0310-18	N/A	1µg	N/A

2.2.6 Asbestos

Bulk samples had been previously collected from damaged suspect asbestos-containing materials (ACM) by Army National Guard personnel W. McBride for a determination of asbestos content. Pipe insulation in the men's latrine was confirmed to contain asbestos, while other pipe covering in the boiler room and supply hallway was presumed to contain asbestos. Floor tile was present but was not sampled and must be presumed to contain asbestos until sampled. URS collected six additional samples of damaged suspect materials which included plaster/rough coat and plaster/skim coat. Analytical procedures were performed in accordance with the U.S. Environmental Protection Agency (EPA) Recommended Method for the Determination of Asbestos in Bulk Samples by Polarized Light Microscopy and Dispersion Staining (PLM/DS)(EPA-600/M4-82-020, EPA-600/R-93-116

None of the samples collected by URS was found to contain asbestos. The floor tile was in fair condition, with cracks in the mess hall. One damaged pipe fitting was observed in the drill floor.

The U. S. Environmental Protection Agency (EPA) states that any material with greater than 1% asbestos must be treated as ACM (U.S. EPA, Title 40 CFR Part 763.87 (c)(2)).

2.3 Ventilation System Evaluation

Not applicable to this operation.

2.4 Noise Measurements

Not applicable to this operation.

2.5 Personal Protective Equipment

Not applicable to this operation.

2.6 Interpretation of Results

GENERAL: In general, the administrative area was neat and orderly. The fire exits and extinguishers were marked and easily accessible.

ERGONOMICS: The ergonomic issues with the desks, chairs and monitors need to be corrected by fitting the workplace to the workers.

LIGHTING: On the day of the survey the illumination in the administrative area was inadequate in most offices. URS recommends increasing the area lighting or supplement task lighting for each workstation in the administrative areas. While work is in progress the administrative area must be lighted by at least the minimum light intensities.

LEAD: The dust wipe samples collected from this facility were below 200 micrograms/square foot with the exception of a wipe collected in Room B-08. This is the level recommended by the NGB Region North Industrial Hygiene Office (Appendix G). The U.S. Occupational Safety and Health Administration (OSHA) regulations, 29 CFR 1910.1025 and 29 CFR 1926.62 are designed to protect workers potentially exposed to elevated airborne levels of airborne lead.

ASBESTOS: Samples of the floor tile that was present throughout this building area had previously been determined to contain asbestos in a concentration greater than one percent. It is recommended that the cracked tile be replaced with new, non-asbestos tile by an appropriately trained technician. There are some exposed asbestos-

containing pipe insulation ends in the drill floor that need to be repaired (Photo # 0775) by wet wrapping the exposed end.

HAZARD COMMUNICATION: Unlisted containers of paints and thinners were observed in the janitor's closet.

3.0 FORMER INDOOR FIRING RANGE

3.1 Operation Description

The indoor firing range is inactive and this building area is now primarily used for storage.

3.2 Chemical and Physical Agents Sampled

3.2.1 Lead

Wipe testing for lead was conducted in the former firing range using ghost wipes, which meet ASTM E 1792 standards. The analytical report from AMA is contained in Appendix D. Table 3-1 below shows the results of the lead sampling.

**Table 3-1
Levels of Lead Dust Found in the Former Firing Range**

Sample Location	URS Sample Number	Area Wiped (ft ²)	Result (µg/ft ²)	Maximum Surface Contamination Level (µg/ft ²)
Indoor Firing Range- Bullet Trap	0310-01	0.108	46,000	200
Indoor Firing Range-Firing End Floor	0310-02	0.108	690	200
Indoor Firing Range-Impact Area	0310-16	0.108	170	200
Indoor Firing Range-Top of a Locker	0310-17	0.108	460	200
Blank	0310-06	N/A	7.3 µg	N/A
Blank	0310-18	N/A	1µg	N/A

3.3 Ventilation System Evaluation

Not applicable to this operation.

3.4 Noise Measurements

Not applicable to this operation.

3.5 Personal Protective Equipment

Not applicable to this operation.

3.6 Interpretation of Results

LEAD: Three of the four wipe samples collected for the presence of lead were found to contain lead at a level above the 200 microgram per square foot recommended maximum surface lead contamination. This level established by the NGB Region North Industrial Hygiene Office is explained in Appendix G. Guidelines for the clean-up and rehabilitation of former indoor firing ranges is provided in Appendix H.

4.0 DRILL HALL

4.1 Operation Description

The drill hall has a 30-foot high ceiling used for assembling personnel and storing vehicles. The walls are constructed of cinder blocks with a wood gymnasium type floor. Damaged insulation on a pipe fitting previously identified as asbestos-containing was present in the drill hall.

4.2 Chemical and Physical Agents Sampled

4.2.1 Lead

Wipe testing for lead dust was conducted in the drill hall using Ghost Wipes™, which meet ASTM E 1792 standards. The analytical report from AMA is contained in Appendix D. Table 4-1 below shows the results of the lead sampling.

Table 4-1
Levels of Lead Dust Found in the Drill Hall

Sample Location	URS Sample Number	Area Wiped (ft ²)	Result (µg/ft ²)	Maximum Surface Contamination Level (µg/ft ²)
Drill Floor - Outside Foyer	0310-03	0.108	31	200
Drill Floor - Center	0310-04	0.108	25	200
Drill Floor - Near Fire Exit	0310-05	0.108	22	200
Drill Floor – Locker Near Kitchen	0310-07	0.108	140	200
Drill Floor – Near Foyer top of Box	0310-08	0.108	13	200
Blank	0310-06	N/A	7.3 µg	N/A
Blank	0310-18	N/A	1µg	N/A

Sample numbers and locations can be found on the site map in Appendix A.

4.3 Ventilation System Evaluation

No applicable to this operation.

4.4 Noise Measurements

Not applicable to this operation.

4.5 Personal Protective Equipment

Not applicable to this operation.

4.6 Interpretation of Results

LEAD: Wipe samples collected from the drill hall for lead were found to be below 200 micrograms per square foot. The NGB Region North Industrial Hygiene Office has prepared a memorandum titled "Recommendations for Surface Lead Dust in Armories" which is provided in Appendix G.

ASBESTOS: The asbestos pipe insulation was observed to have (1) damaged fitting, (Photo # 0775). The repairs need to be performed by an appropriately trained technician.

5.0 BOILER ROOM

5.1 Operation Description

The boiler room is a mechanical space constructed of cinder block walls with a concrete floor, containing a furnace and associated piping.

5.2 Chemical and Physical Agents Sampled

5.2.1 Lead

One paint chip was collected from the boiler room ceiling, as peeling paint was observed. Lead paint levels of lead greater than 0.5% by weight are referred to as "lead-containing" (Section 1017 of the Residential Lead-Based Paint Hazard Reduction Act of 1992 (also referred to as Title X)). The paint chip sample from this location was found to contain less than 0.5% lead by weight.

Wipe testing for lead was conducted in the boiler room using ghost wipes, which meet ASTM E 1792 standards. The analytical report from AMA is contained in Appendix D. Table 5-1 below shows the results of the lead sampling.

Table 5-1
Level of Lead Dust Found in the Boiler Room

Sample Location	URS Sample Number	Area Wiped (ft ²)	Result (µg/ft ²)	Maximum Surface Contamination Level (µg/ft ²)
Boiler Room – Top of Water Tank	0310-15	0.108	230	200
Blank	0310-18	N/A	1µg	N/A

5.2.2 Asbestos

Asbestos-containing pipe insulation was observed in the boiler room and appeared to be in good condition.

5.3 Ventilation System Evaluation

Not applicable to this operation.

5.4 Noise Measurements

Not applicable to this operation.

5.5 Personal Protective Equipment

Not applicable to this operation.

5.6 Interpretation of Results

LEAD: A lead wipe was collected on the water tank that exceeded 200 micrograms per square foot. This is the level recommended by the NGB Region North Industrial Hygiene Office (Appendix G). The U.S. Occupational Safety and Health Administration (OSHA) regulations, 29 CFR 1910.1025 and 29 CFR 1926.62 are designed to protect workers potentially exposed to elevated airborne levels of lead from lead-based paint.

6.0 SAFETY AND INDUSTRIAL HYGIENE PROGRAMS

6.1 Confined Spaces

No safety program was found regarding confined spaces. No training records were found on site. A confined spaces program is not required for this site.

6.2 Hearing Conservation

No safety program was found regarding hearing conservation. No training records were found on site. A hearing conservation program is not required for this site.

6.3 Respiratory Protection

No safety program was found regarding respiratory protection. No training records were found on site. A respiratory protection program is not required for this site.

6.4 Hazard Communication

No program was found regarding hazard communication. No training records were found on site. A site-specific hazard communication program is required for this site and should include communication of hazards to employees, management of material safety data sheets, chemical labeling and spill protection.

6.5 Personal Protective Equipment

No safety program was found regarding personal protective equipment. No training records were found on site. A personal protective equipment program is not required for this site.

7.0 REFERENCES

American National Standards Institute

ANSI/ESNA RP-1-04: American National Standard Practice for Office Lighting

American Society of Heating Refrigerating and Air-Conditioning Engineers

ANSI/ASHRAE Standard 62.1-2004: Ventilation for Acceptable Indoor Air Quality

Department of the Army

Ergonomics Program Pamphlet 40-21 (15 August 2003)

Policy and Responsibilities For Inspection, Evaluation and Operation of Army National Guard Indoor Firing Ranges (National Guard Regulation 385-15, 30 December 2002)

Department of Defense

DoD Hearing Conservation Program Standard 6055.12 April 1996

Creating an Ideal Workstation: A Step-by-Step Guide

U. S. Environmental Protection Agency

Asbestos Hazard Emergency Response Act (40 CFR Part 763)

National Emissions Standards for Hazardous Pollutants (40 CFR Part 61)

U. S. Housing and Urban Development

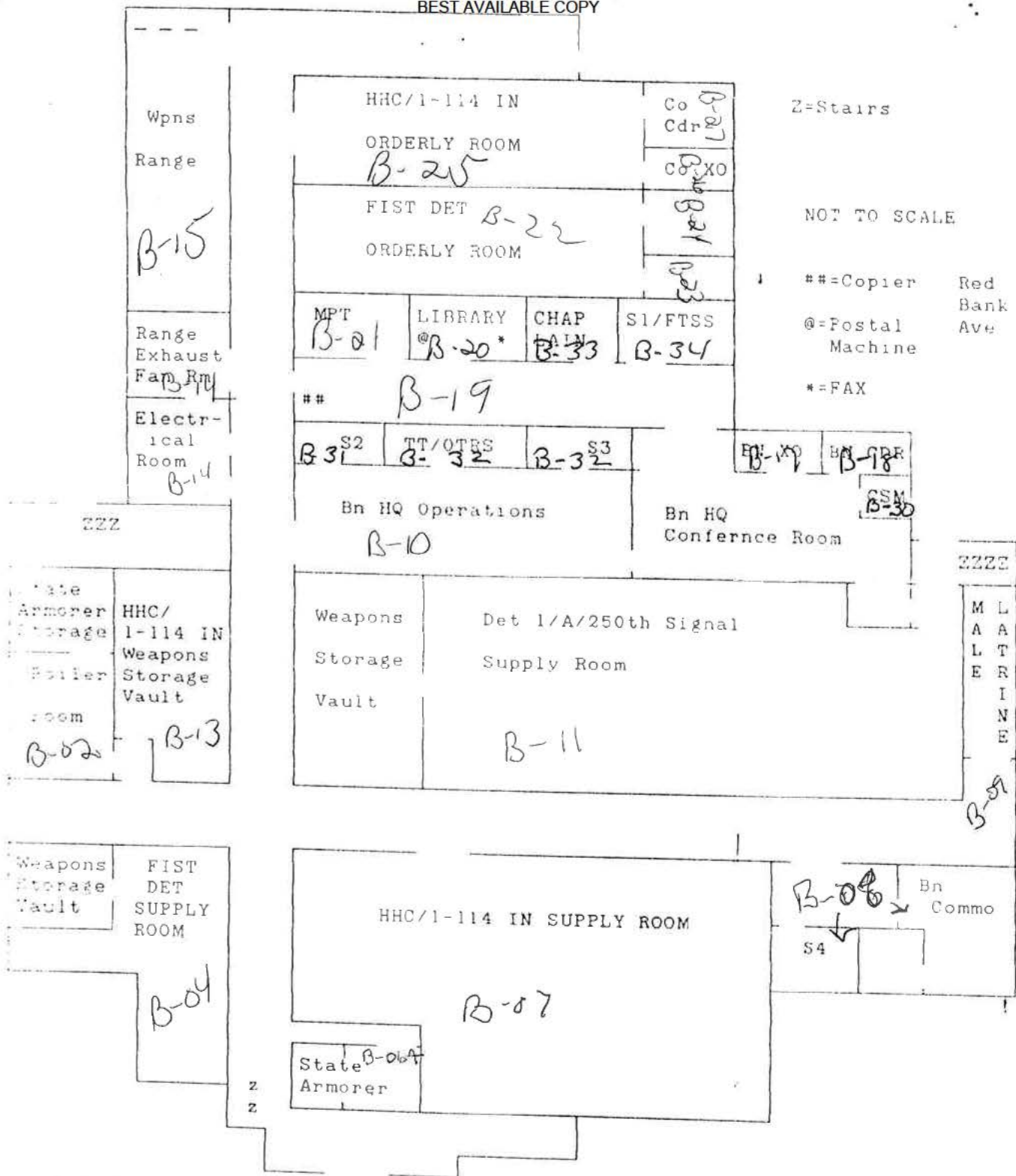
Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing (1995, 1997)

U. S. Occupational Safety and Health Administration

Standard for General Industry: 29 CFR 1910

Standard for Construction Industry: 29 CFR 1926

APPENDIX A
ARMORY DRAWING



N. Evergreen Avenue

WOODBURY ARMORY 1st FLOOR

Z Z Z Z Z Z Z Z Z Z

NOT TO SCALE

117

104A

118

Woodbury Armory Gym

108

ZZZZ

007

1 V5

115A

101

HHC
OSA

ZZ

200.

114

Z=Stairs

ZZZZZZZZZZZZZZZZZZZZ

WOODBURY ARMORY 2d FLOOR

Police-845-0064

fire - 911

APPENDIX B
PERSONNEL LIST

BEST AVAILABLE COPY

NOT PROVIDED

APPENDIX C
HAZARDOUS MATERIALS LIST

BEST AVAILABLE COPY

[illegible]

BEST AVAILABLE COPY

Page 2 of 2

FOIA Requested Record #J-15-0085 (NH)
Released by National Guard Bureau
Page 1540 of 1660

1998 RIGHT TO KNOW SURVEY
CHEMICAL INVENTORY FOR SMALL QUANTITIES

(PHOTOCOPY THIS SHEET IF YOU NEED ADDITIONAL FORMS)

INJEN		ENTER CODES (See Page 2 of Survey for Codes)					EXACT LOCATION OF PRODUCT ON SITE (Optional)	
SIC	1917111	CONTAINER	MIXTURE	INVENTORY	UNIT	NUMBER OF EMPLOYEES EXPOSED OR POTENTIALLY EXPOSED	SPECIAL HEALTH HAZARD CODES	
FACILITY NAME	WOODBURY ARMORY N.J.	(5)	(6)	(7)	(8)	(9)	(10)	(11)
EMPLOYER NAME	N.J. D.M.A. V.A.							
PRODUCT NAME	HAZARDOUS CHEMICAL NAME	CAS NUMBER	DOT NUMBER					
0206	VM & P NIP + thA	9032-32-4	1115	32	61	10 P	2	
0946	formaldehyde	50-00-0	1198		61			CA MU
0278	Butyl Acrylate	141-32-2	2348		61			R 2
1222	Methanol	67-56-1	1230		61			F-3
0278	Butyl Acrylate	141-32-2	2348	34	61	09 P	2	
1998	Vinyl Acetate	108-5-4	1301		61			R 2
0878	Ethylene Glycol	107-21-1	1142		61			F3 R 2
1773	Calcium Carbonate	471-34-1		32	61	09 P	2	
	Talc	14807-96-6			61			
1823	Hydrofluoric Acid	109-99-0	2056	40	61	09 C	2	
1258	Methyl Ethyl Ketone	78-93-3	1193		61			F 3
1570	Cyclohexane	108-94-1	1715		61			F 3

**1998 RIGHT TO KNOW SURVEY
CHEMICAL INVENTORY FOR SMALL QUANTITIES**

(PHOTOCOPY THIS SHEET IF YOU NEED ADDITIONAL FORMS)

INJEN		SIC		EMPLOYER NAME		FACILITY NAME		ENTER CODES (See Page 2 of Survey for Codes)						EXACT LOCATION OF PRODUCT ON SITE (Optional)	
191919191910710141		1971111		U.S. D.M.A.V.A		Woodbury Armory N.J.		CONTAINER	MIXTURE	INVENTORY	UNIT	NUMBER OF EMPLOYEES EXPOSED OR POTENTIALLY EXPOSED	SPECIAL HEALTH HAZARD CODES		
SUBSTANCE NUMBER	HAZARDOUS CHEMICAL NAME	CAS NUMBER	DOT NUMBER	⑤	⑥	⑦	⑧	⑨	⑩	⑪					
1321	Acetate	628-63-7	1104	38	61	10	G	2							
1040	Isobutane propane	75-28-5	1969		61				F3						
0946	Formaldehyde	50-00-0	1198		61				F4						
					61				CA MV						
0878	Complete for Floors	107-21-1	1142	31	61	10	G	2							
0084	Ethylene Glycol	7644-41-7	1005		61				CO						
0946	Ammonia	50-00-0	1198		61				CA MV						
	Formaldehyde				61										
1012	Isobutane	7647-01-0	1050	38	61	10	P	2							
1445	Hydrogen chloride	144-62-7	2449		61				CO						
	Oxalic Acid				61				CO						
0103	Ammonium Hydroxide	1336-21-0	2107	38		69	G	2							
2386	Dye	6359-90-6	2801		52				CO						
1706	Sodium Hydroxide	130-73-2	1823		52				CO						

(PHOTOCOPY THIS SHEET IF YOU NEED ADDITIONAL FORMS)

1998 RIGHT TO KNOW SURVEY
CHEMICAL INVENTORY FOR SMALL QUANTITIES

(PHOTOCOPY THIS SHEET IF YOU NEED ADDITIONAL FORMS)

NJEN	ENTER CODES (See Page 2 of Survey for Codes)										EXACT LOCATION OF PRODUCT ON SITE (Optional)
	SIC	EMPLOYER NAME	FACILITY NAME	CONTAINER	MIXTURE	INVENTORY	UNIT	NUMBER OF EMPLOYEES EXPOSED OR POTENTIALLY EXPOSED	SPECIAL HEALTH HAZARD CODES		
19191919191910710411	19171111	NJ D M A V A	Woodbury Armory	46	61	10	6	2			
1861	Titanium Dioxide - Some Paints	1346367-7									
2648	Petroleum Naptha - Some Paints	8002-05-9	1268								
1773	Calcium Carbonate - Some Paints	471-34-1									
	Talc - Some Paints	14807-96-6									
0275	Butoxy Ethanol - some Paints	111-76-2	2369					2			
1736	Mineral Spirits some Paints	8052-41-3	1993								
1594	Propane some paints	74-98-6	1978								
1866	Toluene - some Paints	108-88-3	1291						F4		
	Water Based Paints								F3		
1861	Titanium Dioxide All Paints	13463-67-7									
0878	Ethylene Glycol - some paints	107-21-1	1142								
2037	Zinc Oxide some paints	1314-13-2									
	Calcium Carbonate - some paints	1317-65-3									
1660	Silica	14808-60-7									
2712	Propylene Glycol	1331-17-5									

1998 RIGHT TO KNOW SURVEY

CHEMICAL INVENTORY FOR LARGE QUANTITIES AT SINGLE LOCATIONS

(USING INVENTORY RANGE CODES 12 THROUGH 20 FOR PRODUCTS PRESENT IN QUANTITIES GREATER THAN 100 POUNDS, GALLONS OR CUBIC FEET)

(PHOTOCOPY THIS SHEET IF YOU NEED ADDITIONAL FORMS)

NJ/EIN		ENTER CODES (See Page 2 of Survey for Codes)										EXACT LOCATION OF PRODUCT ON SITE (Mandatory)
SIC		CONTAINER	MIXTURE	INVENTORY	UNIT	NUMBER OF EMPLOYEES EXPOSED OR POTENTIALLY EXPOSED	SPECIAL HEALTH HAZARD CODES					
19191919191017101411												Front of Armory
19171111												
EMPLOYER NAME NJ D M A V A												Left side of Armory side entrance
FACILITY NAME Woodbury Armory NJ												
① SUBSTANCE NUMBER	② HAZARDOUS CHEMICAL NAME	③ CAS NUMBER	④ DOT NUMBER									Between OMS & Armory
2444	Fuel oil #2		1993									
1594	Propane	74-98-6	1978									In Front of OMS on lawn
2444	Fuel oil #2											
2444	550 gal											
2444	1500 gal											

(USING INVENTORY RANGE CODES 12 THROUGH 20 FOR PRODUCTS PRESENT IN QUANTITIES GREATER THAN 100 POUNDS, GALLONS OR CUBIC FEET)

(PHOTOCOPY THIS SHEET IF YOU NEED ADDITIONAL FORMS)

NUEIN		19919999910710411										191711111										NJ DM A V A										Woodbury Armory N.J.										1										2										3										4										5										6										7										8										9										10										11									
SIC		191711111										NJ DM A V A										Woodbury Armory N.J.										1										2										3										4										5										6										7										8										9										10										11																			
EMPLOYER NAME		NJ DM A V A										Woodbury Armory N.J.										1										2										3										4										5										6										7										8										9										10										11																													
FACILITY NAME		Woodbury Armory N.J.										1										2										3										4										5										6										7										8										9										10										11																																							
SUBSTANCE NUMBER		1										2										3										4										5										6										7										8										9										10										11																																																	
HAZARDOUS CHEMICAL NAME		1										2										3										4										5										6										7										8										9										10										11																																																	
PRODUCT NAME:		1										2										3										4										5										6										7										8										9										10										11																																																	
PRODUCT NAME:		1										2										3										4										5										6										7										8										9										10										11																																																	
PRODUCT NAME:		1										2										3										4										5										6										7										8										9										10										11																																																	
PRODUCT NAME:		1										2										3										4										5										6										7										8										9										10										11																																																	
PRODUCT NAME:		1										2										3										4										5										6										7										8										9										10										11																																																	
PRODUCT NAME:		1										2										3										4										5										6										7										8										9										10										11																																																	
PRODUCT NAME:		1										2										3										4										5										6										7										8										9										10										11																																																	
PRODUCT NAME:		1										2										3										4										5										6										7										8										9										10										11																																																	
PRODUCT NAME:		1										2										3										4										5										6										7										8										9										10										11																																																	
PRODUCT NAME:		1										2										3										4										5										6										7										8										9										10										11																																																	
PRODUCT NAME:		1										2										3										4										5										6										7										8										9										10										11																																																	
PRODUCT NAME:		1										2										3										4										5										6										7										8										9										10										11																																																	
PRODUCT NAME:		1										2										3										4										5										6										7										8										9										10										11																																																	
PRODUCT NAME:		1										2										3										4										5										6										7										8										9										10										11																																																	
PRODUCT NAME:		1										2										3										4										5										6										7										8										9										10										11																																																	
PRODUCT NAME:		1										2										3										4										5										6										7										8										9										10										11																																																	
PRODUCT NAME:		1										2										3										4										5										6										7										8										9										10										11																																																	
PRODUCT NAME:		1										2										3										4										5										6										7										8										9										10										11																																																	
PRODUCT NAME:		1										2										3										4										5										6										7										8										9										10										11																																																	
PRODUCT NAME:		1										2										3										4										5										6										7										8										9										10										11																																																	
PRODUCT NAME:		1										2										3										4										5										6										7										8										9										10										11																																																	
PRODUCT NAME:		1										2										3										4										5										6										7																																																																																									

APPENDIX D
ANALYTICAL RESULTS

CERTIFICATE OF ANALYSIS

Client: National Guard Bureau
Address: 301-JH Old Bay Lane, Attn: NGB-AVN-SI,
State Military Reservation
Havre de Grace, Maryland 21078

Job Name: Army
Job Location: Woodburg, NJ
Job Number: Not Provided
P.O. Number: BPA #W912KG-04-A0002

Chain Of Custody: 128487
Date Analyzed: 07/01/2004
Person Submitting: [REDACTED]
Report Date: 01-Jul-04

Page 1 of 1

Summary of Atomic Absorption Analysis for Lead

AMA Sample Number	Client Sample Number	Analysis Type	Sample Type	Air Volume (L)	Area Wiped (ft ²)	Reporting Limit	Final Result	Comments
0449207	0310-01	Flame	Wipe	***	0.108	111.52 ug/ft ²	46000 ug/ft ²	
0449208	0310-02	Flame	Wipe	***	0.108	111.52 ug/ft ²	690 ug/ft ²	
0449209	0310-03	Furnace	Wipe	***	0.108	13.94 ug/ft ²	31 ug/ft ²	
0449210	0310-04	Furnace	Wipe	***	0.108	2.79 ug/ft ²	25 ug/ft ²	
0449211	0310-05	Furnace	Wipe	***	0.108	13.94 ug/ft ²	22 ug/ft ²	
0449212	0310-06	Furnace	Wipe	***	0.108	2.79 ug/ft ²	7.3 ug/ft ²	
0449213	0310-18	Flame	Paint Chip	***	N/A	0.01 %Pb	0.069 %Pb	
0449214	0310-19	Flame	Paint Chip	***	N/A	0.01 %Pb	0.18 %Pb	

Analysis Method for Flame: Air, Wipes, Paints, and Soil/Solids: EPA 600/R-93/200(M)-7420; Water: SM-3111B
Analysis Method For Furnace: Air, Wipes, Paints, and Soil/Solids : EPA 600/R-93/200(M)-7421; Water: SM-3113B

N/A = Not Applicable mg/Kg = parts per million (ppm) by weight mg/L = parts per million (ppm)

%Pb = percent lead by weight ug = micrograms ug/L = parts per billion (ppb)

Note: All results have two significant digits. Any additional digits shown should not be considered when interpreting the result.

Analyst:

Technical Manager:

Non-Responsive

Non-Responsive

BEST AVAILABLE COPY

BEST AVAILABLE COPY



CERTIFICATE OF ANALYSIS

NVLAP
NY ELAP
AIHA

Client: National Guard Bureau
Address: 301-JH Old Bay Lane, Attn: NGB-AVN-SI,
State Military Reservation
Havre de Grace, Maryland 21078
Job Name: Armory
Job Location: Woodburg, NJ
Job Number: Not Provided
P.O. Number: BPA #W912K6-04-A0002
Chain Of Custody: 128487
Date Analyzed: 05/28/2004
Person Submitting: [REDACTED]

Attention: [REDACTED]

Page 1 of 1

Summary of Polarized Light Microscopy

AMA Sample Number	Client Sample #	Total Asbestos	Chrysotile Percent	Amosite Percent	Crocidolite Percent	Other Asbestos Percent	Mineral Wool Percent	Fiberglass Percent	Organic Percent	Synthetic Percent	Other Percent	Particulate Percent	Sample Color	Analyst ID	Comments
0449215	0310-20 A	NAD	--	--	--	--	--	--	--	--	--	100	Off-White	CK	
0449216	0310-20 B	NAD	--	--	--	--	--	--	--	--	--	100	Off-White	CK	
0449217	0310-20 C	NAD	--	--	--	--	--	--	--	--	--	100	Off-White	CK	
0449218	0310-21 A	NAD	--	--	--	--	--	TR	TR	--	--	100	Beige	CK	
0449219	0310-21 B	NAD	--	--	--	--	--	TR	TR	--	--	100	Beige	CK	
0449220	0310-21 C	NAD	--	--	--	--	--	TR	TR	--	--	100	Beige	CK	

The following footnotes only apply to those samples which the total asbestos result is flagged with a note number.

- 1 TEM RECOMMENDATION - Please note, due to resolution limitations with optical microscopy and/or interference from matrix components of this sample, results which are reported via PLM as negative or trace (<1%) for asbestos may contain a significant quantity of asbestos. It is recommended that the additional analytical technique of TEM be used to check for asbestos fibers below the resolution limits of optical microscopy.
- 2 MATRIX REDUCTION RECOMMENDATION - Please note, due to interference from the matrix components of this sample, results which are reported via PLM as negative or trace (<1%) for asbestos may contain a significant quantity of asbestos which is obscured from view. It is recommended that the additional preparation technique of gravimetric reduction be performed on this sample to minimize the obscuring effects of matrix components, followed by reanalysis by PLM and/or TEM.

Analysis Method - EPA/600/R-93/116 dated July 1993

NAD = "No Asbestos Detected" TR = "Trace equals less than 1% of this component"

Non-Responsive
[REDACTED]

BEST AVAILABLE COPY

BEST AVAILABLE COPY

CERTIFICATE OF ANALYSIS

Client: National Guard Bureau
Address: 301-1H Old Bay Lane, Attn: NGB-AVN-SI,
State Military Reservation
Havre de Grace, Maryland 21078

Job Name: Woodbury Armory
Job Location: Woodbury, NJ
Job Number: Not Provided
P.O. Number: Not Provided

Chain Of Custody: 147706
Date Submitted: 1/16/2006
Person Submitting: [REDACTED]
Date Analyzed: 1/19/2006
Report Date: 23-Jan-06

Attention: [REDACTED]

Page 1 of 2

Summary of Atomic Absorption Analysis for Lead

AMA Sample Number	Client Sample Number	Analysis Type	Sample Type	Air Volume (L)	Area Wiped (ft ²)	Reporting Limit	Final Result	Comments
0620286	0310-07	Furnace	Wipe	****	0.108	69.70 ug/ft ²	140 ug/ft ²	
0620287	0310-08	Furnace	Wipe	****	0.108	2.79 ug/ft ²	13 ug/ft ²	
0620288	0310-09	Furnace	Wipe	****	0.108	2.79 ug/ft ²	27 ug/ft ²	
0620289	0310-10	Furnace	Wipe	****	0.108	13.94 ug/ft ²	63 ug/ft ²	
0620290	0310-11	Furnace	Wipe	****	0.108	13.94 ug/ft ²	25 ug/ft ²	
0620291	0310-12	Furnace	Wipe	****	0.108	2.79 ug/ft ²	31 ug/ft ²	
0620292	0310-13	Furnace	Wipe	****	0.108	69.70 ug/ft ²	650 ug/ft ²	
0620293	0310-14	Furnace	Wipe	****	0.108	69.70 ug/ft ²	95 ug/ft ²	
0620294	0310-15	Furnace	Wipe	****	0.108	69.70 ug/ft ²	230 ug/ft ²	
0620295	0310-16	Furnace	Wipe	****	0.108	69.70 ug/ft ²	170 ug/ft ²	
0620296	0310-17	Furnace	Wipe	****	0.108	69.70 ug/ft ²	460 ug/ft ²	
0620297	0310-18	Furnace	Wipe Blank	****	N/A	0.30 ug	1 ug	

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public and these Laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from us. Sample types, locations and collection protocols are based upon the information provided by the persons submitting them and, unless collected by personnel of these Laboratories, we expressly disclaim any knowledge and liability for the accuracy and completeness of this information. Residual sample material will be discarded in accordance with the appropriate regulatory guidelines, unless otherwise requested by the client. NVLAP Accreditation applies only to polarized light microscopy of bulk samples and transmission electron microscopy of AHERA air samples. This report must not be used to claim, and does not imply product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

An AIHA (#8863), NVLAP (#101143), & New York ELAP (#10920) Accredited Laboratory
4475 Forbes Blvd. • Lanham, MD 20706 • (301) 459-2640 • Toll Free (800) 346-0961 • Fax (301) 459-2643



CERTIFICATE OF ANALYSIS



Client: National Guard Bureau
301-TH Old Bay Lane, Attn: NGB-AVN-SI,
State Military Reservation
Havre de Grace, Maryland 21078

Job Name: Woodbury Armory
Job Location: Woodbury, NJ

Job Number: Not Provided
P.O. Number: Not Provided

Chain Of Custody: 147706
Date Submitted: 1/16/2006
Person Submitting: [Redacted]
Date Analyzed: 1/19/2006
Report Date: 23-Jan-06

Attention: [Redacted] Page 2 of 2

Summary of Atomic Absorption Analysis for Lead

AMA Sample Number	Client Sample Number	Analysis Type	Sample Type	Air Volume (L)	Area Wiped (ft ²)	Reporting Limit	Final Result	Comments
<p>Analysis Method for Flame: Air, Wipes, Paints, and Soil/Solids: EPA 600/R-93/200(M)-7420; Water: SM-3111B Analysis Method For Furnace: Air, Wipes, Paints, and Soil/Solids: EPA 600/R-93/200(M)-7421; Water: SM-3113B N/A = Not Applicable mg/Kg = parts per million (ppm) by weight ug/L = parts per billion (ppb) %Pb = percent lead by weight ug = micrograms mg/L = parts per million (ppm) Note: All samples were received in good condition unless otherwise noted. Note: All results have two significant digits. Any additional digits shown should not be considered when interpreting the result. Air and Wipe results are not corrected for any blank results</p>								
								See QC Summary for analytical results of quality control samples associated with these samples.
								<div style="display: flex; justify-content: space-between;"> <div> Analyst: [Redacted] </div> <div> Technical Manager: [Redacted] </div> </div>

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public and these Laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from us. Sample types, locations and collection protocols are based upon the information provided by the persons submitting them and, unless collected by personnel of these Laboratories, we expressly disclaim any knowledge and liability for the accuracy and completeness of this information. Residual sample material will be discarded in accordance with the appropriate regulatory guidelines, unless otherwise requested by the client. NVLAP Accreditation applies only to polarized light microscopy of bulk samples and transmission electron microscopy of AHERA air samples. This report must not be used to claim, and does not imply product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

An AIHA (#8863), NVLAP (#101143), & New York ELAP (#10920) Accredited Laboratory
4475 Forbes Blvd. • Lanham, MD 20706 • (301) 459-2640 • Toll Free (800) 346-0961 • Fax (301) 459-2643

APPENDIX E
TRAINING CERTIFICATES

Non-Responsive



Certificate of Training

Awarded to

[Redacted] Non-Responsive

For successful completion of an 8 Hour, 1 Day
Asbestos Inspector & Management Planner
Annual Refresher Training

MARCH 25, 2003

This training was approved and given in accordance with
 Regulations for Connecticut State Agencies
 RCSA 20-440-1-9 and RCSA 20-441 and meets the
 requirements of the EPA Revised MAP under TSCA Title II of 4/4/94

Presented by

Mystic Air Quality Consultants, Inc.
1204 North Road, Groton, CT 06340 (800) 247-7746

Certificate Number: IMPR10543

Exam Grade: 100%

Exam Date: 03/25/2003

Expiration Date: 03/25/2004

[Redacted] Non-Responsive

Training Director

[Redacted] CSP, RS

[Redacted] Non-Responsive

APPENDIX F
PHOTOGRAPHS



Photo 0733: Former Indoor Firing Range – Bullet trap



Photo 0735: Former Indoor Firing Range – Firing end



Photo 0737: Boiler Room – Damaged asbestos-containing boiler insulation



Photo 0740: Basement Hall – Damaged plaster ceiling



Photo 0741: Men's Locker Room – Mold / Mildew on fiberglass pipe insulation



Photo 0743: Drill Floor



Photo 0742: Foyer – Evidence of a roof leak



Photo 0755: Exterior View



Photo 0757: Exterior View

APPENDIX G
RECOMMENDATIONS FOR SURFACE LEAD DUST IN ARMORIES

Subject: Recommendations for Surface Lead Dust in Armories

1. In armories that do not contain childcare facilities, the National Guard Bureau (NGB) Region North Industrial Hygiene Office recommends cleaning the areas in which sample results are greater than 200 micrograms per square foot ($\mu\text{g}/\text{ft}^2$). If a special function will be held in which children will be present in this facility, consider thoroughly cleaning the areas that will be accessible to children prior to the function. This guidance is based on professional judgment, risk assessments, adaptation of Occupational Safety and Health Administration (OSHA) guidance, and feasibility of cleaning to a certain level.

a. Environmental Protection Agency (EPA) standards (40 Code of Federal Regulations (CFR) 745.227(h)(3)) are not directly applicable because they are criteria for dust-lead hazards developed for floors ($40 \mu\text{g}/\text{ft}^2$) and windowsills ($250 \mu\text{g}/\text{ft}^2$) in residential dwellings and child occupied facilities. A child occupied facility is defined as a building, or portion of a building, constructed prior to 1978, visited regularly by the same child, 6 years of age or under, on at least two different days within any week (Sunday through Saturday period), provided that each day's visit lasts at least 3 hours and the combined weekly visit lasts at least 6 hours, and the combined annual visits last at least 60 hours. Most of the wipe samples in armories were collected in undisturbed areas and therefore, results are worst case scenarios and do not correlate to these standards.

b. OSHA has no specific requirement for work area surfaces. The lead standard (29 CFR 1910.1025(h)) states that all surfaces shall be maintained as free as practicable of accumulations of lead dust. In workplaces where lead dust is generated, surface levels may be much higher, but personnel exposures can be controlled by limiting airborne lead levels and following good cleanup and hygienic practices.

c. OSHA used to cite a level of $200 \mu\text{g}/\text{ft}^2$ in their Technical Manual and 29 CFR 1926.62 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.

d. In a report titled Derivation of Wipe Surface Screening Levels for Environmental Chemicals, the US Army Center for Health Promotion and Preventive Medicine (USACHPPM) has determined that $200 \mu\text{g}/\text{ft}^2$ is a safe surface contamination level. They have also applied these standards as the decontamination levels for surfaces in administrative offices.

e. It should be noted that levels above these recommendations do not necessarily mean there is a significant hazard to workers who are following good cleaning and hygienic practices since there is no correlation between wipe and air samples. Rather, we recommend these levels as a precautionary measure.

2. The NGB Occupational Health Branch is developing guidance for armories that are used as childcare facilities. All states will receive this guidance when it is completed. In the interim, we recommend the following actions:

a. Clean all areas that will be accessible to children to the EPA dust-lead standard for children 6 years of age or under ($40 \mu\text{g}/\text{ft}^2$ on floors and $250 \mu\text{g}/\text{ft}^2$ on windowsills).

b. Refer to the local authorities' regulations since they can be more stringent than federal regulations.

c. Post signs in the area to inform people of the presence of lead dust and its effects.

d. If soldiers clean weapons in the facility change the policy so that they cannot clean their weapons in the facility, or if they are allowed to clean their weapons indoors, they must clean the area by wet wiping and mopping the area when they are done.

e. If the paint is peeling, contact the state Environmental Office to test for lead content and provide recommendations.

3. Air samples collected on individuals in the armory were well below OSHA's permissible exposure limit for lead (29 CFR 1910.1025(c)) of $0.05 \text{ mg}/\text{m}^3$ averaged over an 8-hour day. Therefore, based on these conditions there is currently no overexposure to personnel from lead dust in this building,

APPENDIX H

POLICY AND RESPONSIBILITIES FOR INSPECTION, EVALUATION AND OPERATION OF ARMY NATIONAL GUARD INDOOR FIRING RANGES (NATIONAL GUARD REGULATION 385-15, 30 DECEMBER 2002)

NGB-AVS-SG

SUBJECT: All States (Log Number P01-0075) Army National Guard (ARNG) Safety and Occupational Health Program -- POLICY AND RESPONSIBILITIES FOR INSPECTION, EVALUATION AND OPERATION OF ARMY NATIONAL GUARD INDOOR FIRING RANGES

ADDENDUM**GUIDELINES FOR IFR REHABILITATION, CONVERSION, AND CLEANING****CONTENTS (Listed by paragraph number)**

	Paragraph
Purpose	1
References	2
Explanation of Abbreviations and Terms	3
Policy and Procedures	4
Goal	5
Background	6
Wipe Sample Media	7
Wipe Sampling Protocol	8
Range Cleaning Instructions	9
Cleaning Stored Contaminated Equipment	10
Contaminated Sand and Lead Waste	11
Medical Surveillance	12
Worker Education	13
Personal Protection Equipment	14
Housekeeping	15
Maintenance	16
Range Rehabilitation	17
Conversion of Indoor Firing Ranges	18
Deviation	19
Appendices	
Appendix A - General Procedures for Collecting Wipe Samples	
Appendix B - Sampling Strategy for Collection of Wipe Samples	
Appendix C - Interpretation of Sample Results (Prior to Cleaning)	
Appendix D - Interpretation of Sample Results (After Cleaning)	
Appendix E - Recommended Sample Media and Containers	
Appendix F - Examples of Computation of Lead Levels from Wipe Sample Results	
Appendix G - Surface Wipe Sample Sheet	
Appendix H - Air Sampling Sheet	
Appendix I - Glossary	

Purpose

1. This addendum establishes policy and procedures for rehabilitation, conversion, and cleaning of ARNG indoor firing ranges.

2. References

Related publications are listed below.

- a. DODI 6055.1 (Department of Defense Instruction, Occupational Safety and Health (OSH) Program).
- b. AR 11-34 (The Army Respiratory Protection Program).
- c. AR 40-5 (Preventive Medicine).
- d. NGR 385-15 Policy, Responsibilities, and Procedures for Inspection, Evaluation, and Operation of ARNG Indoor Firing Ranges).
- e. 29 Code of Federal Regulations (CFR), Part 1910, Occupational Safety and Health Standards
- f. OSHA Technical Manual, Edition VII.
- g. DHEW NIOSH 76-130 (Lead Exposure and Design Considerations for Indoor Firing Ranges).

NGB-AVS-SG

SUBJECT: All States (Log Number P01-0075) Army National Guard (ARNG) Safety and Occupational Health Program – POLICY AND RESPONSIBILITIES FOR INSPECTION, EVALUATION AND OPERATION OF ARMY NATIONAL GUARD INDOOR FIRING RANGES

3. Explanation of Abbreviations and Terms

Abbreviations and special terms used in this publication are listed in the glossary.

4. Policy and Procedures

Conversion of Ranges. Indoor firing ranges can be safely rehabilitated or converted for other uses, such as a storage area, kitchen, or office space, provided the following –

- a. Previously active ranges must be thoroughly decontaminated and cleaned to acceptable levels.
- b. The level of cleanliness is to be determined by sampling. The Occupational Safety and Health Administration's (OSHA) Technical Manual, 5th Edition, provides guidance on the methods and techniques needed to collect wipe samples (Appendix A).

(1) Wipe samples must be collected and analyzed prior to and after cleaning.

(2) Post-cleaning surface wipe sample results must be less than or equal to 200 micrograms per square feet (ug/sq ft). The sampling strategy, which is the amount and location of wipe samples to be collected, is provided in Appendix B. Methods for interpreting the sample results are contained in Appendix C and D.

c. Equipment/items previously stored in the range must be decontaminated and cleaned to acceptable levels.

(1) Samples must be collected from equipment/items stored in the range. Sample selection is critical, because the number of items stored and length of storage differs from range to range. The amount and location of the samples, should be representative of the areas where lead dust is most likely to accumulate. The more samples collected, the better the statistical comparison of the results.

(2) Samples must be collected from the smooth surfaces of the equipment/items, in so much as possible. Results of samples collected from a rough surface will be inaccurate due to the minimal surface contact of the media. Further, the likelihood of tearing the media filter is greater on rough surfaces.

(3) Samples should also be collected on items stored the longest period of time, and which have not been disturbed. Items stored closest to the bullet trap and firing line are likely to have higher concentrations of lead dust. Methods for interpreting the sample results are contained in Appendix C and D.

5. Goal

To ensure every indoor firing range is free of lead dust, and to reduce the number of unsafe ARNG indoor firing ranges.

6. Background

The Environmental Protection Agency (EPA) identifies lead as a highly toxic metal. Elemental lead is indestructible, and common in the environment. Lead can enter the body by inhalation (breathing) or ingestion (eating). In addition, lead is a cumulative poison. It accumulates in the blood, bones, and organs, including the kidneys, brain and liver. Effects include nervous and reproductive system disorders, delays in neurological and physical development, cognitive and behavioral changes, and hypertension. Symptoms include loss of appetite, difficulty sleeping, irritability, fatigue, headache, and inability to concentrate. It can stay in the bones for decades. Worker awareness and training are important to ensure that employees can recognize the symptoms of exposure and get prompt medical attention.

7. Wipe Sample Media

a. OSHA Technical Manual provides the necessary guidance on the technique needed to collect wipe samples (Appendix A). Only distilled or deionized water will be used to saturate dry sample media. At least one field blank filter must be submitted with each sample sheet. The field blank must be from the same lot, and labeled as a blank on the sample sheet. Appendix E identifies how and where to obtain sample media. Use the following guidance for determining media acceptability.

(1) Acceptable Media consists of –

(a) Ghost Wipes™ (PREFERRED METHOD)- Pre moistened

(b) Thirty-seven (37) millimeters (mm) mixed cellulose ester (MCE) filters, with or without the cassettes.

(c) Eleven (11) centimeter (cm) diameter Whatman #40 paper

NGB-AVS-SG

SUBJECT: All States (Log Number P01-0075) Army National Guard (ARNG) Safety and Occupational Health Program -- POLICY AND RESPONSIBILITIES FOR INSPECTION, EVALUATION AND OPERATION OF ARMY NATIONAL GUARD INDOOR FIRING RANGES

(2) Unacceptable Media consists of but is not limited to—

- (a) Cotton balls
- (b) Baby wipes or wet wipes

b. Documentation of Sample Collection. A Surface Wipe Sample Sheet must be completed and submitted with samples to your supporting laboratory. A copy of this form is located in Appendix G. Refer to Appendix A on how to collect wipe samples.

8. Wipe Sampling Protocol
See Appendix A.

9. Ranges Cleaning Instructions

a. Written procedures, such as a scope of work, or Standing Operating Procedure (SOP) that complies with all federal, state and local regulations must be established prior to decontamination operations. The range ventilation system will be in operation during range cleaning to ensure that a negative pressure environment is maintained. In the absence of mechanical ventilation system, all doors and windows will be sealed to eliminate fugitive emissions. A High Efficiency Particulate Air (HEPA) filtered vacuum system is the preferred method of cleanup followed by wet wiping of the range. The HEPA vacuum is designed to collect loose surface lead dust particles.

b. Any general purpose cleaning solution can be used. However, Spic and Span™ has been found to be an effective cleaning solution by other Army organizations. Mix new solutions of cleaning solution frequency. Wet wiping will require dual containers of water; one container for wetting the applicator (mops, rags, sponge, etc.) and the other container for rinsing the applicator after the dust has been wiped from the surfaces. When placed in containers, wastewater should be left to evaporate.

c. PROPERLY DISPOSE OF ALL HAZARDOUS WASTE. DO NOT PLACE LEAD CONTAMINATED WASTE INTO THE SEWER SYSTEM OR ONTO THE GROUND.

d. Mop-heads, sponges and rags will be discarded as hazardous waste following cleanup.

e. Wet cleaning by a high-pressure system is prohibited, as this method may embed the lead into the substratum and generate large quantities of unwanted hazardous waste.

f. Dry sweeping is not permitted.

g. All surface areas of the range must be cleaned. Do not remove the coating on smooth painted surfaces that are properly sealed.

h. Wood floors should receive a coat of deck enamel or urethane; concrete floors should be sealed with deck enamel and linoleum or tile floors should be waxed.

i. A progression of cleaning from top to bottom and from behind the steel backstop to the firing line should be used. After removing the sand, if applicable, and the steel backstop, areas in front of and behind the bullet trap along with the steel backstop plate(s) should be cleaned. Next, clean the ceiling, lights, baffles, retrieval system, heating system(s), and ventilation duct(s). Acoustical material should be vacuumed and removed rather than painted over.

j. A Toxic Characteristic Leaching Procedures (TCLP) test for lead only may need to be performed on the acoustical material. A TCLP test will determine if the material is classified as "hazardous" and can be disposed of in a sanitary landfill. Contact your State Environmental Office for assistance before arranging for this laboratory testing. The floor should be the last surface cleaned, starting at the bullet trap and ending behind the firing line.

k. After wet wiping all surfaces, permit the area to dry. Vacuum all surface areas until no dust or residue can be seen using the HEPA.

l. A thorough visual inspection to detect dust should be made following cleanup and prior to collecting post surface wipe samples.

m. As a variety of conditions exist in ranges, unique situation may arise and specific written guidance from your Regional Industrial Hygiene Office may be required.

10. Cleaning Stored Contaminated Equipment

a. Equipment contaminated (sample result is higher than 200 micrograms/sq ft) with lead dust must be decontaminated before it is removed from the range.

NGB-AVS-SG

SUBJECT: All States (Log Number P01-0075) Army National Guard (ARNG) Safety and Occupational Health Program -- POLICY AND RESPONSIBILITIES FOR INSPECTION, EVALUATION AND OPERATION OF ARMY NATIONAL GUARD INDOOR FIRING RANGES

b. Equipment located near the bullet trap and firing line should be cleaned first and then removed. The cleaning method depends on the size of the equipment and the material it is comprised of, i.e. metal, wood, concrete, porous, non-porous, smooth or rough finish etc. However, either HEPA vacuum or the wet wipe method will be used. Refer to paragraph 9 for additional guidance.

c. Every attempt should be made to clean and reclaim items since disposing of equipment, as hazardous waste is costly and wasteful. Only as a last resort will the item be discarded as hazardous waste. Porous items, such as office partitions and carpet that were present during firing should be considered grossly contaminated and be discarded unless analysis proves otherwise. Consult your State Environmental Office for the proper hazardous waste disposal methods.

11. Contaminated Sand and Lead Waste

Consult your State Environmental Office for specific disposal guidance to ensure compliance with local laws and regulations.

12. Medical Surveillance

a. A pre-placement medical examination is required for all individuals involved with range cleanup operations. Consult 29 CFR 1910.1025 for additional information on medical surveillance requirements.

A medical examination must include--

- (1) A detailed work and medical history
- (2) A thorough physical examination
- (3) A respirator use evaluation
- (4) A blood pressure measurement
- (5) Blood sample analysis to include:
 - (a) A baseline blood lead level
 - (b) A complete blood count (CBC)
 - (c) Blood urea nitrogen (BUN)
- (6) Serum creatinine
- (7) Zinc protoporphyrin
- (8) A routine urine analysis
- (9) Recordkeeping

b. Air Monitoring. Worker breathing zone (BZ) air samples must be collected to ensure personnel are not overexposed to airborne lead during the cleanup phase. Representative air samples will be collected on all personnel involved in the cleanup operation. These exposure levels will be used to evaluate work practices and personal protective equipment. Within five (5) working days after receipt of monitoring results, each employee will be notified in writing of the air sampling results. Contact your Regional Industrial Hygiene Office for additional information pertaining to air sampling.

13. Worker Education

OSHA 29 CFR 1910.1025 requires that workers who are potentially exposed to any lead level shall be informed of the content of Appendix A and B of this standard. 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 irritations exists. The training program shall be repeated for personnel currently involved in range cleanup operations, at least annually, this training must be documented on DD Form 1556 or DD Form 1556-1 and filed permanently in the employee's Official Personnel File (OPF) or the soldier's Official Military Personnel File (OMPF). As a minimum, complete blocks 1, 2, 3, 7, 8, 11, 12, 13, 17, 18, 24, 33 and 36 of DD Form 1556. Place the following statement in block 18, "Do not destroy, retain this record for the duration of employment/service plus 30 years." The employer will assure that each employee is informed of the following:

- a. The content of the standard and its appendices.
- b. The specific nature of operations that could result in exposure to lead above the action level.
- c. The purpose, proper selection, fitting, use and limitations of respirators.
- d. The purpose and a description of medical surveillance program.
- e. Eating and drinking are prohibited in lead contaminated areas.
- f. Smoking and smoking materials will not be permitted in contaminated areas.

NGB-AVS-SG

SUBJECT: All States (Log Number P01-0075) Army National Guard (ARNG) Safety and Occupational Health Program -- POLICY AND RESPONSIBILITIES FOR INSPECTION, EVALUATION AND OPERATION OF ARMY NATIONAL GUARD INDOOR FIRING RANGES

- g. Employees must wash their hands and other exposed skin whenever they leave the work area.
- h. The engineering controls and work practices associated with the individual's job assignment.
- i. The contents of any compliance plan in effect.

14. Personal Protective Equipment

For housekeeping and rehabilitation the employer shall select respirators from among those approved for protection against lead dust, fume, and mist by the National Institute for Occupational Safety and Health (NIOSH). The employer shall institute a respiratory protection program in accordance with 29 CFR 1910.134. As a minimum, personnel conducting the decontamination of the range will be provided with the following personal protective equipment.

a. Employees engaged in range rehabilitation and/or range conversion, the employer shall provide at no cost to the employee, and assure that the employee uses appropriate protective work clothing and equipment such as, but not limited to:

- (1) Protective coveralls with hood and shoe covers or disposable Tyvek™ full body suit.
- (2) Disposable rubber gloves; and disposable shoe coverlets (If necessary).
- (3) Full-face air purifying respirator with P-100 cartridges.

b. The employer shall provide the clothing required in a clean and dry condition at least daily to employees engaged in the conversion of indoor firing ranges.

c. The employer shall provide for the cleaning, laundering, or disposal of used or contaminated protective clothing and equipment.

d. The employer shall assure that all protective clothing is removed at the completion of a work shift only in areas designated for that purpose (Change Areas or Change Rooms).

e. The employer will ensure that contaminated protective clothing that is to be cleaned, laundered, or disposed of, is placed in a closed container in the change area that seals sufficiently enough to prevent dispersion of lead dust.

f. The employer will further inform in writing any person who cleans or launders protective clothing or equipment of the potentially harmful effects of exposure to lead.

15. Housekeeping

This chapter applies to all active indoor ranges classified as "safe" for use. To keep the range operating properly and to keep possible hazards to a minimum, a routine housekeeping/ maintenance program is essential.

a. The employer must establish a housekeeping program sufficient to maintain all surfaces as free as practicable of accumulations of lead dust. To this end the range will be clean at the conclusion of each firing day.

b. The range ventilation system will be in operation during all cleaning operations, to ensure a negative pressure environment is maintained.

c. Ranges will be cleaned by using the wet method or vacuuming. A HEPA (High Efficiency Particulate Air) filtered vacuum system is the preferred method of meeting this requirement. The use of compressed air to clean floors is absolutely prohibited. If the wet method is utilized the floor should be equipped with a floor drain, and collection system. When there is no collection system, the water can be allowed to slowly evaporate leaving lead deposits/sludge. The deposits/sludge can then be collected, placed in metal drums, and stored for future delivery to an authorized hazardous waste disposal site. Drums must be labeled to identify contents, in accordance with the hazardous waste program.

d. A NIOSH approved respirator (P-100) for protection against lead dust, fume, and mist will be worn at all times while cleaning.

e. When cleaning start behind the firing line forward, cleaning the floor and horizontal surfaces.

16. Maintenance

The following are the minimum maintenance requirements, which must be performed quarterly by the range custodian, or by a person designated by the facility commander.

a. Inspect the ventilation system fan for condition of belts to ensure that they are not frayed or slipping.

NGB-AVS-SG

SUBJECT: All States (Log Number P01-0075) Army National Guard (ARNG) Safety and Occupational Health Program -- POLICY AND RESPONSIBILITIES FOR INSPECTION, EVALUATION AND OPERATION OF ARMY NATIONAL GUARD INDOOR FIRING RANGES

- b. Evaluate static pressure and compare to the baseline static pressure reading. Any changes will be reported through the safety manager to the Regional Industrial Hygienist.
- c. Inspect Louvers, if applicable, to ensure they are opening fully.
- d. Inspect the bullet trap for pitting or other damage and for sharp edges on venetian blind type bullet traps.
- e. Bullet Trap. The bullet trap will be cleaned every 480 hours of operation at a minimum, or when the trap is three quarters full.
- f. The range ventilation system will be operational during all bullet trap cleaning procedures.
- g. All personnel involved in cleaning of the bullet trap will wear a NIOSH approved respirator, and proper personal protective equipment.
- h. All debris from the bullet trap will be collected, package and turned in, in accordance with guidance from the environmental office.

17. Range Rehabilitation.

This chapter applies to all indoor firing ranges that have been identified as candidates for rehabilitation. This chapter further provides guidance for cleaning and/or sampling that might be required prior to the start of rehabilitation.

- a. The portion(s) of the range to under go rehabilitation must be sampled to determine the level of lead contamination. Wipe samples will be taken per the established sampling protocol. See Appendix A.
- b. All personnel involved in range rehabilitation will wear a NIOSH approved respirator (P-100), and proper personal protective equipment as prescribed in paragraph 14 above.
- c. Prior to start of rehabilitation the environmental office must be notified to determine the disposition of lead containing debris.

18. Conversion of Indoor Ranges

Prior to the start of decontamination, employers must ensure that all procedures to be used comply with Federal, State, and local regulations. To ensure that all lead contamination is removed the following procedure is established.

- a. All ranges slated for conversion will be inspected and evaluated.
- b. All equipment stored in the range, if applicable, prior to the start of decontamination must be sampled, decontaminated, re-sampled and removed or turned in as lead contaminated material. See paragraph 10 above.
- c. All acoustical tiles and/or sound proofing material (if applicable) must be removed and turned in as lead contaminated material through the environmental office.
- d. The backstop, bullet trap, target retrieval system and firing line stations must be removed and turned in as lead containing material through the environmental office.
- e. Light fixtures and ventilation system grills must be removed and decontaminated.
- f. Ventilation system ducts need to be decontaminated or removed and replaced.
- g. The exhaust fans and/or the complete ventilation air-handling unit (if applicable) must be decontaminated or removed.
- h. Cover all openings of any component previously decontaminated prior to start of interior decontamination of the firing range.

19. Deviation

Deviations from this guidance will require a written exception to policy from your Regional Industrial Hygiene Office. Questions and/or comments regarding this subject should be directed to your Regional Industrial Hygiene Office or Chief, National Guard Bureau, Attn: NGB-AVS-S, 111 South George Mason Drive, Arlington, VA 22204-1382.

NGB-AVS-SG

SUBJECT: All States (Log Number P01-0075) Army National Guard (ARNG) Safety and Occupational Health Program – POLICY AND RESPONSIBILITIES FOR INSPECTION, EVALUATION AND OPERATION OF ARMY NATIONAL GUARD INDOOR FIRING RANGES

APPENDIX A GENERAL PROCEDURES FOR COLLECTING WIPE SAMPLES

A-1 If multiple samples are to be collected at the work site, prepare a rough sketch of the area(s) or room(s), which are to be wipe sampled.

A-2 A new set of clean, impervious gloves should be used for each sample to avoid contamination of the media by previous samples and to prevent contact with the substance.

A-3 (1) If using Ghost Wipes™, tear open the individually sealed package. Remove the moistened wipe. Unfold the wipe.

(2) If using a dry media such as MCE or Whatman™ filter, moisten the filter with distilled or deionized water prior to sampling.

A-4 Place a 10 cm by 10 cm template on the area to be wiped.

A-5 Apply uniform firm pressure while wiping the area inside the template.

A-6 To insure that all portions of the partitioned area are wiped, start at the outside edge and progress toward the center making progress toward the center making concentric squares decreasing in size.

A-7 After collecting a sample, fold the filter or wipe inward and place into a container and number it. Note the number at the sample location on the sketch.

A-8 At least one blank filter treated in the same fashion but without wiping, should be submitted to the laboratory.

APPENDIX B SAMPLING STRATEGY FOR COLLECTION OF WIPE SAMPLES

B-1 Prior to cleaning the ranges, the three samples must be collected and analyzed for total lead dust on each surface, i.e., floor, ceiling, backstop, and wall to include the plenum wall, if applicable. In addition, a total of 3 samples should be collected from areas which have been least disturbed by airflow. Established walkways should be avoided.

B-2 Samples should be staggered to different areas of the range. A grid system should be utilized. Each range surface areas should be divided evenly into 3 by 3 sections. Samples should not be collected on all one section of a wall or end of the building.

APPENDIX C INTERPRETATION OF SAMPLE RESULTS (PRIOR TO CLEANING)

C-1 200 micrograms/sq ft or LESS

If all sample results are 200-micrograms/sq ft or less, the range can be converted and/or used for any purpose.

C-2 BETWEEN 201 and 200,000 micrograms/sq ft

Range must be decontaminated. Continued with cleaning instructions listed in paragraph 9 Sample results will be used to establish a baseline.

C-3 Over 200,000 micrograms/sq ft

Your sample media may not be capable of collecting additional lead dust and results that are above 200,000 micrograms/sq ft, and should be considered suspect.

NGB-AVS-SG

SUBJECT: All States (Log Number P01-0075) Army National Guard (ARNG) Safety and Occupational Health Program -- POLICY AND RESPONSIBILITIES FOR INSPECTION, EVALUATION AND OPERATION OF ARMY NATIONAL GUARD INDOOR FIRING RANGES

APPENDIX C (Continued)

C-4 High sample results may exist due to personnel walking or moving equipment/vehicles over the range surface causing the lead dust to be "ground" into the substratum. For examples, a maintenance activity may have oversprayed paint or spilled solvents onto the surface Regional Industrial Hygiene Office for specific guidance.

APPENDIX D**INTERPRETATION OF SAMPLE RESULTS (AFTER CLEANING)**

D-1 200 micrograms/sq. ft or less

If all sample results are less than 200 micrograms/sq ft, the range can be converted and/or used for any purpose after a coat of lead-free latex paint is applied.

APPENDIX E**RECOMMENDED SAMPLE MEDIA AND CONTAINERS**

E-1 The following is a list of vendors, which supply the media and containers necessary to collect air and lead surface wipe samples. The information is provided to assist in obtaining the proper media and containers. Alternative vendors are available and may be utilized, if known. Contact your Regional Industrial Hygiene Office for additional assistance or clarification.

E-2 Pre-loaded 3 piece cassette with mixed cellulose ester (MCE) filter and pad, 37 millimeter (mm), pore size 0.8 microns, breathing zone (BZ) and general area (GA) air samples.

<u>Order From</u>	<u>Catalog Number</u>
a. Millipore Corp. Ashdy Road Bedford, MA 01730 617-275-9200 800-225-1380	MAWP-037-A0
b. Gelman Sciences 600 South Wagner Rd Ann Arbor, MI 48106 313-665-0651 800-521-1520	64678 (GN-4)
c. Supelco, Inc. Supelco Park Bellefonte, PA 16823 800-247-6628 800-359-3041	2-3368M

E-3 37 mm MCE Filter with pad, no cassette included, for lead surface wipe samples.

<u>Order From</u>	<u>Catalog Number</u>
a. Supelco Inc. Supelco Park Bellefonte, PA 16823	2-3381IM

NGB-AVS-SG

SUBJECT: All States (Log Number P01-0075) Army National Guard (ARNG) Safety and Occupational Health Program – POLICY AND RESPONSIBILITIES FOR INSPECTION, EVALUATION AND OPERATION OF ARMY NATIONAL GUARD INDOOR FIRING RANGES

APPENDIX E (Continued)

800-247-6628
800-359-3041

b. Millipore Corp. AAWP-037-00
Ashdy Road
Bedford, MA 01730
617-275-9200
800-225-1380

c. SKC, Inc. 225-5
334 Valley View Rd.
Eighty Four, PA 15330
412-941-9701
800-752-8472

Number 40 Whatman paper, 110 centimeters in diameter, used for surface wipe samples

Order From Catalog Number

18016 Parnham 800-647-113
7245 North Oak Park Ave
Chicago, IL 60626
708-321-7600
800-334-3400

18016 Parnham 800-647-113

18016 Parnham 800-647-113
18016 Parnham 800-647-113
18016 Parnham 800-647-113
18016 Parnham 800-647-113

18016 Parnham 800-647-113

18016 Parnham 800-647-113
18016 Parnham 800-647-113
18016 Parnham 800-647-113

E-5. Glass container (25 milliliter) for collection and shipment of media.

Order From Catalog Number

a. Pierce Chemical Co. 13219 (screw cap)
P.O. Box 117
Rockford, IL 61105
815-968-0747
800-874-3723

b. Alltech Associates, Inc. 95321 (screw cap)
Applied Science Labs
2051 Waukegan Rd.
Deerfield, IL 60015
312-948-8600

NGB-AVS-SG

SUBJECT: All States (Log Number P01-0075) Army National Guard (ARNG) Safety and Occupational Health Program – POLICY AND RESPONSIBILITIES FOR INSPECTION, EVALUATION AND OPERATION OF ARMY NATIONAL GUARD INDOOR FIRING RANGES

APPENDIX E (Continued)

800-255-8324

E-6. Ghost Wipes™.

Order From Catalog Number

Environmental Express SC4200
490 Wando Park Blvd.
Mt. Pleasant, SC 29464
1-800-343-5319

E-7. Ghost Wipe™ Containers

Order From Catalog Number

Environmental Express SC499
490 Wando Park Blvd.
Mt. Pleasant, SC 29464
1-800-343-5319

E-8. Plastic ziplock bags can be obtained through the Army logistics system. Many sizes are available. Contact your supporting logistics branch for assistance.

E-9. Distilled water can be purchased at larger grocery stores, usually by the gallon, at a cost of approximately \$1.25. Deionized water can be obtained at local and state water labs or a hospital.

APPENDIX F

EXAMPLES OF COMPUTATION OF LEAD LEVELS FROM WIPE SAMPLE RESULTS

Sample results will be returned in the form of micrograms. The results must be converted to micrograms per square foot. This can be accomplished by following the examples listed below:

$$\frac{75 \text{ ug}}{100 \text{ cm}^2} \times \frac{929 \text{ cm}^2}{1 \text{ sq ft}}$$

$$\frac{75 \times 929}{100} = \frac{69675}{100} = 696.75 \text{ ug/sq ft}$$

ug – Microgram

Cm2 – Centimeters squared

Sq ft – Square foot

NGB-AVS-SG

SUBJECT: All States (Log Number P01-0075) Army National Guard (ARNG) Safety and Occupational Health Program -- POLICY AND RESPONSIBILITIES FOR INSPECTION, EVALUATION AND OPERATION OF ARMY NATIONAL GUARD INDOOR FIRING RANGES

**APPENDIX H
AIR SAMPLING SHEET**

Industrial Hygiene Air Sample Sheet									
Return Address					Point of Contact (name/phone #)				
					Samples Collected By				
Sampled Facility		City		State		Location (bldg/area)			
Description of Operation		___ Persons Exposed		___ Hrs/Day		Method of Collection			
Analysis Desired									
Sampling Data									
Sample No.									
Pump No.									B
Time On									L
Time Off									A
Total Time (min)									N
Flow Rate (LPM)									K
Volume (liters)									
GA/BZ									
Employee Name/ID									
Laboratory No.									
Calibration Information									
Pump No.	Calibration (LPM)		Rotameter Setting	Date					
	Pre-Use	Post-Use							
Name of Calibrator		Calibration Date		Pump Manufacturer					
Comments to Lab:									

NGB-AVS-SG

SUBJECT: All States (Log Number P01-0075) Army National Guard (ARNG) Safety and Occupational Health Program -- POLICY AND RESPONSIBILITIES FOR INSPECTION, EVALUATION AND OPERATION OF ARMY NATIONAL GUARD INDOOR FIRING RANGES

**APPENDIX I
ABBREVIATIONS AND TERMS**

**Section I
Abbreviations**

ARNG

Army National Guard

BUN

Blood urea nitrogen

BZ

Breathing zone

CBC

Complete blood count

CFR

Code of Federal Regulations

cm

Centimeter

DHEW

Department of Health, Education and Welfare

EPA

Environmental Protection Agency

GA

General area

OMPF

Official Military Personnel File

OPF

Official Personnel File

OSHA

Occupational Safety and Health Administration

TCLP

Toxic Characteristic Leaching Procedures

ug/sq ft

Micrograms per square foot

NGB-AVS-SG

SUBJECT: All States (Log Number P01-0075) Army National Guard (ARNG) Safety and Occupational Health Program – POLICY AND RESPONSIBILITIES FOR INSPECTION, EVALUATION AND OPERATION OF ARMY NATIONAL GUARD INDOOR FIRING RANGES

APPENDIX I (Continued)

**Section II
Terms**

HEPA

Refers to high efficiency particulate air filter systems capable of capturing up to 99.97 percent of particles 0.3 microns in size or larger.

Lead-Contaminated Range

It is assumed that all indoor ranges, which have been fired in, are lead-contaminated.

Wipe Sample

The terms wipe, swipe, or smear samples are used synonymously to describe the techniques utilized for assessing lead surface contamination.



1215 Manor Drive, Suite 205
Mechanicsburg, PA 17055
Phone: 717.590.7031
Fax: 717.590.7936
www.complianceplace.com

Industrial Hygiene Survey Report

National Guard Facility
Woodbury Readiness Center

Prepared For: National Guard Bureau Region North IH
301-IH Old Bay Lane
Havre de Grace, MD 21078

Survey Location: Woodbury Readiness Center
658 North Evergreen Avenue
Woodbury, NJ 08096

Prepared By: Compliance Management International, Inc.
1215 Manor Drive
Suite 205
Mechanicsburg, PA 17055

Survey Date: January 22, 2013

Report Date: March 11, 2013

Non-Responsive

Manager, Industrial Hygiene Services

Table of Contents

Section 1.0 Executive Summary	3
Section 2.0 Operation Description & Observations.....	4
Section 3.0 Lead Testing.....	5
Section 4.0 Lighting.....	7
Section 5.0 Indoor Air Quality.....	8
Section 6.0 Suspect Asbestos Containing Building Materials.....	10
Section 7.0 Equipment	11
Section 8.0 Limitations	12
Appendix A. Laboratory Analysis Report	13
Appendix B. Photographs	14
Appendix C. Floor Plan	15
Appendix D. References	16

Section 1.0 Executive Summary

An industrial hygiene survey was conducted on January 22, 2013, at the Woodbury Readiness Center located at 658 Evergreen Avenue, Woodbury NJ 08096. The survey was performed by **Non-Responsive**.

1. Surface, paint chip and air samples for lead were collected.
 - a. Surface levels of lead exceeded the recommended guideline of 200 micrograms per square foot (ug/ft^2) in two locations.
 - b. Air samples were below the Occupational Safety and Health Administration (OSHA) Permissible Exposure Limit of 50 micrograms per cubic meter (ug/m^3).
 - c. Peeling paint was observed in several areas of the facility. One sampled location of peeling paint was determined to be lead-based paint.

See Section 3.0 for detailed report findings.

2. Lighting levels met the minimum recommended guideline in all areas. See Section 4.0 for detailed report findings.
3. Indoor air quality (IAQ) parameters of temperature, relative humidity, carbon monoxide and carbon dioxide (ventilation) were evaluated during this survey.
 - a. Relative humidity levels were less than the United States Army Center for Health Promotion and Preventive Medicine (USACHPPM) recommended guideline of 30-60% in indoor locations evaluated.
 - b. Carbon dioxide levels exceeded the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) recommended ceiling in one location. This is an indication that outdoor air ventilation is inadequate.
 - c. Temperature levels were less than ASHRAE recommended guideline for comfort in sampled locations.
 - d. Carbon monoxide levels measured were within recommended guidelines.

See Section 5.0 for detailed report findings.

4. Suspect asbestos containing materials were observed. All materials were observed to be intact and in good condition. See Section 6.0 for detailed report findings.

Section 2.0 Operation Description & Observations

The Woodbury Readiness Center is mainly an administrative facility with a drill hall, offices, classrooms, three detached garages and storage areas. There were approximately 18 full-time employees stationed at this facility at the time of this survey.

The building was initially constructed in 1940's. There was an addition to the building in 1987. The facility is a two story building with a brick exterior. The interior walls are primarily concrete block, brick, and drywall. The floors are concrete, vinyl floor tile, carpet, wood, and stone.

There are three storage/garage buildings located on the property. The buildings are now used to park vehicles. Garage number three has an overhead vehicle exhaust system that has been deactivated. No safety hazards were observed in the garage.

Parts of the facility are heated by a gas fired boiler that feeds hot water to radiators. There is a roof top mounted unit that provides air conditioning for some areas of the facility. Unit ventilators supply heat and air conditioning to other areas of the facility.

The firing range has been converted into a cage storage area.

There is no child-care facility in the building.

Overall housekeeping practices were good.

No ergonomic concerns were reported. Office areas have computer work stations. Work stations appeared properly designed. Personnel had supportive chairs.

Sgt. Non-Responsive from the Army National Guard Safety Office was onsite during the survey.

Section 3.0 Lead Testing

Due to the age of the building there is the potential for lead based paint to be present. Various surfaces within the facility were screened for lead using surface/wipe samples. Surface/wipe samples were collected in accordance with the American Society for Testing and Materials (ASTM) E 1792 protocols. Air samples were collected using 0.8 um mixed cellulose ester (MCE) filter cassettes attached to low volume air sampling pumps. Blank samples were submitted to the laboratory for quality control purposes. Samples were sent to AMA Analytical Services, Inc., in Lanham, Maryland, for lead analysis using Environmental Protection Agency (EPA) Method 600/R-93/200 (M)-7420. A copy of the laboratory analysis report can be found in Appendix A.

Lead Testing Results Summary

Sample #	Location	Bulk (%)	Air ug/m ³	Surface ug/ft ²
1	Drill Hall	*	<3.5	*
2	S-1 Office	*	<3.4	*
3	Drill Hall – Floor	*	*	<110
4	Drill Hall – Top of Book Shelf	*	*	<110
5	Drill Hall – Top of Fire Extinguisher Box	*	*	960
6	Kitchen – Top of Metal Table	*	*	<110
7	Kitchen – Top of Ice Machine	*	*	<110
8	Hallway Floor – Outside of the Converted Firing Range	*	*	<110
9	Converted Firing Range – Floor	*	*	160
10	Converted Firing Range – Top of Table	*	*	<110
11	Converted Firing Range – Top of Black Storage Box	*	*	<110
12	Detached Garage #1 - Floor	*	*	140
13	Detached Garage #2 - Floor	*	*	<110
14	Detached Garage #3 - Floor	*	*	3,800
15	Armory Office – Top of U.V.	*	*	<110
16	Weight Room – Top of Wall Locker	*	*	<110
17	Orderly Office – Top of File Cabinet	*	*	<110
18	Command Sergeant Major Office – Top of Desk	*	*	<110
19	Veterans Service Office – Top of File Cabinet	*	*	<110
20	Distributed Teaching Office – Top of Desk	*	*	<110
21	Supply Office B-08 Top of Desk	*	*	<110
22	Blank- Wipe	*	*	<12 ug
23	Blank Air	*	<3 ug	*
24	Exterior front stairs - Bulk	<0.0082	*	*
25	Lower Level Ceiling - Bulk	0.055	*	*
26	Detached Garage #3 - Wall	0.51	*	*
-	Criteria	0.5	50	200

Table Notes:

1. **Bolded** results exceed listed criteria
2. **ppm** = parts per million
3. **ug/ft²** = micrograms per square foot
4. **ug/m³** = micrograms per cubic meter
5. **ug** = micrograms

Sources:

1. NG PAM 420-15 Guidelines and Procedures for Rehabilitation and Conversion of Indoor Firing Ranges
2. OSHA 29CFR1910.1025 Lead Standard
3. US Environmental Protection Agency (EPA) & US Department of Housing and Urban Development (HUD)

The National Guard Bureau currently utilizes 200 ug/ft² as a benchmark for identifying lead-contaminated surfaces. This guideline is referenced in NG PAM 420-15 "Guidelines and Procedures for Rehabilitation and Conversion of Indoor Firing Ranges" as a satisfactory surface contamination level unless the facility is utilized as a childcare facility. In such cases, U.S. Department of Housing and Urban Development (HUD) limit of 40 ug/ft² on floors and 250 ug/ft² on windowsills should be observed. There is no child care provided at this facility.

Lead bulk, surface and air samples were collected. The following is a summary of the sample results from this survey.

- Surface levels of lead were above the recommended guideline of 200 ug/ft² in the attached garage and on the drill hall fire extinguisher.

Cleaning procedures should be improved to maintain lead levels on surfaces below the recommended guideline of 200 ug/ft².

- Air samples for lead were below the Occupational Safety and Health Administration (OSHA) Permissible Exposure Limit of 50 ug/m³.
- Approximately 500 ft² of paint was observed to be peeling in the lower level ceilings (hallways, ceilings in rooms B06A and B07). Approximately 300 ft² of peeling paint was observed inside detached garage #3 on exterior walls. A small area (50 ft²) of peeling paint was observed on the exterior steps. Bulk samples of paint were collected and analyzed for lead (Pb) content. Peeling paint from the detached garage #3 was determined to be lead-based paint (>0.5% Pb). Areas of peeling paint should be repaired. Repair work should be performed using appropriate controls (e.g., wet methods) by properly trained and protected workers.

Section 4.0 Lighting

A lighting assessment was conducted throughout the facility. Measurements were collected using a Cooke Cal-Light 400L Precision Light Meter (Serial No. K98364). The light meter was last calibrated in April 2012. Measurements collected were compared to American National Standards Institute (ANSI)/Illuminating Engineering Society of North America (IESNA) RP-7-01 Lighting Industrial Facilities and RP-1-04 Office Lighting.

Light Survey Assessment Summary

Location	Foot Candles (FC)	Recommended Lighting (FC)	Sufficient Lighting
Drill Hall	33.3	10	Yes
Armory Office	85.4	30-50	Yes
Recruiting Office	69.6	30-50	Yes
Kitchen	60.1	50	Yes
Weight Room	57.7	30	Yes
Woman's Bathroom	36.2	5	Yes
Men's Bathroom	21.1	5	Yes
Orderly Office	42.8	30-50	Yes
Office 113	81.3	30-50	Yes
Supply Room B-04	32.7	30	Yes
HHC Supply Room	32.3	30	Yes
Scout Room (Storage)	35.2	30	Yes
Supply Room B-08	32.2	30	Yes
Office B-10	103.1	30-50	Yes
Copy Room B14-A	14.3	10	Yes
Conference Room B-19	58.0	30	Yes
S-1 Office	58.5	30-50	Yes
Veterans Service Office	75.5	30-50	Yes
Converted Firing Range/ Cage Storage	17.2	10	Yes
Garage #1	36.2	30	Yes
Garage #2	69.8	30	Yes
Garage #3	35.6	30	Yes

Table Notes:

1. FC = Foot Candles
2. **Bolded** results did not meet listed criteria

Source: ANSI/IESNA RP-7-01 Lighting Industrial Facilities and RP-1-04 Office Lighting.

Lighting measurements met the minimum recommended guidelines in all measured locations.

Section 5.0 Indoor Air Quality

Survey measurements were made for ventilation and comfort parameters (carbon dioxide, temperature, carbon monoxide and relative humidity). The air quality measurements were collected using direct reading instrumentation for comfort parameters using a QTRAK IAQ Meter, Model 8554 (Serial #02041015). The IAQ Meter was last calibrated in August 2012.

The American Society of Heating, Refrigerating, and Air Conditioning Engineers, Inc. (ASHRAE) have developed indoor air quality guidelines for mechanically ventilated office buildings and commercial settings (ASHRAE standard 62.1-2010). ASHRAE specifies temperature ranges for human comfort (ASHRAE 55-2010). The US Army Technical Guide 277 Army Facilities Management Information Document on Mold Remediation recommends maintaining a relative humidity range between 30 to 60%.

The following table summarizes the measurements collected.

IAQ Assessment Summary

Location	Temperature (°F)	Relative Humidity (%)	Carbon Dioxide (ppm)	Carbon Monoxide (ppm)
Recruiting Office	59.9	14.3	480	0.9
Orderly Office	67.8	18.4	986	0.3
HHC Supply Room	64.9	13.6	490	0.1
Scout Room	65.7	18.8	502	0.1
Office B-10	70.0	20.7	959	0.0
S-1 Office	70.7	18.8	729	0.2
Veterans Service Office	71.1	24.2	1,264	0.3
Garage One	44.6	24.8	291	0.0
Garage Two	39.2	27.9	291	0.0
Garage Three	34.1	22.1	289	0.0
Outdoors	23.5	19.4	271	1.1
Criteria	68-79	30-60	<971	<9

Table Notes:

1. **Bolded** results exceed listed criteria
2. **ppm** = parts per million
3. **(%)** = percent relative humidity
4. **F** = degrees Fahrenheit

Source: The American Society of Heating, Refrigerating, and Air Conditioning Engineers, Inc. (ASHRAE) 55-2010, 62.1-2010 & The US Army Technical Guide 277 Army Facilities Management Information Document on Mold Remediation.

Summary of findings and recommendations:

- Temperature levels measured were below the recommended guidelines in recruiting office, orderly office, HHC supply room, scout room, and all three garages. Temperature should be maintained between 68-79 degrees F during occupied periods.
- Relative humidity measurements were below the USACHPPM recommended guideline of 30-60% in all indoor locations sampled. Low relative humidity can cause the drying of the mucous tissues and an increased susceptibility to respiratory infection.
- Indoor carbon dioxide levels exceeded the ASHRAE recommended ceiling of 971 parts per million (ppm) in the orderly office and the veterans services office. This is an indicator that outdoor air ventilation may be inadequate in these areas. If HVAC systems are present in these areas the outdoor air dampers should be inspected to ensure that they are open and the systems are operating as designed. Where possible increase outdoor air ventilation in these areas.
- Carbon monoxide levels measured were less than the recommended ceiling of 9 ppm.
- A visual inspection was conducted throughout accessible portions of the facility to assess sources or pathways of factors potentially deleterious to IAQ. The only observation made was a few water stained ceiling tiles. All sources of water infiltration should be identified and repaired. Water stained ceiling tile should be removed and replaced.

Section 6.0 Suspect Asbestos Containing Building Materials

Based on the age of the building (e.g., constructed in 1940's) asbestos-containing materials (ACM) could be present in the facility. The following suspect asbestos-containing materials were noted to be present.

1. Approximately 1,200 ft² of 9"X 9" red floor tile in the scout room.
2. Approximately 320 LF of pipe insulation on the lower level.
3. Approximately 11 mudded joint fittings were observed.
4. Approximately 110 ft² of boiler insulation.
5. Approximately 7,000 ft² of plaster ceiling was observed.

All materials were observed to be intact and in good condition.

No demolition was performed. ACM could be present in areas not inspected such as behind walls or in ceilings.

Section 7.0 Equipment

The following equipment was utilized during this survey. All sampling equipment was properly calibrated prior to use and verified for accuracy as applicable. See daily reports and calibrations logs for detailed information.

Equipment	Serial #	Calibration Date	Value
TSI QTrak IAQ Meter	02041015	8/2012	NA
Cal Light 400 Light Meter	K98364	4/2012	NA
TSI 4199 Calibrator	41460827002	8/2012	NA
SKC Air Sampling Pump	647610	1/22/2013	2.48 LPM
SKC Air Sampling Pump	647631	1/22/2013	2.51 LPM

Section 8.0 Limitations

This report summarizes our evaluation of the conditions observed at the above referenced location. Our findings are based upon our observations and sampling results obtained at the facility at the time of our visit. The report, results, and subsequent recommendations reported herein are also limited to the information available at the time it was prepared and investigated. Conditions may have been in effect prior to the sampling events that have changed over time and which cannot be predicted within the scope of this limited investigation. Any conditions discovered which deviate from the data contained in this report should be presented to us for our evaluation.

This report is intended for the exclusive use of the client. This report and the findings herein shall not, in whole or in part, be relied upon by any other parties, disseminated or conveyed to any other party without prior written consent of the National Guard Bureau, and Compliance Management International, Inc. The findings are relative to the dates of our site visits and should not be relied upon for substantially later dates.

Appendix A. Laboratory Analysis Report



CERTIFICATE OF ANALYSIS



Client:	National Guard Bureau	Job Name:	NJ	Chain Of Custody:	515055
Address:	301-IH Old Bay Lane, Attn: ARNG-CJG-P, State Military Reservation Havre de Grace, Maryland 21078	Job Location:	Woodbury RC	Date Submitted:	1/30/2013
		Job Number:	Not Provided	Person Submitting:	Non-Responsive
		P.O. Number:	W912K6-09-A-0003	Date Analyzed:	2/5/2013
Attention:	Non-Responsive			Report Date:	2/6/2013

Summary of Atomic Absorption Analysis for Lead

Page 1 of 2

AMA Sample Number	Client Sample Number	Analysis Type	Sample Type	Air Volume (L)	Area Wiped (ft²)	Reporting Limit	Total ug	Final Result	Comments
13033644	1	Flame	Air	866	N/A	3.5 ug/m³	<3	<3.5 ug/m³	
13033645	2	Flame	Air	876	N/A	3.4 ug/m³	<3	<3.4 ug/m³	
13033646	3	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13033647	4	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13033648	5	Flame	Wipe	****	0.108	110 ug/ft²	100	960 ug/ft²	
13033649	6	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13033650	7	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13033651	8	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13033652	9	Flame	Wipe	****	0.108	110 ug/ft²	17	160 ug/ft²	
13033653	10	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13033654	11	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13033655	12	Flame	Wipe	****	0.108	110 ug/ft²	15	140 ug/ft²	
13033656	13	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13033657	14	Flame	Wipe	****	0.108	110 ug/ft²	410	3800 ug/ft²	
13033658	15	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13033659	16	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13033660	17	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13033661	18	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13033662	19	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these Laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from us. Sample types, locations, and collection protocols are based upon the information provided by the persons submitting them and, unless collected by personnel of these Laboratories, we expressly disclaim any knowledge and liability for the accuracy and completeness of this information. Residual sample material will be discarded in accordance with the appropriate regulatory guidelines, unless otherwise requested by the client. This report must not be used to claim, and does not imply product certification, approval, or endorsement by NY ELAP, AIHA, or any agency of the Federal Government. All rights reserved. AMA Analytical Services, Inc.



CERTIFICATE OF ANALYSIS



Client: National Guard Bureau
Address: 301-IH Old Bay Lane, Attn: ARNG-CJG-P, State Military Reservation
 Havre de Grace, Maryland 21078
Attention: Non-Responsive

Job Name: NJ
Job Location: Woodbury RC
Job Number: Not Provided
P.O. Number: W912K6-09-A-0003

Chain Of Custody: 515055
Date Submitted: 1/30/2013
Person Submitting: Non-Responsive
Date Analyzed: 2/5/2013
Report Date: 2/6/2013

Summary of Atomic Absorption Analysis for Lead

Page 2 of 2

AMA Sample Number	Client Sample Number	Analysis Type	Sample Type	Air Volume (L)	Area Wiped (ft ²)	Reporting Limit	Total ug	Final Result	Comments
13033663	20	Flame	Wipe	****	0.108	110 ug/ft ²	<12	<110 ug/ft ²	
13033664	21	Flame	Wipe	****	0.108	110 ug/ft ²	<12	<110 ug/ft ²	
13033665	22	Flame	Wipe Blank	****	N/A	12 ug		<12 ug	
13033666	23	Flame	Air Blank	0	N/A	3 ug/m ³		<3 ug	
13033667	24	Flame	Paint Chip	****	N/A	0.0082 %Pb		<0.0082 %Pb	
13033668	25	Flame	Paint Chip	****	N/A	0.0099 %Pb		0.055 %Pb	
13033669	26	Flame	Paint Chip	****	N/A	0.0096 %Pb		0.51 %Pb	

Analysis Method for Flame: Air, Wipes, Paints, and Soil/Solids: EPA 600/R-93/200(M)-7000B; Water: SM-3111B

Analysis Method For Furnace: Air, Wipes, Paints, and Soil/Solids : EPA 600/R-93/200(M)-7010; Water: SM-3113B

N/A = Not Applicable mg/Kg = parts per million (ppm) on a dry weight basis mg/L = parts per million (ppm)

%Pb = percent lead on a dry weight basis ug = micrograms ug/L = parts per billion (ppb)

Note: All samples were received in good condition unless otherwise noted.

Note: All results have two significant digits. Any additional digits shown should not be considered when interpreting the result.

Air and Wipe results are not corrected for any blank results

Final results for air and wipe samples are based on client supplied information nor verified by this laboratory.

All results are to be considered preliminary and subject to change unless signed by the Technical Director or Deputy.

See QC Summary for analytical results of quality control samples associated with these samples.

Analyst

Technical Manager

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these Laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from us. Sample types, locations, and collection protocols are based upon the information provided by the persons submitting them and, unless collected by personnel of these Laboratories, we expressly disclaim any knowledge and liability for the accuracy and completeness of this information. Residual sample material will be discarded in accordance with the appropriate regulatory guidelines, unless otherwise requested by the client. This report must not be used to claim, and does not imply product certification, approval, or endorsement by NY ELAP, AIHA, or any agency of the Federal Government. All rights reserved. AMA Analytical Services, Inc.

**AMA Analytical Services, Inc.**

Focused on Results www.amalab.com
 AIHA (#100470) NVLAP (#101143-0) NY ELAP (10920)
 4475 Forbes Blvd. • Lanham, MD 20706
 (301) 459-2640 • (800) 346-0961 • Fax (301) 459-2643

CHAIN OF CUSTODY

(Please Refer To This
 Number For Inquires)

515055

page 1 of 2

Mailing/Billing Information:

- Client Name: National Guard Bureau
- Address 1: 301-JH Old Bay Lane
- Address 2: Attn: NGB-ARS-JHNE
- Address 3: Havre de Grace, Maryland 21078
- Phone #: (410) 942-0273 Fax #: (410) 942-0254

Submittal Information:

- Job Name: NJ
- Job Location: Woodbury RC
- Job #: Non-Responsive W912K6-09-A-0003
- Contact Person: Non-Responsive @ phone # (410) 942-0273
- Submitted by: Non-Responsive nature: Non-Responsive

Reporting Information (Results will be provided as soon as technically feasible):

AFTER HOURS (must be pre-scheduled)		NORMAL BUSINESS HOURS		REPORT TO:	
<input type="checkbox"/> Immediate	Date Due: _____	<input type="checkbox"/> 3 Day	<input type="checkbox"/> Results Required By Noon	<input checked="" type="checkbox"/> Inc <u>Non-Responsive</u> with Report	<input type="checkbox"/> Tim _____
<input type="checkbox"/> 24 Hours	Time Due: _____	<input checked="" type="checkbox"/> Next Day	<input type="checkbox"/> 5 Day +	<input checked="" type="checkbox"/> Fax _____	<input type="checkbox"/> @us.army.mil
Comments: _____		<input type="checkbox"/> 2 Day	Date Due: <u>2/6/13</u>	<input type="checkbox"/> Ver _____	<input type="checkbox"/> @us.army.mil
			(Every Attempt Will Be Made to Accommodate)		

Asbestos Analysis**PCM Air** - Please Indicate Filter Type:

- ☐ NIOSH 7400 (QTY) _____
☐ Fiberglass (QTY) _____

TEM Air - Please Indicate Filter Type:

- ☐ AHERA (QTY) _____
☐ NIOSH 7402 (QTY) _____
☐ Other (specify _____) (QTY) _____

PLM Bulk

- ☐ EPA 600 - Visual Estimate (QTY) _____
☐ EPA Point Count (QTY) _____
☐ NY State Friable 198.1 (QTY) _____
☐ Grav. Reduction ELAP 198.6 (QTY) _____
☐ Other (specify _____) (QTY) _____

MISC

- ☐ Vermiculite
☐ Asbestos Soil PLM (Qual) PLM (Quan) PLM/TEM (Qual) PLM/TEM (Quan)

TEM Bulk

- ☐ ELAP 198.4/Chatfield (QTY) _____
☐ NY State PLM/TEM (QTY) _____
☐ Residual Ash (QTY) _____

TEM Dust

- ☐ Qual. (pres/abs) Vacuum/Dust (QTY) _____
☐ Quan. (s/area) Vacuum D5755-95 (QTY) _____
☐ Quan. (s/area) Dust D6480-99 (QTY) _____

TEM Water

- ☐ Qual. (pres/abs) (QTY) _____
☐ ELAP 198.2/EPA 100.2 (QTY) _____
☐ EPA 100.1 (QTY) _____

☒ All samples received in good condition unless otherwise noted.
 (TSM Water samples _____ °C)

Metals Analysis

- ☐ Pb Paint Chip 3 (QTY) _____
☐ Pb Dust Wipe (wipe type Glow) 20 (QTY) _____
☐ Pb Air 3 (QTY) _____
☐ Pb Soil/Solid (QTY) _____
☐ Pb TCLP (QTY) _____
☐ Drinking Water ☐ Pb (QTY) ☐ Cu (QTY) ☐ As (QTY) _____
☐ Waste Water ☐ Pb (QTY) ☐ Cu (QTY) ☐ As (QTY) _____
☐ Pb Furnace (Media _____) (QTY) _____

Fungal Analysis

- Collection Apparatus for Spore Traps/Air Samples: _____
 Collection Media _____
☐ Spore-Trap (QTY) _____ ☐ Surface Vacuum Dust (QTY) _____
☐ Surface Swab (QTY) _____ ☐ Culturable ID Genus (Media _____) (QTY) _____
☐ Surface Tape (QTY) _____ ☐ Culturable ID Species (Media _____) (QTY) _____
☐ Other (Specify _____) (QTY) _____

SAMPLE INFORMATION

CLIENT ID NUMBER	SAMPLE LOCATION IDENTIFICATION	DATE	VOLUME (LITERS)	WIPE AREA	TEM	PCM	PLM	LEAD	WOLD	AIR	BULK	DUST	WATER AND OTHER	SPORE TRAP	TAPE	SWAB
1	Drill Hall	1-22	866					X								
2	S-1 Office		876					X								
3	Drill Hall - Floor			100 cm ²				X								
4	Drill Hall - Book Shelf							X								
5	Drill Hall - Fire extinguish Box							X								
6	Kitchen - Top of table							X								
7	Kitchen - ice machine							X								
8	Hallway outside RANGE							X								
9	Firing Range - Floor							X								
10	Firing Range - Table							X								
11	Firing Range - Storage Box							X								
12	Detached GARAGE - floor #1							X								

CLIENT CONTACT

(LABORATORY STAFF ONLY)

Date/Time:	Contact:	By:

Non-Responsive**LABORATORY**

Posted to NGB FOIA Reading Room
 May 2018
 (CUSTODY)

1. Date/Time RCVD: 1/30/13 @ Feckel By (Print): _____2. Date/Time Analyzed: _____ @ BEST AVAILABLE COPY3. Results Reported To: 1939 3323 1003

4. Comments: _____

Via: _____ Date: _____ / _____ / _____

Type: _____ Released by National Guard Bureau

**AMA Analytical Services, Inc.**

Focused on Results www.amalab.com
 AIHA (#100470) NVLAP (#101143-0) NY ELAP (10920)
 4475 Forbes Blvd. • Lanham, MD 20706
 (301) 459-2640 • (800) 346-0961 • Fax (301) 459-2643

CHAIN OF CUSTODY

(Please Refer To This
 Number For Inquires)

515058

Page 2 of 3

Mailing/Billing Information:

- Client Name: National Guard Bureau
- Address 1: 301-JH Old Bay Lane
- Address 2: Attn: NGB-ARS-IHNE
- Address 3: Havre de Grace, Maryland 21078
- Phone #: (410) 942-0273 Fax #: (410) 942-0254

Submittal Information:

- Job Name: NJ
- Job Location: Woodbury RC
- Job #: W912K6-09-A-0003
- Contact Person: Non-Responsive @ phone # (410) 942-0273
- Submitted by: Non-Responsive Signature: Non-Responsive

Reporting Information (Results will be provided as soon as technically feasible):

AFTER HOURS (must be pre-scheduled)		NORMAL BUSINESS HOURS		REPORT TO:
<input type="checkbox"/> Immediate Date Due: _____	<input type="checkbox"/> 3 Day	<input type="checkbox"/> Next Day	<input type="checkbox"/> Results Required By Noon (Every Attempt Will Be Made to Accommodate)	<input checked="" type="checkbox"/> Include COC/Field Data Sheets with Report
<input type="checkbox"/> 24 Hours Time Due: _____	<input type="checkbox"/> 5 Day +	<input type="checkbox"/> 2 Day Date Due: _____		<input checked="" type="checkbox"/> Email <u>Non-Responsive</u> @us.army.mil
Comments: _____				<input type="checkbox"/> Fax: _____ @us.army.mil
				<input type="checkbox"/> Verbal _____ @us.army.mil

Asbestos Analysis**PCM Air** - Please Indicate Filter Type:

- ☐ NIOSH 7400 (QTY) _____
- ☐ Fiberglass (QTY) _____

TEM Air - Please Indicate Filter Type:

- ☐ AHERA (QTY) _____
- ☐ NIOSH 7402 (QTY) _____
- ☐ Other (specify) _____ (QTY) _____

PLM Bulk

- ☐ EPA 600 - Visual Estimate (QTY) _____
- ☐ EPA Point Count (QTY) _____
- ☐ NY State Friable 198.1 (QTY) _____
- ☐ Grav. Reduction ELAP 198.6 (QTY) _____
- ☐ Other (specify) _____ (QTY) _____

MISC

- ☐ Vermiculite
- ☐ Asbestos Soil PLM (Qual) PLM (Quan) PLM/TEM (Qual) PLM/TEM (Quan)

TEM Bulk

- ☐ ELAP 198.4/Chatfield (QTY) _____
- ☐ NY State PLM/TEM (QTY) _____
- ☐ Residual Ash (QTY) _____

TEM Dust

- ☐ Qual. (pres/abs) Vacuum/Dust (QTY) _____
- ☐ Quan. (s/area) Vacuum D5755-95 (QTY) _____
- ☐ Quan. (s/area) Dust D6480-99 (QTY) _____

TEM Water

- ☐ Qual. (pres/abs) (QTY) _____
- ☐ ELAP 198.2/EPA 100.2 (QTY) _____
- ☐ EPA 100.1 (QTY) _____

☐ All samples received in good condition unless otherwise noted.
 (TEM Water samples °C)

Metals Analysis

- ☐ Pb Paint Chip (QTY) _____
- ☐ Pb Dust Wipe (wipe type) _____ (QTY) _____
- ☐ Pb Air (QTY) _____
- ☐ Pb Soil/Solid (QTY) _____
- ☐ Pb TCLP (QTY) _____
- ☐ Drinking Water ☐ Pb (QTY) ☐ Cu (QTY) ☐ As (QTY)
- ☐ Waste Water ☐ Pb (QTY) ☐ Cu (QTY) ☐ As (QTY)
- ☐ Pb Furnace (Media) _____ (QTY) _____

Fungal Analysis

- Collection Apparatus for Spore Traps/Air Samples: _____
- Collection Media _____
- ☐ Spore-Trap (QTY) _____ ☐ Surface Vacuum Dust (QTY) _____
- ☐ Surface Swab (QTY) _____ ☐ Culturable ID Genus (Media) _____ (QTY) _____
- ☐ Surface Tape (QTY) _____ ☐ Culturable ID Species (Media) _____ (QTY) _____
- ☐ Other (Specify) _____ (QTY) _____

SAMPLE INFORMATION

CLIENT ID NUMBER	SAMPLE LOCATION/ IDENTIFICATION	DATE	VOLUME (LITERS)	WIPE AREA	TEM	PCM	PLM	LEAD	MOLD	AIR	BULK	DUST	MATRIX	WATER AND OTHER	SPORE TRAP	TAPE	SWAB
13	Detached Garage #2 Floor	1-22		100 cm ²				X									
14	Detached Garage #3 Floor							X									
15	Armory Office - CW							X									
16	Weight Room - locker							X									
17	Orderly Office File Cabinet							X									
18	CSM Office - Desk							X									
19	Veterans Office - File Cabinet							X									
20	Distributing Unit - Desk							X									
21	Supply Office B-05 - Desk							X									
22	Blank			0				X									
23	Blank		0					X									
24	Exterior - Steps							X			X						

CLIENT CONTACT

(LABORATORY STAFF ONLY)

Date/Time: _____ Contact: _____ By: _____

Date/Time: _____ Contact: _____ By: _____

Date/Time: _____ Contact: _____ By: _____

Non-Responsive**LABORATORY**

Posted to NGB FOIA Reading Room

May 2018
(CUSTODY)

1. Date/Time RCVD: _____ / _____ / _____ @ _____ Via: _____ By (Print): _____

2. Date/Time Analyzed: _____ / _____ / _____ @ _____

3. Results Reported To: _____ Via: _____ Date: _____ / _____ / _____

4. Comments: _____

BEST AVAILABLE COPY

Sign: _____

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

Released by National Guard Bureau

Page 1592 of 1660



AMA Analytical Services, Inc.

Focused on Results www.amalab.com

AIHA (#100470) NVLAP (#101143-0) NY ELAP (10920)

4475 Forbes Blvd. • Lanham, MD 20706

(301) 459-2640 • (800) 346-0961 • Fax (301) 459-2643

CHAIN OF CUSTODY

(Please Refer To This
Number For Inquires)

515055
page 3 of 3

Mailing/Billing Information:

1. Client Name: National Guard Bureau
2. Address 1: 301-IH Old Bay Lane
3. Address 2: Attn: NGB-ARS-IHNE
4. Address 3: Havre de Grace, Maryland 21078
5. Phone #: (410) 942-0273 Fax #: (410) 942-0254

Submittal Information:

1. Job Name: NJ
2. Job Location: Woburn
3. Job #: PO #: W912K6-09-A-0003
4. Contact Person: Non-Responsive @ Non-Responsive-0273
5. Submitted by: nature: Non-Responsive

Reporting Information (Results will be provided as soon as technically feasible):

AFTER HOURS (must be pre-scheduled) <input type="checkbox"/> Immediate Date Due: _____ <input type="checkbox"/> 24 Hours Time Due: _____ Comments: _____		NORMAL BUSINESS HOURS <div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> Immediate <input type="checkbox"/> Next Day <input type="checkbox"/> 2 Day </div> <div> <input type="checkbox"/> 3 Day <input type="checkbox"/> 5 Day + Date Due: _____ </div> <div> <input type="checkbox"/> Results Required By Noon (Every Attempt Will Be Made to Accomodate) </div> </div>		REPORT TO: <input checked="" type="checkbox"/> Include COC/Field Data Sheets with Report <input checked="" type="checkbox"/> Non-Responsive @ _____ <input type="checkbox"/> Fax @us.army.mil <input type="checkbox"/> Ver @us.army.mil
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Asbestos Analysis

PCM Air – Please Indicate Filter Type:

- ☐ NIOSH 7400 _____ (QTY)
☐ Fiberglass _____ (QTY)

TEM Air – Please Indicate Filter Type:

- ☐ AHERA _____ (QTY)
☐ NIOSH 7402 _____ (QTY)
☐ Other (specify _____) _____ (QTY)

PLM Bulk

- ☐ EPA 600 - Visual Estimate _____ (QTY)
☐ EPA Point Count _____ (QTY)
☐ NY State Friable 198.1 _____ (QTY)
☐ Grav. Reduction ELAP 198.6 _____ (QTY)
☐ Other (specify _____) _____ (QTY)

MISC

- ☐ Vermiculite
- ☐ Asbestos Soil PLM__ (Qual) PLM__ (Quan) PLM/TEM__ (Qual) PLM/TEM__ (Quan)

TEM Bulk

- ☐ ELAP 198.4/Chatfield _____ (QTY)
☐ NY State PLM/TEM _____ (QTY)
☐ Residual Ash _____ (QTY)

TEM Dust

- ☐ Qual. (pres/abs) Vacuum/Dust _____ (QTY)
☐ Quan. (s/area) Vacuum D5755-95 _____ (QTY)
☐ Quan. (s/area) Dust D6480-99 _____ (QTY)

TEM Water

- ☐ Qual. (pres/abs)_____ (QTY)
☐ ELAP 198.2/EPA 100.2_____ (QTY)
☐ EPA 100.1_____ (QTY)

- ☐ All samples received in good condition unless otherwise noted.
(TEM Water samples _____ °C)

Metals Analysis

- ☐ Pb Paint Chip _____ (QTY)
☐ Pb Dust Wipe (wipe type _____) _____ (QTY)
☐ Pb Air _____ (QTY)
☐ Pb Soil/Solid _____ (QTY)
☐ Pb TCLP _____ (QTY)
☐ Drinking Water ☐ Pb _____ (QTY) ☐ Cu _____ (QTY) ☐ As _____ (QTY)
☐ Waste Water ☐ Pb _____ (QTY) ☐ Cu _____ (QTY) ☐ As _____ (QTY)
☐ Pb Furnace (Media _____) _____ (QTY)

Fungal Analysis

Collection Apparatus for Spore Traps/Air Samples:

Collection Media

- ☐ Spore-Trap _____ (QTY) ☐ Surface Vacuum Dust _____ (QTY)
☐ Surface Swab _____ (QTY) ☐ Culturable ID Genus (Media _____) (QTY)
☐ Surface Tape _____ (QTY) ☐ Culturable ID Species (Media _____) (QTY)
☐ Other (Specify _____) (QTY)

CLIENT CONTACT

(LABORATORY STAFF ONLY)

[illegible]

Non-Responsive

LABORATORY

Posted to NGB FOIA Reading Room

May, 2018

1. Date/Time RCVD: ____/____/____ @ ____ Via: ____ By (Print): ____ Sign: ____
2. Date/Time Analyzed: ____/____/____ @ ____ Sign: ____
3. Results Reported To: ____ Via: ____ Date: ____/____/____ FOIA Requester: ____
4. Comments: ____

FOIA Request

Time: Initials:
Released by National Guard Bureau

Page 1593 of 1660

Appendix B. Photographs



Exterior of facility



Exterior front steps peeling paint



Lower level hallway peeling paint



Exterior three detached garages



Suspect asbestos pipe insulation and mudded joint fittings

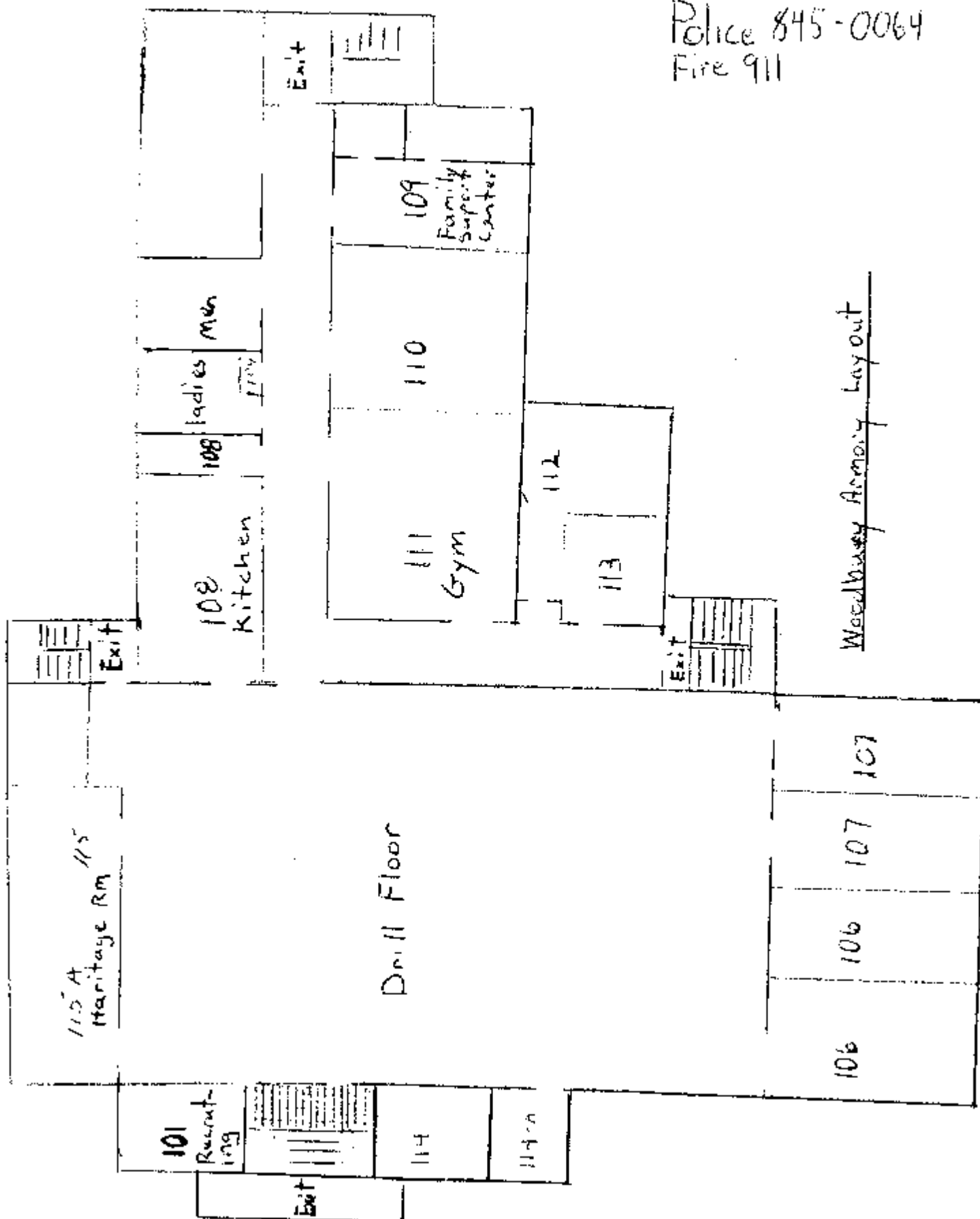


9\"X9\" red suspect floor tile and mastic in the scout room



Inside garage number three peeling paint on exterior wall

Appendix C. Floor Plan



Woodbury Army Lay out



Appendix D. References

1. Title 29 Code of Federal Regulations (CFR), Part 1910.1025, Occupational Safety and Health Administration, Occupational Exposure to Lead
2. American Conference of Governmental Industrial Hygienists (ACGIH) – Threshold Limit Values and Biological Exposure Indices, 2011 Edition.
3. Industrial Ventilation: A Manual of Recommended Practice for Design, 27th Edition.
4. American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), Ventilation for Acceptable Indoor Air Quality, 62.1-2010.
5. RP-1-2004, Industrial Lighting, Illuminating Engineering Society of North America/ANSI.
6. RP-7-2001, Industrial Lighting, Illuminating Engineering Society of North America/ANSI.
7. National Emission Standard Hazardous Air Pollutants (NESHAP) – The standards for asbestos are contained in 40 CFR 61.140 through 61.157.
8. Environmental Protection Agency (EPA) standards [40 Code of Federal Regulations (CFR) 745.227(h)(3)].
9. Derivation of Wipe Surface Screening Levels for Environmental Chemicals, the US Army Center for Health Promotion and Preventive Medicine (USACHPPM).
10. The US Army Technical Guide 277 Army Facilities Management Information Document on Mold Remediation, February 2002.
11. NG PAM 420-15 Guidelines and Procedures for Rehabilitation and Conversion of Indoor Firing Ranges, 3 Nov 06.
12. American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), Thermal Environmental Conditions for Human Occupancy, 55-2010.

Prepared For:

National Guard Bureau
Army National Guard
Region North Industrial Hygiene Office
301 – IH Old Bay Lane
Havre De Grace, Maryland 21078

Prepared By:

URS Corporation
5 Industrial Way
Salem, New Jersey 03079

**FINAL
INDUSTRIAL HYGIENE SURVEY REPORT
WOODSTOWN ARMORY
WOODSTOWN, NEW JERSEY**

February 2006
PN: 39741509

Non-Responsive



Office Manager

Non-Responsive



Project Manager

TABLE OF CONTENTS

Section	Page
1.0 SUMMARY	1
2.0 ADMINISTRATIVE AREA	2
2.1 OPERATION DESCRIPTION	2
2.2 CHEMICAL AND PHYSICAL AGENTS SAMPLED	2
2.2.1 Relative Humidity	2
2.2.2 Carbon Dioxide	3
2.2.3 Carbon Monoxide	3
2.2.4 Lighting	4
2.2.5 Lead	4
2.3 VENTILATION SYSTEM EVALUATION	5
2.4 NOISE MEASUREMENTS	5
2.5 PERSONAL PROTECTIVE EQUIPMENT	5
2.6 INTERPRETATION OF RESULTS	5
3.0 FORMER INDOOR FIRING RANGE	6
3.1 OPERATION DESCRIPTION	6
3.2 CHEMICAL AND PHYSICAL AGENTS SAMPLED	6
3.2.1 Lead	6
3.3 VENTILATION SYSTEM EVALUATION	6
3.4 NOISE MEASUREMENTS	6
3.5 PERSONAL PROTECTIVE EQUIPMENT	7
3.6 INTERPRETATION OF RESULTS	7
4.0 DRILL HALL	8
4.1 OPERATION DESCRIPTION	8
4.2 CHEMICAL AND PHYSICAL AGENTS SAMPLED	8
4.2.1 Lead	8
4.3 VENTILATION SYSTEM EVALUATION	8
4.4 NOISE MEASUREMENTS	8
4.5 PERSONAL PROTECTIVE EQUIPMENT	8
4.6 INTERPRETATION OF RESULTS	9
5.0 BOILER ROOM	10
5.1 OPERATION DESCRIPTION	10
5.2 CHEMICAL AND PHYSICAL AGENTS SAMPLED	10
5.3 VENTILATION SYSTEM EVALUATION	10
5.4 NOISE MEASUREMENTS	10
5.5 PERSONAL PROTECTIVE EQUIPMENT	10
5.6 INTERPRETATION OF RESULTS	10
6.0 SAFETY AND INDUSTRIAL HYGIENE PROGRAMS	11
6.1 CONFINED SPACES	11
6.2 HEARING CONSERVATION	11
6.3 RESPIRATORY PROTECTION	11
6.4 HAZARD COMMUNICATION	11
6.5 PERSONAL PROTECTIVE EQUIPMENT	11
7.0 REFERENCES	12

TABLE OF CONTENTS (Continued)

Appendices

Appendix A Armory Drawing

Appendix B Personnel List

Appendix C Hazardous Materials List

Appendix D Analytical Results

Appendix E Training Certificates

Appendix F Photographs

Appendix G Recommendations for Surface Lead Dust in Armories

FINDINGS AND RECOMMENDATIONS

Findings	Recommendation	Risk Assessment Code
Ergonomic		
Computer workstations were observed with fixed chairs, armrests, keyboards and monitors.	Ergonomic issues with the desks and chairs should be corrected by fitting the workplace to the worker (Department of the Army Pamphlet 40-21, Chapter 4, Page 7, Section 4-3)	RAC 3
Lighting		
On the day of the survey, the illumination throughout the building was inadequate in most circumstances.	Increase lighting in the administrative and drill floor areas. While work is in progress, the administrative area shall be lighted by at least the minimum lighting intensities (ANSI/IESNA RP-1-04)	RAC 4
Lead		
Suspect peeling lead based paint was observed at the time of the inspection. Chip results indicated the paint was not lead containing.	Personnel trained in accordance with the OSHA Lead Standard should stabilize peeling lead paint (OSHA 29 CFR 1910.1025 (e)(1)(i))	RAC 4
Housekeeping		
Heating oil was observed spilled on the steps to the boiler room.	All places of employment, passageways, storerooms, and service rooms shall be kept clean and orderly and in a sanitary condition (OSHA 29 CFR 1910.22(a)(1)).	RAC 3

FINDINGS AND RECOMMENDATIONS (Continued)

Findings	Recommendation	Risk Assessment Code
Asbestos		
Asbestos containing floor tile was observed to be significantly damaged in the hallway outside the boiler room.	Remove damaged asbestos containing floor tile using a certified asbestos abatement contractor. TSCA Title II, 40 CFR Part 763.	RAC 3
A site-specific asbestos operations and maintenance plan was not available. No warning labels in janitorial or maintenance areas.	Maintain a site specific asbestos operations and maintenance plan to manage asbestos-containing materials by labeling of asbestos (OSHA 29 CFR 1910.1001 (j)(4)); employee information and training (OSHA 29 CFR 1910.1001 (j)(7)); housekeeping (OSHA 29 CFR 1910.1001 (k)); medical surveillance (OSHA 29 CFR 1910.1001 (l)(1)); record keeping (OSHA 29 CFR 1910.1001 (m)(1))	RAC 3

1.0 SUMMARY

At the request of the National Guard Bureau (NGB) Region North Industrial Hygiene Office, URS Corporation (URS) conducted an industrial hygiene survey at the Woodstown Armory located at 501 North Main Street in Woodstown, New Jersey. This report includes an executive summary and a description of the site activities and findings and a list of conclusions and recommendations.

On March 9, 2004, Mr. [Non-Responsive] an industrial hygienist with URS, conducted a site visit to the Armory in Woodstown, New Jersey. The purpose of this site visit was to conduct an industrial hygiene survey, which included the collection of air samples, bulk samples, lighting measurements, and a review of site health and safety procedures. Sergeant [Non-Responsive] of the New Jersey ARNG was Mr. [Non-Responsive] site contact for this survey.

This armory is a one-story brick building, with an attached drill hall that is constructed primarily of brick and mortar. This facility is built on a concrete slab with a pitched asphalt roof. The building was constructed in 1984. A layout drawing of the facility, which shows the locations where measurements were made during this survey, is contained in Appendix A.

2.0 ADMINISTRATIVE AREA

2.1 Operation Description

This building area contains multiple offices located throughout the building with desks and computer workstations. Computer workstations were assessed during the walkthrough for ergonomic issues. Some computer workstation chairs could not be adjusted for height, the armrests were in a fixed position and keyboards in offices could not be adjusted. Computer monitors could not be adjusted for different individuals working at the workstations. If more than one person is using that station, then proper adjustments need to be made to accommodate each person. No complaints were received by URS concerning workstations at the time of this survey.

Gasoline was located in the flammable storage lockers with hazard communication data.

2.2 Chemical and Physical Agents Sampled

On the day of the survey, relative humidity, carbon dioxide and carbon monoxide measurements were made in Offices 1 and 2, foyer, drill hall, rooms 8, 11 and 12, classroom, boiler room, range and outside. These readings were all measured using a TSI Q-Trak™ (Model 8551). No indoor air quality complaints were received during this survey.

2.2.1 Relative Humidity

Relative humidity on the day of the survey ranged from 31.4-38.7% throughout the various building areas with an average of 33.6%. The average reading was below the recommended maximum level of 65% set by the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. (ANSI / ASHRAE Standard 62.1-2004).

2.2.2 Carbon Dioxide

Carbon dioxide concentrations ranged from a low of 434 to a spike of 650 parts per million (ppm), with an average of 517.5 ppm. The outside reading was 482 ppm.

Carbon dioxide is a normal constituent of the atmosphere and ranges from about 250 to 450 ppm. The major source of excess carbon dioxide in the indoor environment is people. Other sources can include open-flame heaters, fermentation processes, and motor vehicles. Carbon dioxide itself is not normally a cause of indoor air quality problems because concentrations must exceed 5,000 to 10,000 ppm before health effects such as headache, drowsiness, and increased respiration are noted. Typically, carbon dioxide is used as an indicator of the adequacy of fresh air intake. As the concentration of carbon dioxide increases, so do the background levels of other air contaminants.

ASHRAE (62.1-2004) recommends that levels of carbon dioxide be maintained below 700 ppm above the outside level. Given an outside level of 482 ppm on the day of the survey, the ASHRAE limit would be 1,182 ppm.

2.2.3 Carbon Monoxide

Carbon monoxide concentrations ranged from 0.3 to 1.0 ppm on the day of the survey. ASHRAE recommends that average carbon monoxide concentrations not exceed 9 ppm. Typical average concentrations found in commercial buildings range from 0 to 6 ppm. The measured levels were below the ASHRAE guideline for indoor environments (62.1-2004). Carbon monoxide was measured using a TSI Q-Track (Model 8551).

Key sources of carbon monoxide within indoor environments may include internal combustion engines, motor vehicle and forklift exhaust, tobacco smoke, space heaters, and improperly adjusted oil or gas burners. Health effects from exposure to elevated concentrations of carbon monoxide may include fatigue, impairment of visual acuity, irregular heartbeat, headache, nausea, and confusion.

2.2.4 Lighting

Lighting in the administrative areas was measured using a Sper Scientific Ltd. Light Meter (Model 840020C). Table 2-1 below shows lighting measurements and the recommended lighting requirement (ANSI/IESNA RP-1-04 American National Standard Practice for Office Lighting).

Table 2-1
Lighting Measurements and Recommended Lighting Requirements

Location	Function	Measured Lighting Footcandles	Recommended Lighting Footcandles
Room 2	Office	47	50
Room 4	Office	41	50
Room 5	Office	70	30
Room 6	Office	60	50
Room 1	Office	61	50
Foyer	Hall	41	30
Drill Hall Center	Drill Hall	16	30
Room 3	Office	20	50
Room 11	Office	17	50
Room 12	Office	23	50
Room 21	Office	16	50
Classroom	Classroom	90	50
Room 14	Office	15	50
Range Center	Firing Range	10	50

On the day of the survey lighting levels were below the recommended levels in most areas evaluated.

2.2.5 Lead

Paint chips were collected in the administrative area where peeling paint was observed and sent to AMA Analytical Services, Inc. (AMA) for analysis. Laboratory results indicated this paint was not lead containing. Lead paint levels of lead greater than 0.5% by weight are referred to as "lead-containing" (Section 1017 of the Residential Lead-Based Paint Hazard Reduction Act of 1992 (also referred to as Title X)).

2.3 Ventilation System Evaluation

Not applicable to this operation.

2.4 Noise Measurements

Not applicable to this operation.

2.5 Personal Protective Equipment

Not applicable to this operation.

2.6 Interpretation of Results

GENERAL: In general, the administrative area was neat and orderly. The fire exits and extinguishers were marked and easily accessible.

ERGONOMICS: The ergonomic issues were minor with regard to the desks, chairs and monitors and need to be corrected by fitting the workplace to the workers.

LIGHTING: On the day of the survey the illumination in the administrative area was inadequate in most offices and generally throughout the facility. URS recommends increasing the area lighting or supplement task lighting for each workstation in the administrative areas. While work is in progress the administrative area must be lighted by at least the minimum light intensities.

ASBESTOS: Floor tile that was present outside the boiler room was known to be greater than one percent asbestos and is significantly damaged. The damaged floor tiles should be removed by a certified asbestos abatement contractor and replaced with new non-asbestos flooring.

3.0 FORMER INDOOR FIRING RANGE

3.1 Operation Description

The site has a former indoor firing range which is currently used for storage.

3.2 Chemical and Physical Agents Sampled

3.2.1 Lead

Lead wipe samples were collected from the former firing range for determination of accumulated lead dust. Results indicated lead concentrations in this area to be below 200 micrograms per square foot.

Wipe testing for lead was conducted in the former firing range using ghost wipes, which meet ASTM E 1792 standards. The analytical report from AMA is contained in Appendix D. Table 3-1 below shows the results of the lead sampling.

**Table 3-1
Levels of Lead Dust Found in the Former Firing Range**

Sample Location	URS Sample Number	Area Wiped (ft ²)	Result (µg/ft ²)	Maximum Surface Contamination Level (µg/ft ²)
Former Firing Range-Floor – North Center	0309-03	0.108	180	200
Former Firing Range-Floor – South	0309-04	0.108	160	200
Former Firing Range- Top of Flammable Materials Case	0309-05	0.108	91	200
Blank	0309-06	N/A	0.79 µg	N/A

3.3 Ventilation System Evaluation

Not applicable to this operation.

3.4 Noise Measurements

Not applicable to this operation.

3.5 Personal Protective Equipment

Not applicable to this operation.

3.6 Interpretation of Results

LEAD: Lead sampling was performed in this area and indicated levels less than recommended by the National Guard Bureau Region North IH Office.

4.0 DRILL HALL

4.1 Operation Description

The drill hall is used for assembling personnel and storage of military vehicles. The approximate size is 2500 square feet.

4.2 Chemical and Physical Agents Sampled

4.2.1 Lead

Wipe testing for lead dust was conducted in the drill hall using Ghost Wipes™, which meet ASTM E 1792 standards. The analytical report from AMA is contained in Appendix D. Table 4-1 below shows the results of the lead sampling.

Table 4-1
Levels of Lead Dust Found in the Drill Hall

Sample Location	URS Sample Number	Area Wiped	Result ($\mu\text{g}/\text{ft}^2$)	Maximum Surface Contamination Level ($\mu\text{g}/\text{ft}^2$)
Drill Floor outside room 8- floor	0309-01	0.108	50	200
Drill Floor- top of extinguisher box	0309-02	0.108	21	200
Blanks	0309-06	N/A	0.79 μg	N/A

Sample numbers and locations can be found on the site map in Appendix A.

4.3 Ventilation System Evaluation

Not applicable to this operation.

4.4 Noise Measurements

Not applicable to this operation.

4.5 Personal Protective Equipment

Not applicable to this operation.

4.6 Interpretation of Results

LEAD: Wipe samples collected from the drill hall for lead were found to be within allowable limits and requires no further action. The NGB Region North IH Office has prepared a memorandum titled "Recommendations for Surface Lead Dust in Armories" which is provided in Appendix G.

5.0 BOILER ROOM

5.1 Operation Description

The boiler room is a mechanical space constructed of cinder block walls with a concrete floor containing a furnace and associated piping. Oil was observed on the steps to the boiler room as well as leaking from the boiler itself.

5.2 Chemical and Physical Agents Sampled

No chemical or physical agents were sampled.

5.3 Ventilation System Evaluation

Not applicable to this operation.

5.4 Noise Measurements

Not applicable to this operation.

5.5 Personal Protective Equipment

Not applicable to this operation.

5.6 Interpretation of Results

HOUSEKEEPING: Oil was observed on the steps towards the boiler room creating a possible slip hazard.

6.0 SAFETY AND INDUSTRIAL HYGIENE PROGRAMS

6.1 Confined Spaces

No safety program was found regarding confined spaces. No training records were found on site. A confined spaces program is required for this site.

6.2 Hearing Conservation

No safety program was found regarding hearing conservation. No training records were found on site. A hearing conservation program is not required for this site.

6.3 Respiratory Protection

No safety program was found regarding respiratory protection. No training records were found on site. A respiratory protection program is not required for this site.

6.4 Hazard Communication

A program was found regarding hazard communication. Training records were found on site. A site-specific hazard communication program is required for this site and should include communication of hazards to employees, management of material safety data sheets, chemical labeling and spill protection.

6.5 Personal Protective Equipment

No safety program was found regarding personal protective equipment. No training records were found on site. A personal protective equipment program is not required for this site.

7.0 REFERENCES

American National Standards Institute

ANSI/ESNA RP-1-04: American National Standard Practice for Office Lighting

American Society of Heating Refrigerating and Air-Conditioning Engineers

ANSI/ASHRAE Standard 62.1-2004: Ventilation for Acceptable Indoor Air Quality

Department of the Army

Ergonomics Program Pamphlet 40-21 (15 August 2003)

Policy and Responsibilities For Inspection, Evaluation and Operation of Army National Guard Indoor Firing Ranges (National Guard Regulation 385-15, 30 December 2002)

Department of Defense

DoD Hearing Conservation Program Standard 6055.12 April 1996

Creating an Ideal Workstation: A Step-by-Step Guide

U. S. Environmental Protection Agency

Asbestos Hazard Emergency Response Act (40 CFR Part 763)

National Emissions Standards for Hazardous Pollutants (40 CFR Part 61)

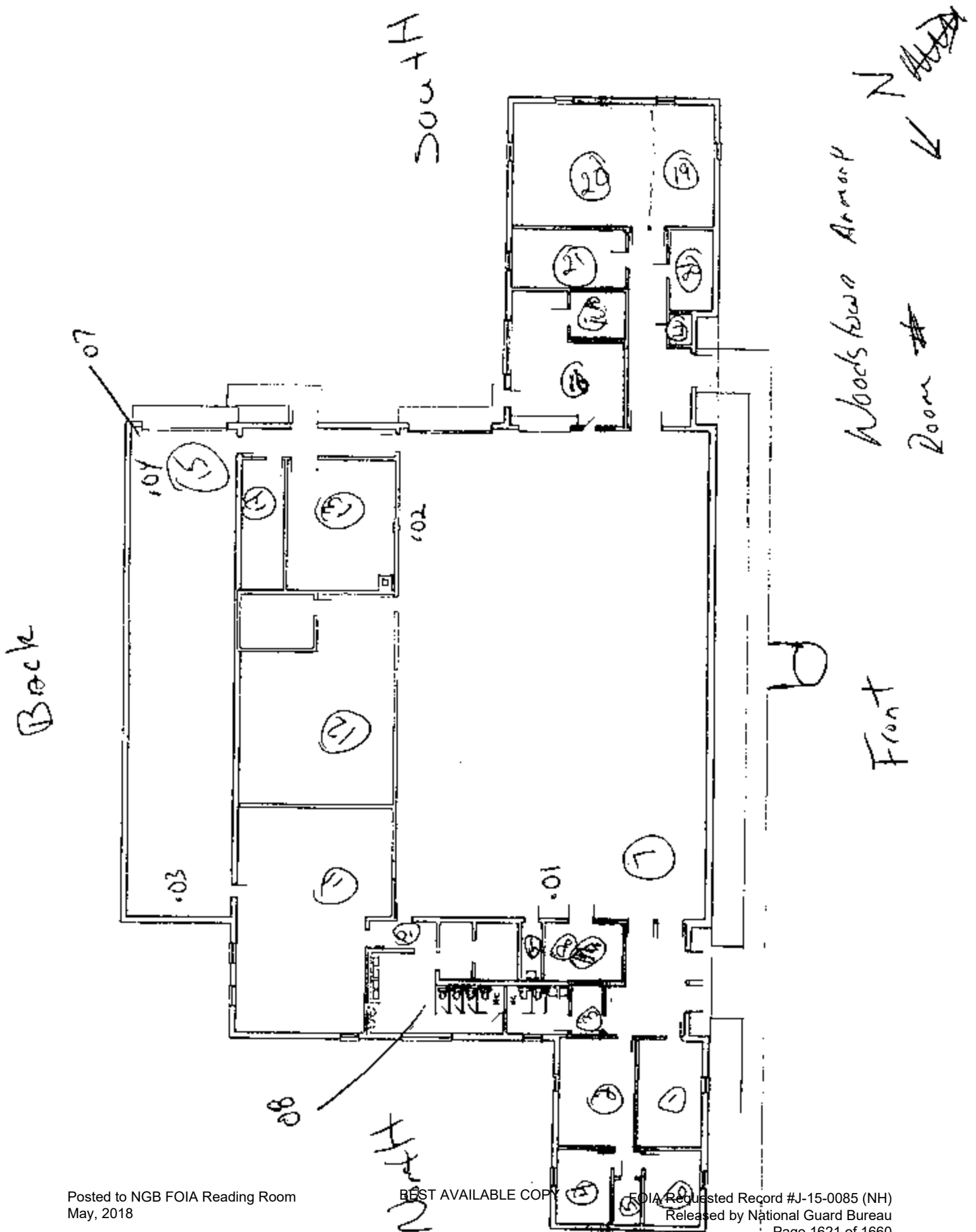
U. S. Housing and Urban Development

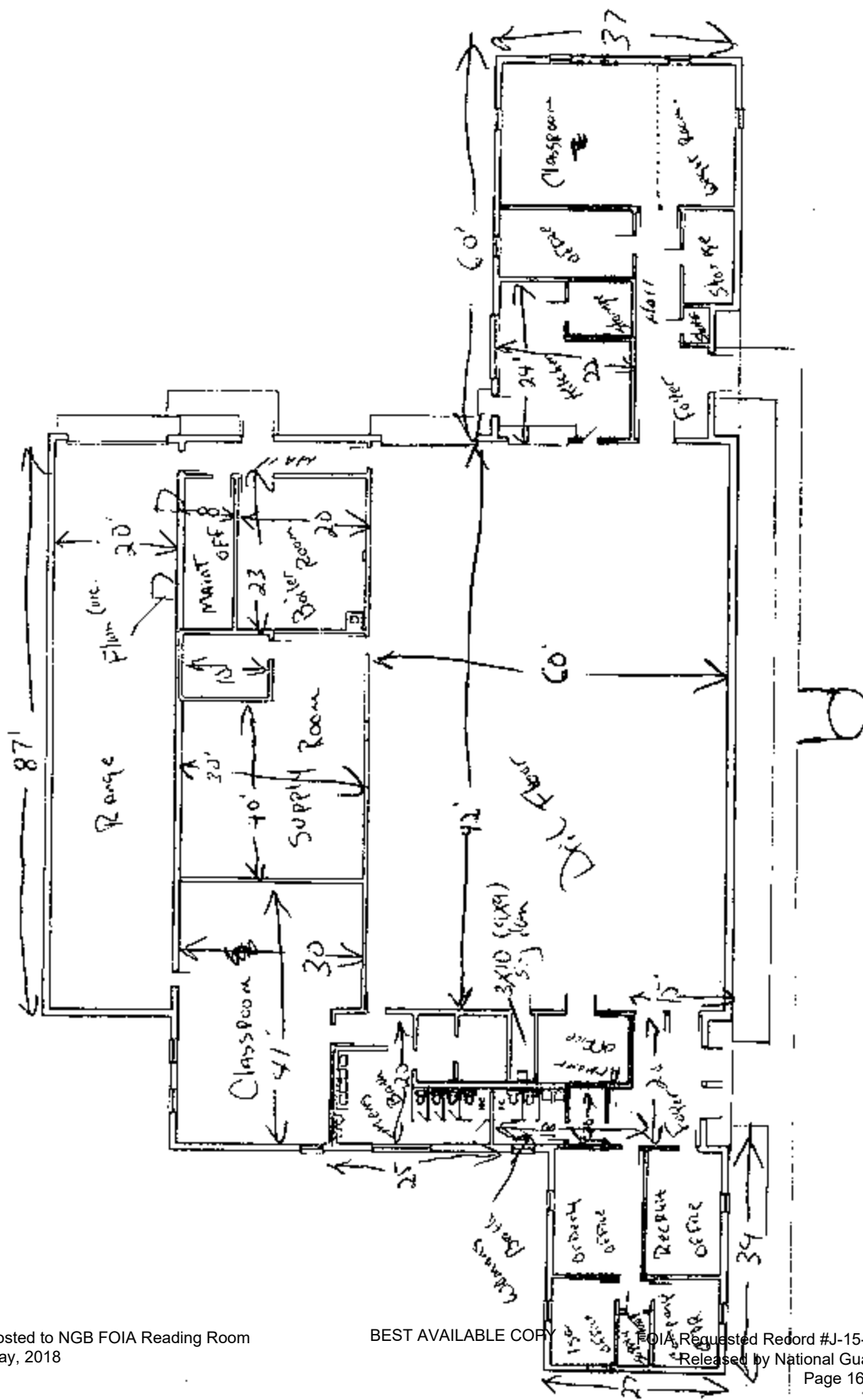
Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing (1995, 1997)

U. S. Occupational Safety and Health Administration

Standard for General Industry: 29 CFR 1910

APPENDIX A
ARMORY DRAWING





APPENDIX B
PERSONNEL LIST

NEW JERSEY ARMY NATIONAL GUARD
Troop C, 5th Squadron 117th Cavalry Regiment
501 North Main Street
Woodstown, New Jersey 08098-9549

04 March 2004

MEMORANDUM FOR ARMORER

SUBJECT: Personal Assigned

1. The following is a list of personal that are currently working full time at 501 North Main Street, Woodstown New Jersey 08098:

- a.SFC  Non-Responsive
- b.SFC 
- c.SSC 

2. I there is any further information need please contact this unit at (856) 769-4059

 Non-Responsive

SFC, NJARNG
Readiness NCO

APPENDIX C
HAZARDOUS MATERIALS LIST



NEW JERSEY ARMY NATIONAL GUARD
TROOP C 5th SQUADRON 117th CAVALRY
501 N. MAIN STREET
WOODSTOWN, NEW JERSEY 08098

POL INVENTORY: OIL SHED:

SIMPLE GREEN (CLEANER)	5 GAL CANS	2
15/40 OIL	DRUMS	0
15/40 OIL /	5 GAL CANS	3
15/40 OIL	1 QT. CANS	73
80/90 OIL	5 GAL CANS	14
TURBOSHAFT (M-1)	DRUMS	2
TURBOSHAFT (M-1)	1 QT. CANS	0
DEXTRON III	5 GAL CANS	8
DEXTRON III	1 QT. CANS	101
ANTIFREEZE	1 GAL CANS	25
10WT. OIL	5 GAL CANS	6
30WT. OIL	5 GAL CANS	6
80/90 OIL	5 GAL CANS	26
CLEANING COMPOUND	5 GAL CANS	1
GREASE (WTR)	6.5 LB CANS	8
GREASE (WTR)	5.0 LB CANS	6
GREASE (GAA)	5 GAL CANS	3
GREASE (GAA)	6.5 LB CANS	3
ROOF CEMENT (FIBERLASTIC)	5 GAL CANS	1
ACOHOL: DENATURED	1 GAL CANS	4
BRAKE FLUID	1 GAL CANS	8
BREAKFREE (CLP)	1 GAL CANS	11
BREAKFREE (CLP)	PUMP BTL	12
PENETRATING FLUID	10 OZ. CANS	4
PENETRATING OIL	1 PT. CANS	9
WEAPONS OIL	1 QT. CANS	1
HYD. FLUID (OHT) C-635	1 QT. CANS	10

APPENDIX D
ANALYTICAL RESULTS

CERTIFICATE OF ANALYSIS

NVLAP
NY ELAP
AIHA

Client: National Guard Bureau
Address: 301-JH Old Bay Lane, Attn: NGB-AVN-SI,
State Military Reservation
Havre de Grace, Maryland 21078
Job Name: Army
Job Location: Woodstown, NJ
Job Number: Not Provided
P.O. Number: BPA #W912K6-04-A0002

Chain Of Custody: 128472
Date Analyzed: 6/28/2004
Person Submitting: Non Responsive
Report Date: 28-Jun-04

Attention: Non Responsive

Page 1 of 1

Summary of Atomic Absorption Analysis for Lead

AMA Sample Number	Client Sample Number	Analysis Type	Sample Type	Air Volume (L)	Area Wiped (ft²)	Reporting Limit	Final Result	Comments
0449010	0309-01	Furnace	Wipe	****	0.108	13.94 ug/ft²	50 ug/ft²	
0449011	0309-02	Furnace	Wipe	****	0.108	2.79 ug/ft²	21 ug/ft²	
0449012	0309-03	Furnace	Wipe	****	0.108	69.70 ug/ft²	180 ug/ft²	
0449013	0309-04	Furnace	Wipe	****	0.108	34.85 ug/ft²	160 ug/ft²	
0449014	0309-05	Furnace	Wipe	****	0.108	13.94 ug/ft²	91 ug/ft²	
0449015	0309-06	Furnace	Wipe	****	N/A	0.30 ug	0.79 ug	
0449016	0309-07	Flame	Paint Chip	****	N/A	0.01 %Pb	< 0.011 %Pb	
0449017	0309-08	Flame	Paint Chip	****	N/A	0.01 %Pb	< 0.011 %Pb	

Analysis Method for Flame: Air, Wipes, Paints, and Soil/Solids: EPA 600/R-93/200(M)-7420; Water: SM-3111B
Analysis Method For Furnace: Air, Wipes, Paints, and Soil/Solids: EPA 600/R-93/200(M)-7421; Water: SM-3113B

N/A = Not Applicable mg/Kg = parts per million (ppm) by weight ug/L = parts per billion (ppb)

%Pb = percent lead by weight ug = micrograms

Note: All results have two significant digits. Any additional digits shown should not be considered when interpreting the result.

Non Responsive

Technical Manager:

Analyst:

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a matter of protection to clients, the public and these Laboratories, no report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from these Laboratories. Sample types, locations and collection protocols are based upon the information provided by the persons submitting them and, unless collected by personnel of these Laboratories, we expressly disclaim any knowledge and liability for the accuracy and completeness of this information. Residual sample material will be discarded in accordance with the appropriate regulatory guidelines, unless otherwise requested by the client. NVLAP Accreditation applies only to polarized light microscopy of bulk samples and transmission electron microscopy of AHERA air samples. This report must not be used to claim, and does not imply product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government. All rights reserved. AMA Analytical Services, Inc.

An AIHA (#8863), NVLAP (#101143), & New York ELAP (#10920) Accredited Laboratory
4475 Forbes Blvd. • Lanham, MD 20706 • (301) 459-2640 • Toll Free (800) 346-0961 • Fax (301) 459-2643

APPENDIX E
TRAINING CERTIFICATES

Jun-01-04 12:03pm From:UPS CORPORATION

T-295 P 02/07 E-966

Non-Responsive



Certificate of Training

Non-Responsive

*For successful completion of an 8 Hour, 1 Day
Asbestos Inspector & Management Planner
Annual Refresher Training*

MARCH 25, 2003

This training was approved and given in accordance with
Regulations for Connecticut State Agencies
RCSA 20-440-1-9 and RCSA 20-441 and meets the
requirements of the EPA Revised MAP under TSCA Title II of 4/4/94

Presented by

**Mystic Air Quality Consultants, Inc.
1204 North Road, Groton, CT 06340 (800) 247-7746**

Examination Date: 03/25/2004

Exam Grade: 100%
Exam Date: 03/25/2003

Certificate Number: JNPR10543

Non-Responsive

Training Director

H, CSP, RS

APPENDIX F
PHOTOGRAPHS



Photo 0701: Drill Hall



Photo 0702: Drill Hall



Photo 0711: Men's Shower Water
damaged ceiling plaster

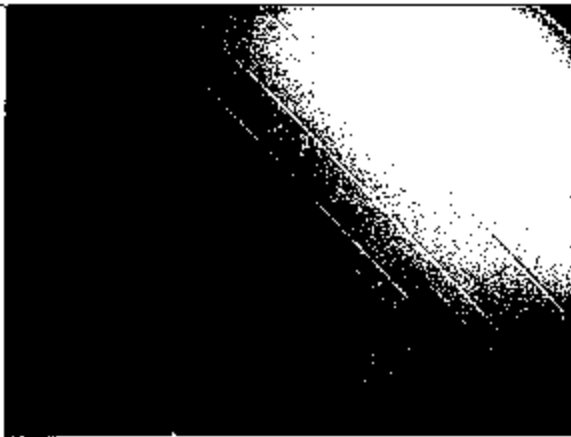


Photo 0715: Boiler Room Oil leaking
from pipe above steps



Photo 0716: Boiler Room -- Oil leaking on
boiler room floor

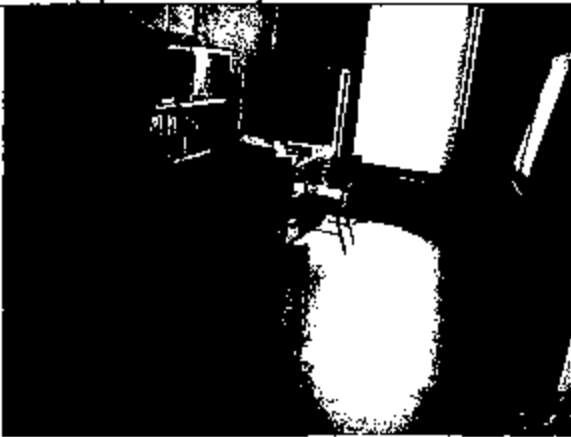


Photo 0722: Room 21 Computer work
station with poor ergonomics



Photo 0725: Woodstown Armory – Exterior View

APPENDIX G
RECOMMENDATIONS FOR SURFACE LEAD DUST IN ARMORIES

Subject: Recommendations for Surface Lead Dust in Armories

1. In armories that do not contain childcare facilities, the National Guard Bureau (NGB) Region North Industrial Hygiene Office recommends cleaning the areas in which sample results are greater than 200 micrograms per square foot ($\mu\text{g}/\text{ft}^2$). If a special function will be held in which children will be present in this facility, consider thoroughly cleaning the areas that will be accessible to children prior to the function. This guidance is based on professional judgment, risk assessments, adaptation of Occupational Safety and Health Administration (OSHA) guidance, and feasibility of cleaning to a certain level.

a. Environmental Protection Agency (EPA) standards (40 Code of Federal Regulations (CFR) 745.227(h)(3)) are not directly applicable because they are criteria for dust-lead hazards developed for floors ($40 \mu\text{g}/\text{ft}^2$) and windowsills ($250 \mu\text{g}/\text{ft}^2$) in residential dwellings and child occupied facilities. A child occupied facility is defined as a building, or portion of a building, constructed prior to 1978, visited regularly by the same child, 6 years of age or under, on at least two different days within any week (Sunday through Saturday period), provided that each day's visit lasts at least 3 hours and the combined weekly visit lasts at least 6 hours, and the combined annual visits last at least 60 hours. Most of the wipe samples in armories were collected in undisturbed areas and therefore, results are worst case scenarios and do not correlate to these standards.

b. OSHA has no specific requirement for work area surfaces. The lead standard (29 CFR 1910.1025(h)) states that all surfaces shall be maintained as free as practicable of accumulations of lead dust. In workplaces where lead dust is generated, surface levels may be much higher, but personnel exposures can be controlled by limiting airborne lead levels and following good cleanup and hygienic practices.

c. OSHA used to cite a level of $200 \mu\text{g}/\text{ft}^2$ in their Technical Manual and 29 CFR 1926.62 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.

d. In a report titled Derivation of Wipe Surface Screening Levels for Environmental Chemicals, the US Army Center for Health Promotion and Preventive Medicine (USACHPPM) has determined that $200 \mu\text{g}/\text{ft}^2$ is a safe surface contamination level. They have also applied these standards as the decontamination levels for surfaces in administrative offices.

e. It should be noted that levels above these recommendations do not necessarily mean there is a significant hazard to workers who are following good cleaning and hygienic practices since there is no correlation between wipe and air samples. Rather, we recommend these levels as a precautionary measure.

2. The NGB Occupational Health Branch is developing guidance for armories that are used as childcare facilities. All states will receive this guidance when it is completed. In the interim, we recommend the following actions:

a. Clean all areas that will be accessible to children to the EPA dust-lead standard for children 6 years of age or under ($40 \mu\text{g}/\text{ft}^2$ on floors and $250 \mu\text{g}/\text{ft}^2$ on windowsills).

b. Refer to the local authorities' regulations since they can be more stringent than federal regulations.

c. Post signs in the area to inform people of the presence of lead dust and its effects.

d. If soldiers clean weapons in the facility change the policy so that they cannot clean their weapons in the facility, or if they are allowed to clean their weapons indoors, they must clean the area by wet wiping and mopping the area when they are done.

e. If the paint is peeling, contact the state Environmental Office to test for lead content and provide recommendations.

3. Air samples collected on individuals in the armory were well below OSHA's permissible exposure limit for lead (29 CFR 1910.1025(c)) of $0.05 \text{ mg}/\text{m}^3$ averaged over an 8-hour day. Therefore, based on these conditions there is currently no overexposure to personnel from lead dust in this building.



1215 Manor Drive, Suite 205
Mechanicsburg, PA 17055
Phone: 717.590.7031
Fax: 717.590.7936
www.complianceplace.com

Industrial Hygiene Survey Report

National Guard Facility
Woodstown Readiness Center

Prepared For: National Guard Bureau Region North IH
301-IH Old Bay Lane
Havre de Grace, MD 21078

Survey Location: Woodstown Readiness Center
501 North Main Street
Woodstown, NJ 08098

Prepared By: Compliance Management International, Inc.
1215 Manor Drive
Suite 205
Mechanicsburg, PA 17055

Survey Date: January 23, 2013

Report Date: February 27, 2013

Non-Responsive

Manager, Industrial Hygiene Services

Table of Contents

Section 1.0 Executive Summary	3
Section 2.0 Operation Description & Observations.....	4
Section 3.0 Lead Testing.....	5
Section 4.0 Lighting.....	7
Section 5.0 Indoor Air Quality.....	8
Section 6.0 Suspect Asbestos Containing Building Materials.....	10
Section 7.0 Equipment	11
Section 8.0 Limitations	12
Appendix A. Laboratory Analysis Report	13
Appendix B. Photographs	14
Appendix C. Floor Plan	15
Appendix D. References	16

Section 1.0 Executive Summary

An industrial hygiene survey was conducted on January 23, 2013, at the Woodstown Readiness Center located at 501 North Main Street, Woodstown NJ 08096. The survey was performed by Mr. Non-Responsive.

1. Lead surface and air samples were collected. Surface levels of lead exceeded the recommended guideline of 200 micrograms per square foot (ug/ft^2) in one location sampled. Air samples were below the Occupational Safety and Health Administration (OSHA) Permissible Exposure Limit of 50 micrograms per cubic meter (ug/m^3). See Section 3.0 for detailed report findings.
2. Lighting levels met the minimum recommended guideline in all areas.
3. Indoor air quality (IAQ) parameters of temperature, relative humidity, carbon monoxide and carbon dioxide (ventilation) were evaluated during the assessment.
 - a. Relative humidity levels measured indoors were less than the US Army Center for Health Promotion and Preventive Medicine (USACHPPM) TG 277 recommended guideline of 30-60% in all indoor locations evaluated.
 - b. Temperature levels measured indoors were below the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), recommended range of 68-79 degrees F.
 - c. Carbon monoxide and carbon dioxide (ventilation) levels measured indoors were within recommended guidelines.

See Section 5.0 for detailed report findings.

4. Based on the age of the building (reported to be constructed in 1984) it is unlikely that asbestos-containing materials (ACM) would be present in the facility. However suspect materials were noted during the survey. We recommend that you confirm that these materials do not contain asbestos if they are to be disturbed. See Section 6.0 for report findings.

Section 2.0 Operation Description & Observations

The Woodstown Readiness Center is mainly an administrative facility with a drill hall, offices, classroom, and storage areas. There were approximately 4 full-time employees stationed at this facility at the time of this survey.

The building was reported to be initially constructed in 1984. There have been no renovations to this facility. The facility is a one story building with a concrete block exterior. The interior walls are primarily concrete block, plaster and drywall. The floors are concrete, vinyl floor tile.

The facility has a central Heating Ventilation & Air-conditioning (HVAC) system. Heat is provided by an oil-fired boiler which produces hot water that is fed to unit ventilators. Unit ventilators also provide air conditioning.

There was a firing range in this facility. It has been converted into a locked storage area.

There is no child-care facility in the building.

Overall housekeeping practices were adequate.

No ergonomic concerns were reported. Office areas have computer work stations. Work stations appeared properly designed. Personnel had supportive chairs.

Sgt. Non-Responsive and Sgt. Non-Responsive from the Army National Guard Safety Office were onsite during the survey.

Section 3.0 Lead Testing

Due to the age of the building (built in 1984) there is the low potential for lead-based paint to be present. Various surfaces within the facility were screened for lead using surface/wipe samples. Surface/wipe samples were collected in accordance with the American Society for Testing and Materials (ASTM) E 1792 protocols. Air samples were collected using 0.8 um mixed cellulose ester (MCE) filter cassettes attached to low volume air sampling pumps. Blank samples were submitted to the laboratory for quality control purposes. Samples were sent to AMA Analytical Services, Inc., in Lanham, Maryland, for lead analysis using Environmental Protection Agency (EPA) Method 600/R-93/200 (M)-7420. A copy of the laboratory analysis report can be found in Appendix A.

Lead Testing Results Summary

Sample #	Location	Air ug/m ³	Surface ug/ft ²
1	Drill Hall	<3.3	*
2	Converted Firing Range/Locked Storage Area	<3.3	*
3	Drill Hall – Floor	*	<110
4	Drill Hall – Top of Wall Locker	*	390
5	Drill Hall – Top of Table	*	<110
6	Kitchen – Top of Microwave	*	<110
7	Kitchen – Top of Table	*	<110
8	Hallway Outside of Converted Firing Range/Cage Storage Area - Floor	*	<110
9	Converted Firing Range/Locked Storage Area – Floor	*	120
10	Converted Firing Range/Locked Storage Area – Top of File Cabinet	*	<110
11	Converted Firing Range/Locked Storage Area – Top of Metal Storage Cabinet	*	<110
12	Orderly Room – Top of UV Supply Grill	*	<110
13	Recruiting Office – Book Shelf	*	<110
14	Classroom One – Top of UV Supply Grill	*	<110
15	Blank – Wipe	*	<12
16	Blank – Air	<3	*
-	Criteria	50	200

Table Notes:

1. **Bolded** results exceed listed criteria
2. **ppm** = parts per million
3. **ug/ft²** = micrograms per square foot
4. **ug/m³** = micrograms per cubic meter
5. **ug** = micrograms

Sources:

1. NG PAM 420-15 Guidelines and Procedures for Rehabilitation and Conversion of Indoor Firing Ranges
2. OSHA 29CFR1910.1025 Lead Standard

The National Guard Bureau currently utilizes 200 ug/ft² as a benchmark for identifying lead-contaminated surfaces. This guideline is referenced in NG PAM 420-15 "Guidelines and Procedures for Rehabilitation and Conversion of Indoor Firing Ranges" as a satisfactory surface contamination level unless the facility is utilized as a childcare facility. In such cases, U.S. Department of Housing and Urban Development (HUD) limit of 40 ug/ft² on floors and 250 ug/ft² on windowsills should be observed. There is no child care provided at this facility.

Surface and air samples for lead were collected. The following is a summary of the sample results from this survey.

- Surface levels of lead were at or above the recommended guideline of 200 ug/ft² in the Drill Hall on top of the Wall Locker. Cleaning procedures should be improved to maintain lead levels on surfaces below the recommended guideline of 200 ug/ft².
- Air samples for lead were below the Occupational Safety and Health Administration (OSHA) Permissible Exposure Limit of 50 ug/m³.
- Paint was observed to be peeling in the converted firing range/locked storage area due to water infiltration on one exterior wall. This affected an area of approximately 100 ft².

Section 4.0 Lighting

A lighting assessment was conducted throughout the facility. Measurements were collected using a Cooke Cal-Light 400L Precision Light Meter (Serial No. K98364). The light meter was last calibrated in April 2012. Measurements collected were compared to ANSI/IESNA RP-7-01 Lighting Industrial Facilities and RP-1-04 Office Lighting.

Light Survey Assessment Summary

Location	Foot Candles (FC)	Recommended Lighting (FC)	Sufficient Lighting
Orderly Office	72.3	30-50	Yes
Recruiting Office	69.7	30-50	Yes
Woman's Bathroom	68.2	5	Yes
Drill Hall	34.1	30-50	Yes
Men's Bathroom	35.3	5	Yes
Lounge/Weight Room	41.2	30	Yes
Supply Room	59.2	30	Yes
Kitchen	96.2	50	Yes
TNG NCO Office	60.9	30-50	Yes
Classroom One	35.0	30-50	Yes
Converted Firing Range/Locked Storage Area	37.4	30	Yes

Table Notes:

1. FC = Foot Candles
2. **Bolded** results did not meet listed criteria

Source: ANSI/IESNA RP-7-01 Lighting Industrial Facilities and RP-1-04 Office Lighting.

Section 5.0 Indoor Air Quality

Survey measurements were made for ventilation and comfort parameters (carbon dioxide, temperature, carbon monoxide and relative humidity). The air quality measurements were collected using direct reading instrumentation for comfort parameters using a QTRAK IAQ Meter, Model 8554 (Serial #02041015). The IAQ Meter was last calibrated in August 2012.

The American Society of Heating, Refrigerating, and Air Conditioning Engineers, Inc. (ASHRAE) have developed indoor air quality guidelines for mechanically ventilated office buildings and commercial settings (ASHRAE standard 62.1-2010). ASHRAE specifies temperature ranges for human comfort (ASHRAE 55-2010). The US Army Technical Guide 277 Army Facilities Management Information Document on Mold Remediation, recommends maintaining a relative humidity range between 30 to 60%.

The following table summarizes the measurements collected.

IAQ Assessment Summary

Location	Temperature (°F)	Relative Humidity (%)	Carbon Dioxide (ppm)	Carbon Monoxide (ppm)
Orderly Office	62.9	10	618	1.8
Recruiting Office	64.2	11	747	1.6
Drill Hall	59.4	12	431	1.7
Outdoors	23	28.8	272	0.1
Criteria	68-79	30-60	<972	<9

Table Notes:

1. **Bolded** results exceed listed criteria
2. **ppm** = parts per million
3. **(%)** = percent relative humidity
4. **F** = degrees Fahrenheit

Sources: The American Society of Heating, Refrigerating, and Air Conditioning Engineers, Inc. (ASHRAE) 55-2010, 62-2010 & The US Army Technical Guide 277 Army Facilities Management Information Document on Mold Remediation.

Summary of findings and recommendations:

- Temperature measurements were below the recommended guideline in the recruiting office, orderly office, and the drill hall. Temperature should be maintained within 68-79 degrees F during occupied periods.
- Relative humidity measurements were below the recommended guideline in the recruiting office, orderly office and the drill hall. Low relative humidity can cause the drying of the mucous tissues and an increased susceptibility to respiratory infection. Maintain relative humidity at 30-60%.

- Carbon dioxide levels were measured to evaluate building ventilation or the introduction of outdoor air into the building. The recommended ceiling is obtained by adding 700 ppm to the measured outdoor carbon dioxide level for this survey. Carbon dioxide levels did not exceed the recommended ceiling of 972 ppm. This is an indication that outdoor air ventilation is adequate.
- Carbon monoxide levels were less than the recommended ceiling of 9 ppm. The recommended ceiling of 9 ppm referenced in the above table is the National Ambient Air Quality Standard for carbon monoxide.
- A visual inspection was conducted throughout accessible portions of the facility to assess sources or pathways of factors potentially deleterious to IAQ. The following observations were noted:
 - A few water stained ceiling tiles were observed.
 - Water infiltration was observed in the converted firing range/locked storage area on one exterior wall.

Section 6.0 Suspect Asbestos Containing Building Materials

Based on the age of the building (reported to be constructed in 1984) it is unlikely that asbestos-containing materials (ACM) would be present in the facility. However the following suspect materials were noted during the survey. We recommend that you confirm that these materials do not contain asbestos if they are to be disturbed.

1. Mudded joint fittings were observed in the following locations: woman's bathroom, drill hall, lounge/weight room, men's bathroom, supply room, hallway to the converted firing range/locked storage area, and boiler room. Approximately 120 fittings were observed.
2. Boiler breeching insulation was observed in the boiler room. Approximately 50 ft² was observed.

All materials were found to be intact and in good condition.

Section 7.0 Equipment

The following equipment was utilized during this survey. All sampling equipment was properly calibrated prior to use and verified for accuracy as applicable. See daily reports and calibrations logs for detailed information.

Equipment	Serial #	Calibration Date	Value
TSI QTrak IAQ Meter	02041015	8/2012	NA
Cal Light 400 Light Meter	K98364	4/2012	NA
TSI 4199 Calibrator	41460827002	8/2012	NA
SKC Air Sampling Pump	647610	1/23/2013	2.49 LPM
SKC Air Sampling Pump	647631	1/23/2013	2.56 LPM

Section 8.0 Limitations

This report summarizes our evaluation of the conditions observed at the above referenced location. Our findings are based upon our observations and sampling results obtained at the facility at the time of our visit. The report, results, and subsequent recommendations reported herein are also limited to the information available at the time it was prepared and investigated. Conditions may have been in effect prior to the sampling events that have changed over time and which cannot be predicted within the scope of this limited investigation. Any conditions discovered which deviate from the data contained in this report should be presented to us for our evaluation.

This report is intended for the exclusive use of the client. This report and the findings herein shall not, in whole or in part, be relied upon by any other parties, disseminated or conveyed to any other party without prior written consent of the National Guard Bureau, and Compliance Management International, Inc. The findings are relative to the dates of our site visits and should not be relied upon for substantially later dates.

Appendix A. Laboratory Analysis Report



CERTIFICATE OF ANALYSIS



Client:	National Guard Bureau	Job Name:	NJ	Chain Of Custody:	515064
Address:	301-IH Old Bay Lane, Attn: ARNG-CJG-P, State Military Reservation Havre de Grace, Maryland 21078	Job Location:	Woodstown RC	Date Submitted:	1/30/2013
		Job Number:	Not Provided	Person Submitting:	Non-Responsive
		P.O. Number:	W912K6-09-A-0003	Date Analyzed:	2/6/2013
Attention:	Non-Responsive			Report Date:	2/6/2013

Summary of Atomic Absorption Analysis for Lead

Page 1 of 2

AMA Sample Number	Client Sample Number	Analysis Type	Sample Type	Air Volume (L)	Area Wiped (ft²)	Reporting Limit	Total ug	Final Result	Comments
13033947	1	Flame	Air	896	N/A	3.3 ug/m³	<3	<3.3 ug/m³	
13033948	2	Flame	Air	922	N/A	3.3 ug/m³	<3	<3.3 ug/m³	
13033949	3	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13033950	4	Flame	Wipe	****	0.108	110 ug/ft²	42	390 ug/ft²	
13033951	5	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13033952	6	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13033953	7	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13033954	8	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13033955	9	Flame	Wipe	****	0.108	110 ug/ft²	13	120 ug/ft²	
13033956	10	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13033957	11	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13033958	12	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13033959	13	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13033960	14	Flame	Wipe	****	0.108	110 ug/ft²	<12	<110 ug/ft²	
13033961	15	Flame	Wipe Blank	****	N/A	12 ug		<12 ug	
13033962	16	Flame	Air Blank	0	N/A	3 ug/m³		<3 ug	

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these Laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from us. Sample types, locations, and collection protocols are based upon the information provided by the persons submitting them and, unless collected by personnel of these Laboratories, we expressly disclaim any knowledge and liability for the accuracy and completeness of this information. Residual sample material will be discarded in accordance with the appropriate regulatory guidelines, unless otherwise requested by the client. This report must not be used to claim, and does not imply product certification, approval, or endorsement by NY ELAP, AIHA, or any agency of the Federal Government. All rights reserved. AMA Analytical Services, Inc.



CERTIFICATE OF ANALYSIS



Client:	National Guard Bureau	Job Name:	NJ	Chain Of Custody:	515064
Address:	301-IH Old Bay Lane, Attn: ARNG-CJG-P, State Military Reservation Havre de Grace, Maryland 21078	Job Location:	Woodstown RC	Date Submitted:	1/30/2013
		Job Number:	Not Provided	Person Submitting:	Non-Responsive
		P.O. Number:	W912K6-09-A-0003	Date Analyzed:	2/6/2013
Attention:	Non-Responsive			Report Date:	2/6/2013

Summary of Atomic Absorption Analysis for Lead

Page 2 of 2

AMA Sample Number	Client Sample Number	Analysis Type	Sample Type	Air Volume (L)	Area Wiped (ft²)	Reporting Limit	Total ug	Final Result	Comments
Analysis Method for Flame: Air, Wipes, Paints, and Soil/Solids: EPA 600/R-93/200(M)-7000B; Water: SM-3111B Analysis Method For Furnace: Air, Wipes, Paints, and Soil/Solids : EPA 600/R-93/200(M)-7010; Water: SM-3113B N/A = Not Applicable mg/Kg = parts per million (ppm) on a dry weight basis mg/L = parts per million (ppm) %Pb = percent lead on a dry weight basis ug = micrograms ug/L = parts per billion (ppb) Note: All samples were received in good condition unless otherwise noted. Note: All results have two significant digits. Any additional digits shown should not be considered when interpreting the result. Air and Wipe results are not corrected for any blank results Final results for air and wipe samples are based on client supplied information nor verified by this laboratory. All results are to be considered preliminary and subject to change unless signed by the Technical Director or Deputy.							See QC Summary for analytical results of quality control samples associated with these samples.		
Analys						Non-Responsive		Non-Responsive	
						Technical Manager:			

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these Laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from us. Sample types, locations, and collection protocols are based upon the information provided by the persons submitting them and, unless collected by personnel of these Laboratories, we expressly disclaim any knowledge and liability for the accuracy and completeness of this information. Residual sample material will be discarded in accordance with the appropriate regulatory guidelines, unless otherwise requested by the client. This report must not be used to claim, and does not imply product certification, approval, or endorsement by NY ELAP, AIHA, or any agency of the Federal Government. All rights reserved. AMA Analytical Services, Inc.

**AMA Analytical Services, Inc.**

Focused on Results www.amalab.com
 AIHA (#100470) NVLAP (#101143-0) NY ELAP (10920)
 4475 Forbes Blvd. • Lanham, MD 20706
 (301) 459-2640 • (800) 346-0961 • Fax (301) 459-2643

CHAIN OF CUSTODY

(Please Refer To This
 Number For Inquires)

515064

Page 1 of 2

Mailing/Billing Information:

- Client Name: National Guard Bureau
- Address 1: 301-1H Old Bay Lane
- Address 2: Attn: NGB-ARS-IHNE
- Address 3: Havre de Grace, Maryland 21078
- Phone #: (410) 942-0273 Fax #: (410) 942-0254

Submittal Information:

- Job Name: NJ
- Job Location: Woodstown RE
- Job #: Non-Responsive #: W912K6-09-A-0003
- Contact Person: Non-Responsive @ phone # (410) 942-0273
- Submitted By: Non-Responsive Signature: Non-Responsive

Reporting Information (Results will be provided as soon as technically feasible):

AFTER HOURS (must be pre-scheduled) <input type="checkbox"/> Immediate Date Due: _____ <input type="checkbox"/> 24 Hours Time Due: _____ Comments: _____		NORMAL BUSINESS HOURS <input type="checkbox"/> Immediate <input checked="" type="checkbox"/> Next Day <input type="checkbox"/> 2 Day <input type="checkbox"/> 3 Day <input checked="" type="checkbox"/> 5 Day + Date Due: <u>2/6/13</u>		REPORT TO: <input checked="" type="checkbox"/> In <u>Non-Responsive</u> with Report <input type="checkbox"/> <u>compliance plan</u> <input type="checkbox"/> <u>us.army.mil</u> <input type="checkbox"/> <u>us.army.mil</u>	
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--

Asbestos Analysis**PCM Air** - Please Indicate Filter Type:

- ☐ NIOSH 7400 (QTY)
☐ Fiberglass (QTY)

TEM Air - Please Indicate Filter Type:

- ☐ AHERA (QTY)
☐ NIOSH 7402 (QTY)
☐ Other (specify) _____ (QTY)

PLM Bulk

- ☐ EPA 600 - Visual Estimate (QTY)
☐ EPA Point Count (QTY)
☐ NY State Friable 198.1 (QTY)
☐ Grav. Reduction ELAP 198.6 (QTY)
☐ Other (specify) _____ (QTY)

MISC

- ☐ Vermiculite
☐ Asbestos Soil PLM (Qual) PLM (Quan) PLM/TEM (Qual) PLM/TEM (Quan)

TEM Bulk

- ☐ ELAP 198.4/Chatfield (QTY)
☐ NY State PLM/TEM (QTY)
☐ Residual Ash (QTY)

TEM Dust

- ☐ Qual. (pres/abs) Vacuum/Dust (QTY)
☐ Quan. (s/area) Vacuum D5755-95 (QTY)
☐ Quan. (s/area) Dust D6480-99 (QTY)

TEM Water

- ☐ Qual. (pres/abs) (QTY)
☐ ELAP 198.2/EPA 100.2 (QTY)
☐ EPA 100.1 (QTY)

☒ All samples received in good condition unless otherwise noted.
 (TEM Water samples _____ °C)

Metals Analysis

- ☐ Pb Paint Chip (QTY)
☐ Pb Dust Wipe (wipe type Sheet) 13 (QTY)
☐ Pb Air 3 (QTY)
☐ Pb Soil/Solid (QTY)
☐ Pb TCLP (QTY)
☐ Drinking Water ☐ Pb (QTY) ☐ Cu (QTY) ☐ As (QTY)
☐ Waste Water ☐ Pb (QTY) ☐ Cu (QTY) ☐ As (QTY)
☐ Pb Furnace (Media _____) (QTY)

Fungal Analysis

- Collection Apparatus for Spore Traps/Air Samples: _____
 Collection Media _____
☐ Spore-Trap (QTY) ☐ Surface Vacuum Dust (QTY)
☐ Surface Swab (QTY) ☐ Culturable ID Genus (Media _____) (QTY)
☐ Surface Tape (QTY) ☐ Culturable ID Species (Media _____) (QTY)
☐ Other (Specify) _____ (QTY)

SAMPLE INFORMATION

CLIENT ID NUMBER	SAMPLE LOCATION/ IDENTIFICATION	DATE	VOLUME (LITERS)	WIPE AREA	TEM	PCM	PLM	LEAD	MOLD	AIR	BULK	DUST	WATER AND OTHER	SPORE TRAP	TAPE	SWAB
1	Drill Hall	1-23	896					X								
2	Firing Range		922					X								
3	Drill Hall - floor			100m ²				X								
4	Drill Hall - Locker							X								
5	Drill Hall - Table							X								
6	Kitchen - microwave							X								
7	Kitchen - table							X								
8	Firing Range - floor							X								
9	Firing Range - floor							X								
10	Firing Range - File cabinet							X								
11	Firing Range - Storage Cabinet							X								
12	orderly office - W.V.							X								

CLIENT CONTACT

(LABORATORY STAFF ONLY)

Date/Time:	Contact:	By:
Date/Time:	Contact:	By:
Date/Time:	Contact:	By:

LABORATORY

Posted to NGB FOIA Reading Room
 May 2018
 (CUSTODY)

1. Date/Time RCVD: 8/20/13 @ FedEx By (Print): _____

2. Date/Time Analyzed: _____ @ BEST AVAILABLE COPY

3. Results Reported To: 939 3323 1177 Via: _____ Date: _____ / _____ / _____

4. Comments: _____

Non-Responsive

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

Released by National Guard Bureau

Page 1653 of 1660

**AMA Analytical Services, Inc.**

Focused on Results www.amalab.com
 AIHA (#100470) NVLAP (#101143-0) NY ELAP (10920)
 4475 Forbes Blvd. • Lanham, MD 20706
 (301) 459-2640 • (800) 346-0961 • Fax (301) 459-2643

CHAIN OF CUSTODY

(Please Refer To This
 Number For Inquires)

515064
 page 2 of 2

Mailing/Billing Information:

- Client Name: National Guard Bureau
- Address 1: 301-1H Old Bay Lane
- Address 2: Attn: NGB-ARS-IHNE
- Address 3: Havre de Grace, Maryland 21078
- Phone #: (410) 942-0273 Fax #: (410) 942-0254

Submission Information:

- Job Name: NS
- Job Location: Woodstown RC
- Job #: Non-Responsive
- Contact Person: Non-Responsive
- Submitted by: Non-Responsive

Reporting Information (Results will be provided as soon as technically feasible):

AFTER HOURS (must be pre-scheduled)		NORMAL BUSINESS HOURS		REPORT TO:
<input type="checkbox"/> Immediate	Date Due: _____	<input type="checkbox"/> 3 Day	<input type="checkbox"/> Results Required By Noon	<input checked="" type="checkbox"/> Include COC/Field Data Sheets with Report
<input type="checkbox"/> 24 Hours	Time Due: _____	<input type="checkbox"/> Next Day	<input type="checkbox"/> 5 Day +	<input checked="" type="checkbox"/> Email <u>Non-Responsive</u>
Comments: _____		<input type="checkbox"/> 2 Day	Date Due: _____	<input type="checkbox"/> Fax: _____
			(Every Attempt Will Be Made to Accommodate)	<input type="checkbox"/> Verbal _____
				<input type="checkbox"/> @us.army.mil
				<input type="checkbox"/> @us.army.mil

Asbestos Analysis

PCM Air - Please Indicate Filter Type:

- ☐ NIOSH 7400 (QTY)
☐ Fiberglass (QTY)

TEM Air - Please Indicate Filter Type:

- ☐ AHERA (QTY)
☐ NIOSH 7402 (QTY)
☐ Other (specify _____) (QTY)

PLM Bulk

- ☐ EPA 600 - Visual Estimate (QTY)
☐ EPA Point Count (QTY)
☐ NY State Friable 198.1 (QTY)
☐ Grav. Reduction ELAP 198.6 (QTY)
☐ Other (specify _____) (QTY)

MISC

- ☐ Vermiculite
☐ Asbestos Soil PLM (Qual) PLM (Quan) PLM/TEM (Qual) PLM/TEM (Quan)

TEM Bulk

- ☐ ELAP 198.4/Chatfield (QTY)
☐ NY State PLM/TEM (QTY)
☐ Residual Ash (QTY)

TEM Dust

- ☐ Qual. (pres/abs) Vacuum/Dust (QTY)
☐ Quan. (s/area) Vacuum D5755-95 (QTY)
☐ Quan. (s/area) Dust D6480-99 (QTY)

TEM Water

- ☐ Qual. (pres/abs) (QTY)
☐ ELAP 198.2/EPA 100.2 (QTY)
☐ EPA 100.1 (QTY)

☐ All samples received in good condition unless otherwise noted.
 (TEM Water samples _____ °C)

Metals Analysis

- ☐ Pb Paint Chip (QTY)
☐ Pb Dust Wipe (wipe type _____) (QTY)
☐ Pb Air (QTY)
☐ Pb Soil/Solid (QTY)
☐ Pb TCLP (QTY)
☐ Drinking Water ☐ Pb (QTY) ☐ Cu (QTY) ☐ As (QTY)
☐ Waste Water ☐ Pb (QTY) ☐ Cu (QTY) ☐ As (QTY)
☐ Pb Furnace (Media _____) (QTY)

Fungal Analysis

- Collection Apparatus for Spore Traps/Air Samples: _____
 Collection Media _____
☐ Spore-Trap (QTY) ☐ Surface Vacuum Dust (QTY)
☐ Surface Swab (QTY) ☐ Culturable ID Genus (Media _____) (QTY)
☐ Surface Tape (QTY) ☐ Culturable ID Species (Media _____) (QTY)
☐ Other (Specify _____) (QTY)

SAMPLE INFORMATION**ANALYSIS****MATRIX****CLIENT CONTACT**

(LABORATORY STAFF ONLY)

CLIENT ID NUMBER	SAMPLE LOCATION/ IDENTIFICATION	DATE	VOLUME (LITERS)	WIPE AREA	TEM	PCM	PLM	LEAD	MOLD	AIR	BULK	DUST	WATER AND OTHER	SPORE TRAP	TAPE	SWAB	Date/Time:	Contact:	By:
13	Recruiting Office - Bank St	1-23		100cm ²				X											
14	Classroom #1 W.V.			1				X											
15	Blank			0				X											
16	Blank			0				X											

Non-Responsive

LABORATORY

Post to NGB FOIA Reading Room
 May 2018
 (CUSTODY)

- Date/Time RCVD: _____ / _____ / _____ @ _____ Via: _____ By (Print): _____ Sign: _____
- Date/Time Analyzed: _____ / _____ / _____ @ _____
- Results Reported To: _____ Via: _____ Date: _____ / _____ / _____
- Comments: _____

BEST AVAILABLE COPY

Sign: _____

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

Released by National Guard Bureau

Page 1654 of 1660

Appendix B. Photographs



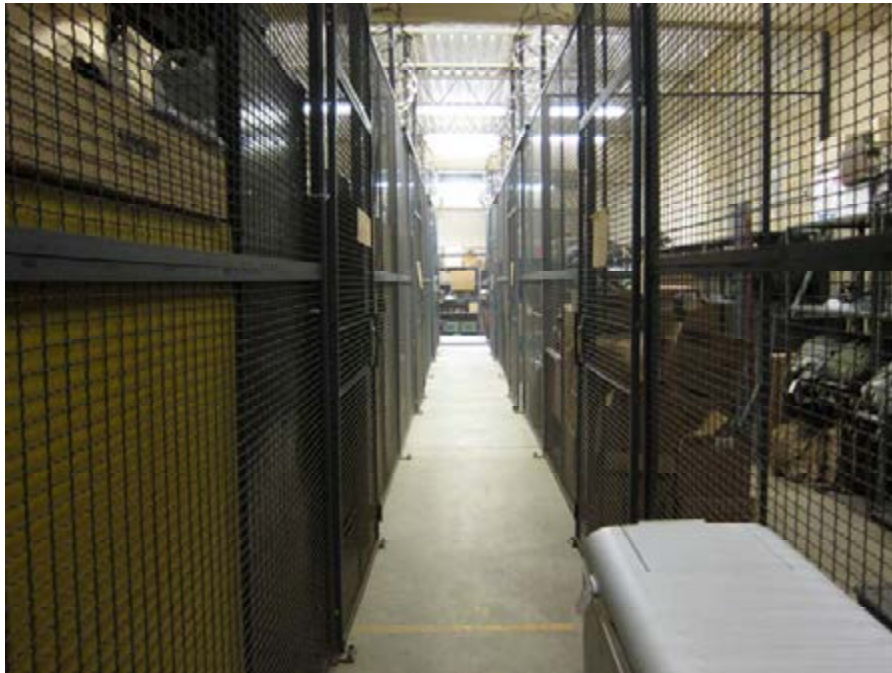
Exterior of facility



Drill Hall



Suspect asbestos mudded joint fittings



Converted firing range now caged storage area

Appendix C. Floor Plan

FIRE EXTINGUISHERS FOR
WOODSTOWN
WOODSTOWN FIRE COMPANY
PHONE NUMBER 769-2233

FENCED COMPOUND

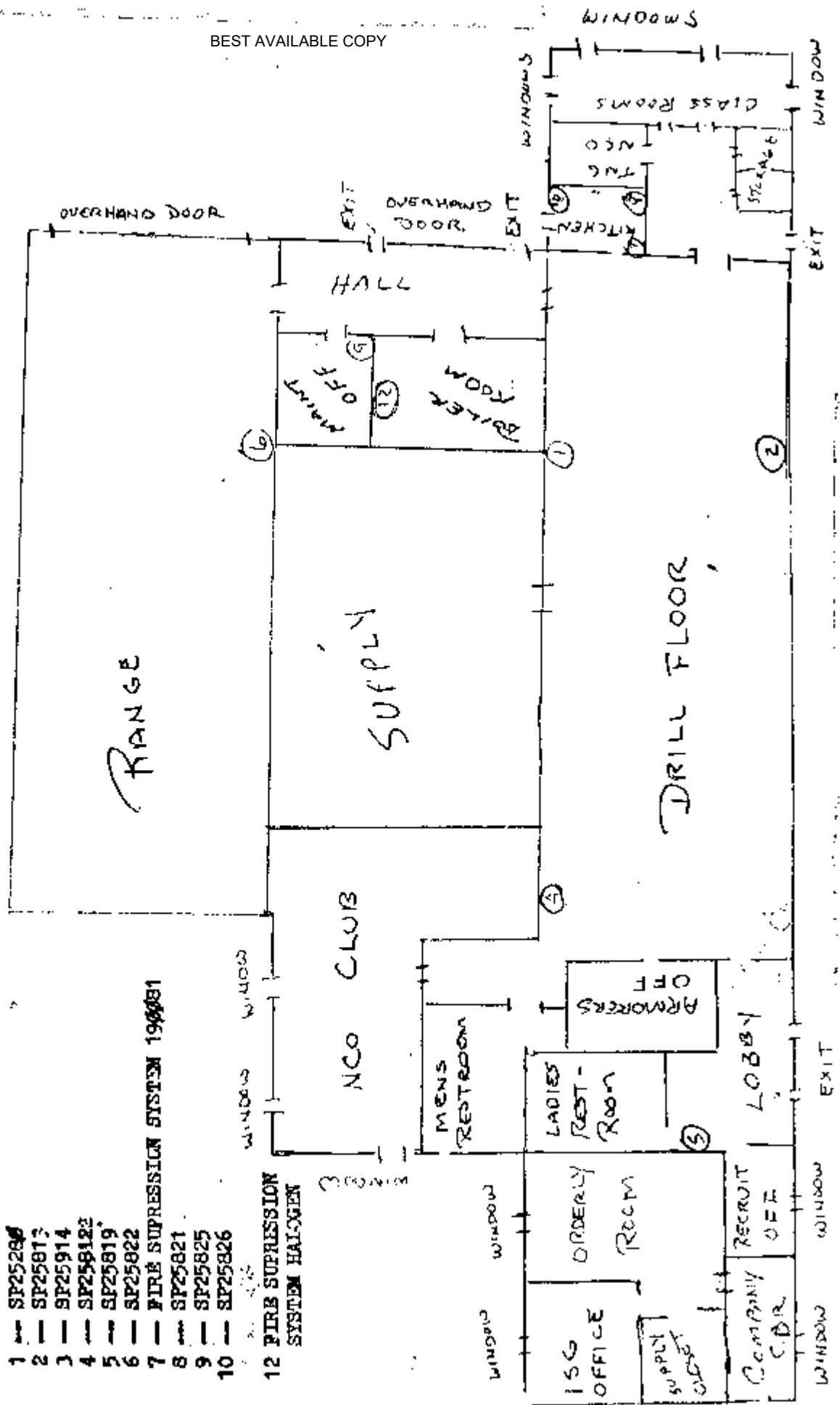
OIL
SHED

00

UNDERGROUND
GAS TANK

- 1 SP25286
- 2 SP25813
- 3 SP25914
- 4 SP258123
- 5 SP25819
- 6 SP25822
- 7 FIRE SUPPRESSION SYSTEM 1988B1
- 8 SP25821
- 9 SP25825
- 10 SP25826

12 FIRE SUPPRESSION
SYSTEM HAUGEN



Appendix D. References

1. Title 29 Code of Federal Regulations (CFR), Part 1910.1025, Occupational Safety and Health Administration, Occupational Exposure to Lead.
2. American Conference of Governmental Industrial Hygienists (ACGIH) – Threshold Limit Values and Biological Exposure Indices, 2012 Edition.
3. Industrial Ventilation: A Manual of Recommended Practice for Design, 27th Edition.
4. American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), Ventilation for Acceptable Indoor Air Quality, 62.1-2010,
5. ANSI/IESNA RP-1-2004, Industrial Lighting, Illuminating Engineering Society of North America.
6. ANSI/IESNA RP-7-2001, Industrial Lighting, Illuminating Engineering Society of North America.
7. National Emission Standard Hazardous Air Pollutants (NESHAP) – The standards for asbestos are contained in 40 CFR 61.140 through 61.157.
8. Environmental Protection Agency (EPA) standards [40 Code of Federal Regulations (CFR) 745.227(h)(3)]
9. Derivation of Wipe Surface Screening Levels for Environmental Chemicals, the US Army Center for Health Promotion and Preventive Medicine (USACHPPM), 1999.
10. The US Army Technical Guide 277 Army Facilities Management Information Document on Mold Remediation, February 2002.
11. NG PAM 420-15 Guidelines and Procedures for Rehabilitation and Conversion of Indoor Firing Ranges, 3 Nov. 2006.
12. American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), Thermal Environmental Conditions for Human Occupancy, 55-2010.