DEPARTMENT OF THE ARMY AND THE AIR FORCE
NATIONAL GUARD BUREAU
REGIONAL INDUSTRIAL HYGIENE OFFICE
AIRPORT PLAZA SUITE 1530
510 PLAZA DRIVE
COLLEGE PARK, GA 30349

NGB-ARS-IHSE (40-5f) 24 March 2008

MEMORANDUM FOR: ADJUTANT GENERAL TX ARNG, ATTN.: Angleton Armory 272 EN (VERT) (386EN) 1716 County Road 428 Angleton, Texas 77515.

Thru: Non-Responsive Deputy State Army Surgeon, JFTX-ARM-SS, 3500 West 35th Street, Building 10, Austin, TX 78763-5218.

SUBJECT: Transmittal of IH Survey, Angleton Armory 272 EN (VERT) (386EN) 1716 County Road 428 Angleton, Texas 77515

1. References.

a. OSHA Standards 29 CFR (Code of Federal Regulations), General Industry, revised 1996 rev.

b. AR 40-5, Preventive Medicine, 22 July 2005.

c. AR 11-34, 15 February 1990, The Army Respiratory Protection Program.

d. AR 385-10, 29 February 2000, Army Safety Program.

f. TB MED 503, The Army Industrial Hygiene Program, 30 October 2000.

g. Title 29 Code of Federal regulation (CFR), 1989 rev, Part 1910.94 (c) (6) Table G-10, Ventilation.

h. Industrial Ventilation, 25th, 2004, American Conference of Governmental Industrial Hygienist, Cincinnati, Ohio.

i. Title 29 Code of Federal Regulation (CFR), Part 1910.1025 Lead.

k. Title 40 Code of Federal Regulation (CFR), Part 745.227.

2. General.

a. In accordance to the JFTX-H-OH Industrial Hygiene Implementation Plan of 2007, a follow-up industrial hygiene survey was performed at the Angleton Armory located at 1716 County Road 428 Angleton, Texas 77515. The purpose of the survey was to perform a follow-up industrial hygiene survey to evaluate potential health hazards present in the building.

b. The Point of Contact during the survey was Non-Responsive

c. Non-Responsive Industrial Hygiene Technician for the Texas Army National Guard conducted the survey on 23 January 2008.

3. General.

a. **Site Description.** The Angleton Armory ; a two story brick over cinder block structure with Central HVAC was built in 1988 and renovated in 1992. The facility houses several training rooms and classrooms, administrative office areas, rear maintenance bay with storage areas, an indoor range and a supply room with storage and vault. Three full time employees work at the Armory supporting 71 M-Day Soldiers. The armory has several residential use Central HVAC with interior units mounted inside mechanical rooms. The POC has sent request for various repairs to be made throughout the armory, which are addressed, in the survey. A copy of the floor layout and photos are included in Appendix A.

b. **Scope of Work.** The work included collecting wipe samples for lead, bulk samples for suspect asbestos containing building material, illumination levels, noise readings, and an evaluation of the ventilation system as it pertains to indoor air quality.

c. **Methodology** Lead wipe samples collected from various surfaces throughout the building are collected accordance to instructions published by Region South National Guard Bureau, which required the use of Ghost wipes or unscented baby wipes to wipe one square foot of surface. Samples are then placed in a sealed plastic bag and sent for analysis to an American Industrial Hygiene Association (AIHA) Accredited laboratory. Asbestos bulk samples are collected from suspect building materials that were grouped based on similarity of composition. Bulk sample collection was minimally destructive and samples are collected from inconspicuous areas. Bulk samples are also collected from suspect friable and damaged building material. Each bulk sample are then placed in a sealed bag and sent to the laboratory for analysis. Area Illumination readings were collected using an EXTECH 401025 light meter Serial Number Q168802. Illumination readings are taken on work surfaces and approximately four feet from the floor. A copy of the floor layout and photos are included in Appendix A.

4. Findings.

a. **Lead Wipe Samples:** Wipe samples for lead dust were collected from various areas in the prior survey dated 28 June 2004. Elevated results were self-contained in the empty locked indoor range. Access to the locked range is limited to facilities commission and industrial hygiene personnel only. The top coke machine; which has been removed, also had elevated levels of lead as listed in the prior survey. Reportedly no action has been taken after the last survey; the visual inspection confirmed that finding. Due to this no areas were sampled or tested during current survey.

The US Environmental Protection Agency (EPA), under a new standard issued in 2000, considers lead dust as a hazard if levels are greater than 40 micrograms of lead in dust per square foot on floors; 250 micrograms of lead in dust per square foot on interior window sills and 400 parts per million (ppm) of lead in bare soil in children's play areas or 1200 ppm average for bare soil in the rest of the yard. This standard is a major effort by the EPA to identify dangerous levels of lead in paint, dust and soil in order to protect children from lead poisoning The National Guard Bureau recommends a limit of 200 micrograms per square foot for surface contamination. Deteriorated Paint surfaces that contain lead levels at or above 0.06 % by weight or 600 (ppm) are considered a hazard.

b. **Asbestos Suspect Building Material:** Based in the build date, 1988 and visual inspection, no ACBM was identified or tested during the current survey.

c. **Noise Survey:** No noise Hazardous areas were identified or tested on the day of the survey.

d. **Illumination Survey** Evaluated lighting levels within the Armory ranged between 0 foot-candles to 104 foot-candles.

Angleton Armory	Reading in Foot-candles
Classrooms	21-104
Office Areas	30-54
Hallways and Lobby	4-11
Latrines	9-45
Drill Hall	10-40
Indoor Range	0-25
Supply Areas	5-35
Kitchen	16-53

Most readings are within the Army Design Guide (DG415-2) minimum illumination level of 50 foot-candle for office area and 20 foot-candles for parts storage/supply. The American National Standard Institute (ANSI) recommends a minimum illumination level of 50 to 100 foot-candles for office work, 20 to 50 for general lighting. Luminance depends on various factors including the task to be performed, the age of the individual, and the surroundings. Luminance of 50 to 100 foot-candles is recommended for performance of visual tasks of medium contrast or small size such as reading pencil handwriting and poorly printed or reproduced material. Depending on the type of display, background luminance of 30 to 60 foot-candles is recommended for VDT work. Areas with low light readings have burnt out bulbs or fixtures are in need of repair. Replacing light bulbs with higher wattage will increase lighting levels. Replacing broken light fixtures and or lights and or cleaning them should improve the lighting levels. The POC also has request for additional exterior lighting around the armory, within the motor pool and repairs for down line to the back security light. A copy of the floor layout and photos are included in Appendix A.

e. **Heating Ventilating and Air Conditioning (HVAC):** The Heating Ventilating and Air-Conditioning (HVAC) System for the Armory building consisted of various residential use Central HVAC with units inside mechanical rooms and local ceiling mounted heating units in latrines and supply areas. The system is capable to deliver outside makeup air to the occupied space. Various HVAC issues have been documented or communicated with the POC and will be forwarded to the State Facilities Commission to include repairing of leaky faucets and leaks in Indoor range areas. These repairs, if left un-repaired, may contribute excess humidity within the building and affect overall indoor quality. A copy of the floor layout and photos are included in Appendix C.

5. Recommendations.

a. Evidence of Lead contaminated surfaces was found inside the locked range as listed in the 2004 report. Continue to clean weapons offsite and practice good housekeeping by washing hands after handling and cleaning weapons and after leaving weapons vault. (RAC 3)

b. Have facilities clean and decontaminate lead contaminated surfaces inside Indoor Range per NG PAM 385-18 and NG PAM 420-15. (RAC 3)

c. To reduce further damage and maintain overall indoor air quality, continue document and monitor roof leaks and contact your local facilities commission for roof repair and ceiling tile replacement where needed. (RAC 3)

d. Ventilate all occupied areas by repairing all exhaust vents and ensuring vents in latrines and supply rooms are within design guide and ventilation standards. Balance HVAC system to eliminate excess humidity in occupied areas. (RAC 2)

e. Due to geographic location, include the addition of a local HVAC system in all latrines and supply rooms. (RAC 2)

f. Repair and or replace broken light fixtures to improve luminescence in areas with low light readings and add additional exterior lighting per POC request. (RAC 3)

g. Discard and replace mattress in locker areas.(RAC 3)

Non-Responsive

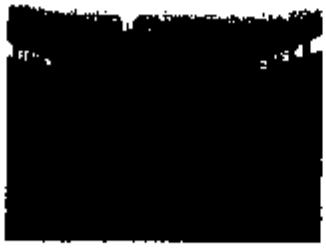
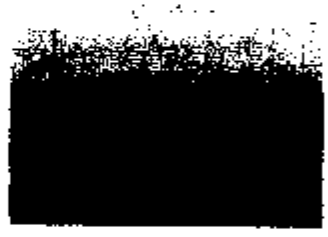
CF: NGB-ARS-IHSE
State Occupational Health Office, 3500 West 35th Street, Building 86, Austin, TX 78763.
State Safety Manager, P. O. BOX 5218, Austin, TX 78763-5218.

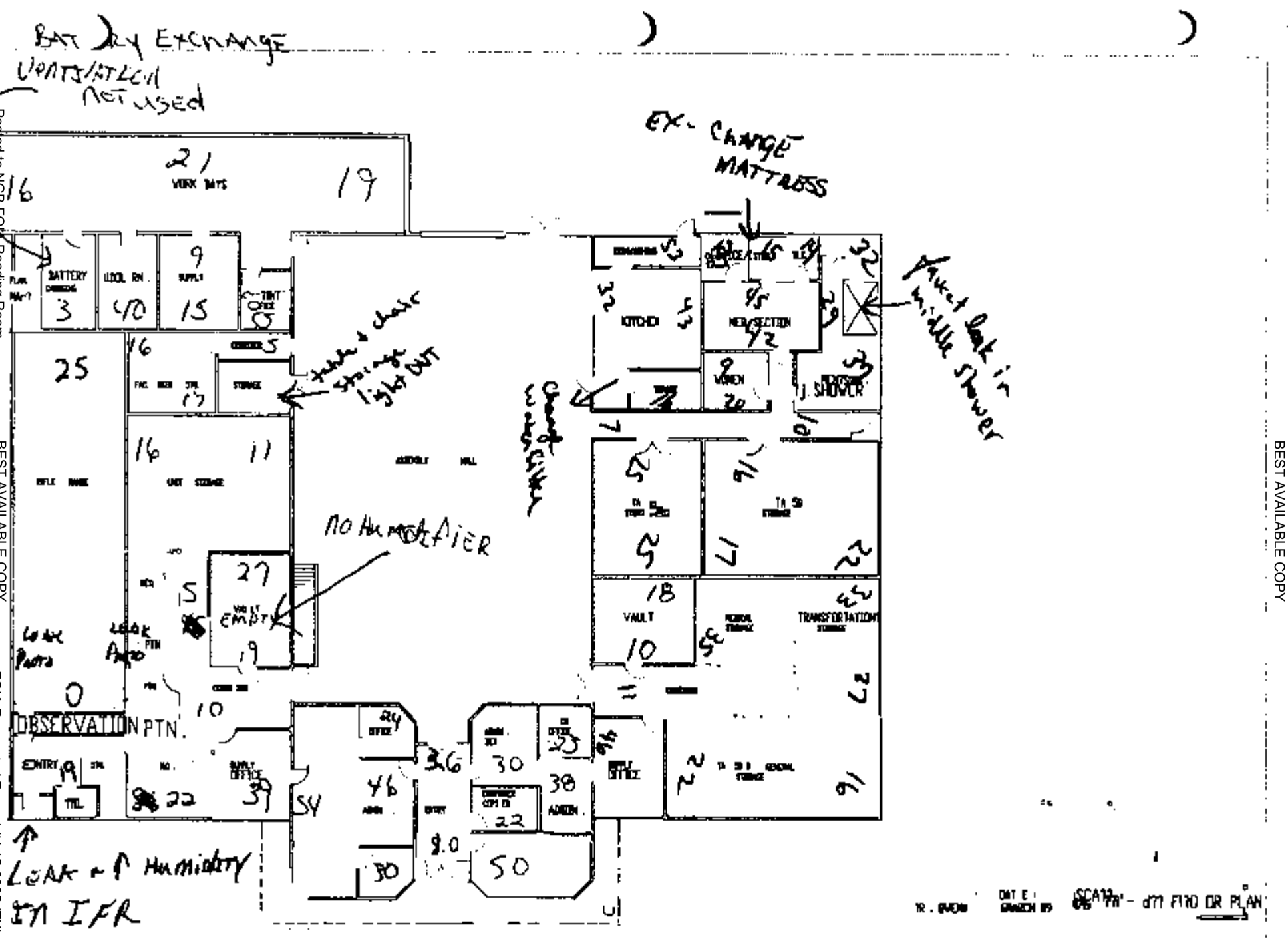
ENCL.
as

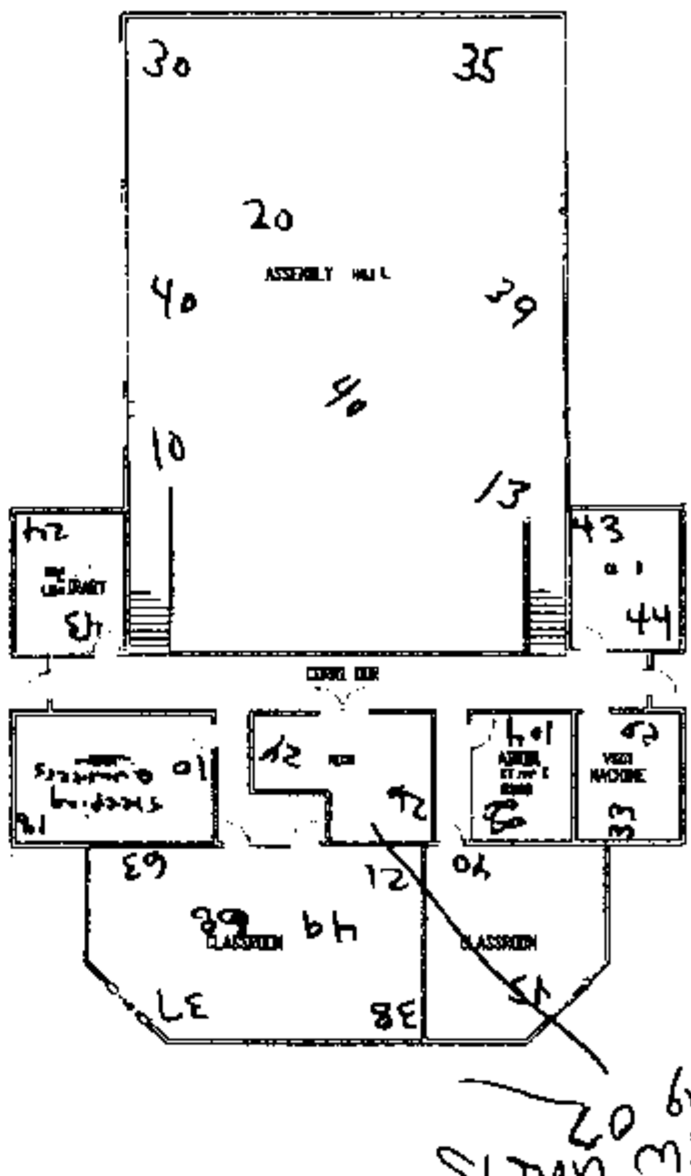
Appendix A

Photographs and Floor Layout

Angleton Armory

			
Angleton Armory	Drill Hall	Kitchen	Mechanical Room
			
Angleton Armory	Supply Room	Replace Mattress in Locker Areas	Indoor Range
			
Indoor Range	Indoor Range Water leak	Rear Mechanics Bay	Motor Pool





ANGLETON SHEET 1 of 1
THE ADJUTANT GENERAL'S DEPARTMENT STATE OF TEXAS
OFFICE OF FACILITIES AND ENGINEERING
AUSTIN TEXAS
JLOVEN
7 MARCH 89
FLOOR PLAN

BEST AVAILABLE COPY

ANGLETON
STATE OF TEXAS
OF OFFICE OF FACILITIES AND ENGINEERING
FLOOR PLAN
ASSEMBLY HALL
CLASSROOM
CLASSROOM

DEPARTMENT OF THE ARMY AND THE AIR FORCE
NATIONAL GUARD BUREAU
REGIONAL INDUSTRIAL HYGIENE OFFICE
AIRPORT PLAZA SUITE 1530
510 PLAZA DRIVE
COLLEGE PARK, GA 30349

NGB-AVN-SI June 28, 2004

MEMORANDUM FOR: ADJUTANT GENERAL TX ARNG, ATTN.: State Occupational Health Office, P. O. BOX 5218, Austin, TX 78763-5218

SUBJECT: Transmittal of the Survey Report for Angleton Armory, TX.

1. References.

a. Department of Defense Instruction 6055.1, Department of Defense Occupational Safety and Health (OSH) Program, 26 October 1984.

b. Army Regulation (AR) 40-5, 30 August 1986, Medical Service, Preventive Medicine.

c. National Guard Regulation (NGR) 385-10, 1988, Army National Guard Safety and Occupational Health Program.

d. AR 11-34, The Army Respiratory Protection Program, 15 February 1990.

e. TB MED 502, Occupational and Environmental Health Respiratory Protection Program, February 1982.

f. DA PAM 40-503, 30 October 2000, The Army Industrial Hygiene Program.

g. DA PAM 40-501, 10 December 1998, Hearing Conservation.

h. Threshold Limit Values and Biological Exposure Indices (TLV's) for 2001, American Conference of Governmental Industrial Hygienists (ACGIH), Cincinnati, Ohio.

i. Industrial Ventilation, 23rd Edition, American Conference of Governmental Industrial Hygienist, Cincinnati, Ohio.

j. USAEHA TG-141, November 1997, Guidelines for Air Sampling and Bulk sample Collection.

NGB-AVN-SI
SUBJECT: Transmittal of the Survey Report for Angleton Armory, TX.

k. Title 29, Code of Federal Regulations (CFR), 2000 rev., part 1910, Occupational Safety and Health Standards.

l. Report of June 16, 2004, Industrial Hygiene Survey, Tammer Sciences INC, 3744 Lawrence Dr., Naperville, IL.

2. General.

a. At the request of the TX ARNG Safety and Occupational Health Office, an Industrial Hygiene Service was put together to conduct Health Hazard Information module (HHIM) Field surveys and industrial hygiene sampling of the Angleton Armory, TX

b. Non-Responsive Tammer Sciences INC, 3744 Lawrence Dr., Naperville, IL 60564, conducted the survey.

3. Findings. All Health Hazard information are on the survey findings of the report. (See enclosure 1)

4. Recommendations.

a. Follow all recommendations made in reference 1.l., requesting industrial hygiene (IH) services where needed to complete the recommendations.

b. Conduct an air sampling survey in the areas in and around those identified with elevated lead dust levels in page 3 0f reference 1.l, to ensure that the lead dust present is not airborne and that employees in these areas are not exposed above the action level where applicable.

c. Control water infiltration in the armory and/or replace or repair damaged surfaces or components (ceiling and floor tiles). Building conditions that present IAQ concerns or problems not only exacerbates normally minor health issues but also tend to promote or accelerate building deterioration.

d. The recommendations given in the comment section and data collected will serve as a baseline for the Industrial Hygiene Implementation Plan (IHIP) for FY-03. A follow up operation and hazard specific air sampling survey based on the enclosed findings will be included in the FY-04 IHIP.

NGB-AVN-SI
SUBJECT: Transmittal of the Survey Report for Angleton Armory, TX.

e. Consider additional Industrial Hygiene services to monitor operations that were not looked at or surveyed during the present survey, especially if this will help eliminate health hazards and reduce medical surveillance cost.

f. To execute your responsibilities in correcting all deficiencies and meeting all standards coordinate with the Occupational Health Nurse and the Occupational Safety and Health Office for technical guidance.

f. Give special consideration to cleaning light fixtures, increasing the wattage and painting walls a lighter color when upgrading the lighting in the facility.

5. If additional information is needed about the industrial hygiene survey or air sample

Non-Responsive

CF:
NBG-AVN-SH
State Occupational Health Office, P. O. BOX 5218, Austin, TX 78763-5218.
State Safety Manager, P. O. BOX 5218, Austin, TX 78763-5218.

Encl
as

Industrial Hygiene Baseline Survey Report
For
Texas Army National Guard
(TXARNG)

At
Angleton Armory
1716 County Road 428
Angleton, Texas

Prepared for:

Department of the Army and the Air Force
National Guard Bureau
Regional Industrial Hygiene Office
Region South
Airport Plaza Suite 1530
510 Plaza Drive
College Park, GA 30349

By
Non-Responsive

June 16, 2004

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Executive Summary

An initial baseline industrial hygiene survey was conducted at the Angleton Armory on 25 March 2004 as part of the Texas Army National Guard Occupational Health Program to identify potential health hazards in the workplace. The survey consisted of collecting lead wipe samples and bulk asbestos samples, conducting an illumination survey, a noise survey, and an evaluation of the Heating Ventilation and Air Conditioning System (HVAC) as it relates to indoor air quality.

The following table summarizes the survey findings and recommendations for each topic surveyed.

Topic	Summary of Findings	Recommendations
IFR Lead Wipe Sample Results	<10 to 22,000 microgram per square foot.	Do not use the firing range space until it is cleaned and decontaminated properly.
Armory Lead Wipe Samples	<10 to 110 microgram per square foot.	No action.
Asbestos Bulk Samples	No Suspect asbestos containing material identified.	No action.
Noise Survey	No excessive noise source was identified.	No action.
Illumination Survey	10 to 75 footcandles	No action.
HVAC/IAQ	No issues observed or documented.	No action.

SUBJECT: Industrial Hygiene Initial Baseline Survey of the Angleton Armory in Angleton, Texas on 24 March 2004

BACKGROUND:

Introduction. At the request of Non-Responsive of the National Guard Bureau Region South Industrial Hygiene Office, an initial baseline industrial hygiene survey was performed at the Angleton Armory in Angleton, Texas. Non-Responsive Industrial Hygiene Technician for the Texas Army National Guard and Non-Responsive contract Industrial Hygienist, Tammer Sciences, Inc. conducted the survey on 25 March 2004. The purpose of the survey was to perform an initial baseline industrial hygiene survey to identify potential health hazards present at the armory, specifically lead contamination from the indoor firing range.

Site Description. The armory, which was renovated in 1992, houses the Co C 4-112 AR. The building is a two-story structure and consists of administrative office areas, a kitchen, classrooms, drill hall, two supply rooms, and an indoor firing range. Two full time employees work at this armory. A copy of the floor layout and photos are included in Appendix A and D, respectively.

Scope of Work. The work included collecting wipe samples for lead, bulk samples for suspect asbestos containing building material, illumination levels, noise readings where necessary, and an evaluation of the ventilation system as it pertains to indoor air quality.

Methodology Lead wipe samples were collected from surfaces in the firing range and in the Armory in accordance to instructions published by Region South National Guard Bureau, which required the use of unscented baby wipes to wipe one square foot of surface. Samples were then placed in a sealed plastic bag and sent for analysis to EMSL laboratory, which is an American Industrial Hygiene Association (AIHA) Accredited laboratory. Asbestos bulk samples were collected from suspect building materials that were grouped based on similarity of composition. Bulk sample collection was minimally destructive and samples were collected from inconspicuous areas. Bulk samples were also collected from suspect friable and damaged building material. Each bulk sample was placed in a sealed bag and sent to EMSL laboratory for analysis. Noise readings were collected using a noise level meter in areas where a noise source was identified. All noise measurements were area readings. Illumination readings were collected using a Western Schlumberger light meter Serial 8384. Illumination readings were taken on work surfaces such as desks or approximately four feet from the floor.

FINDINGS and DISCUSSION:

The Point of Contact during the survey was Non-Responsive

Lead Wipe Samples: Thirty wipe samples were collected from the indoor firing range and various areas of the armory as listed in the table below.

Sample Number	Sample Location	Micrograms of lead (ug) per square foot
AN01	Top of ice maker in kitchen.	14.0
AN02	Top of serving line in kitchen.	<10.0
AN03	Drill hall floor by overhead door.	26.0
AN04	Drill hall floor in center.	<10.0
AN05	Drill hall floor by supply room to the left of the door	<10.0
AN06	Drill hall floor by supply room to the right of the door	18.0
AN07	Top of the soda machine in the drill hall	110.0
AN08	Supply diffuser in the supply sergeant office	20.0
AN09	Supply diffuser in the administrator office	10.0
AN10	Top of filing cabinet in the administrative area	12.0
AN11	IFR back wall (facing wall) upper right	<10.0
AN12	IFR back wall (facing wall) middle	14.0
AN13	IFR back wall (facing wall) lower left	94.0
AN14	IFR left wall (facing trap) lower right (facing wall)	<10.0
AN15	IFR left wall (facing trap) middle	23.0
AN16	IFR left wall (facing trap) upper left (facing wall)	150.0
AN17	IFR right wall (facing trap) upper left (facing wall)	96.0
AN18	IFR right wall (facing trap) middle	58.0
AN19	IFR right wall (facing trap) lower right (facing wall)	13.0
AN20	IFR floor to the left of the bullet trap	460.0
AN21	IFR floor middle of range	2300.0
AN22	IFR floor to the right of the observation area (facing trap)	22,000.0
AN23	IFR top of bullet deflector by trap right side facing trap.	<10.0
AN24	IFR top of ceiling tile mid range.	170.0
AN25	IFR top of heat shield between firing line and observation deck	220.0
AN26	IFR bullet Stop upper left	15,000.0
AN27	IFR bullet Stop middle	16,000.0
AN28	IFR bullet Stop lower right	14,000.0
AN29	IFR top of firing line shelves position 2.	4400.0
AN30	Field Blank	33.0

The US Environmental Protection Agency (EPA), under a new standard issued in 2000, considers lead dust as a hazard if levels are greater than 40 micrograms of lead in dust per square foot on floors; 250 micrograms of lead in dust per square foot on interior window sills and 400 parts per million (ppm) of lead in bare soil in children's play areas or 1200 ppm average for bare soil in the rest of the yard. This standard is a major effort by the EPA to identify dangerous levels of lead in paint, dust and soil in order to protect children from lead poisoning. The National Guard Bureau recommends a limit of 200 micrograms per square foot for surface contamination. The laboratory report and chain of custody forms are attached in Appendices B and C.

The indoor firing range as indicated by the wipe sampling results should be properly cleaned and decontaminated in accordance to the instructions found in NG PAM 385-15.

Asbestos Suspect Building Material: Typical building materials identified in the Armory consisted of 12 by 12 inches floor tiles, 2x4 feet ceiling tiles, and Baseboard in the administrative office areas and classrooms. Cement floors, cinder block walls, and corrugated steel deck in the drill hall, supply, storage, and other areas. Bulk samples were not collected because the Armory was completely renovated in built on 1992 and the presence of asbestos containing material is less likely.

Noise Survey: Based on observations during the walkthrough baseline survey, no sources of excessive noise were identified and therefore no area noise readings were collected. Noise levels are likely to be well below the Occupational Safety and Health Administration (OSHA) regulated limit of 90 dBA and the Army recommended limit of 85 dBA.

Illumination Survey Lighting levels throughout the Armory ranged between 10 foot-candles to 75 foot-candles. Illumination levels are noted on the floor layout in Appendix A. Illumination ranges for each area are listed in the Table below:

Area	Reading in Foot-candles
Administrative Offices.	30 -- 60
Classrooms.	60 -- 75
Supply Rooms.	10 -- 25
Drill Hall.	20 – 60
Hallway.	10 -- 20
Kitchen.	20 -- 40

The Army Design Guide (DG415-2) minimum illumination level of 50 foot-candle for office area and 20 foot-candles for parts storage/supply. The American National Standard Institute (ANSI) recommends a minimum illumination level of 50 to 100 foot-candles for office work, 20 to 50 for general lighting. Luminance depends on various factors including the task to be performed, the age of the individual, and the surroundings. Luminance of 50 to 100 foot-candles is recommended for performance of visual tasks of medium contrast or small size such as reading pencil handwriting and poorly printed or reproduced material. Depending on the type of display, background luminance of 30 to 60 foot-candles is recommended for VDT work. Replacing light bulbs with higher wattage will increase lighting levels. Replacing burnt out light bulbs and cleaning the light fixture should improve the lighting levels.

Heating Ventilating and Air Conditioning (HVAC) The Heating Ventilating and Air-Conditioning (HVAC) System for the Armory consisted of four forced air gas fired

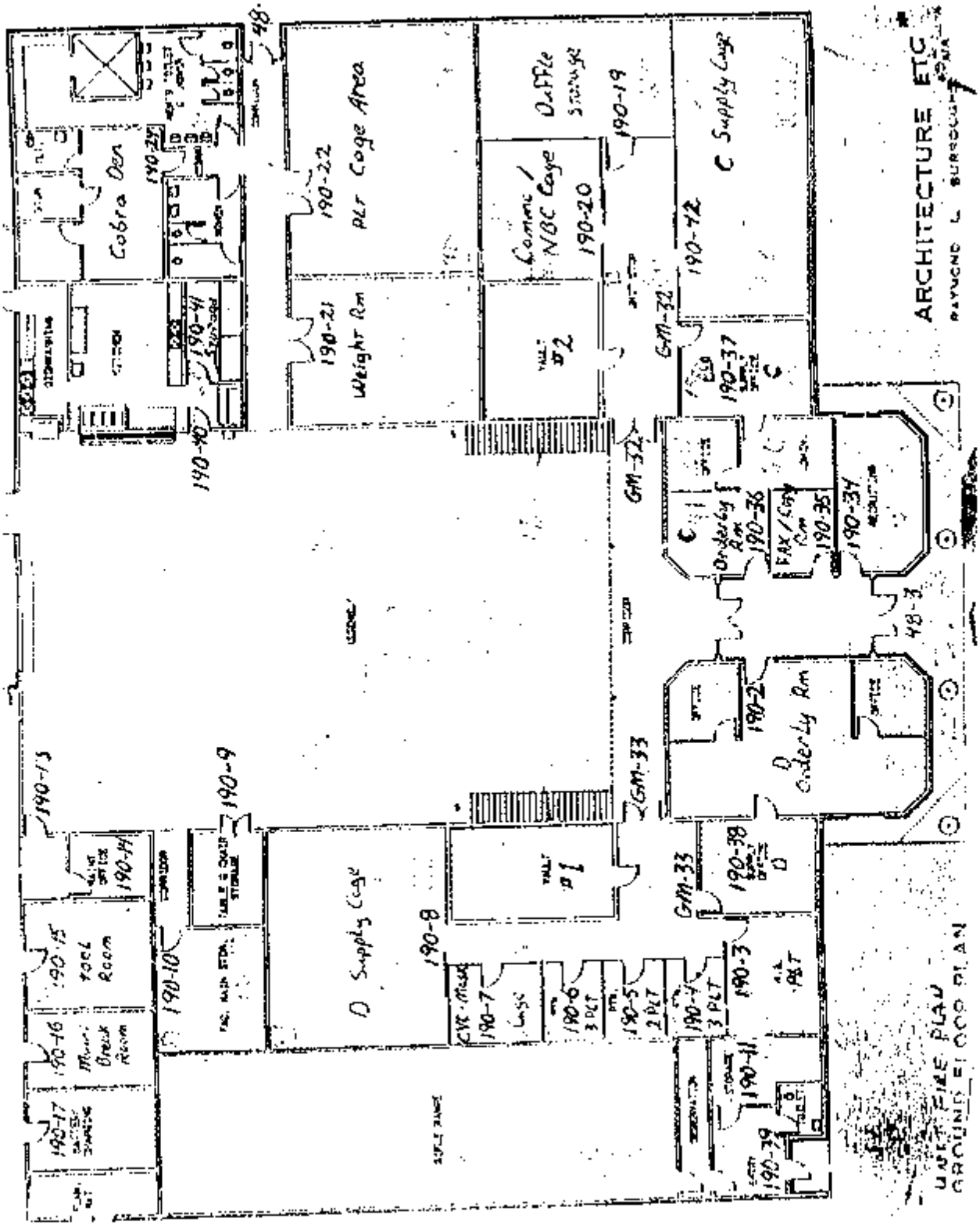
furnaces with individual rooftop cooling units. No other complaints of indoor air quality issues were documented or communicated with the POC.

Recommendation:

Clean and decontaminate the firing range in accordance to NG PAM 385-15 specifications.

Technical Assistance: For technical assistance regarding information found in this report or the performed survey please contact Non-Responsive Regional Industrial Hygienist at the NGB ARNG Region South Industrial Hygiene Office at Non-Responsive

APPENDIX A



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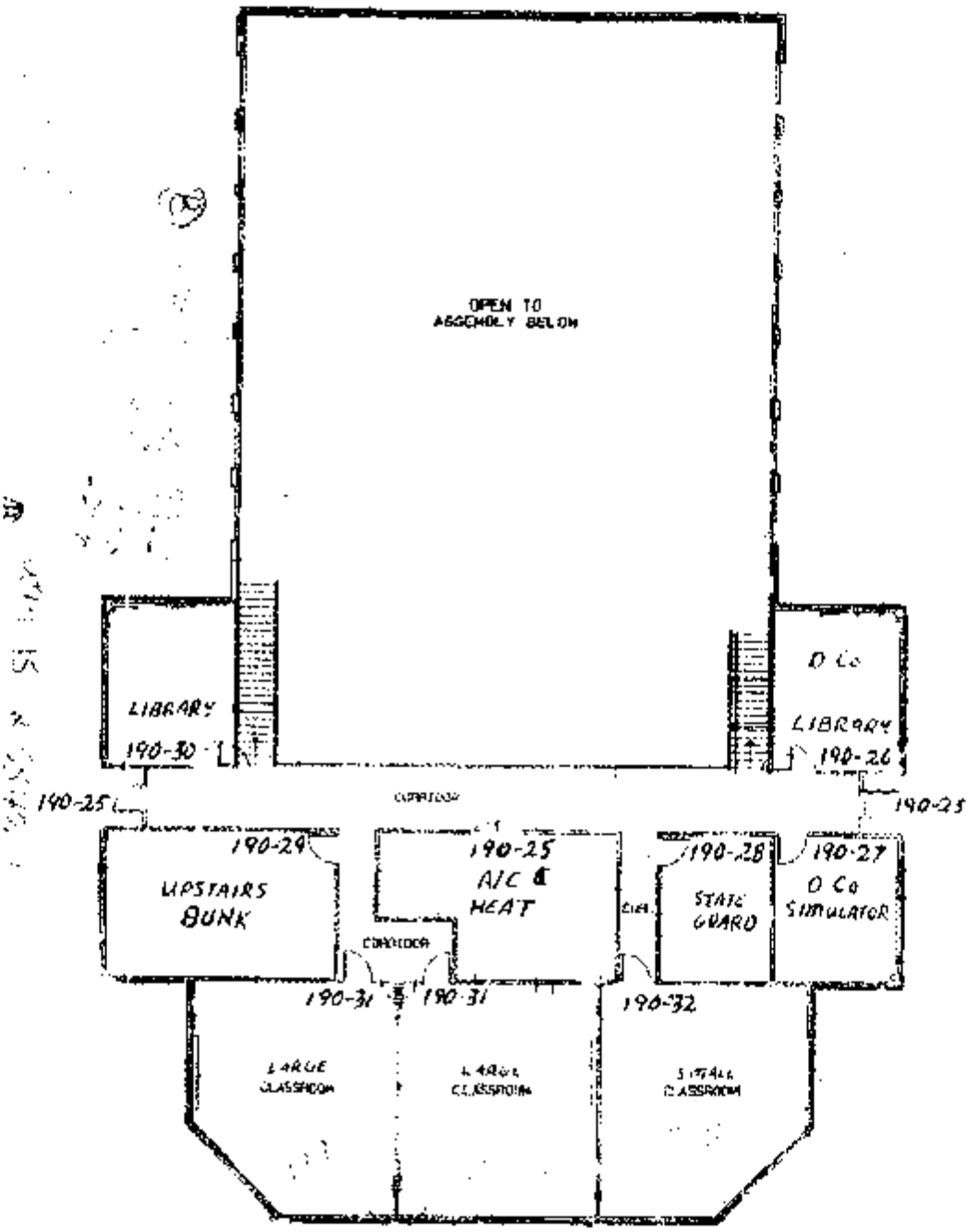


ANGLETON, TX

APPENDIX B

EMSL Analytical
3 Cooper St., Westmont, NJ 08108
Phone: (856) 858-4160 Fax: (856) 858-9551 Email: skauffman@emsl.com

Attn: Non-Responsive
Fax:
Project: Angleton, TX

Phone: (630) 369-7958

Customer ID: TS80
Customer PO:
Received: 03/30/04 10:13 AM

EMSL Order: 200403340
EMSL Proj:

Lead in Wipes by Flame AAS (SW 846, 7420)

Client Sample Description		Lab ID	Analyzed	Area Sampled	Lead Concentration
AN01	Results for these wipe samples do not meet the EPA standards for sample matrix and are not recognized under the NLLAP accreditation program	0001	4/13/04	n/a	14.0 µg/wipe
AN02		0002	4/13/04	n/a	<10.0 µg/wipe
AN03		0003	4/13/04	n/a	26.0 µg/wipe
AN04		0004	4/13/04	n/a	<10.0 µg/wipe
AN05		0005	4/13/04	n/a	<10.0 µg/wipe
AN06		0006	4/13/04	n/a	18.0 µg/wipe
AN07		0007	4/13/04	n/a	110.0 µg/wipe
AN08		0008	4/13/04	n/a	20.0 µg/wipe
AN09		0009	4/13/04	n/a	10.0 µg/wipe
AN10		0010	4/13/04	n/a	12.0 µg/wipe
AN11		0011	4/13/04	n/a	<10.0 µg/wipe
AN12		0012	4/13/04	n/a	14.0 µg/wipe
AN13		0013	4/13/04	n/a	94.0 µg/wipe
AN14		0014	4/13/04	n/a	<10.0 µg/wipe
AN15		0015	4/13/04	n/a	23.0 µg/wipe
AN16		0016	4/13/04	n/a	150.0 µg/wipe
AN17		0017	4/13/04	n/a	96.0 µg/wipe
AN18		0018	4/13/04	n/a	56.0 µg/wipe
AN19		0019	4/13/04	n/a	13.0 µg/wipe
AN20		0020	4/13/04	n/a	460.0 µg/wipe
AN21		0021	4/14/04	n/a	2300.0 µg/wipe

Non-Responsive

The QC data associated with the sample results included in the report meet the recovery and precision requirements established by the AIHA, unless specifically indicated otherwise in the comment section. The test results contained within this report meet the requirements of NELAC unless otherwise noted.
ACCREDITATIONS: NJ-NELAP: 04653, AIHA Environmental Lead Laboratory Approval Program, 100194

Date Printed: 4/14/04 9:18:26 AM

EMSL Analytical
3 Cooper St., Westmont, NJ 08108
Phone: (856) 858-4800 Fax: (856) 858-9551 Email: skauffman@emsl.com

Attn: Non-Responsive
Fax:
Project: Angleton, TX

Phone: (630) 369-7956

Customer ID: TS80
Customer PO:
Received: 03/30/04 10:13 AM

EMSL Order: 209403340
EMSL Proj:

Lead in Wipes by Flame AAS (SW 846, 7420)

Client Sample Description	Lab ID	Analyzed	Area Sampled	Lead Concentration
AN22	0022	4/14/04	n/a	22000.0 µg/wipe
AN23	0023	4/14/04	n/a	<10.0 µg/wipe
AN24	0024	4/14/04	n/a	170.0 µg/wipe
AN25	0025	4/14/04	n/a	220.0 µg/wipe
AN26	0026	4/14/04	n/a	15000.0 µg/wipe
AN27	0027	4/14/04	n/a	19000.0 µg/wipe
AN28	0028	4/14/04	n/a	14000.0 µg/wipe
AN29	0029	4/14/04	n/a	4400.0 µg/wipe
AN30	0030	4/14/04	n/a	33.0 µg/wipe

Non-Responsive

The QC data associated with the sample results included in this report meet the recovery and precision requirements established by the AIHA, unless specifically indicated otherwise in the comment section. The test results contained within this report meet the requirements of NELAC unless otherwise noted.
ACCREDITATION #: NJ-NELAP 04650, AIHA Environmental Lead Laboratory Approval Program: 69194

Date Printed: 4/14/04 9:18:35 AM

APPENDIX C

EMSL ANALYTICAL CHAIN OF CUSTODY

Date: 3/26/04 EMSL Representative: ____ Project Name/No.: ____ P.O.#: ____

Company Name: Tommer Sciences, Inc. EMSL-Bill to: ____

Street: 3244 Lawrence Drive Street: Same

Box #: ____

City/State: Naperville, IL Zip: 60564 City/State: ____ Zip: ____

Phone Results to: Name [redacted] Telephone: [redacted]

Fax Results to: Name ____ Fax #: ____

MATRIX	METHOD	INSTRUMENT	RL (Reporting Limit)	TAT
Lead Chips*	SW846-7420, 3050B Mod. / AOAC (974.02)	Flame Atomic Absorption	0.01%	
Lead Wastewater	SW846-7420	Flame Atomic Absorption	0.4 mg/l water 40 mg/kg (ppm) soil	
Lead Soil	or SW846-6010B	ICP	0.1 mg/l water 10 mg/kg (ppm) soil	
Lead in Air**	NIOSH 7082 Mod.	Flame Atomic Absorption	4 ug filter	
	or NIOSH 7300 Mod.	ICP	3.0 ug filter	
Lead in Wipe* ☒-ASTM	SW846-7420 / HUD Appendix 14.2 Digest	Flame Atomic Absorption	10 ug/wipe	
Wipe Type ☐-non ASTM	or SW846-6010B	ICP	3.0 ug/wipe	
TCLP Lead**	SW846-1311/7420	Flame Atomic Absorption	0.4 mg/l (ppm)	
	or SW846-6010B	ICP	0.1 mg/l (ppm)	
STLC Lead	CA Title 22 SW846-7420	Flame Atomic Absorption	0.4 mg/l (ppm)	
	or SW846-6010B	ICP	0.1 mg/l (ppm)	
Lead in Air****	NIOSH 7105 Mod.	Graphite Furnace Atomic Absorption	0.03 ug/filter	
Lead Wastewater	SW846-7421	Graphite Furnace Atomic Absorption	0.003 mg/l (ppm) water	
Lead Soil			0.3 mg/kg (ppm) soil	
Lead in Drinking Water (check state compliance requirements)	EPA 239.2 / 200.9	Graphite Furnace Atomic Absorption	0.003 mg/l (ppm)	
Total Dust	NIOSH 0500/0600	Gravimetric Reduction	0.0001g	

AUG 18 2004 CEU

T.A.T. (Turnaround) - Same day, 24 hr - 1 Day, 2 Days, 3 Days, 4 Days, 5 Days, 6-10 Days

*, **, ***, ****, -, -- Please Refer to Price Quote

* If no box is checked, non-ASTM is assumed

SAMPLE #	LOCATION	Air volume L Area, in²	LAB #
AN01	Angleton, TX		03340-1
AN02			2

Relinquished By: (Person) [redacted] Date: 3/26/04

Received at EMSL By: [redacted] Date: 3/26/04

Received at EMSL By: ____ Date: ____

Note: Please duplicate this form and use additional sheets if necessary.

The individual signing and relinquishing these samples to the laboratory attests to the accuracy of the information reported on this chain of custody.

Lead Chain Rev 2001 / STLC.doc

EMSL ANALYTICAL CHAIN OF CUSTODY 2004033400 LEAD

SAMPLE #	LOCATION	Air volume, L Area, in²	LAB #
ANQ3	Angleton, TX		633403
ANQ4			2
05			5
06			6
07			7
08			8
09			9
10			10
11			11
12			12
13			13
14			14
15			15
16			16
17			17
18			18
19			19
20			20
21			21
22			22
23			23
24			24
25			25
26			26
27			27
28			28
29			29
30			30

@ Relinquished By: (Person) [redacted] Date: 3/26/04

Received at EMSL By: _____ Date: 3/30/04

Received at EMSL By: _____ Date: _____

Note: Please duplicate this form and use additional sheets if necessary.

@ The individual signing and relinquishing these samples to the laboratory attests to the accuracy of the information reported on this chain of custody.

APPENDIX D

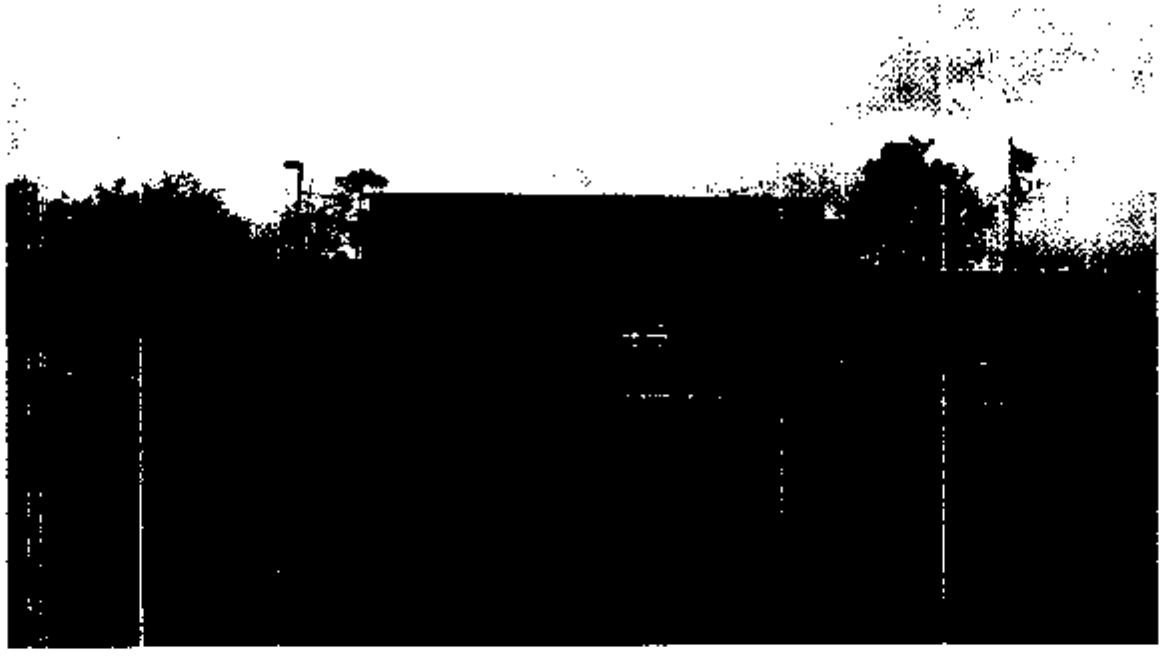


Photo # 1: Armory front entrance.

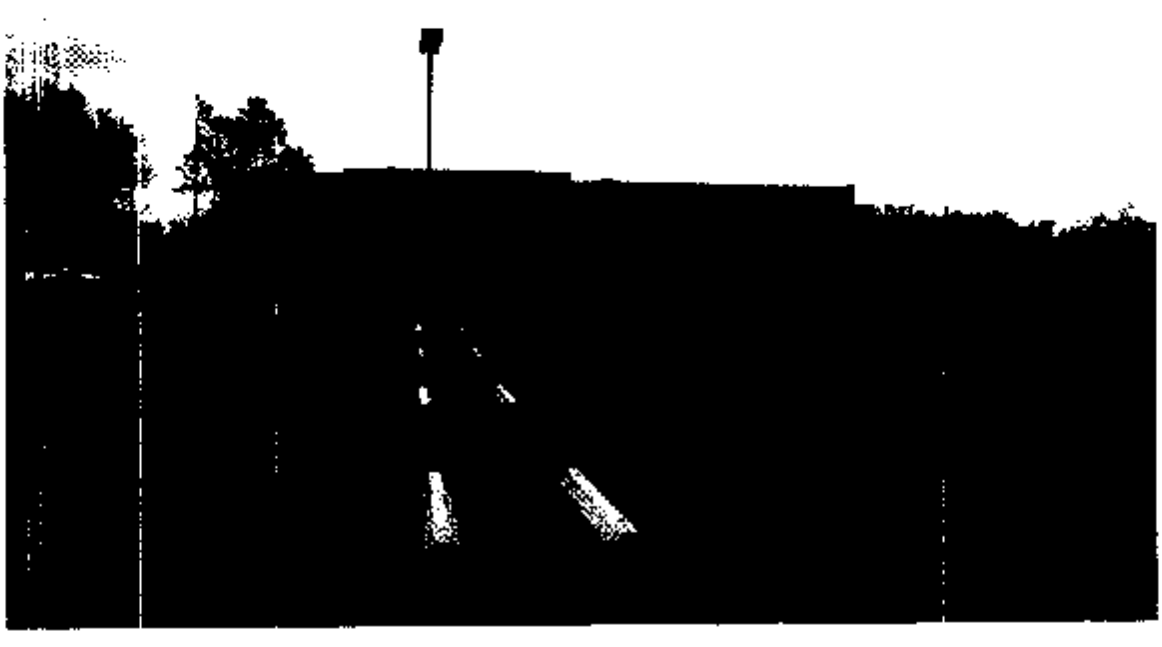


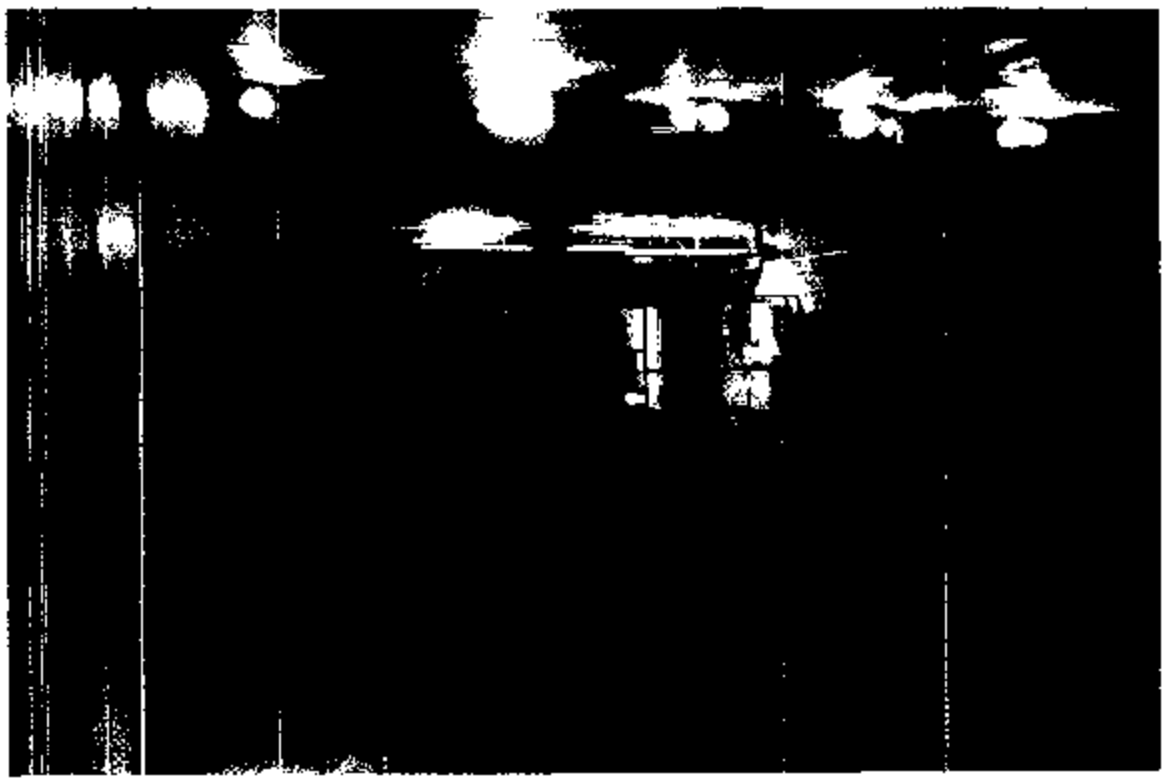
Photo #2: East side of the armory.

Photo #3: North or rear side of the armory.

Photo #4: West side of the armory.

Photo #5: Southwest corner of armory.

Photo #6: Drill hall facing south showing the second floor



Photo#7: Indoor firing range facing the firing line.

Photo #8: Indoor firing range facing bullet trap.

Photo #9: Armory's kitchen.

NATIONAL GUARD REGION SOUTH
INDUSTRIAL HYGIENE OFFICE
510 PLAZA DRIVE, SUITE 1530
COLLEGE PARK, GA 30349

NGB-ARS-IHSE (40-5f) 26 June, 2006

MEMORANDUM FOR: ADJUTANT GENERAL TX ARNG, ATTN.: HQ 2d BN 112th Armor Cobb Park Armory 2101 Cobb Park Dr, Ft. Worth TX 76105

Thru: Non-Responsive Deputy State Surgeon, JFTX-H, 35th Street, Building 10, Austin, TX 78763.

SUBJECT: Transmittal of IH Survey, HQ 2d BN 112th Armor Cobb Park Armory 2101 Cobb Park Dr, Ft. Worth TX 76105

1. References.

a. OSHA Standards 29 CFR (Code of Federal Regulations), General Industry, revised 1996 rev.

b. AR 40-5, Preventive Medicine, 22 July 2005.

c. AR 11-34, 15 February 1990, The Army Respiratory Protection Program.

d. AR 385-10, 29 February 2000, Army Safety Program.

f. TB MED 503, The Army Industrial Hygiene Program, 30 October 2000.

g. TB MED 507, Heat Stress Control and Heat Casualty Management, 07 March 2003

h. Title 29 Code of Federal regulation (CFR), 1989 rev, Part 1910.94 (c) (6) Table G-10, Ventilation.

i. Industrial Ventilation, 25th, 2004, American Conference of Governmental Industrial Hygienist, Cincinnati, Ohio.

j. Title 29 Code of Federal Regulation (CFR), Part 1910.1025 Lead.

k. Title 40 Code of Federal Regulation (CFR), Part 745.227.

2. General.

a. In accordance to the JFTX-H-OH Industrial Hygiene Implementation Plan of 2006, an initial baseline industrial hygiene survey was performed at the Cobb Park Armory 2101 Cobb Park Dr, Ft. Worth TX 76105 Texas. The purpose of the survey was to perform an initial baseline industrial hygiene survey to evaluate potential health hazards present in the building.

b. The Point of Contact during the survey was Non-Responsive

c. Non-Responsive industrial Hygiene Technician for the Texas Army National Guard conducted the sampling on 12 May 2006.

3. General.

a. **Site Description.** The facility houses HQ and HHC 2d BN 112th Armor. The armory building is a two-story brick over cinder block structure that was constructed in 1957 The facility houses several administrative office areas, a kitchen, a mess hall, training or class rooms, a drill hall and several supply rooms. This Armory has an indoor range that has been converted to a supply room equipped with cages. The date of conversion of the range to a supply storage area is not known. Thirteen full time employees currently work at this armory. Recent renovations to the kitchen were completed 2004. A copy of the floor layout and photos are included in Appendix C..

b. **Scope of Work.** The work included collecting wipe samples for lead, bulk samples for suspect asbestos containing building material, illumination levels, noise readings, and an evaluation of the ventilation system as it pertains to indoor air quality.

c. **Methodology** Lead wipe samples were collected from various surfaces throughout the building. The samples were collected accordance to instructions published by Region South National Guard Bureau, which required the use of Ghost wipes or unscented baby wipes to wipe one square foot of surface. Samples were then placed in a sealed plastic bag and sent for analysis to an American Industrial Hygiene Association (AIHA) Accredited laboratory. Asbestos bulk samples were collected from suspect building materials that were grouped based on similarity of composition. Bulk sample collection was minimally destructive and samples were collected from inconspicuous areas. Bulk samples were also collected from suspect friable and damaged building material. Each bulk sample was placed in a sealed bag and sent to the laboratory for analysis. Sterile swab samples of mold for culture and identification were also taken. Noise readings were measured using a Larson Davis Spark 706RC Sound Level Meter; Serial Number 17282, with a calibration date of December 02, 2005. Area Illumination readings were collected using an EXTECH 401025 light meter Serial Number Q168802. Illumination readings were taken on work surfaces and approximately four feet from the floor.

4. Findings.

a. **Lead Wipe Samples:** Wipe samples for lead dust were collected from various areas as listed in the table below.

Sample Number	Sample Location	Micrograms of lead (ug) per square foot
CP01	HQ Window unit	Below Recordable Limits
CP02	HQ Wall Entrance	Below Recordable Limits
CP03	HQ Admin Floor	40
CP04	Kitchen Countertop	26
CP05	Kitchen Office Desk	160
CP06	Drill Hall Mid Center Floor	22
CP07	Drill Hall Floor at Bay Door	23
CP08	Drill Hall Floor at Indoor Range/ Supply Room	309
CP09	Indoor Range Floor Entrance	96
CP10	Blank # 1	Below Recordable Limits
Sample Number	Sample Location	Micrograms of lead (ug) per square foot
CPAA1	Supply Room # 1 Floor	40
CPAB2	Supply Room # 1 Top of Wall locker	Below Recordable Limits
CPAC3	Supply Room # 1 Arms Room Floor	93
CPAD4	Supply Room # 1 Arms Room Rack	77
CPAE5	B Company Supply Floor	46
CPAF6	B Company Supply Cabinet	140
CPAG7	B Company Arms Room Rack	37
CPAH8	B Company Arms Room Floor	182
CPAI9	Storage Cabinet (Upstairs RT Front Class Room)	1260
CPAJ10	Blank # 2	Below Recordable Limits
Sample Number	Sample Location	Micrograms of lead (ug) per square foot
CPTX1	Supply room (Converted RANGE) Floor at Backstop	559
CPTX2	Supply room (Converted RANGE) Floor Center	135
CPTX3	Supply room (Converted RANGE) Front Left Viewing Wall	357
CPTX4	Supply room (Converted RANGE) Front Right Viewing Wall	625
CPTX5	Supply room (Converted RANGE) Left Center Cage (File Cabinet)	53
CPTX6	Supply room (Converted RANGE) Left Bottom Wall (Entrance)	37
CPTX7	Supply room (Converted RANGE) Right Top Wall (Rear)	75
CPTX8	Supply room (Converted RANGE) Right Center Cage (Desk)	58
CPTX9	Supply room (Converted RANGE) Overhead Deflector (Center)	106000
CPTX10	Blank # 3	58

b. **Lead Paint Samples:** Two suspect lead paint samples were collected from various areas as listed in the table below.

Sample Number	Sample Location	% by Weight
CPB1	HHC 2/112 Brown Paint Upstairs Right Rear Classroom	0.0280%
CPB2	HHC 2/112 White Paint Upstairs Right Rear Classroom	Below Recordable Limits
CPB3	Front Door (Entrance)	0.0399%

The US Environmental Protection Agency (EPA), under a new standard issued in 2000, considers lead dust as a hazard if levels are greater than 40 micrograms of lead in dust per square foot on floors; 250 micrograms of lead in dust per square foot on interior window sills and 400 parts per million (ppm) of lead in bare soil in children's play areas or 1200 ppm average for bare soil in the rest of the yard. This standard is a major effort by the EPA to identify dangerous levels of lead in paint, dust and soil in order to protect children from lead poisoning. The National Guard Bureau recommends a limit of 200 micrograms per square foot for surface contamination. Deteriorated Paint surfaces that contain lead levels at or above 0.06 % by weight or 600 (ppm) are considered a hazard. The laboratory report and chain of custody forms are attached in Appendices A and B.

The contaminated areas as indicated by the wipe sampling results should be properly cleaned and decontaminated in accordance to the instructions found in NG PAM 385-18.

c. **Asbestos Suspect Building Material:** Various types of building materials were identified as potentially containing asbestos. Bulk samples were collected randomly from the identified materials. The table below lists the samples collected and the results:

Sample #	Description	% Asbestos Type
CPAS1	12 x 12 inch Ceiling Tile (Converted Range)	None
SVA16	SGM Window Caulk Downstairs Right Rea Office	None.

The laboratory report and chain of custody forms are attached in Appendices A and B.

d. **Noise Survey** Area noise readings were collected in the various surveyed areas within the building and reported as a range. The Table below lists the noise reading ranges as recorded on the day of the survey:

Area	Reading in Decibels on the A-Scale (dBA)
Drill or Assembly Hall	68 - 69
Classroom	65 - 68
Kitchen	69 – 71
Administrative Office Areas	69 – 73
Hallways to Admin. Areas	69 – 73
Supply Room Area	70 72

All readings were well below the Occupational Safety and Health Administration (OSHA) regulated limit of 90 dBA and the Army recommended limit of 85 dBA..

e. **Illumination Survey** Lighting levels throughout the Armory ranged between 5 foot-candles to 94 foot-candles. Specific readings were as follows:

Area	Reading in Foot-candles
Drill or Assembly Hall	2 21
Classrooms	15- 62
Kitchen And Pantry Areas	122 – 208
Administrative Office Areas	17 - 59
Supply Room Areas	3–39

Most readings are within the Army Design Guide (DG415-2) minimum illumination level of 50 foot-candle for office area and 20 foot-candles for parts storage/supply. The American National Standard Institute (ANSI) recommends a minimum illumination level of 50 to 100 foot-candles for office work, 20 to 50 for general lighting. Luminance depends on various factors including the task to be performed, the age of the individual, and the surroundings. Luminance of 50 to 100 foot-candles is recommended for performance of visual tasks of medium contrast or small size such as reading pencil handwriting and poorly printed or reproduced material. Depending on the type of display, background luminance of 30 to 60 foot-candles is recommended for VDT work. Areas with low light readings have burnt out bulbs or fixtures are in need of repair. Replacing light bulbs with higher wattage will increase lighting levels. Replacing burnt out light bulbs and cleaning the light fixture should improve the lighting levels. A copy of the floor layout are included in Appendix C.

f. **Heating Ventilating and Air Conditioning (HVAC)** The Heating Ventilating and Air-Conditioning (HVAC) System for the Armory consisted individual window units for the classrooms and administrative offices and of one individual Kitchen closet unit that were updated during renovation. The system is capable to deliver outside makeup air to the occupied space. The window units that are used to cool offices were not updated and are not adequate. Condensate water from the Closet unit has leaked on to the wooden common plenum in the kitchen mechanical. Building HVAC issues and termite infestation in supply rooms has been documented and or communicated with the POC.

5. Recommendations.

a. Close converted supply room. Clean and decontaminate lead contaminated surfaces per NG PAM 385-18. Do Not remove contents until surfaces are decontaminated. RAC 2

b. To prevent lead dust cross-contamination, practice good housekeeping by washing hands after vehicle maintenance, handling and cleaning weapons and after leaving supply areas. RAC 2

c. Replace bulbs, repair and or replace broken light fixtures to improve luminescence in areas with low light readings. RAC 3

d. Establish a pest control management plan to rid site of termites and other pest. Contact your state facilities commission for contract. RAC 2

e. Evidence of prior roof leaks was found in various areas. To reduce further damage and improve overall indoor air quality, monitor leaks; contact your local facilities commission for roof repair and ceiling tile replacement if needed. RAC 3

f. Isolate condensate water from the wooden common plenum in the mechanical rooms and consider replacing the wood with metal. RAC 4

g. Replace window units with central unit capable of heating and cooling each occupied area to include supply rooms, latrines, all offices and classrooms. RAC 4

Non-Responsive

CF: NGB-ARS-IHSE
State Occupational Health Office, 3500 West 35th Street, Building 86, Austin, TX 78763.
State Safety Manager, P. O. BOX 5218, Austin, TX 78763-5218.
ENCL.
as

Analytical Environmental Services, Inc.

Date: 5/26/2006

TOTAL LEAD IN WIPE SAMPLES

N7082

CLIENT: National Guard Bureau Region-South IH
Project: Cobb Park Armory
Delivery Order:
PO No:

Lab Order: 0605C77
Date Received: 5/22/2006 10:10 AM
Matrix: Wipe

Laboratory ID	Client Sample ID	Results	Units	Report Limit	DF	Date Collected	Date Analyzed	Analyst
0605C77-001A	CP 01	BRL	µg, Total	20	1	5/12/2006	5/23/2006	AO
0605C77-002A	CP 02	BRL	µg, Total	20	1	5/12/2006	5/23/2006	AO
0605C77-003A	CP 03	40	µg, Total	20	1	5/12/2006	5/23/2006	AO
0605C77-004A	CP 04	26	µg, Total	20	1	5/12/2006	5/23/2006	AO
0605C77-005A	CP 05	160	µg, Total	20	1	5/12/2006	5/23/2006	AO
0605C77-006A	CP 06	22	µg, Total	20	1	5/12/2006	5/23/2006	AO
0605C77-007A	CP 07	23	µg, Total	20	1	5/12/2006	5/23/2006	AO
0605C77-008A	CP 08	309	µg, Total	20	1	5/12/2006	5/23/2006	AO
0605C77-009A	CP 09	96	µg, Total	20	1	5/12/2006	5/23/2006	AO
0605C77-010A	CP 10	BRL	µg, Total	20	1	5/12/2006	5/23/2006	AO
0605C77-011A	CPAA1	40	µg, Total	20	1	5/12/2006	5/23/2006	AO
0605C77-012A	CPAB2	BRL	µg, Total	20	1	5/12/2006	5/23/2006	AO
0605C77-013A	CPAC3	93	µg, Total	20	1	5/12/2006	5/23/2006	AO
0605C77-014A	CPAD4	77	µg, Total	20	1	5/12/2006	5/23/2006	AO
0605C77-015A	CPAE5	46	µg, Total	20	1	5/12/2006	5/23/2006	AO
0605C77-016A	CPAF6	140	µg, Total	20	1	5/12/2006	5/23/2006	AO
0605C77-017A	CPAG7	37	µg, Total	20	1	5/12/2006	5/24/2006	AO
0605C77-018A	CPAH8	182	µg, Total	20	1	5/12/2006	5/24/2006	AO
0605C77-019A	CPAJ9	1260	µg, Total	46	2.31	5/12/2006	5/24/2006	AO
0605C77-020A	CPAJ10	BRL	µg, Total	20	1	5/12/2006	5/23/2006	AO
0605C77-021A	CPTX 1	559	µg, Total	20	1	5/12/2006	5/24/2006	AO
0605C77-022A	CPTX 2	135	µg, Total	20	1	5/12/2006	5/24/2006	AO
0605C77-023A	CPTX 3	357	µg, Total	20	1	5/12/2006	5/24/2006	AO
0605C77-024A	CPTX 4	625	µg, Total	20	1	5/12/2006	5/24/2006	AO
0605C77-025A	CPTX 5	53	µg, Total	20	1	5/12/2006	5/24/2006	AO
0605C77-026A	CPTX 6	37	µg, Total	20	1	5/12/2006	5/24/2006	AO
0605C77-027A	CPTX 7	75	µg, Total	20	1	5/12/2006	5/24/2006	AO
0605C77-028A	CPTX 8	58	µg, Total	20	1	5/12/2006	5/24/2006	AO
0605C77-029A	CPTX 9	106000	µg, Total	5000	250	5/12/2006	5/24/2006	AO
0605C77-030A	CPTX 10	58	µg, Total	20	1	5/12/2006	5/24/2006	AO

Qualifiers: BRL - Not Detected at the Reporting Limit DF - Dilution Factor

Results are blank corrected where applicable

Analytical Environmental Services, Inc.

Date: 5/26/2006

TOTAL LEAD IN PAINT
PAINT

CLIENT: National Guard Bureau Region-South IH
Project: Cobb Park Armory
Delivery Order:
PO No:

Lab Order: 0605C76
Date Received: 5/22/2006 10:10 AM
Matrix: Paint

Laboratory ID	Client Sample ID	Results	Units	Report Limit	DF	Date Collected	Date Analyzed	Analyst
0605C76-001A	CPB1	0.0280	wt%	0.00973	1	5/12/2006	5/23/2006	VA
0605C76-002A	CPB2	BRL	wt%	0.00916	1	5/12/2006	5/23/2006	VA
0605C76-003A	CPB3	0.0399	wt%	0.00920	1	5/12/2006	5/23/2006	VA

Qualifiers: BRL - Not Detected at the Reporting Limit DF - Dilution Factor

Results are blank corrected where applicable

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

Bulk Sample Summary Report

Client Name: National Guard Bureau Region-South IH
Project Name: Cobb Park Armory
Project Number: COBB PARK 06

NVLAP Lab ID# 102082-0
AES Job Number: 0606D36

Client ID	AES ID	Location	Asbestos Mineral Percentage						Comments
			CH	AM	CR	AN	TR	AC	
CPAS1 Layer: 1	0605D36-001A	12" x 12" ceiling tile	ND	ND	ND	ND	ND	ND	paint included as binder sample - window caulk; chain of custody - ceiling tile
CPAS2 Layer: 1	0605D36-002A	SGM window caulk	ND	ND	ND	ND	ND	ND	paint included as binder sample- ceiling tile; chain of custody: window caulk

Note: CH=chrysotile, AM=amosite, CR=crocidolite, AC=actinolite, TR=tremolite, AN=anthophyllite
For comments on the samples, see the individual analysis sheets.
ND = None Detected
PLM is not consistently reliable in detecting small concentrations of asbestos in floor tiles and similar nonfriable materials. Quantitative TEM is currently the only method that can be used to determine the conclusive asbestos content.

It is certified by the signatures below that the laboratory identified is accredited by the National Institute of Standards and Technology for Polarized Light Microscopy (PLM) analysis under the EPA Interim Asbestos Bulk Sample Quality Assurance Program, Laboratory ID 102082-0. All percentages given are by visually estimated volume. All analyses are performed in accordance with the EPA "Method for the Determination of Asbestos in Bulk Building Materials, EPA/600/R-93/116, July 1993." This report must not be reproduced except in full without the approval of Analytical Environmental Service, Inc. These test results apply only to the samples actually tested.

Microanalyst: Non-Responsive

Appendix B:
Lab Chain of Custody

BULK SAMPLE DATA

For use of this form see: USAEHA TG 141; the proponent is USHE-IO.

Return Address (complete address including Zip Code)
NATIONAL GUARD BUREAU REGION SOUTH IH OFFICE
510 PLAZA DRIVE, SUITE 1530
COLLEGE PARK, GA 30349

Point of Contact (name/AUTOVON)
Non-Responsive

Sampled Installation
COBB PARK ARMORY Ft WORTH, TX

Project Number
COBB PARK 06

ARNG

Samples Collected By
Non-Responsive

Date Collected
12 MAY 06

Date Shipped

Description of Operation
ARMORY W/CONVERTED IFR

Location (BLDG/AREA)
COBB PARK ARMORY

Associated Complaints (be specific)

Associated Air Samples
☐ Yes ☒ No
If yes, list sample numbers

Label Information

Trade Name	NSN	Manufacturer

Address

MSDS Attached
☐ Yes ☐ No

Analysis Desired
LEAD

Lab Use Only	Sample No.	Constituents	Results	Remarks
	CP01	HQ WINDOW UNIT		
	CP02	HQ WALL ENTRANCE		
	CP03	HQ FLOOR		
	CP04	KITCHEN COUNTER		
	CP05	KITCHEN OFFICE DESK		
	CP06	DRILL HALL FLOOR CENTER		
	CP07	DRILL HALL FLOOR BAY DOOR		

Comments to Lab:

Lab Use Only

Analyst (Initials)	Reviewed By (Initials)	Date Received	Date Reported

Procedures Performed

Comments:

AEHA Form 8-R [illegible]

2 of 6

BULK SAMPLE DATA

For use of this form see USAEHA TG 141; the proponent is HSHB-LO.

Return Address (complete address including Zip Code)

NATIONAL GUARD BUREAU REGION SOUTH IH OFFICE
510 PLAZA DRIVE, SUITE 1530
COLLEGE PARK, GA 30349

Point of Contact (name/AUTOVON)

Non-Responsive [redacted]

Sampled Installation: COBB PARK ARMORY FT. WORTH, TX

Project Number: COBB PARK 06

Samples Collected By: Non-Responsive [redacted]

Date Collected: 12 MAY 06

Date Shipped:

Description of Operation: ARMORY W/CONVERTED IFR

Location (BLDG/AREA): COBB PARK ARMORY

Associated Complaints (be specific)

Associated Air Samples ☐ Yes ☒ No — If yes, list sample numbers

Label Information

Trade Name	NSN	Manufacturer

Address

MSDS Attached ☐ Yes ☐ No

Analysis Desired: LEAD

Lab Use Only	Sample No.	Constituents	Results	Remarks
	CP08	DRILL HALL FLOOR (RANGE SUPPLY)		
	CP09	RANGE FLOOR ENTRANCE		
	CP10	BLANK #1		

Comments to Lab:

Lab Use Only

Analyst (initials)	Reviewed By (initials)	Date Received	Date Reported

Procedures Performed	Comments:

AEHA Form 8-R 1 Oct 84 Replaces AEHA Form 8, 1 Oct 79 which is obsolete.

BULK SAMPLE DATA

For use of this form see USAEHA TG 141; the proponent is HSHB-LO.

Return Address (complete address including Zip Code)
NATIONAL GUARD BUREAU REGION SOUTH IH OFFICE
510 PLAZA DRIVE, SUITE 1530
COLLEGE PARK, GA 30349

Point of Contact (name/AUTOVON): Non-Responsive

Sampled Installation: COBB PARK ARMORY FT WORTH, TX

Project Number: COBB PARK 06

AALOC:

Samples Collected By: Non-Responsive

Date Collected: 12 MAY 06

Date Shipped:

Description of Operation: ARMORY W/CONVERTED IFR

Location (BLDG/AREA): COBB PARK ARMORY

Associated Complaints (be specific):

Associated Air Samples: ☐ Yes ☒ No — If yes, list sample numbers:

Label Information

Trade Name: | **NSN:** | **Manufacturer:**

Address:

MSDS Attached: ☐ Yes ☐ No

Analysis Desired: LEAD

Lab Use Only	Sample No.	Constituents	Results	Remarks
	CPAA1	Supply #1 Floor		
	CPAB2	Supply #1 Top Wall Locker		
	CPAC3	Supply #1 Arms Room Floor		
	CPAD4	Supply # Arms Room Rack		
	CPAE5	B Company Supply Floor		
	CPAF6	B Company Supply Cabinet		
	CPAG7	B Company Arms Room Rack		

Comments to Lab:

Lab Use Only

Analyst (initials) | **Reviewed By** (initials) | **Date Received** | **Date Reported**

Procedures Performed | **Comments:**

AEHA Form 9-R, [illegible] 84
Replaces AEHA Form [illegible] which is obsolete.

BULK SAMPLE DATA

For use of this form see USAEHA TG 141; the proponent is HSHB-CO.

Return Address (complete address including Zip Code) NATIONAL GUARD BUREAU REGION SOUTH IH OFFICE 510 PLAZA DRIVE, SUITE 1530 COLLEGE PARK, GA 30349	Point of Contact (name/AUTOVON) [redacted]

Sampled Installation COBB PARK ARMORY FT. WORTH, TX	Project Number COBB PARK 06	
Samples Collected By [redacted]	Date Collected 12 MAY 06	Date Shipped
Description of Operation ARMORY W/CONVERTED IFR		Location (BLDG/AREA) COBB PARK ARMORY

Associated Complaints (be specific)

Associated Air Samples ☐ Yes ☒ No — If yes, list sample numbers

Label Information

Trade Name	NSN	Manufacturer
Address		MSDS Attached ☐ Yes ☐ No

Analysis Desired

LEAD

Lab Use Only	Sample No.	Constituents	Results	Remarks
	CPAH8	B Company Arms Room Floor		
	CPAI9	Storage Cabinet Upstairs Rt Front Classroom		
	CPAJ10	BLANK #2		

Comments to Lab:

Lab Use Only

Analyst (initials)	Reviewed By (initials)	Date Received	Date Reported
Procedures Performed	Comments:		

AEHA Form 8-R Oct 94 Replaces AEHA Form ... Oct 90 which is obsolete.

BULK SAMPLE DATA

For use of this form see USAFEM TO 141; the proponent is HSHB-CO.

Return Address (complete address including Zip Code)

NATIONAL GUARD BUREAU REGION SOUTH IH OFFICE
510 PLAZA DRIVE, SUITE 1330
COLLEGE PARK, GA 30349

Point of Contact (name/AUTOVON)

Non-Responsive

Sampled Installation	Project Number	
COBB PARK ARMORY FT WORTH, TX	COBB PARK 06	
Samples Collected By: Non-Responsive	Date Collected: 12 MAY 06	Date Shipped:
Description of Operation: ARMORY W/CONVERTED IFR		Location (BLDG/AREA):

Associated Complaints (be specific)

Associated Air Samples: ☐ Yes ☒ No — If yes, list sample numbers

Label Information

Trade Name	NSN	Manufacturer
Address		MSDS Attached: ☐ Yes ☐ No

Analysis Desired: LEAD

Lab Use Only	Sample No.	Constituents	Results	Remarks
	CPTX1	RANGE FLOOR BACKSTOP		
	CPTX2	RANGE FLOOR CENTER		
	CPTX3	RANGE FRONT LEFT VIEWING WALL		
	CPTX4	RANGE FRONT RT VIEWING WALL		
	CPTX5	RANGE LFT CENTER CAGE (FILE CABINET)		
	CPTX6	RANGE LEFT BOTTOM WALL (ENTRANCE)		
	CPTX7	RANGE RT TOP WALL (REAR)		

Comments to Lab:

Lab Use Only

Analyst (Initials)	Reviewed By (Initials)	Date Received	Date Reported
Procedures Performed	Comments:		

AEHA Form 6-R [illegible] 94

Replaces AEHA Form [illegible] which is obsolete.

BULK SAMPLE DATA

For use of this form see: USAEHA TG 141; the proponent is HSHB-CO.

Return Address (complete address including Zip Code)

NATIONAL GUARD BUREAU REGION SOUTH IH OFFICE
510 PLAZA DRIVE, SUITE 1530
COLLEGE PARK, GA 30349

Point of Contact (name/AUTOVON)

Non-Responsive

Sampled Installation	Project Number	ARNG
Cobb Park Armory Ft Worth, Tx	Cobb Park Old	

Samples Collected By	Date Collected	Date Shipped
Non-Responsive	12 MAY 06	

Description of Operation: Armory w/ Converted IFR

Location (BLDG/AREA)

Associated Complaints (be specific)

Associated Air Samples: ☐ Yes ☒ No — If yes, list sample numbers

Label Information

Trade Name	NSN	Manufacturer

Address	MSDS Attached
	☐ Yes ☐ No

Analysis Desired: LEAD

Lab Use Only	Sample No.	Constituents	Results	Remarks
	CPTX8	Range RT Center Cage Desk		
	CPTX9	Range Overhead Deflector Center		
	CPTX10	Blank #3		

Comments to Lab:

Lab Use Only

Analyst (Initials)	Reviewed By (Initials)	Date Received	Date Reported

Procedures Performed	Comments:

AEHA Form 6-R [illegible] Replaces AEHA Form 6, Dec 80 which is obsolete.

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client GANG3 Work Order Number 0605077

Checklist completed by Si [redacted] Non-Responsive

Carrier name: FedEx __ UPS __ Courier __ Client __ US Mail ✓ Other _____

Shipping container/cooler in good condition?	Yes ✓	No __	Not Present __
Custody seals intact on shipping container/cooler?	Yes __	No __	Not Present ✓
Custody seals intact on sample bottles?	Yes __	No __	Not Present ✓
Container/Temp Blank temperature in compliance? (4°C±2)*	Yes ✓	No __	

Cooler #1 Ambient Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present?	Yes ✓	No __
Chain of custody signed when relinquished and received?	Yes __	No ✓
Chain of custody agrees with sample labels?	Yes ✓	No __
Samples in proper container/bottle?	Yes ✓	No __
Sample containers intact?	Yes ✓	No __
Sufficient sample volume for indicated test?	Yes ✓	No __
All samples received within holding time?	Yes ✓	No __
Was TAT marked on the COC?	Yes __	No ✓
Proceed with Standard TAT as per project history?	Yes ✓	No __ Not Applicable __
Water - VOA vials have zero headspace?	No VOA vials submitted ✓	Yes __ No __
Water - pH acceptable upon receipt?	Yes __	No __ Not Applicable ✓

Adjusted? _____ Checked by _____

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes ✓ No __

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

C:\Documents and Settings\Chemist\Desktop\Checklist.rtf

Analytical Environmental Services, Inc. Date: *26-May-06*

CLIENT: National Guard Bureau Region-South IH
Project: Cobb Park Armory
Lab Order: 0605C77

CASE NARRATIVE

The COC was not signed when relinquished. No TAT indicated on COC, samples logged in for standard TAT per project history.

BULK SAMPLE DATA

For use of this form see USAEHA TG 141; the proponent is HSHB-LO.

Return Address (complete address including Zip Code)
NATIONAL GUARD BUREAU REGION SOUTH IH OFFICE
510 PLAZA DRIVE, SUITE 1530
COLLEGE PARK, GA 30349

Point of Contact (name/AUTOVON) [redacted]

Sampled Installation: COBB PARK ARMORY FT. WORTH, TX

Project Number: COBB PARK 06

ARLOC:

Samples Collected By: [redacted]

Date Collected: 12 MAY 06

Date Shipped:

Description of Operation: ARMORY w/ CONVERTED IFR

Location (BLDG/AREA):

Associated Complaints (be specific):

Associated Air Samples: ☐ Yes ☒ No

If yes, list sample numbers:

Label Information

Trade Name:

NSN:

Manufacturer:

Address:

MSDS Attached: ☐ Yes ☐ No

Analysis Desired: LEAD PAINT

Lab Use Only	Sample No.	Constituents	Results	Remarks
	CPB1	HHC 2/112 BRN PAINT UPSTAIRS R.R		
	CPB2	HHC 2/112 WHT PAINT UPSTAIRS R.R		
	CPB3	FRONT DOOR ENTRANCE		

Comments to Lab:

Lab Use Only

Analyst (initials)	Reviewed By (initials)	Date Received	Date Reported

Procedures Performed:

Comments:

AEHA Form 6-R, Oct 94 — Replaces AEHA Form 6, Oct 89 which is obsolete.

BEST AVAILABLE COPY

Analytical Environmental Services, Inc. Date: *26-May-06*

CLIENT: National Guard Bureau Region-South IH
Project: Cobb Park Armory
Lab Order: 0605C76

CASE NARRATIVE

The COC was not signed when relinquished. No TAT indicated on COC. Samples logged in for standard TAT per project history.

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client GANG3 Work Order Number 06C577

Checklist completed by [redacted] Non-Responsive

Carrier name: FedEx __ UPS __ Courier __ Client __ US Mail ✓ Other _____

Shipping container/cooler in good condition?	Yes ✓	No __	Not Present __
Custody seals intact on shipping container/cooler?	Yes __	No __	Not Present ✓
Custody seals intact on sample bottles? 14 sizes	Yes __	No __	Not Present ✓
Container/Temp Blank temperature in compliance? (4°C±2)*	Yes ✓	No __	

Cooler #1 Amb Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present?	Yes ✓	No __
Chain of custody signed when relinquished and received?	Yes __	No ✓
Chain of custody agrees with sample labels?	Yes ✓	No __
Samples in proper container/bottle?	Yes ✓	No __
Sample containers intact?	Yes ✓	No __
Sufficient sample volume for indicated test?	Yes ✓	No __
All samples received within holding time?	Yes ✓	No __
Was TAT marked on the COC?	Yes __	No ✓
Proceed with Standard TAT as per project history?	Yes ✓	No __ Not Applicable __
Water - VOA vials have zero headspace?	No VOA vials submitted ✓	Yes __ No __
Water - pH acceptable upon receipt?	Yes __	No __ Not Applicable ✓

Adjusted? _____ Checked by _____

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes ✓ No __

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

C:\Documents and Settings\Chemist\Desktop\Checklist.rtf

BULK SAMPLE DATA

For use of this form see: USAEHA TG 141; the proponent is HSHB-CO.

Return Address (complete address including Zip Code)

NATIONAL GUARD BUREAU REGION SOUTH IH OFFICE
510 PLAZA DRIVE, SUITE 1530
COLLEGE PARK, GA 30349

Point of Contact (name/AUTOVON)

Non-Responsive

Sampled Installation

COBB PARK ARMORY FT. WORTH, TX

Project Number

COBB PARK Old

Sampled By

Non-Responsive

Date Collected

12 MAY 06

Date Shipped

Description of Operation

ARMORY W/ CONVERTED IFR

Location (BLDG/AREA)

Associated Complaints (be specific)

Associated Air Samples

☐ Yes ☒ No

If yes, list sample numbers

Label Information

Trade Name	MSN	Manufacturer

Address

MSDS Attached

☐ Yes ☐ No

Analysis Desired

ASBESTOS - PLM

Lab Use Only	Sample No.	Constituents	Results	Remarks
	CPAS1	12" x 12" CEILING TILE		
	CPAS2	SGM WINDOW CAULK (RR DOWN)		

Comments to Lab:

Lab Use Only

Analyst (initials)	Reviewed By (initials)	Date Received	Date Reported

Procedures Performed

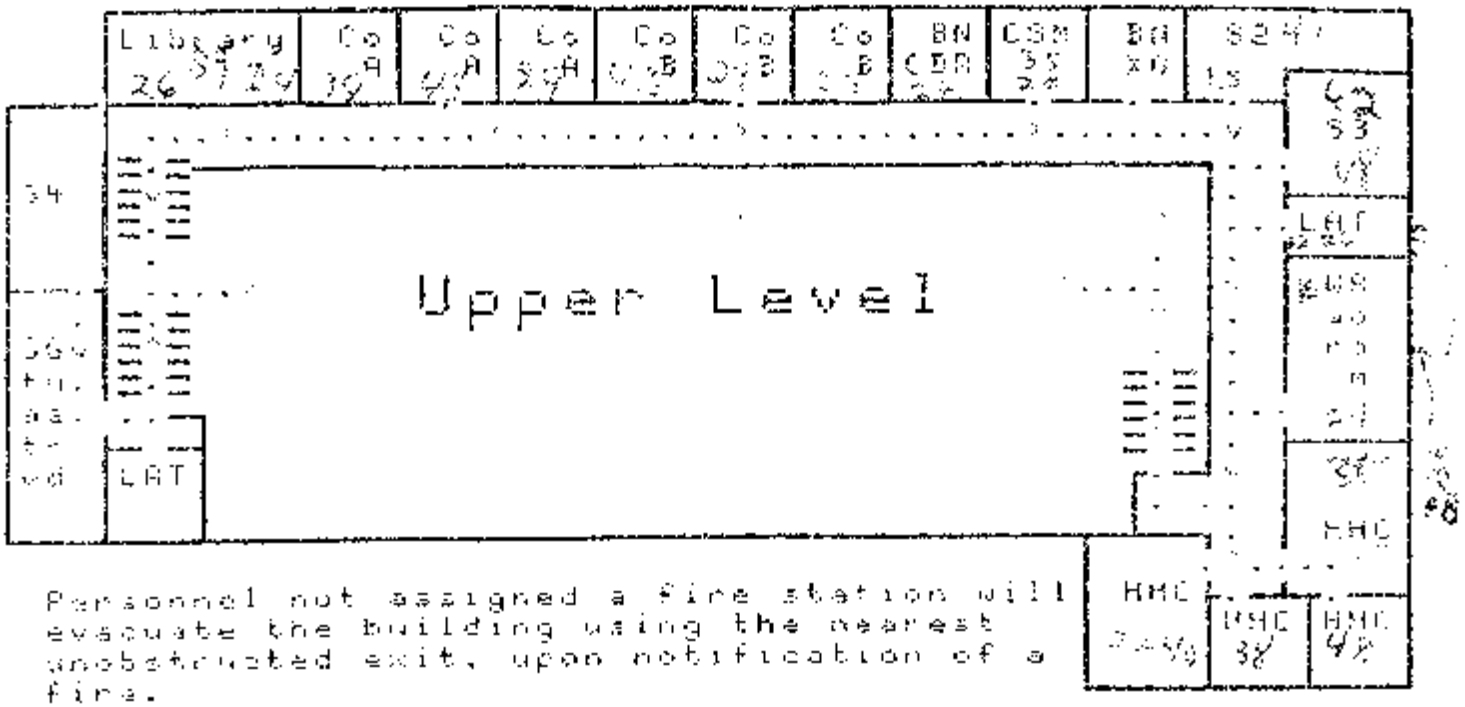
Comments:

AEHA Form 6-R [illegible] Replaces AEHA Form 6, Oct 80 which is obsolete.

Appendix C

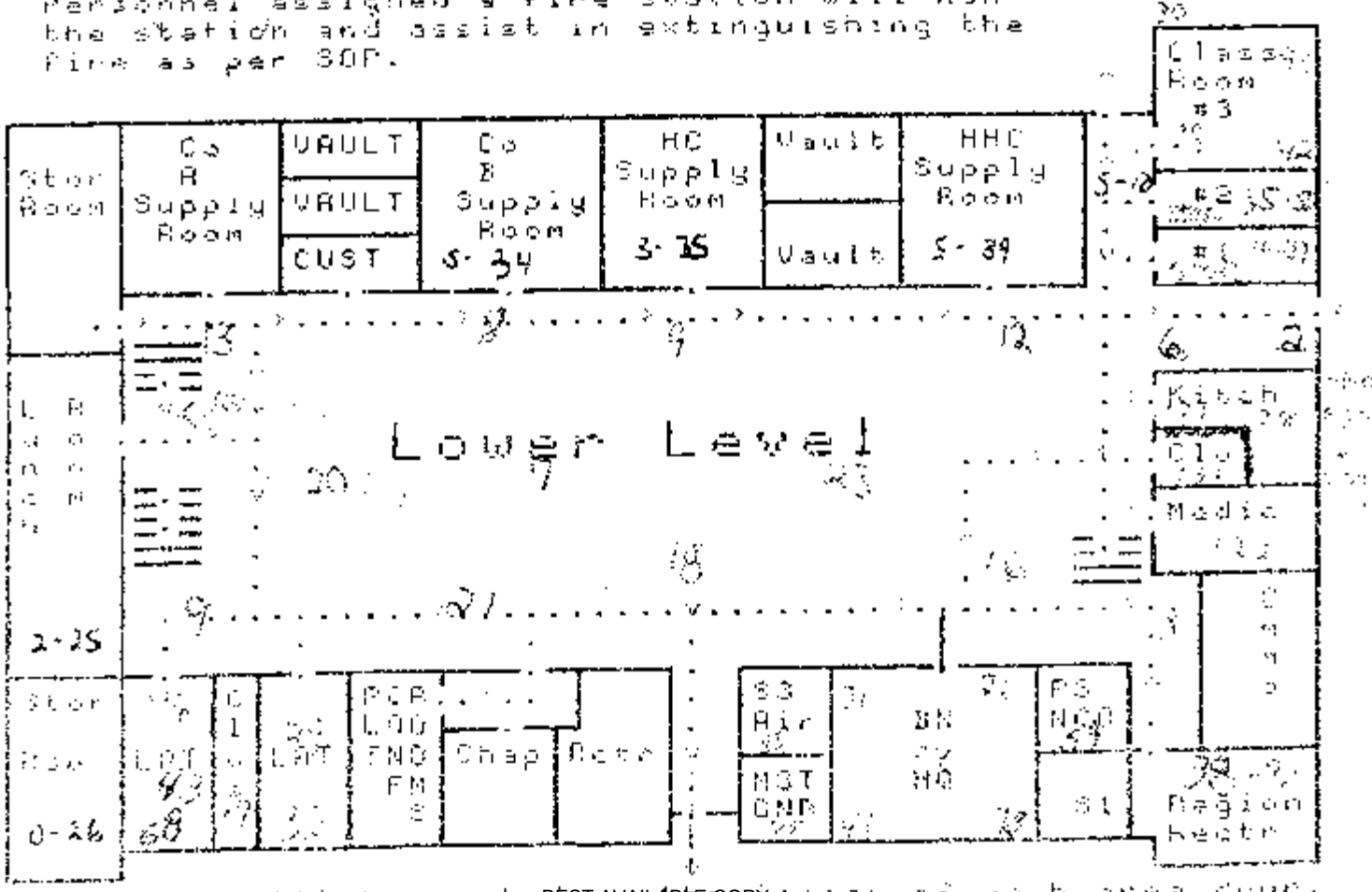
Photographs and Floor Layout.

2-112 Armor
Evacuation Plan

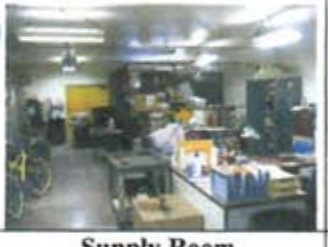
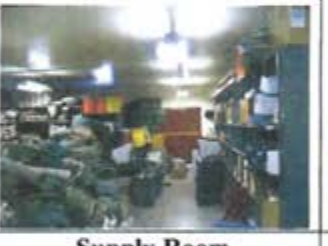


Personnel not assigned a fire station will evacuate the building using the nearest unobstructed exit, upon notification of a fire.

Personnel assigned a fire station will man the station and assist in extinguishing the fire as per SOP.



Cobb Park Armory

			
Cobb Park Armory	Front View	Rear View	Drill hall
			
Admin Area	Kitchen	AC Closet in Kitchen	Upstairs Classroom
			
Supply Room	Supply Room	Supply Room	Crack in Arms Roof Room
			
Converted Indoor Range Supply Room	Termites in Converted Indoor Range Wall	Converted Indoor Range with overhead deflector	Converted Indoor Range Asbestos sample site

DEPARTMENT OF THE ARMY AND THE AIR FORCE
NATIONAL GUARD BUREAU
REGIONAL INDUSTRIAL HYGIENE OFFICE
AIRPORT PLAZA SUITE 1530
510 PLAZA DRIVE
COLLEGE PARK, GA 30349

NGB-AVN-SI

December 17, 2003

MEMORANDUM FOR: ADJUTANT GENERAL TX ARNG, ATTN.: State Occupational Health Office, P. O. BOX 5218, Austin, TX 78763-5218

SUBJECT: Transmittal of the Survey Reports Longview Armory, Henderson Armory, Marshal Armory, Kilgore Armory, Texarkana Armory and Atlanta Armory, TX.

1. References.

a. Department of Defense Instruction 6055.1, Department of Defense Occupational Safety and Health (OSH) Program, 26 October 1984.

b. Army Regulation (AR) 40-5, 30 August 1986, Medical Service, Preventive Medicine.

c. National Guard Regulation (NGR) 385-10, 1988, Army National Guard Safety and Occupational Health Program.

d. AR 11-34, The Army Respiratory Protection Program, 15 February 1990.

e. TB MED 502, Occupational and Environmental Health Respiratory Protection Program, February 1982.

f. DA PAM 40-503, 30 October 2000, The Army Industrial Hygiene Program.

g. DA PAM 40-501, 10 December 1998, Hearing Conservation.

h. Threshold Limit Values and Biological Exposure Indices (TLV's) for 2001, American Conference of Governmental Industrial Hygienists (ACGIH), Cincinnati, Ohio.

i. Industrial Ventilation, 23rd Edition, American Conference of Governmental Industrial Hygienist, Cincinnati, Ohio.

j. USAEHA TG-141, November 1997, Guidelines for Air Sampling and Bulk sample Collection.

NGB-AVN-SI
SUBJECT: Transmittal of the Survey Reports Longview Armory, Henderson Armory, Marshal Armory, Kilgore Armory, Texarkana Armory and Atlanta Armory, TX.

k. Title 29, Code of Federal Regulations (CFR), 2000 rev., part 1910, Occupational Safety and Health Standards.

l. Report Survey dated October 2003, Industrial Hygiene Survey, Non-Responsive Non-Responsive Environmental Management Solutions

2. General.

a. At the request of the TX ARNG Safety and Occupational Health Office, an Industrial Hygiene Service was put together to conduct Health Hazard Information module (HHIM) Field surveys and industrial hygiene sampling of the Longview Armory, Henderson Armory, Marshal Armory, Kilgore Armory, Texarkana Armory and Atlanta Armory, TX.

b. The survey was conducted by Non-Responsive Environmental Management Solutions, Dallas, GA.

3. Findings. All Health Hazard information are on the survey findings of the report. (See enclosure 1)

4. Recommendations.

a. Follow all recommendations made in reference 1.l., requesting industrial hygiene (IH) services where needed to complete the recommendations.

b. Conduct an air sampling survey in the areas in and around those identified with elevated lead dust levels in page 3 0f reference 1.l, to ensure that the lead dust present is not airborne and that employees in these areas are not exposed above the action level where applicable.

c. Control water infiltration in the armory and/or replace or repair damaged surfaces or components (ceiling and floor tiles). Building conditions that present IAQ concerns or problems not only exacerbates normally minor health issues but also tend to promote or accelerate building deterioration.

d. The recommendations given in the comment section and data collected will serve as a baseline for the Industrial Hygiene Implementation Plan (IHIP) for FY-03. A follow up operation and hazard specific air sampling survey based on the enclosed findings will be included in the FY-04 IHIP.

NGB-AVN-SI
SUBJECT: Transmittal of the Survey Reports Longview Armory, Henderson Armory, Marshal Armory, Kilgore Armory, Texarkana Armory and Atlanta Armory, TX.

e. Consider additional Industrial Hygiene services to monitor operations that were not looked at or surveyed during the present survey, especially if this will help eliminate health hazards and reduce medical surveillance cost.

f. To execute your responsibilities in correcting all deficiencies and meeting all standards coordinate with the Occupational Health Nurse and the Occupational Safety and Health Office for technical guidance.

f. Give special consideration to cleaning light fixtures, increasing the wattage and painting walls a lighter color when upgrading the lighting in the facility.

5. If additional information is needed about the industrial hygiene survey or air sample

Non-Responsive

CF:
NBG-AVN-SH
State Occupational Health Office, P. O. BOX 5218, Austin, TX 78763-5218.
State Safety Manager, P. O. BOX 5218, Austin, TX 78763-5218.

Encl
as

Enviro-Management, Inc.

INDUSTRIAL HYGIENE SERVICE

MEMORANDUM FOR: Detachment 1 Company B, 3rd Battalion, 144th Infantry Attn: Commander, 900 South Louise Street, Atlanta, Texas 75551.

SUBJECT: Industrial Hygiene Survey for the Atlanta National Guard Armory, Atlanta, Texas.

1. References.

   a. Title 29, Code of Federal Regulations (CFR) Part 1910, Occupational Safety and Health Administration (OSHA).
   b. AR 40-5, Preventive Medicine, 15 October 1990.
   c. AR 385-10, 23 May 1988, Army Safety Program.
   d. TB MED 503, The Army Industrial Hygiene Program.
   e. Title 29 CFR, Part 1910.1200, The Hazard Communication Standard.
   f. Department of the Army Pamphlet (DA PAM) 40-501, 27 August 1991, Hearing Conservation.
   g. National Guard Pamphlet (NG PAM) AR 385-16, Safety Guidelines for Converting Indoor Firing Ranges to Other Uses.
   h. National Institute for Occupational Health and Safety (NIOSH), (76-130) Technical Information, Lead Exposure and Design Considerations for Indoor Firing Ranges GPO, 1975.
   i. Industrial ventilation, 22nd Edition, American Conference of Governmental Industrial Hygienist (ACGIH), Cincinnati, Ohio.
   j. 29 CFR 1926.58, The OSHA Asbestos Standard.
   k. Housing and Urban Development (HUD) Guidelines for the Evaluation and Control of Lead Based Paint Hazards in Housing.

2. Purpose. The purpose of this survey was to conduct a baseline Industrial Hygiene Survey of the Atlanta National Guard Armory. The survey consisted of a walk through inspection of all operations and administrative areas in the Atlanta Armory. An interview was conducted with Non-Responsive to gather background and historical information relative to the various operations at the Atlanta Armory. A diagram of the building is found in Appendix A. Photographs of the facility are located in Appendix B. Appendix C contains the health hazard inventory module (HHIM). Appendix D includes an excerpt from NG PAM 385-16, Guidelines for converting indoor firing ranges to other uses and Appendix E includes laboratory results.

3. Background. At the request of Non-Responsive of the National Guard Bureau Region South Industrial Hygiene Office, an industrial hygiene survey was conducted at the Atlanta National Guard Armory in Atlanta, Texas on October 7, 2003 by Non-Responsive Industrial Hygienist.

3100 Pennsylvania Ave., S.E., • Washington, D.C. 20020 • (202) 582-2461 • (202) 582-2478

SUBJECT: Industrial Hygiene Survey for the Atlanta National Guard Armory, Atlanta, Texas.

4. Facility Description. This facility houses Detachment 1 of Company B 3rd Battalion 144th Infantry. One full time employee works in the Atlanta Armory. The armory is utilized by supply personnel during the week (Monday through Friday) however, it is not utilized for Guard drill on the weekends. The facility is under reorganization and drill is conducted at the Kilgore Armory. The physical structure is a one story brown brick building. The building was constructed in early 1957. A list of the operations and administrative areas are detailed in Table I.

TABLE I
Operations and Administrative Areas

Inactive Firing Range	Mechanical Room
Supply Room/Vault	Library
Learning Center	Class Room
Drill Hall	Orderly Office
Kitchen	Unit Storage
Locker room	

5. Health Hazard Inventory Module (HHIM) & Risk Assessment Codes - The results of the walk through survey were entered into a health hazard inventory module (HHIM) industrial hygiene form. The form details the hazards found in the particular operation, the controls that are present, and types of personal protective equipment (PPE) used. Health hazard risk assessment codes (RAC's) were assigned to the operations. Risk assessment codes were determined using the RAC table in the Department of Defense (DOD) Instruction 6055.1 and are reproduced in Appendix C.

6. Findings.

A. Inactive Firing Range/Vehicle Maintenance Facility and Boiler Room - An initial walk through of the facility revealed that there was an inactive firing range located on the premises. A non-functioning vehicle maintenance operation was present and an inactive boiler room was not present.

B. Suspect Asbestos Containing Materials
(1)There were no suspect asbestos containing materials identified in this facility. This is consistent the building having been renovated in 1986.

SUBJECT: Industrial Hygiene Survey for the Atlanta National Guard Armory, Atlanta, Louisiana.

C. Supply Room – One employee works in this operation (SGT Belford). There are no military supplies and equipment or computers stored in this operation due to the reorganization.

D. Vault – The vault was not utilized at the time of the survey due to the reorganization.

E. Illumination survey - An illumination survey was conducted in three areas at this facility. The illumination levels in the survey areas were within the American National Standards Institute (ANSI) recommended minimum illumination levels.

The illumination levels in the survey can be seen in table II.

TABLE II
Illumination Survey

Location	Illumination Level (ftc)	ANSI Minimum Requirements (ftc)	DG 412-2 Minimum Requirements (ftc)
Non-Responsive	53	50 – 100	50
	68.3	50 – 100	50
Drill Floor	58-64	50 – 100	50

Notes: ANSI office illumination depending on the task is 50 ftc for general desk work and 90 ftc for reading poor quality print.

F. Drill Floor – The drill floor is used on guard weekends by drill personnel. The floor is Composed of concrete and the ceiling is composed of a compressed seaweed type material (Tectum) that is approximately 30-35 feet in height. Interviews revealed that vehicles were occasionally driven onto the drill hall floor. As required, lead wipe samples were collected from the drill floor and the laboratory results reveal the following: All samples were below the 200 micrograms/sq.ft. guideline as required by NG PAM (AR) 385-16.

G. Inactive Firing Range – The Atlanta Armory is equipped with an inactive indoor firing range that has been left completely in tact. An interview revealed that the firing range has not been cleaned or decommissioned. There are no materials stored inside the range. As required, lead wipe samples were collected from the inactive firing range. Laboratory results revealed that two of the samples taken from the firing range were found to be above 200 micrograms/sq. ft. guidelines as required by NG PAM(AR)385-16.

H. Kitchen – The kitchen is adjacent to the armory floor and is fully functional. The kitchen is not used.

SUBJECT. Industrial Hygiene Survey for the Atlanta National Guard Armory, Atlanta, Texas.

Recommendations

1. Lighting should be upgraded in all areas ich were indicated as deficient.

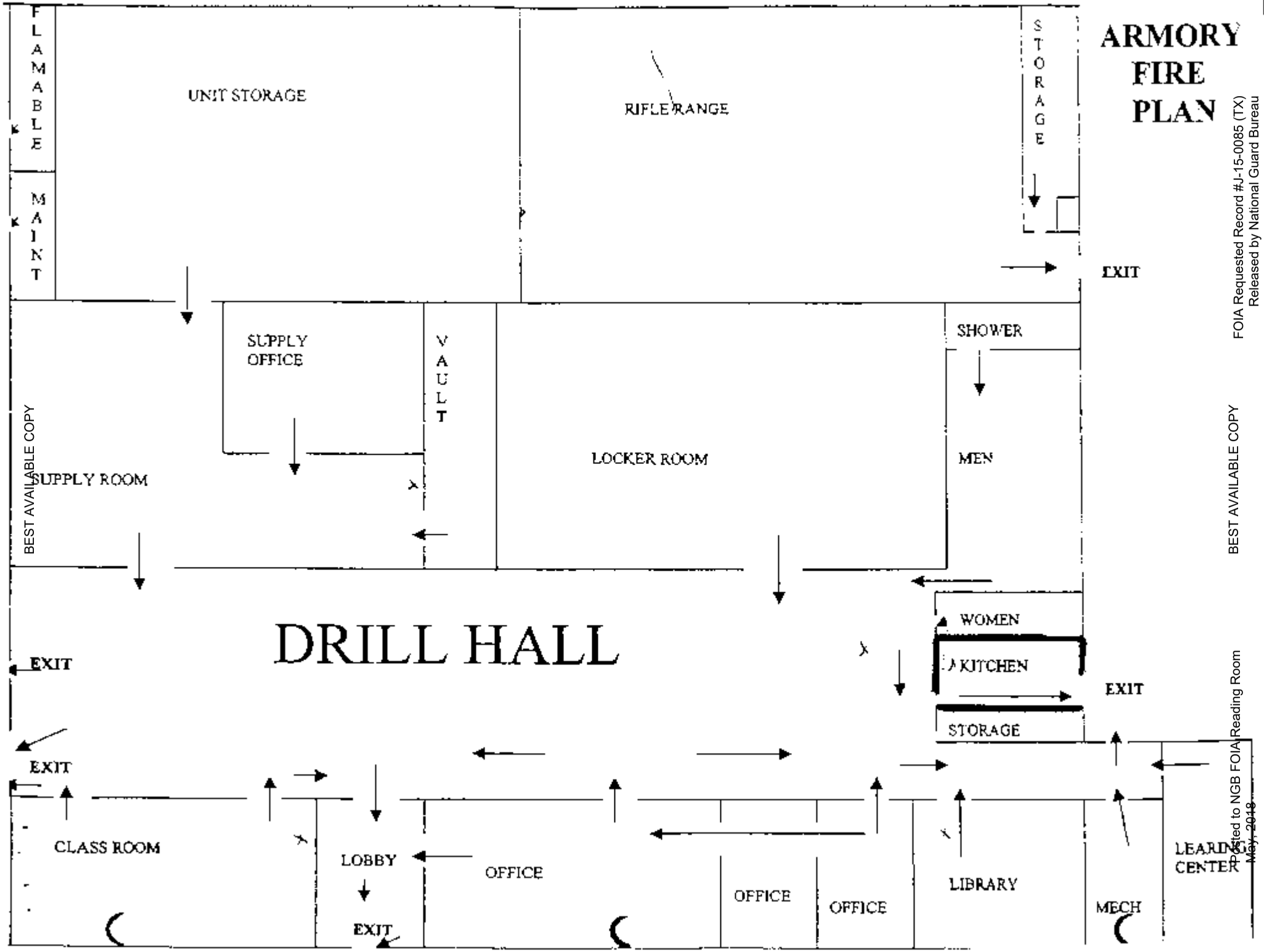
2. As required by NG PAM (AR) 385-16,the inactive firing range should be decontaminated and clearance testing should be performed to verify the effectiveness of the cleanup.

SUBJECT: Industrial Hygiene Survey for the Atlanta National Guard Armory, Atlanta, Texas.

Atlanta National Guard Armory
Lead Wipe Sample Analysis
Appendix E

Sample No.	Location	Type Analysis	Micrograms /cubic ft ug/m3
A-01	Drill Fl., Overhead door	Lead	<10.0
A-02	Drill Fl. Center of Floor	Lead	12.0
A-03	Drill Fl., near kitchen storage	Lead	<10.0
A-04	Kitchen, at entrance	Lead	13.0
A-05	Blank	Lead	<10.0
A-06	Orderly Room, Supply Vent	Lead	10.0
A-07	IFR, Bullet backstop		57000.0
A-08	IFR, In front of bullet backstop	Lead	7200.0
A-09	IFR, Rear wall next to entrance/exit	Lead	180;0
A-10	Blank	Lead	21.0

APPENDIX A



APPENDIX B

APPENDIX C

ARLOC: 48000 Installation:

Building Number: ATLANTA AR

Room Number: ORDERLY office

Location: AA Operation: ADO Survey Date: Year 03 Month 10 Day 07 MACOM: NG Sub-MACOM: XX RAC: 5

Unit/Organization: 920 STREET, LOUISE ATLANTA TX 75551

Supervisor: Mr. [X] Ms. [ ] [redacted]

Supervisor or Point of Contact:

Frequency (hrs/day): 009 No. CIVs: 01 No. MIL: No. Contractors: No. LOCs:

Lab Hoods: Vapor Degreasers: Spray Booths: Open Surface Tanks: Ventilation Units:

Controls present (If >6, continue in comments)[25]	Evaluation [25 char max per line]	Unit Code	Controls Required [25 char max per line]
Lighting			

Gloves

	e*	R	U
acid			
cold surfaces			
hot surfaces			
NBC agents			
oil			
solvents			
surgical gloves			
leather/cotton			
other			

Respirator

	e*	R	U
airline			
abrasive blasting hood			
disposable			
full face air purifying			
1/2 face air purifying			
powered air purifying			
1/4 face air purifying			
self-contained			
other			

Manufacturer's Description [10 char max] | NIOSH TC# or foreign equiv. [10 char max]

Eyes and Face

	e*	R	U
chemical splash			
full face shield			
chem/safety impact			
safety impact			
welding helmet			
sunglasses			
welding goggles/glasses			
laser eye protection			
other			

Hearing

	e*	R	U
canal caps			
(>85-108dBA steady) earplugs			
helmets w/muffs			
muffs alone			
(108-118) muff/earplug comb			
muffs and earplugs			
(118 or >) with time limit			
other			
other			

Body

	e*	R	U
aprons			
cold weather clothing			
coveralls			
full body suit			
heat reflective vest/suit			
safety belt/harness			
special purpose clothing			
other			
other			

Head and Feet

	e*	R	U
cold weather boots/hat			
hard hats			
impermeable boots			
safety shoes (conductive)			
safety shoes (nonconductive)			
other			
other			
other			
other			

e* = evaluator's recommendation
= or agreement

Reminders: ergonomics - dermatitis - physical agents - flammable storage
EYE (permanent) ____ - EYE (portable) ____ - SHW - GMV - LEV

ACO ADM DSA DSN LAB LCK
RAD ECB EPL RITS SPR WEL

MEDDAC (FT MEADE) 1 MAY 95 FORM 609-R

PAC	EPC	CAS Code	PAC	EPC	Hazard Description
		POHOISECO			
		POFOOTHAZ			
		POFLYPROJ			
		POEYEHAZA			
		POFLAMHAZ			
		POLIFTING			
		POSHARPOB			
		POHOTOBJE			
		POELSHOCK			
		COLUBEOIL			

Social Security Number or Other Unique Identifier | Last Name | First Name | MI | Sex | Category

☐ Personnel data provided by the facility is attached to this form

Comments — Remember to comment on problems, recommendations, and needed control items

1. Operation described is: ADO
2. other operations: OFF, NMN

☐ (Comments continued on attached sheet)

☐ This operation was explained to the evaluators. ☐ There is a noise data sheet ☐ There is a ventilation data sheet

ARMS INDUSTRIAL HYGIENE SURVEY FORM

ARLOC: 48600 Installation:

Building Number: ATLANTA ARMORY

Room Number: FLAMmable STORAGE

Location	Operation	Survey Date (Year Month Day)	MACOM	Sub-MACOM	RAC	Unit/Organization
SC	DHP	03 10 07	NG	XX	3	900 SO. LOUISE STREET, ATLANTA TX 75551

Supervisor: Mr. [X] Ms. [ ] [redacted]

Supervisor or Point of Contact Telephone Number: DSN [ ] Commercial [X]

Frequency (hrs/day): 01 | No. CIVs: 01 | No. MIL: | Contractors: | No. LOCs:

Lab Hoods	Vapor Degreasers	Spray Booths	Open Surface Tanks	Ventilation Units

Controls present (if >6, continue in comments)[25]	Evaluation [25 char max per line]	Unit Code	Controls Required [25 char max per line]

Gloves

	e*	R	U
acid			
cold surfaces			
hot surfaces			
NBC agents			
oil			
solvents			
surgical gloves			
leather/cotton			
other			

Respirator

	e*	R	U
airline			
abrasive blasting hood			
disposable			
full face air purifying			
1/2 face air purifying			
powered air purifying			
1/4 face air purifying			
self-contained			
other			

Manufacturer's Description [10 char max]	NIOSH TC# or foreign equiv. [10 char max]

Eyes and Face

	e*	R	U
chemical splash			
full face shield			
chem/safety impact			
safety impact			
welding helmet			
sunglasses			
welding goggles/glasses			
laser eye protection			
other			

Hearing

	e*	R	U
canal caps			
(>85-108dBA steady) earplugs			
helmets w/muffs			
muffs alone			
(108-118) muff/earplug comb			
muffs and earplugs			
(118 or >) with time limit			
other			
other			

Body

	e*	R	U
aprons			
cold weather clothing			
coveralls			
full body suit			
heat reflective vest/suit			
safety belt/harness			
special purpose clothing			
other			
other			

Head and Feet

	e*	R	U
cold weather boots/hat			
hard hats			
impermeable boots			
safety shoes (conductive)			
safety shoes (nonconductive)		X	X
other			
other			
other			
other			

e* = evaluator's recommendation or agreement

Reminders: ergonomics - dermatitis - physical agents - flammable storage
EYE (permanent) ____ - EYE (portable) ____ - SHW - GMV - LEV

ACO ADM DSA DSN LAB LCK
RAD ECB EPL RITS SPR WEL

MEDDAC (FT MEADE) 1 MAY 95 FORM 609-R

BEST AVAILABLE COPY

PAC	EPC		CAS Code
		PONOISECO	
2	∅	POFQOTMAZ	
		POFLYPROJ	
2	∅	POEYEHAZA	
2	∅	POFDAMHAZ	
2	∅	POLIFTING	
		POSHARPOB	
		POHOTOBJE	
		POELSHOCK	
2	∅	COLUBEOIL	

PAC	EPC	Hazard Description
3	A	Petroleum distillates
3	A	petroleum spirits/mineral spts/vmp Naphta.

Social Security Number or Other Unique Identifier | Last Name | First Name | MI | Sex | Category

☐ Personnel data provided by the facility is attached to this form

Comments

Remember to comment on problems, recommendations, and needed control items

1. Operation described is: DHP Storage and dispensing oils and lubricants.

☐ (Comments continued on attached sheet)

☐ This operation was explained to the evaluators.

☐ There is a noise data sheet

☐ There is a ventilation data sheet

BEST AVAILABLE COPY

HHIMS INDUSTRIAL HYGIENE SURVEY FORM

ARLOC: 48000 Installation: [redacted]

Building Number: ATLANTA ARMORY Room Number: SUPPLY ROOM & VAULT

Location: SA Operation: SAH Survey Date: Year 03 Month 10 Day 07 MACOM: NG Sub-MACOM: XX RAC: 4

Unit/Organization: 999 SQ. LOUISE STREET, ATLANTA GA 75551

Supervisor: Mr. [X] Ms. [ ] [redacted]

Supervisor or Point of Cont[redacted] Commercial: [X]

Frequency (hrs/day): 009 No. CIVs: 9 No. MIL: + Contractors: + No. LOCs: +

Lab Hoods: + Vapor Degreasers: + Spray Booths: + Open Surface Tanks: + Ventilation Units:

Controls present (if >6, continue in comments)[25]	Evaluation [25 char max per line]	Unit Code	Controls Required [25 char max per line]
LIGHTS	office	F T C	50-100 ANSI
	Storage AREA	F T C	10 ANSI

Gloves	e*	R	U
acid			
cold surfaces			
hot surfaces			
NBC agents			
oil			
solvents			
surgical gloves			
leather/cotton			
other			

Respirator	e*	R	U
airline			
abrasive blasting hood			
disposable			
full face air purifying			
1/2 face air purifying			
powered air purifying			
1/4 face air purifying			
self-contained			
other			

Manufacturer's Description [10 char max] | NIOSH TC# or foreign equiv. [10 char max]

Eyes and Face	e*	R	U
chemical splash			
full face shield			
chem/safety impact			
safety impact			
welding helmet			
sunglasses			
welding goggles/glasses			
laser eye protection			
other			

Hearing	e*	R	U
canal caps			
(>85-106dBA steady) earplugs			
helmets w/muffs			
muffs alone			
(106-118) muff/earplug comb			
muffs and earplugs			
(118 or >) with time limit			
other			
other			

Body	e*	R	U
aprons			
cold weather clothing			
coveralls			
full body suit			
heat reflective vest/suit			
safety belt/harness			
special purpose clothing			
other			
other			

Head and Feet	e*	R	U
cold weather boots/hat			
hard hats			
impermeable boots			
safety shoes (conductive)		X	X
safety shoes (nonconductive)			
other			
other			
other			
other			

e* = evaluator's recommendation
- = or agreement

Reminders: ergonomics - dermatitis - physical agents - flammable storage
EYE (permanent) ____ - EYE (portable) ____ - SHW - GMV - LEV

ACO ADM DSA DSN LAB LCK
RAD ECB EPL RHS SPR WEL

MEDDAC (FT MEADE) 1 MAY 95 FORM 609-R

PAC	EPC	CAS Code	PAC	EPC	Hazard Description
		PONOISECO			
	B	POFOOTHAZ			
		POFLYPROJ			
		POEYEHAZA			
		POFLAMHAZ			
	B	POLIFTING			
		POSHARPOB			
		POHOTOBJE			
		POELSHOCK			
		COLUBEOIL			

Social Security Number or Other Unique Identifier | Last Name | First Name | MI | Sex | Category

Personnel data provided by the facility is attached to this form

Comments — Remember to comment on problems, recommendations, and needed control items

1. Operation described is: SAH
2. other operations: MAIN, LOA
3. WEAPONS ARE Stored and locked in the vault
4. This operation is meant for continuous occupation.

(Comments continued on attached sheet)

This operation was explained to the evaluators.

There is a noise data sheet

There is a ventilation data sheet

HHMS INDUSTRIAL HYGIENE SURVEY FORM

ARLOC: 48000 Installation:

Building Number: ATLANTA ARMORY Room Number: NBC ROOM

Location: 9C Operation: NBC Survey Date: Year 03 Month 10 Day 07 MACOM: NG Sub-MACOM: XX RAC: 4

Unit/Organization: 900 SE. LOUISE STREET ATLANTA TX. 75551

Supervisor: Mr. [X] Ms. [ ] [redacted]

Supervisor or Point of Contact:

Frequency (hrs/day): 01 No. CIVs: 1 No. MIL: 01 Contractors: 1 No. LOCs: 1

Lab Hoods	Vapor Degreasers	Spray Booths	Open Surface Tanks	Ventilation Units
1	1	1	X	

Controls present (if >6, continue in comments)[25]	Evaluation [25 char max per line]	Unit Code	Controls Required [25 char max per line]

Gloves

	e*	R	U
acid			
cold surfaces			
hot surfaces			
NBC agents			
oil			
solvents			
surgical gloves			
leather/cotton			
other			

Respirator

	e*	R	U
airline			
abrasive blasting hood			
disposable			
full face air purifying			
1/2 face air purifying			
powered air purifying			
1/4 face air purifying			
self-contained			
other			

Manufacturer's Description [10 char max] | NIOSH TC# or foreign equiv. [10 char max]

Eyes and Face

	e*	R	U
chemical splash			
full face shield			
chem/safety impact			
safety impact			
welding helmet			
sunglasses			
welding goggles/glasses			
laser eye protection			
other			

Hearing

	e*	R	U
canal caps			
(>85-108dBA steady) earplugs			
helmets w/muffs			
muffs alone			
(108-118) muff/earplug comb			
muffs and earplugs			
(118 or >) with time limit			
other			
other			

Body

	e*	R	U
aprons			
cold weather clothing			
coveralls			
full body suit			
heat reflective vest/suit			
safety belt/harness			
special purpose clothing			
other			
other			

Head and Feet

	e*	R	U
cold weather boots/hat			
hard hats			
impermeable boots			
safety shoes (conductive)			
safety shoes (nonconductive)		X	X
other			
other			
other			
other			

e* = evaluator's recommendation
- or agreement

Reminders: ergonomics - dermatitis - physical agents - flammable storage
EYE (permanent) ____ - EYE (portable) ____ - SHW - GMV - LEV

ACO ADM DSA DSN LAB LCK
RAD ECB EPL RHS SPR WEL

MEDDAC (FT MEADE) 1 MAY 95 FORM 609-R

PAC	EPC	CAS Code	PAC	EPC	Hazard Description
		PONOISECO			
		POFOOTHAZ			
		POFLYPROJ			
		POEYEHAZA			
		POFLAMHAZ			
		POLIFTING			
		POSHARPOB			
		POHOTOBJE			
		POELSHOCK			
		COLUBEOIL			

Social Security Number or Other Unique Identifier | Last Name | First Name | MI | Sex | Category

M-DAY ONLY

☐ Personnel data provided by the facility is attached to this form

Comments — Remember to comment on problems, recommendations, and needed control items

1. Operation described is: NBC
2. OTHER OPERATIONS: MAN, LOA.

☐ (Comments continued on attached sheet)

☐ This operation was explained to the evaluators. ☐ There is a noise data sheet ☐ There is a ventilation data sheet

INDUSTRIAL HYGIENE SURVEY FORM

ARLOC: 48000 Installation:

Building Number: ATLANTA ARMORY

Room Number: FIRING RANGE

Location: WF Operation: IFR Survey Date: Year 03 Month 10 Day 07 MACOM: NG Sub-MACOM: XX RAC: 3

Unit/Organization: 900 SO. LOUISE STREET ATLANTA TX 75551

Supervisor: Mr. [X] Ms. [ ]

Supervisor or Point of Contact: [redacted]

Frequency (hrs/day): 000 No. CIVs: No. MIL: Contractors: No. LOCs:

Lab Hoods: Vapor Degreasers: Spray Booths: Open Surface Tanks: [X] Ventilation Units: 4

Controls present (if >6, continue in comments)[25]	Evaluation [25 char max per line]	Unit Code	Controls Required [25 char max per line]

Gloves	e*	R	U
acid			
cold surfaces			
hot surfaces			
NBC agents			
oil			
solvents			
surgical gloves			
leather/cotton			
other			

Respirator	e*	R	U
airline			
abrasive blasting hood			
disposable			
full face air purifying			
1/2 face air purifying			
powered air purifying			
1/4 face air purifying			
self-contained			
other			

Manufacturer's Description [10 char max] | NIOSH TC# or foreign equiv. [10 char max]

Eyes and Face	e*	R	U
chemical splash			
full face shield			
chem/safety impact			
safety impact			
welding helmet			
sunglasses			
welding goggles/glasses			
laser eye protection			
other			

Hearing	e*	R	U
canal caps			
(>85-108dBA steady) earplugs			
helmets w/muffs			
muffs alone			
(106-118) muff/earplug comb			
muffs and earplugs			
(118 or >) with time limit			
other			
other			

Body	e*	R	U
aprons			
cold weather clothing			
coveralls			
full body suit			
heat reflective vest/suit			
safety belt/harness			
special purpose clothing			
other			
other			

Head and Feet	e*	R	U
cold weather boots/hat			
hard hats			
impermeable boots			
safety shoes (conductive)			
safety shoes (nonconductive)			
other			
other			
other			
other			

e* = evaluator's recommendation or agreement

Reminders: ergonomics - dermatitis - physical agents - flammable storage
EYE (permanent) ____ - EYE (portable) ____ - SHW - GMV - LEV

ACO ADM DSA DSN LAB LCK
RAD ECB EPL RHS SPR WEL

MEDDAC (FT MEADE) 1 MAY 85 FORM 609-R

PAC	EPC	CAS Code	PAC	EPC	Hazard Description
		PONOISECO 7439-92-1	3		LEAD DUST
		POFOOTHAZ			
		POFLYPROJ			
		POEYEHAZA			
		POFLAMHAZ			
		POLIFTING			
		POSHARPOB			
		POHOTOBJE			
		POELSHOCK			
		COLUBEOIL			

Social Security Number or Other Unique Identifier | Last Name | First Name | MI | Sex | Category

☐ Personnel data provided by the facility is attached to this form

Comments

Remember to comment on problems, recommendations, and needed control items

1. Operation described is: IFR
2. OTHER Operations: SAH, MAN, LOA

☐ (Comments continued on attached sheet)

☐ This op(n was explained to the evaluators. ☐ There is (oise data sheet ☐ There is a ventilation data sheet (

INDUSTRIAL HYGIENE SURVEY FORM

ARLOC: 48000 Installation:

Building Number: ATLANTA ARMORY

Room Number: DRILL FLOOR

Location: OT Operation: OTH Survey Date: Year 03 Month 10 Day 07 MACOM: NG Sub-MACOM: XX RAC: 4

Unit/Organization: 900 SQ LOUISE STREET ATLANTA TX 75561

Supervisor: Mr. [X] Ms. [ ] [redacted]

Supervisor or Point of Contact Telephone Number: DSN [ ] Commercial [X]

Frequency (hrs/day): 00 No. CIVs: No. MIL: Contractors: No. LOCs:

Lab Hoods: Vapor Degreasers: Spray Booths: Open Surface Tanks: Ventilation Units:

Controls present (if >6, continue in comments)[25]	Evaluation [25 char max per line]	Unit Code	Controls Required [25 char max per line]

Gloves

	e*	R	U
acid			
cold surfaces			
hot surfaces			
NBC agents			
oil			
solvents			
surgical gloves			
leather/cotton			
other			

Respirator

	e*	R	U
airline			
abrasive blasting hood			
disposable			
full face air purifying			
1/2 face air purifying			
powered air purifying			
1/4 face air purifying			
self-contained			
other			

Manufacturer's Description [10 char max] | NIOSH TC# or foreign equiv. [10 char max]

Eyes and Face

	e*	R	U
chemical splash			
full face shield			
chem/safety impact			
safety impact			
welding helmet			
sunglasses			
welding goggles/glasses			
laser eye protection			
other			

Hearing

	e*	R	U
canal caps			
(>85-108dBA steady) earplugs			
helmets w/muffs			
muffs alone			
(108-118) muff/earplug comb			
muffs and earplugs			
(118 or >) with time limit			
other			
other			

Body

	e*	R	U
aprons			
cold weather clothing			
coveralls			
full body suit			
heat reflective vest/suit			
safety belt/harness			
special purpose clothing			
other			
other			

Head and Feet

	e*	R	U
cold weather boots/hat			
hard hats			
impermeable boots			
safety shoes (conductive)			
safety shoes (nonconductive)			
other			
other			
other			
other			

e* = evaluator's recommendation or agreement

Reminders: ergonomics - dermatitis - physical agents - flammable storage
EYE (permanent) ____ - EYE (portable) ____ - SHW - GMV - LEV

ACO ADM DSA DSN LAB LCK
RAD ECB EPL RHS SPR WEL

MEDDAC (FT MEADE) 1 MAY 95 FORM 609-R

PAC	EPC	CAS Code	PAC	EPC	Hazard Description
3	2	PONOISECD			
		POFOOTHAZ			
		POFLYPROJ			
		POEYEHAZA			
		POFLAMHAZ			
3	2	POLIFTING			
		POSHARPOB			
		POHOTOBJE			
		POELSHOCK			
		COLUBEOIL			

Social Security Number or Other Unique Identifier	Last Name	First Name	MI	Sex	Category

☐ Personnel data provided by the facility is attached to this form

Comments — Remember to comment on problems, recommendations, and needed control items

1 Operation described is: other

2 OTHER OPERATIONS: LOADMAN

(Comments continued on attached sheet)

☐ This operation was explained to the evaluators. ☐ There is a noise data sheet ☐ There is a ventilation data sheet

APPENDIX D

Kevin - FYI

HEADQUARTERS
DEPARTMENTS OF THE ARMY AND THE AIR FORCE
Washington, DC 20310-2500
31 January 1994

NG PAM (AR) 385-16/
ANGPAM 91-101

Safety

GUIDELINES FOR CONVERTING INDOOR FIRING RANGES TO OTHER USES

Summary. This is a new pamphlet. This guidance prescribes policy, responsibilities, and procedures on how to convert lead-contaminated indoor firing ranges to other uses.

Applicability. This guidance applies to all persons responsible for the operation of Army National Guard (ARNG) and Air National Guard (ANG) indoor firing ranges. As no regulations/guidance can foresee all situations that might arise, the following is written in a broad scope and is intended to be interpreted as to the INTENT of the law by health professionals.

Supplementation. Supplementation of this guidance is prohibited without prior approval from Chief, National Guard Bureau (NGB-AVN-SI).

Impact on New Manning System. This guidance does not contain information that affects the New Manning System.

Interim changes. Interim changes are not official unless they are authenticated by the Chief, Administrative Services. Users will destroy interim changes on their expiration date unless sooner superseded or rescinded.

Suggested improvements. The proponent of this publication is the National Guard Bureau. Users are invited to send comments and suggested improvements on DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to Chief, National Guard Bureau, Attn: NGB-AVN-SI, 111 South George Mason Drive, Arlington, VA 22204-1382.

Distribution. Distribution of this publication is made in accordance with the requirements on DA Form 12-09-E.

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Worker Education	13
Personal Protective Equipment	14
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A. Sampling Strategy for Collection of Wipe Samples
B. Interpretation of Sample Results (Prior to Cleaning)
C. Interpretation of Sample Results (After Cleaning)
D. OSHA Instruction CPL 2-2.20B
E. Where to Purchase Sample Media and Containers
F. AEHA Form 8-R (Bulk Sample Data)
G. Instructions to Complete AEHA Form 8-R
H. Examples of Computation of Lead Level from Wipe Sample Results
I. Supporting Laboratories and Areas Served

Glossary

1. Purpose

This pamphlet establishes policy and procedures for converting indoor firing ranges to other uses.

2. References

Related publications are listed below.

a. *DODI 6055.1* (Department of Defense Occupational Safety and Health (OSH) Program).

b. *AR 11-34* (The Army Respiratory Protection Program).

c. *AR 40-5* (Preventive Medicine).

d. *NGR (AR) 385-15* (Policy, Responsibilities, and Procedures for Inspection/Evaluation and Use of ARNG Indoor Firing Ranges).

e. *TB MED 502* (Occupational and Environmental Health Respiratory Protection Program).

f. *USAEHA TG 141* (Industrial Hygiene Air Sampling and Bulk Sampling Instructions).

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

APPENDIX B
INTERPRETATION OF SAMPLE RESULTS (PRIOR TO CLEANING)

B-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.

B-2 BETWEEN 201 and 200,000 micrograms/sq ft.
Range must be decontaminated. Continue with cleaning instructions listed in paragraph 15. Sample results will be used to establish a baseline. The baseline sample results will be used to ensure the 75 percent reduction is achieved.

B-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 should be considered suspect. Larger concentrations of lead dust may exist on surfaces tested other than results indicate. If the initial sampling results are above 200,000 micrograms/sq ft, the range should be cleaned by either HEPA vacuuming and/or wet wiping to establish a baseline. After the cleaning procedure is completed, resampling should occur until sample results are under the 200,000 micrograms/sq ft limit.

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

APPENDIX C
INTERPRETATION OF SAMPLE RESULTS (AFTER CLEANING)

C-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. The paint color must contrast the color of the present substratum.

C-2 ABOVE 200 micrograms/sq ft
As a minimum, a 75 percent reduction should occur from your initial sample results or the samples should be under the 200 microgram/sq ft level. If all sample results meet this criteria, a contrasting color of lead-free latex paint must be applied before the area is utilized for other purposes. The room can only be used as a storage area. Storage of kitchen equipment and food is prohibited. The room cannot be used for a child care or nursery area. If sample results are not below the 75 percent reduction, a more thorough cleaning of the range is required along with resampling until criteria are met.

* PLEASE NOTE, that if your original wipe sample results were, i.e., 175,000 ug/sq ft then you would have to reduce the lead level below 13,125 ug/sq ft. This would meet the 75 percent reduction criteria, however, this is an enormous amount of lead dust and care should be taken to ensure a heavy coat of paint seals the lead dust. It is unknown at this time whether or not the remaining amount of lead dust will allow the latex paint to adhered to the substratum. If the paint peels, falls to the floor and is crushed over a period of time, it will create another respirable lead hazard. If this happens, contact your Regional Industrial Hygiene Office for guidance. Periodically monitor the converted range for signs of peeling paint. Paint chips can be analyzed for lead content. DO NOT IGNORE PEELING PAINT IN A CONVERTED INDOOR FIRING RANGE.

APPENDIX E

EMSL Analytical, Inc.
10763 Baltimore Avenue, Beltsville, MD 20705
Phone: (301) 937-5705 Fax: (301) 937-5701 Email: beltsvillelab@emsl.com

EMSL

Attn: Non-Responsive
Fax:
Project:

Customer ID: USA50B
Customer PO: 1445-03W
Received: 10/23/03 9:15 AM

EMSL Order: 190305721
EMSL Project ID:

Lead in Wipes by Flame AAS (SW 846, 7420)

Client Sample Description		Lab ID	Analyzed	Area Sampled	Lead Concentration
A-01	Drill floor front of ovr door	0001	10/23/2003	144 in²	<10.0 µg/ft²
A-02	Drill floor center of floor	0002	10/23/2003	144 in²	12.0 µg/ft²
A-03	Drill floor near kitchen ent rm	0003	10/23/2003	144 in²	<10.0 µg/ft²
A-04	Kitchen @ entrance	0004	10/23/2003	144 in²	13.0 µg/ft²
A-05	Blank	0005	10/23/2003	n/a	<10.0 µg/wipe
A-06	Orderly rm, supply vent	0006	10/23/2003	144 in²	10.0 µg/ft²
A-07	IFR bullet back stop	0007	10/23/2003	144 in²	57000.0 µg/ft²
A-08	IFR front of bullet back stop	0008	10/23/2003	144 in²	7200.0 µg/ft²
A-09	IFR rear wall next entrance	0009	10/23/2003	144 in²	180.0 µg/ft²
A-10	IFR - blank	0010	10/23/2003	n/a	21.0 µg/wipe

or other approved signatory

Reporting limit is 10 µg/wipe. The QC data associated with the sample results included in this report meet the recovery and precision requirements established by the AIHA, unless specifically indicated otherwise in the comment section.
ACCREDITATIONS: AIHA Environmental Lead Laboratory Accreditation Program #102591

Date Printed: 10/23/2003 6:08:34 PM

Page 1 of 1

DEPARTMENT OF THE ARMY AND THE AIR FORCE
NATIONAL GUARD BUREAU
REGIONAL INDUSTRIAL HYGIENE OFFICE
AIRPORT PLAZA SUITE 1530
510 PLAZA DRIVE
COLLEGE PARK, GA 30349

NGB-ARS-IHSE (40-5f) 6 July 2009

MEMORANDUM FOR: ADJUTANT GENERAL TX ARNG, ATTN.: Baytown Armory
712th MP Company, 111 Wye Drive Baytown, Texas 77520

Thru: Non-Responsive Deputy State Army Surgeon, JFTX-ARM-SS, 3500 West 35th Street, Building 10, Austin, TX 78763-5218.

SUBJECT: Transmittal of IH Survey, Baytown Armory 712th MP Company, 111 Wye Drive Baytown, Texas 77520

1. References.

a. OSHA Standards 29 CFR (Code of Federal Regulations), General Industry, revised 1996 rev.

b. AR 40-5, Preventive Medicine, 22 July 2005.

c. AR 11-34, 15 February 1990, The Army Respiratory Protection Program.

d. AR 385-10, 29 February 2000, Army Safety Program.

f. TB MED 503, The Army Industrial Hygiene Program, 30 October 2000.

g. Title 29 Code of Federal regulation (CFR), 1989 rev, Part 1910.94 (c) (6) Table G-10, Ventilation.

h. Industrial Ventilation, 25th, 2004, American Conference of Governmental Industrial Hygienist, Cincinnati, Ohio.

i. Title 29 Code of Federal Regulation (CFR), Part 1910.1025 Lead.

k. Title 40 Code of Federal Regulation (CFR), Part 745.227.

2. General.

a. In accordance to the JFTX-H-OH Industrial Hygiene Implementation Plan of 2009, a follow-up industrial hygiene survey was performed at the Baytown Armory, located at 111 Wye Drive Baytown, Texas 77520. The purpose of the survey was to perform a follow-up industrial hygiene survey to evaluate potential health hazards present in the building

b. The Point of Contact during the survey was Non-Responsive

c. Non-Responsive Industrial Hygiene Technician conducted the survey on 05 May 2009

.3. General.

a. **Site Description.** The Baytown Armory; a one-story cinder block structure with Central HVAC was built in 1955 and renovated in 1982. The facility houses several training rooms and classrooms, administrative office areas, and a supply room with storage and vault. Two full time employees work at the Armory supporting 170 M-Day Soldiers. The Residential use Central HVAC with interior units mounted on wooden plenum inside mechanical closets were replaced in November 2008. The POC has sent request for various repairs to be made throughout the armory which are addressed in the survey. A copy of the floor layout and photos are included in Appendix A.

b. **Scope of Work.** The work included collecting wipe samples for lead, bulk samples for suspect asbestos containing building material, illumination levels, noise readings, and an evaluation of the ventilation system as it pertains to indoor air quality.

c. **Methodology** Lead wipe samples were collected from various surfaces throughout the building. The samples were collected accordance to instructions published by Region South National Guard Bureau, which required the use of Ghost wipes or unscented baby wipes to wipe one square foot of surface. Samples were then placed in a sealed plastic bag and sent for analysis to an American Industrial Hygiene Association (AIHA) Accredited laboratory. Asbestos bulk samples were collected from suspect building materials that were grouped based on similarity of composition. Bulk sample collection was minimally destructive and samples were collected from inconspicuous areas. Bulk samples were also collected from suspect friable and damaged building material. Each bulk sample was placed in a sealed bag and sent to the laboratory for analysis. Area Illumination readings were collected using an EXTECH 401025 light meter Serial Number Q168802. Illumination readings were taken on work surfaces and approximately four feet from the floor.

4. Findings.

a. **Lead Wipe Samples:** Wipe samples for lead dust were collected from various areas during the 2007 as listed in the table below. Due to non-renovation and non-remediation no samples were taken during the current survey.

Sample Number	2007 Sample Location	Micrograms of lead (ug) per square foot
BT9701	Admin Blank	Below Recordable Limits
BT9702	Admin Supply Duct	Below Recordable Limits
BT9703	Admin Main HVAC Return Duct	Below Recordable Limits
BT9704	Kitchen Counter	Below Recordable Limits
BT9705	Drill Hall Floor (Supply Room Entrance)	21
BT9706	Supply Room Floor	21
BT9707	Vault/Arms Room Weapons Rack	142
BT9708	Vault/Arms Room Floor	223

The US Environmental Protection Agency (EPA), under a new standard issued in 2000, considers lead dust as a hazard if levels are greater than 40 micrograms of lead in dust per square foot on floors; 250 micrograms of lead in dust per square foot on interior window sills and 400 parts per million (ppm) of lead in bare soil in children's play areas or 1200 ppm average for bare soil in the rest of the yard. This standard is a major effort by the EPA to identify dangerous levels of lead in paint, dust and soil in order to protect children from lead poisoning. The National Guard Bureau recommends a limit of 200 micrograms per square foot for surface contamination. Deteriorated Paint surfaces that contain lead levels at or above 0.06 % by weight or 600 (ppm) are considered a hazard.

The contaminated areas as indicated by the wipe sampling results should be properly cleaned and decontaminated in accordance to the instructions found in NG PAM 385-18.

b. **Asbestos Suspect Building Material:** In 2007, one sample was identified as potentially containing asbestos. The identified type included 12x12 inch Floor Tile. A bulk sample was collected randomly from the identified material. The table below lists the sample collected and the results: Due to non-renovation and non-remediation no samples were taken during the current survey

Sample #	Description	% Asbestos Type
BTASB 1	12x12 inch Floor Tile	None Detected

c. **Noise Survey:** No noise Hazardous areas were identified or recorded on the day of the survey.

d. **Illumination Survey** Lighting levels throughout the Armory ranged between 41 foot-candle to 89 foot-candles. Specific readings were as follows:

Baytown Armory	Reading in Foot-candles
Classrooms	67-79
Office Areas	41-72
Kitchen	20-81
Hallways and Lobby	67-76
Drill Hall	52-89
Supply Room and Vault	Not Accessible

Most readings are within the Army Design Guide (DG415-2) minimum illumination level of 50 foot-candle for office area and 20 foot-candles for parts storage/supply. The American National Standard Institute (ANSI) recommends a minimum illumination level of 50 to 100 foot-candles for office work, 20 to 50 for general lighting. Luminance depends on various factors including the task to be performed, the age of the individual, and the surroundings. Luminance of 50 to 100 foot-candles is recommended for performance of visual tasks of medium contrast or small size such as reading pencil handwriting and poorly printed or reproduced material. Depending on the type of display, background luminance of 30 to 60 foot-candles is recommended for VDT work. Areas with low light readings have burnt out bulbs or fixtures are in need of repair. Replacing light bulbs with higher wattage will increase lighting levels. Replacing broken light fixtures and or lights and or cleaning them should improve the lighting levels. The POC also has request for additional exterior lighting around the armory, within the motor pool and repairs for down line to the back security light.

e. **Heating Ventilating and Air Conditioning (HVAC):** The Heating Ventilating and Air-Conditioning (HVAC) System for the Armory building consisted of various residential use Central HVAC with units mounted on wooden plenum inside mechanical closets and local ceiling mounted heating units. The system is capable to deliver outside makeup air to the occupied space. The supply room areas do not have AC. They are equipped with a roof mounted exhaust systems local ceiling mounted heating units. The locker room area has been converted to office space. No HVAC issues have been documented or communicated with the POC.

5. Recommendations.

a. Evidence of Lead contaminated surfaces was found as listed in the 2007 report. Monitor undisturbed areas and contact your local facilities commission for cleaning of contaminated area. (RAC 3)....

b. Have facilities clean and decontaminate lead contaminated surfaces per NG PAM 385-18. (RAC 3)

c. To prevent lead dust cross-contamination, Continue to clean weapons offsite and practice good housekeeping by washing hands after handling and cleaning weapons and after leaving supply areas. (RAC 2)

d. Repair and or replace broken light fixtures to improve luminescence in areas with low light readings and add additional exterior lighting per POC request. (RAC 3)

e. To reduce further damage and maintain overall indoor air quality; document and monitor roof leaks and contact your local facilities commission for roof repair and ceiling tile replacement if needed. (RAC 3)

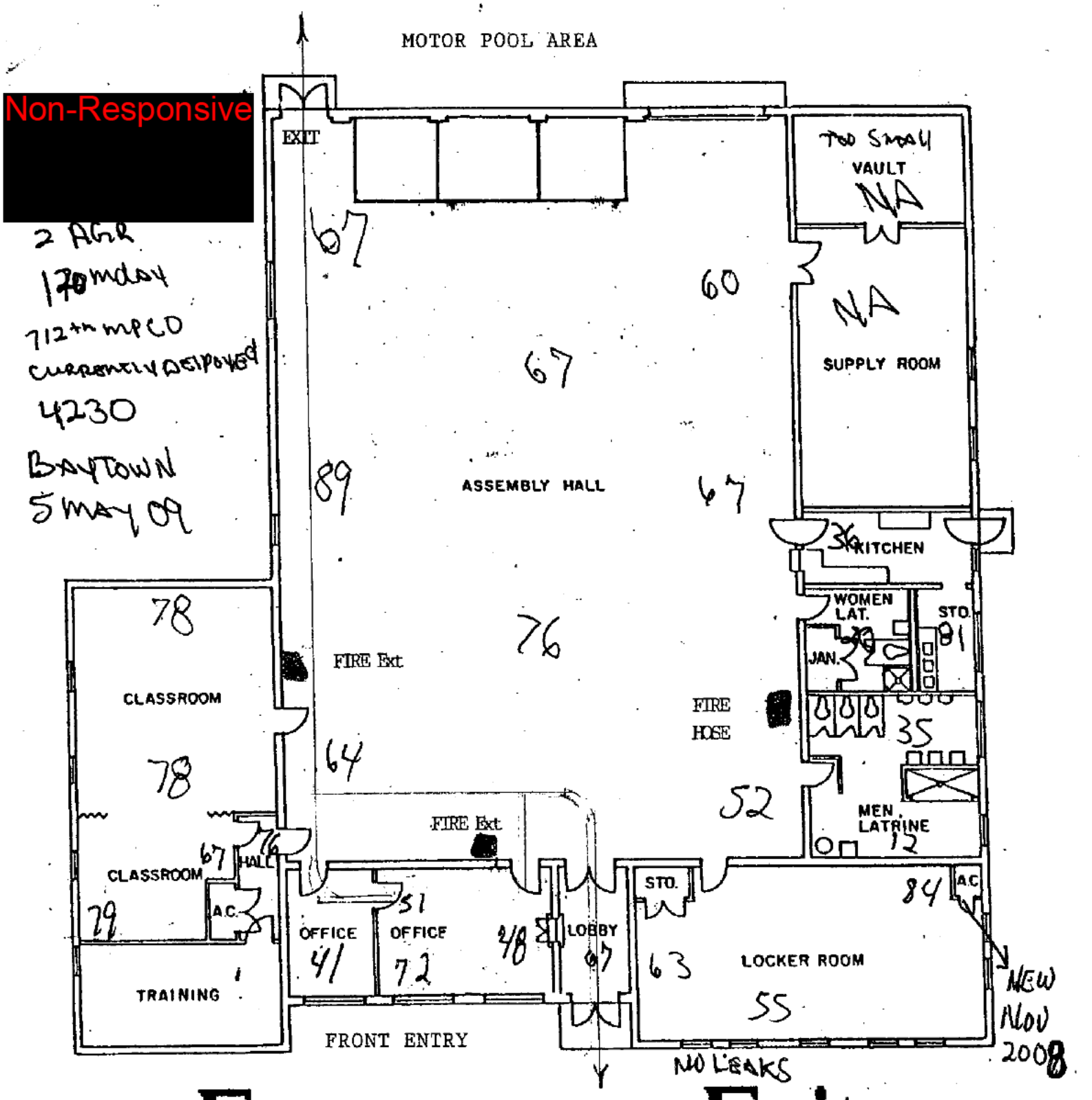
f. Due to geographic location, extend HVAC ducts to all latrines and supply rooms. Ventilate all occupied areas by repairing all exhaust vents and ensuring vents in latrines and supply rooms are within design guide and ventilation standards. Balance HVAC system to eliminate excess humidity in occupied areas. Continue to monitor HVAC system, document and track all work orders. (RAC 2)

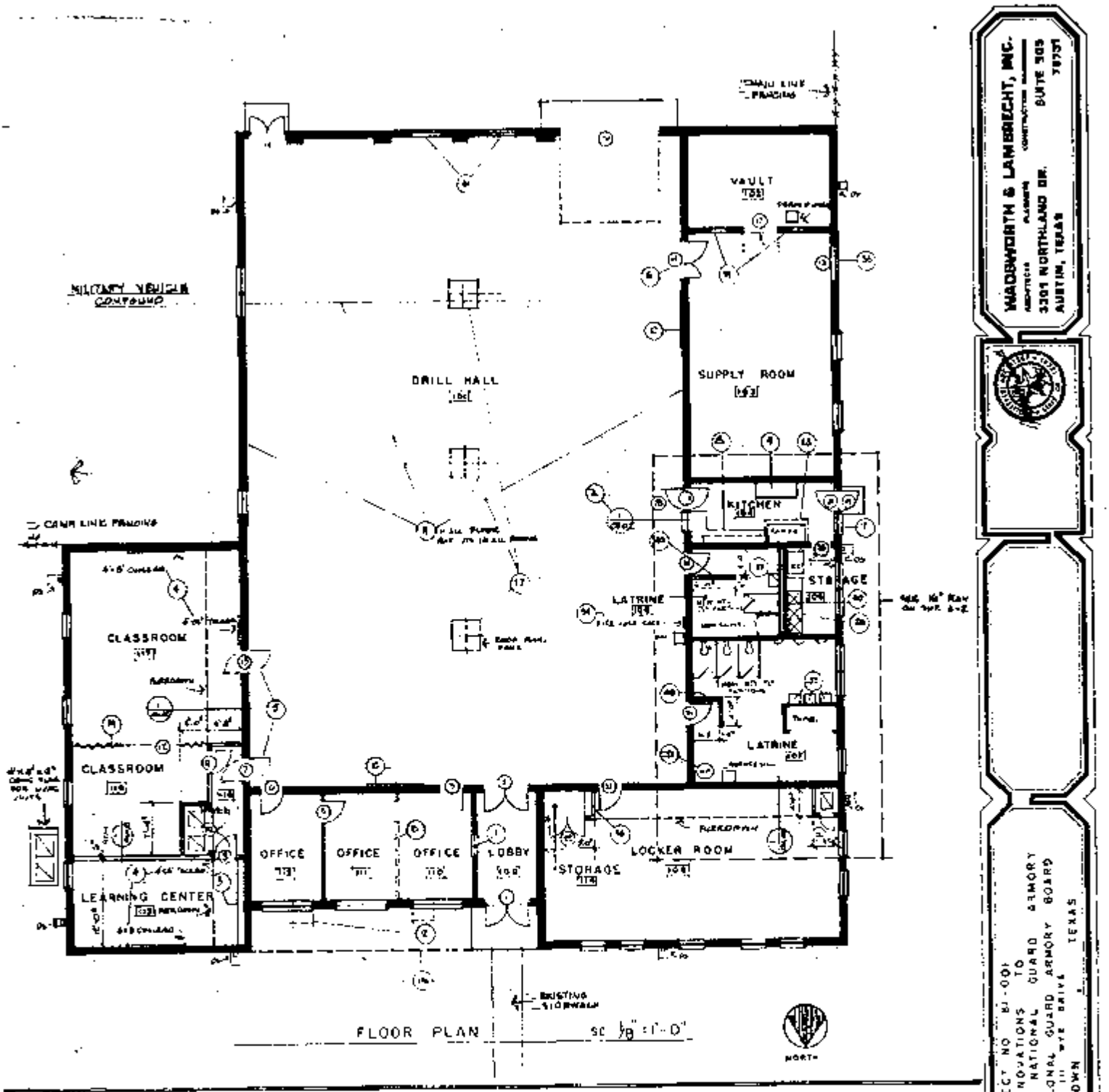
CF: NGB-ARS-IHSE
State Occupational Health Office, 3500 West 35th Street, Building 86, Austin, TX 78763.
State Safety Manager, P. O. BOX 5218, Austin, TX 78763-5218.
ENCL.
as

Baytown Armory

			
Baytown Armory	Drill Hall	Classroom	Converted Locker Room / Admin Area
			
Admin Area	Kitchen	Hallway HVAC Closet	Hallway HVAC Closet

FIRE PLAN





WADSWORTH & LAMBRECHT, INC.
ARCHITECTS PLANNERS CONSTRUCTION MANAGERS
3301 NORTHLAND DR. SUITE 305
AUSTIN, TEXAS 78731

PROJECT NO 81-001
RENOVATIONS TO
ARMY NATIONAL GUARD ARMORY BOARD
TEXAS NATIONAL GUARD ARMORY BOARD
BAYTOWN TEXAS

NOTES THIS ARMORY

SET NO. 2

DEPARTMENT OF THE ARMY AND THE AIR FORCE
NATIONAL GUARD BUREAU
REGIONAL INDUSTRIAL HYGIENE OFFICE
AIRPORT PLAZA SUITE 1530
510 PLAZA DRIVE
COLLEGE PARK, GA 30349

NGB-ARS-IHSE (40-5f) 10 October 2007

MEMORANDUM FOR: ADJUTANT GENERAL TX ARNG, ATTN.: Baytown Armory 712th MP Company, 111 Wye Drive Baytown, Texas 77520

Thru: Non-Responsive Deputy State Army Surgeon, JFTX-ARM-SS, 3500 West 35th Street, Building 10, Austin, TX 78763-5218.

SUBJECT: Transmittal of IH Survey, Baytown Armory 712th MP Company, 111 Wye Drive Baytown, Texas 77520

1. References.

a. OSHA Standards 29 CFR (Code of Federal Regulations), General Industry, revised 1996 rev.

b. AR 40-5, Preventive Medicine, 22 July 2005.

c. AR 11-34, 15 February 1990, The Army Respiratory Protection Program.

d. AR 385-10, 29 February 2000, Army Safety Program.

e. NGR Pam 420-15, Guidelines and Procedures for Rehabilitation and Conversion of Indoor Firing Ranges, 3 November 2006.

f. TB MED 503, The Army Industrial Hygiene Program, 30 October 2000.

g. Title 29 Code of Federal regulation (CFR), 1989 rev, Part 1910.94 (c) (6) Table G-10, Ventilation.

h. Industrial Ventilation, 25th, 2004, American Conference of Governmental Industrial Hygienist, Cincinnati, Ohio.

i. Title 29 Code of Federal Regulation (CFR), Part 1910.1025 Lead.

j. Title 40 Code of Federal Regulation (CFR), Part 745.227.

2. General.

a. In accordance to the JFTX-H-OH Industrial Hygiene Implementation Plan of 2007, an initial baseline industrial hygiene survey was performed at the Baytown Armory 712th MP Company, located at 111 Wye Drive Baytown, Texas 77520. The purpose of the survey was to perform a follow-up industrial hygiene survey to evaluate potential health hazards present in the building

b. The Point of Contact during the survey was Non-Responsive

SUBJECT: Transmittal of IH Survey, Baytown Armory 712th MP Company, 111 Wye Drive Baytown, Texas 77520

c. Non-Responsive Industrial Hygiene Technician for the Texas Army National Guard conducted the sampling on 7 September 2007.

3. General.

a. **Site Description.** The Baytown Armory; a one-story cinder block structure with Central HVAC was built in 1955 and renovated in 1982. The facility houses several training rooms and classrooms, administrative office areas, and a supply room with storage and vault. Four full time employees work at the Armory supporting 50 M-Day Soldiers. The armory has Residential Central HVAC with interior units mounted on wooden plenum inside mechanical closets. The POC has sent request for various repairs to be made throughout the armory which are addressed in the survey. A copy of the floor layout and photos are included in Appendix C.

b. **Scope of Work.** The work included collecting wipe samples for lead, bulk samples for suspect asbestos containing building material, illumination levels, noise readings, and an evaluation of the ventilation system as it pertains to indoor air quality.

c. **Methodology** Lead wipe samples were collected from various surfaces throughout the building. The samples were collected accordance to instructions published by Region South National Guard Bureau, which required the use of Ghost wipes or unscented baby wipes to wipe one square foot of surface. Samples were then placed in a sealed plastic bag and sent for analysis to an American Industrial Hygiene Association (AIHA) Accredited laboratory. Asbestos bulk samples were collected from suspect building materials that were grouped based on similarity of composition. Bulk sample collection was minimally destructive and samples were collected from inconspicuous areas. Bulk samples were also collected from suspect friable and damaged building material. Each bulk sample was placed in a sealed bag and sent to the laboratory for analysis. Area Illumination readings were collected using an EXTECH 401025 light meter Serial Number Q168802. Illumination readings were taken on work surfaces and approximately four feet from the floor.

4. Findings.

a. **Lead Wipe Samples:** Wipe samples for lead dust were collected from various areas as listed in the table below.

Sample Number	Sample Location	Micrograms of lead (ug) per square foot
BT9701	Admin Blank	Below Recordable Limits
BT9702	Admin Supply Duct	Below Recordable Limits
BT9703	Admin Main HVAC Return Duct	Below Recordable Limits
BT9704	Kitchen Counter	Below Recordable Limits
BT9705	Drill Hall Floor (Supply Room Entrance)	21
BT9706	Supply Room Floor	21
BT9707	Vault/Arms Room Weapons Rack	142
BT9708	Vault/Arms Room Floor	223

SUBJECT: Transmittal of IH Survey, Baytown Armory 712th MP Company, 111 Wye Drive Baytown, Texas 77520

The US Environmental Protection Agency (EPA), under a new standard issued in 2000, considers lead dust as a hazard if levels are greater than 40 micrograms of lead in dust per square foot on floors; 250 micrograms of lead in dust per square foot on interior window sills and 400 parts per million (ppm) of lead in bare soil in children's play areas or 1200 ppm average for bare soil in the rest of the yard. This standard is a major effort by the EPA to identify dangerous levels of lead in paint, dust and soil in order to protect children from lead poisoning. The National Guard Bureau recommends a limit of 200 micrograms per square foot for surface contamination. Deteriorated Paint surfaces that contain lead levels at or above 0.06 % by weight or 600 (ppm) are considered a hazard. The laboratory report and chain of custody forms are attached in Appendices A and B.

The contaminated areas as indicated by the wipe sampling results should be properly cleaned and decontaminated in accordance to the instructions found in NG PAM 420-15.

b. **Asbestos Suspect Building Material:** One sample of building materials was identified as potentially containing asbestos. The identified type included 12x12 inch Floor Tile. A bulk sample was collected randomly from the identified material. The table below lists the sample collected and the results:

Sample #	Description	% Asbestos Type
BTASB 1	12x12 inch Floor Tile	None Detected

The laboratory report and chain of custody forms are attached in Appendices A and B.

c. **Noise Survey:** No noise Hazardous areas were identified or recorded on the day of the survey.

d. **Illumination Survey** Lighting levels throughout the Armory ranged between 0 foot-candle to 88 foot-candles. Specific readings were as follows:

Baytown Armory	Reading in Foot-candles
Classrooms	25-88
Office Areas	19-84
Kitchen	31-37
Hallways and Lobby	62-82
Drill Hall	55-82
Supply Room and Vault	14-26
Rear Storage BLD	0-15-

Most readings are within the Army Design Guide (DG415-2) minimum illumination level of 50 foot-candle for office area and 20 foot-candles for parts storage/supply. The American National Standard Institute (ANSI) recommends a minimum illumination level of 50 to 100 foot-candles for office work, 20 to 50 for general lighting. Luminance depends on various factors including the task to be performed, the age of the individual, and the surroundings. Luminance of 50 to 100 foot-candles is recommended for performance of visual tasks of medium contrast or small size such as reading pencil handwriting and poorly printed or

reproduced material. Depending on the type of display, background luminance of 30 to 60 foot-candles is recommended for VDT work. Areas with low light readings have burnt out bulbs or fixtures are in need of repair. Replacing light bulbs with higher wattage will increase lighting levels. Replacing broken light fixtures and or lights and or cleaning them should improve the lighting levels. The POC also has request for additional exterior lighting around the armory, within the motor pool and repairs for down line to the back security light.

c. **Heating Ventilating and Air Conditioning (HVAC):** The Heating Ventilating and Air-Conditioning (HVAC) System for the Armory building consisted of various residential use Central HVAC with units mounted on wooden plenum inside mechanical closets and local ceiling mounted heating units. The system is capable to deliver outside makeup air to the occupied space. The supply room areas do not have AC. They are equipped with a roof mounted exhaust systems local ceiling mounted heating units. The locker room area has been converted to office space. At the time of survey the AC unit was not working. Evidence of prior roof leaks were noted along with needed repair and or replacement of window sealant. HVAC issues have been documented or communicated with the POC and will be forwarded to the State Facilities Commission.

5. Recommendations.

a. Monitor undisturbed areas and contact your local facilities commission for cleaning of contaminated area. DO NOT DISTURB or HAVE SOLDIERS ATTEMPT TO CLEAN THE CONTAMINATED AREAS. RAC 3....

b. Have facilities clean and decontaminate lead contaminated surfaces per NGR PAM 420-15. RAC 3

c. To prevent lead dust cross-contamination, Continue to clean weapons offsite and practice good housekeeping by washing hands after handling and cleaning weapons and after leaving supply areas RAC 2

d. Repair and or replace broken light fixtures to improve luminescence in areas with low light readings and add additional exterior lighting per POC request. RAC 3

e. To reduce further damage and maintain overall indoor air quality; document and monitor roof leaks and contact your local facilities commission for roof repair and ceiling tile replacement if needed. (RAC 3)

f. Due to geographic location, extend HVAC ducts to all latrines and supply rooms. Ventilate all occupied areas by repairing all exhaust vents and ensuring vents in latrines and supply rooms are within design guide and ventilation standards. Balance HVAC system to eliminate excess humidity in occupied areas. Continue to monitor HVAC system, document and track all work orders. (RAC 2)

NGB-ARS-IHSE (40-5f) 10 October 2007

SUBJECT: Transmittal of IH Survey, Baytown Armory 712th MP Company, 111 Wye Drive Baytown, Texas 77520

Non-Responsive

CF: NGB-ARS-IHSE
State Occupational Health Office, 3500 West 35th Street, Building 86, Austin, TX 78763.
State Safety Manager, P. O. BOX 5218, Austin, TX 78763-5218.
ENCL.
as

Appendix A:

Laboratory Analytical Results.

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

September 19, 2007

Non-Responsive

RE: Bay Town, TX

Dear Non-Responsive

Order No.: 0709786

Analytical Environmental Services, Inc. received 8 samples on 9/13/2007 12:00:00 PM for the analyses presented in the following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water, effective 07/01/07-06/30/08.
-AIHA Certification ID #100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) effective until 09/01/07.

These results relate only to the items tested. This report may only be reproduced in full and contains 60 total pages (including cover letter).

If you have any questions regarding these test results, please feel free to call.

Sincerely,

for Non-Responsive

3785 PRESIDENTIAL PARKWAY • ATLANTA, GEORGIA 30340 • TEL: (770) 457-8177 • FAX: (770)457-8188

Analytical Environmental Services, Inc.

Date: 9/13/2007

LEAD ON WIPES (N9100/7082)

N7082

CLIENT: National Guard Bureau Region-South IH
Project: Bay Town, TX
Delivery Order:
PO No:

Lab Order: 0709786
Date Received: 9/13/2007 12:00 PM
Matrix: Wipe

Laboratory ID	Client Sample ID	Results	Units	Report Limit	DF	Date Collected	Date Analyzed	Analyst
0709786-001A	BT9701	BRL	µg, Total	20	1	9/7/2007	9/14/2007	JY
0709786-002A	BT9702	BRL	µg, Total	20	1	9/7/2007	9/14/2007	JY
0709786-003A	BT9703	BRL	µg, Total	20	1	9/7/2007	9/14/2007	JY
0709786-004A	BT9704	BRL	µg, Total	20	1	9/7/2007	9/14/2007	JY
0709786-005A	BT9705	21	µg, Total	20	1	9/7/2007	9/14/2007	JY
0709786-006A	BT9706	21	µg, Total	20	1	9/7/2007	9/14/2007	JY
0709786-007A	BT9707	142	µg, Total	20	1	9/7/2007	9/14/2007	JY
0709786-008A	BT9708	223	µg, Total	20	1	9/7/2007	9/14/2007	JY

Qualifiers: BRL - Not Detected at the Reporting Limit DF - Dilution Factor

Results are blank corrected where applicable

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client GA Army Work Order Number 0709786

Checklist completed by [redacted] 9/13/07
Sign Date

Carrier name: FedEx __ UPS ✓ Courier __ Client __ US Mail __ Other _____

Shipping container/cooler in good condition? Yes ✓ No __ Not Present __

Custody seals intact on shipping container/cooler? Yes __ No __ Not Present ✓

Custody seals intact on sample bottles? PT 9/13/07 Yes __ No __ Not Present ✓

Container/Temp Blank temperature in compliance? ~~(4°C±2)*~~ Yes ✓ No __

Cooler #1 acceptable Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present? Yes ✓ No __

Chain of custody signed when relinquished and received? Yes __ No ✓ (+MC added)

Chain of custody agrees with sample labels? Yes ✓ No __

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes ✓ No __

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes __ No ✓

Proceed with Standard TAT as per project history? Yes ✓ No __ Not Applicable __

Water - VOA vials have zero headspace? No VOA vials submitted ✓ Yes __ No __

Water - pH acceptable upon receipt? Yes __ No __ Not Applicable ✓

Adjusted? _____ Checked by _____

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes ✓ No __

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

Analytical Environmental Services, Inc. Date: 17-Sep-07

CLIENT: National Guard Bureau Region-South IH
Project: Bay Town, TX
Lab Order: 0709786

CASE NARRATIVE

Sample/Cooler Receipt Non-Conformance:

Chain of Custody is not signed when relinquished.

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

Bulk Sample Summary Report

Client Name: **National Guard Bureau Region-South IH**
Project Name: **Armory w/o IFR (Follow-up)**
Project Number: **BT97**

NVLAP Lab ID# 102082-0
AES Job Number: **0709839**
Wednesday, September 19, 2007

Client ID	AES ID	Location	Asbestos Mineral Percentage						Comments
			CH	AM	CR	AN	TR	AC	
BTASB 1	0709839-001A	Classrom floor Tile (12x12)	ND	ND	ND	ND	ND	ND	
Layer: 1									

Note: CH=chrysotile, AM=amosite, CR=crocidolite, AC=actinolite, TR=tremolite, AN=anthophylite
For comments on the samples, see the individual analysis sheets.
ND = None Detected
PLM is not consistently reliable in detecting small concentrations of asbestos in floor tiles and similar nonfriable materials. Quantitative TEM is currently the only method that can be used to determine the conclusive asbestos content.

It is certified by the signatures below that the laboratory identified is accredited by the National Institute of Standards and Technology for Polarized Light Microscopy (PLM) analysis under the EPA Interim Asbestos Bulk Sample Quality Assurance Program, Laboratory ID 102082-0. All percentages given are by visually estimated volume. All analyses are performed in accordance with the EPA "Method for the Determination of Asbestos in Bulk Building Materials, EPA/600/R-93/116, July 1993." This report must not be reproduced except in full without the approval of Analytical Environmental Service, Inc. These test results apply only to the samples actually tested.

Microanalyst: Non-Responsive

Appendix B:
Lab Chain of Custody

0709786

BULK SAMPLE DATA

For use of this form see: USAEHA TG 141; the proponent is HSHB-CD.

Return Address (complete address including Zip Code)

NATIONAL GUARD BUREAU REGION SOUTH IH OFFICE
510 PLAZA DRIVE, SUITE 1330
COLLEGE PARK, GA 30349

Non-Responsive

Sampled Installation: BAY TOWN, TX

Project Number: BT97

Samples Collected By: Non-Responsive

Date Collected: 7 Sep 07

Date Shipped: 10 Sep 07

ARMORY W/O IFR (Follow-up)

Location (Bldg/Area): ARMORY

Associated Complaints (be specific)

Associated Air Samples: ☐ Yes ☒ No — If yes, list sample numbers

Label Information

Trade Name | NSN | Manufacturer

Address | MSDS Attached: ☐ Yes ☐ No

Analysis Desired: LEAD

Lab Use Only	Sample No.	Constituents	Results	Remarks
	BT9701	BLANK		
	BT9702	Admin Supply		
	BT9703	Admin MAIN RTN		
	BT9704	KITCHEN COUNTER		
	BT9705	DRILL HALL FLOOR & Supply		
	BT9706	Supply FLOOR		
	BT9707	VAULT WPNS RACK		

Comments to Lab: Non-Responsive 200

Analyst (Initials) | Reviewed By (Initials) | Date Received | Date Reported

Procedures Performed | Comments:

AEHA Form 6-R Oct 94

Replaces AEHA Form 6, 1 Oct 80 which is obsolete.

0709786

BULK SAMPLE DATA

For use of this form see USAFMA TG 141; the proponent is HSHB-CO.

Return Address (complete address including Zip Code)

NATIONAL GUARD BUREAU REGION SOUTH IH OFFICE
510 PLAZA DRIVE, SUITE 1530
COLLEGE PARK, GA 30349

Non-Responsive

Sampled Installation: BAY TOWN, TX

Project Number: BT97

Samples Collected By: Non-Responsive

Date Collected: 7 Sep 07

Date Shipped: 10 Sep 07

Location (Bldg/Area): ARMORY w/O IFR (Follow-up

Associated Complaints (be specific)

Associated Air Samples: ☐ Yes ☒ No — If yes, list sample numbers

Label Information

Trade Name	NSN	Manufacturer

Address:

MSDS Attached: ☐ Yes ☐ No

Analysis Desired: LEAD

Lab Use Only	Sample No.	Constituents	Results	Remarks
	BT9708	VAULT FLOOR		

Comments to Lab: Non-Responsive ups

Lab Use Only

Analyst (Initials)	Reviewed By (Initials)	Date Received	Date Reported

Procedures Performed:

Comments:

AENA Form 6-R Oct 94

Replaces AENA Form 6, 1 Oct 80 which is obsolete.

BULK SAMPLE DATA

For use of this form see USAEHA TG 141; the proponent is HSHB-CO.

Return Address (complete address including Zip Code)

NATIONAL GUARD BUREAU REGION SOUTH IH OFFICE
510 PLAZA DRIVE, SUITE 1530
COLLEGE PARK, GA 30349

Non-Responsive

Sampled Installation	Project Number	
BAYTOWN, TX	BT97	
Samples Collected By	**Date Collected**	**Date Shipped**
Non-Responsive	7 SEP 07	10 SEP 07
Description of Operation		**Location (Bldg/Area)**
ARMORY W/O IFR (Follow-up)		Armory

Associated Complaints (be specific)

Associated Air Samples — If yes, list sample numbers

☐ Yes ☒ No

Label Information

Trade Name	NSN	Manufacturer

Address	MSDS Attached
	☐ Yes ☐ No

Analysis Desired

ASBESTOS - PLM

Lab Use Only	Sample No.	Constituents	Results	Remarks
	BTASB1	CLASSROOM FLOOR TILE (12X12)		

Comments to Lab:

Lab Use Only

Analyst (Initials)	Reviewed By (Initials)	Date Received	Date Reported

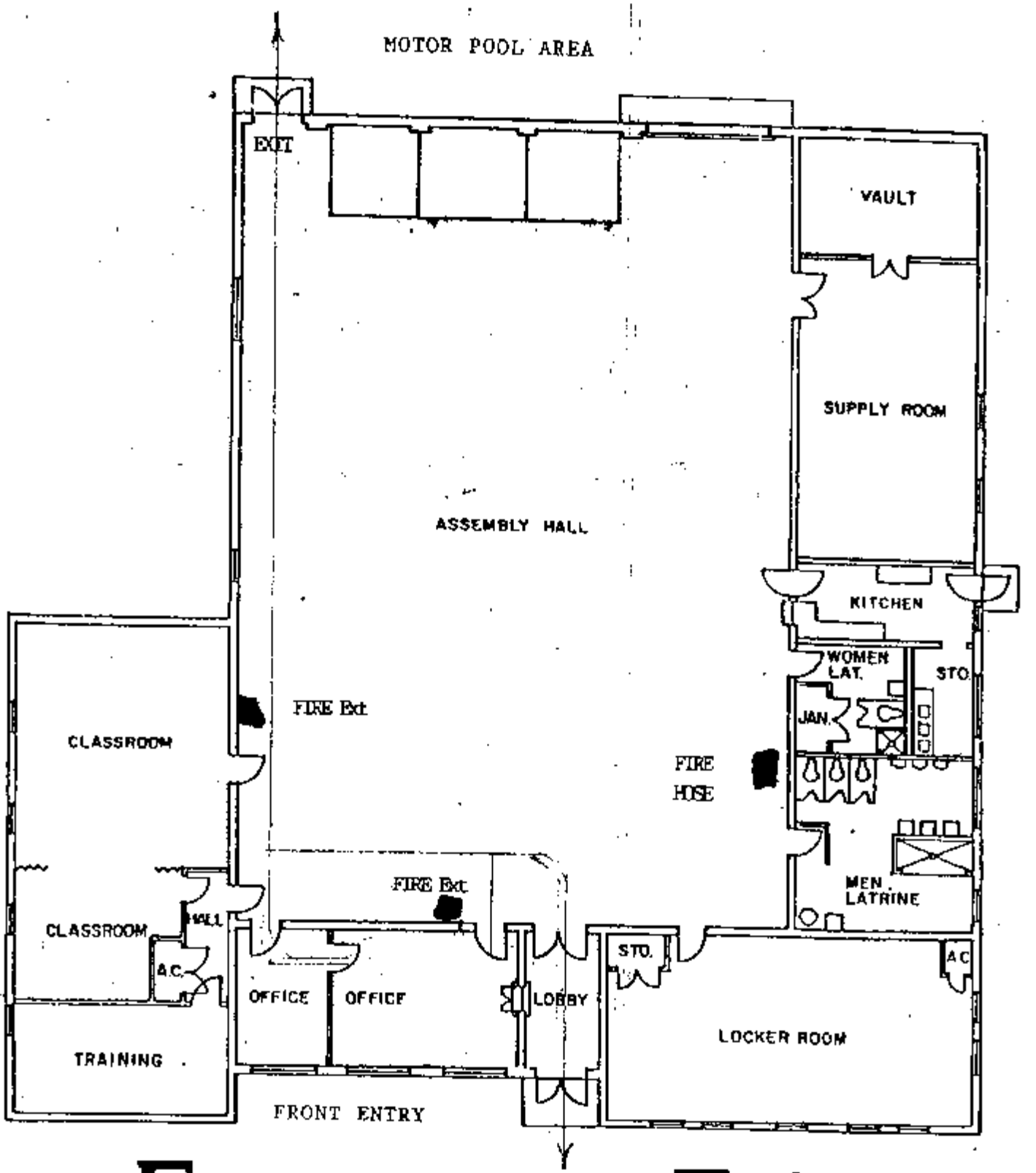
Procedures Performed	Comments:

AEHA Form 3-R [illegible] 94 (Replaces AEHA Form 3-R, Oct 80, which is obsolete.)

Appendix C

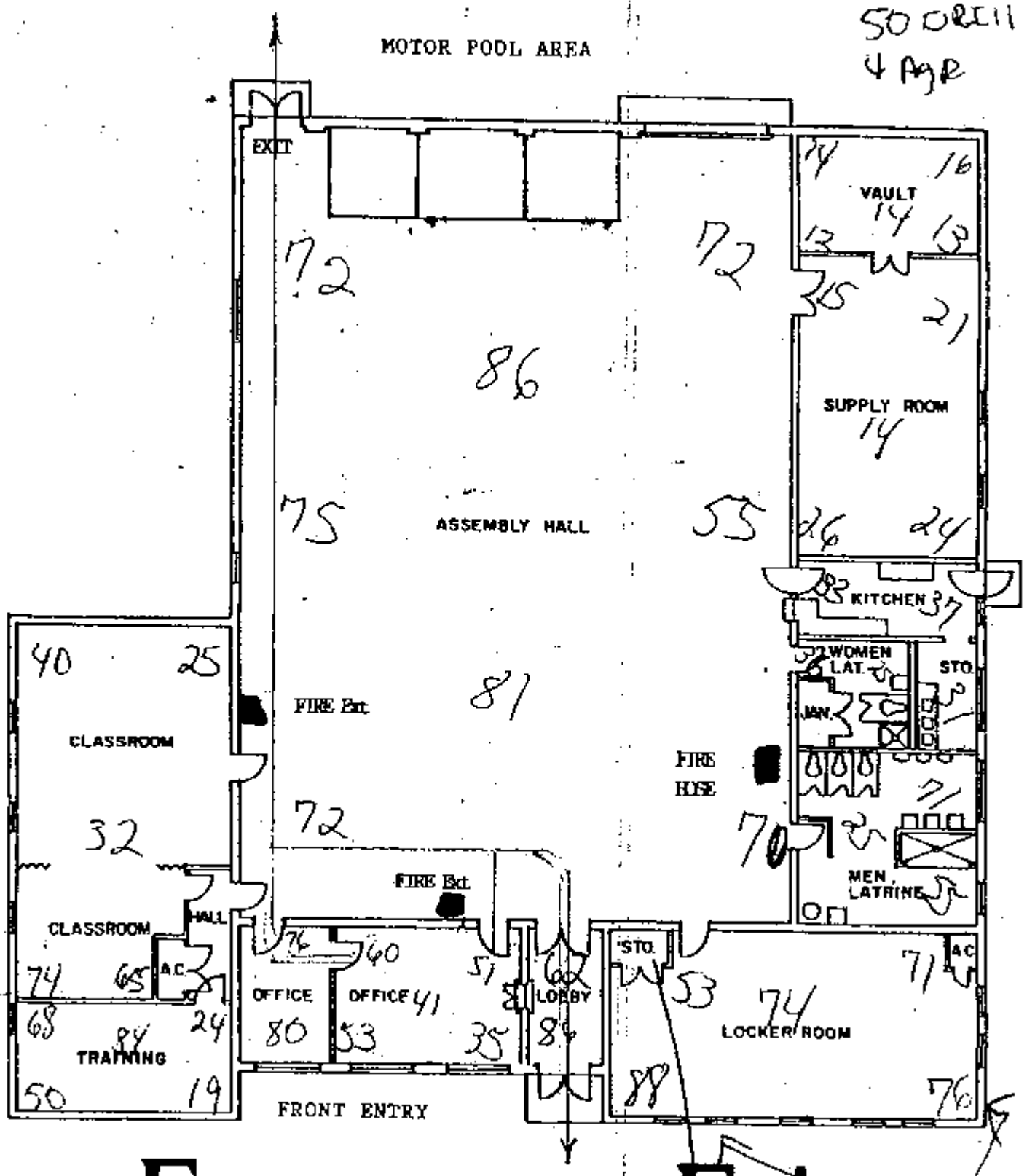
Photographs and Floor Layout

FIRE PLAN



Emergency Exit

FIRE PLAN



Baytown Armory

			
Baytown Armory (Front View)	Baytown Armory (Rear View)	Drill Hall	Admin Area
			
Supply Room	Unheated Rear Storage BLD	Unheated Rear Storage BLD	Classroom
			
12 x12 Floor Tile	Locker Room /Classroom	Hallway HVAC Closet	Hallway HVAC Closet

DEPARTMENT OF THE ARMY AND THE AIR FORCE
NATIONAL GUARD BUREAU
REGIONAL INDUSTRIAL HYGIENE OFFICE
AIRPORT PLAZA SUITE 1530
510 PLAZA DRIVE
COLLEGE PARK, GA 30349

NGB-AVN-SI April 12, 2004

MEMORANDUM FOR: ADJUTANT GENERAL TX ARNG, ATTN.: State Occupational Health Office, P. O. BOX 5218, Austin, TX 78763-5218

SUBJECT: Transmittal of the Survey Reports Orange Armory, Port Arthur Armory, Beaumont Armory, Nacogdoches Armory, Lufkin Armory and Port Naches Armory, TX.

1. References.

a. Department of Defense Instruction 6055.1, Department of Defense Occupational Safety and Health (OSH) Program, 26 October 1984.

b. Army Regulation (AR) 40-5, 30 August 1986, Medical Service, Preventive Medicine.

c. National Guard Regulation (NGR) 385-10, 1988, Army National Guard Safety and Occupational Health Program.

d. AR 11-34, The Army Respiratory Protection Program, 15 February 1990.

e. TB MED 502, Occupational and Environmental Health Respiratory Protection Program, February 1982.

f. DA PAM 40-503, 30 October 2000, The Army Industrial Hygiene Program.

g. DA PAM 40-501, 10 December 1998, Hearing Conservation.

h. Threshold Limit Values and Biological Exposure Indices (TLV's) for 2001, American Conference of Governmental Industrial Hygienists (ACGIH), Cincinnati, Ohio.

i. Industrial Ventilation, 23rd Edition, American Conference of Governmental Industrial Hygienist, Cincinnati, Ohio.

j. USAEHA TG-141, November 1997, Guidelines for Air Sampling and Bulk sample Collection.

NGB-AVN-SI
SUBJECT: Transmittal of the Survey Reports Orange Armory, Port Arthur Armory, Beaumont Armory, Nacogdoches Armory, Lufkin Armory and Port Naches Armory, TX.

k. Title 29, Code of Federal Regulations (CFR), 2000 rev., part 1910, Occupational Safety and Health Standards.

l. Report dated February 23, 2004, Industrial Hygiene Survey Non-Responsive Fayetteville, GA.

2. General.

a. At the request of the TX ARNG Safety and Occupational Health Office, an Industrial Hygiene Service was put together to conduct Health Hazard Information module (HHIM) Field surveys and industrial hygiene sampling of the Orange Armory, Port Arthur Armory, Beaumont Armory, Nacogdoches Armory, Lufkin Armory and Port Naches Armory, TX.

b. Non-Responsive r Cake RD, Fayetteville, GA, conducted the survey.

3. Findings. All Health Hazard information are on the survey findings of the report. (See enclosure 1)

4. Recommendations.

a. Follow all recommendations made in reference 1.l., requesting industrial hygiene (IH) services where needed to complete the recommendations.

b. Control water infiltration in the armory and/or replace or repair damaged surfaces or components (ceiling and floor tiles). Building conditions that present IAQ concerns or problems not only exacerbates normally minor health issues but also tend to promote or accelerate building deterioration.

c. The recommendations given in the comment section and data collected will serve as a baseline for the Industrial Hygiene Implementation Plan (IHIP) for FY-03. A follow up operation and hazard specific air sampling survey based on the enclosed findings will be included in the FY-04 IHIP.

d. Consider additional Industrial Hygiene services to monitor operations that were not looked at or surveyed during the present survey, especially if this will help eliminate health hazards and reduce medical surveillance cost.

e. To execute your responsibilities in correcting all deficiencies and meeting all standards coordinate with the Occupational Health Nurse and the Occupational Safety and Health Office for technical guidance.

NGB-AVN-SI
SUBJECT: Transmittal of the Survey Reports Orange Armory, Port Arthur Armory, Beaumont Armory, Nacogdoches Armory, Lufkin Armory and Port Naches Armory, TX.

f. Give special consideration to cleaning light fixtures, increasing the wattage and painting walls a lighter color when upgrading the lighting in the facility.

5. If additional information is needed about the industrial hygiene survey or air sample

Non-Responsive

CF:
NBG-AVN-SH
State Occupational Health Office, P. O. BOX 5218, Austin, TX 78763-5218.
State Safety Manager, P. O. BOX 5218, Austin, TX 78763-5218.

Encl
as

Non-Responsive

February 18, 2004

Non-Responsive

3040 College
Beaumont, TX 77701

RE: Baseline Industrial Hygiene Survey

FINAL REPORT

FOR

BASELINE INDUSTRIAL HYGIENE SURVEY

TEXAS ARMY NATIONAL GUARD

BEAUMONT ARMORY

BEAUMONT ,TX

DATE:

JANUARY13, 2004

PREPARED BY

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Weapons Vault Racks, Drill Hall

Attachment 3 Laboratory Reports: A/C-Heating System

Attachment 4 Photographs of the Facility

Attachment 5 Schematic Drawing of Facility

1.0 INTRODUCTION

At the request of the National Guard Bureau South Region Industrial Hygiene Office, Non-Responsive performed a Baseline Industrial Hygiene Survey at the TX ARNG Beaumont Armory. The purpose of the survey was to perform a baseline survey to evaluate health hazards, controls present in the work site, collect lead swipe samples from renovated/inactive or closed Indoor Firing Ranges, Weapons Vault racks, A/C-Heating System, illumination survey and to make recommendations regarding health hazards associated with the work at the Beaumont Armory.

The building was finished in 1960. The building was remodeled in 1986. Office space was added. The flooring was replaced, and the facility was painted. A/C-Heating Systems were installed to provide cooling and heating to the offices and the supply room. The facility houses the HHB 1/133rd FA. The armory is used by the troops of the HHB 1/133rd FA for their monthly weekend drills.

The HHB 1/133rd FA with about 80 troops had 6 full time AGR personnel at the time of the survey. The AGR employees are assigned to perform administrative duties, Tuesday-Friday 7:00am-6: 00pm. The facility houses administrative areas, a drill Hall, classrooms, a supply room, a weapons vault, a kitchen, and a deactivated Indoor Firing Range. The kitchen was not been used to cook for the troops at the time of the survey. They go to contracted restaurants that provide the service on drill days. A schematic drawing of the facility can be found in Attachment 5.

The facility was visually examined and personnel consulted to assess potential hazards present. Health Hazard Information Modules were completed. Illumination survey was performed throughout the facility. There is generalized poor lighting through out the facility.

2.0 INSTRUMENTATION/CALIBRATION

The following instrumentation was used to obtain light measurements. The instrument used has been calibrated and was operated according to the manufacturer's recommendations:

- EXTECH Light Meter

3.0 FINDINGS

Illumination

Illumination levels were recorded in administration offices, classroom, the drill hall and the supply room. Light measurements were within IES guidelines throughout the facility. However, light readings were low at the computers in the Administration-Personnel Office (35FC at both) and at the S-4 Operations Office (14FC at one computer). There were two bulbs out at Capt. Broussard Office. Consideration should be given to provide supplemental lighting at the computer desks that were below the IES minimum standards and to replace burned out bulbs. See Light Readings Table at the end of this section.

Administration

Personnel perform administrative duties that consist of reading, handling and generating paper work. Computer use comprises a large portion of the working day, five to ten hours per day. This continuous use of computers can in the long run lead to eyestrain and hand/wrist soreness. SFC Bryant reported that he had soreness and light numbness in his right thumb about six months ago. He was treated for the condition with medication. He reported no problems now. MSG Brett has knee problems and was to undergo arthroscopic surgery on Jan. 16, 2004.

Motor Pool

The motor pool is located in a fenced area in the rear of the building. The motor pool includes mostly HUMMWV vehicles. Only PMCS are performed at the motor pool on weekend drills. Major and other repairs are for the vehicles are performed by OMS #26 in Port Neches.

Drill Hall

The Drill Hall is located in the center of the building. It is used primarily for formation and training on weekend drills. The Drill Hall is used to clean weapons about twice a year. Tables are used for this purpose. Rags are used during this procedure. Bay (Roll-up) door are opened when the weapons are cleaned. Air exhaust ventilators, located on the roof, are turned on. Personnel stated that the rags are collected after cleaning weapons, placed in double plastic bags and disposed in with regular garbage. No vehicles are allowed to be stored in the Drill Hall.

Deactivated Indoor Firing Range

There is a deactivated Indoor Firing Range (IFR) at the facility. Personnel reported that the IFR was built when the armory was renovated. It was used

regularly for some time. One personnel also reported that it has not been "sanitized" or cleaned. We were unable to get access to IFR the day of the survey because the key do not work. However, we were able to go inside the IFR the next day after personnel from the state Facilities Office came to open the IFR. They intend to place a new lock in the IFR to prevent anybody from entering this area and place a notice to this effect at the door. The IFR was mostly empty except for a few cardboard boxes in the rear of the room. There were several plastic containers full of bullet fragments in front of the bullet backstop (See pictures). Six swipe samples were taken from the IFR. Five of the six samples were above the clearance level of 200ug/ft2. See table 1 for results.

Table 1

Sample Number	Sample Location	Results
14	Bullet backstop	1310000ug
15	Floor in front of bullet backstop	135000ug
16	Item stored in IFR	763ug
17	Item stored in IFR	545ug
18	Wall next to entrance/exit door	587ug
19	Blank	21ug

Weapons Vault

The Beaumont Armory has a weapon storage vault located in the Supply Room. Personnel stated that accountability and issuing of weapons are performed in this area but mostly in the field. Weapons are cleaned about twice a year in the Drill Hall with the air exhaust ventilators turned on, using tables that are set up in the Drill Hall. The weapons cleaning material is kept inside the vault in metal containers and distributed to the troops from there. The dehumidifier in the weapons vault was working the day of the survey. Personnel stated that it is on all the time and that the water level is checked about every three days. Two wipe samples were taken from the weapons vault racks and two from the Drill Hall

where weapons are cleaned. Two of the five samples were above the clearance level of 200ug/ft2. See table 2 for results.

Table 2

Sample Number	Sample Location	Results
10	Weapons Vault Racks (A)	119ug
11	Weapons Vault Racks (B)	260ug
12	Drill Hall, Weapons Cleaning Area	192ug
13	Drill Hall, Weapons Cleaning Area	643ug
19	Blank	21ug

A/C Heating System

Central A/C units are used to cool the administration offices and the supply room. There were filters installed in all the units the day of the survey. Personnel not sure when was the last time the units filters had been changed. Nine swipe samples for Lead were collected from the supply air grills in the offices occupied by personnel of the Armory and the filter areas of units. All samples were below the clearance level of 200ug/ft2. See Table 3 for results.

Table 3

Sample Number	Sample Location	Results
1	Outlet Grill, Supply SGT Office	BRL
2	Outlet Grill, Commander HHB 1/133 Office	BRL
3	Outlet Grill, SFC Bryant Office	BRL
4	Outlet Grill, Administration Office	BRL
5	A/C-Heating Unit 1, Supply Side of Filter	24ug
6	A/C-Heating Unit 1, Fan Side of Filter	BRL
7	A/C-Heating Unit 2, Supply Side of Filter	23ug
8	A/C-Heating Unit 2, Fan Side of Filter	BRL
9	Blank	BLR

Material Safety Data Sheets

Personnel not sure if there is an MSDS Book in the facility. There was no MSDS book found the day of the survey. A locked oil storage, within the building structure, with the entrance door located outside. There is a sign, "Flammable Storage" at the top end of the door. It has motor oil, gasoline, lawn mower, and paint cans. There is no Hazardous Materials Inventory List present. The CLP used to clean weapons is kept inside the vault in the original containers.

Light Readings

Light measurements were taken in various locations throughout the facility. The results were compared to guidelines recommended by the Illuminating Engineering Society (IES). The results of the survey are shown in Table 4.

Table 4

Location	Light Reading (footcandles)	IES Recommendation (footcandles)
ADO Capt. Broussard Office	49-93 (Avg. 70)	50-100
ADO SSG Simmons Office	65-85 (Avg. 74)	50-100
ADO Supply Room (Storage)	16-27 (Avg. 20)	20
Administration-Personnel Office	35-90 (Avg. 55)	50-100
ADO Maj. Ward Office	58-95 (Avg. 74)	50-100
ADO S-4 Operations Office	14-99 (Avg. 56)	50-100
ADO Recruiter Office	32-116 (Avg. 79)	50-100
Classroom	66-115 (Avg. 82)	50-100
Drill Hall	38 77 (Avg. 56)	30

Light measurements were within IES guidelines throughout the facility. However, light readings were low at the computers in the Administration-Personnel Office (35FC at both) and at the S-4 Operations Office (14FC at one computer). There were two bulbs out at Capt. Broussard Office. Consideration should be given to provide supplemental lighting at the computer desks that were below the recommended standard and to replace burned out bulbs. ANSI RP7-1991.

4.REFERENCES

- Guide to Occupational Exposure 2000, American Conference of Governmental Industrial Hygienists (ACGIH), Cincinnati, Ohio.
- American National Standards Institute (ANSI), /Illuminating Engineering Society (IES), Industrial Lighting 1991.
- National Institute for Occupational Safety and Health (NIOSH), (76-130) Technical Information, Lead Exposure and Design Considerations for Indoor Firing Ranges GPO, 1975.
- Title 29, Code of Federal Regulations (CFR). 1999, revision, Part 1910. Occupational Safety and Health Standards
- AR 40-5, Preventative Medicine, 15 October 1990.

- AR 385-10, The Army Safety Program, 23 May 1988.
- National Safety Council, Fundamentals of Industrial Hygiene, 4th edition, 1996.
- AR 385-16, National Guard Pamphlet, Safety Guidelines for Converting Indoor Firing Ranges to Other uses.
- TB MED 503, The Army Industrial Hygiene Program, February 1985.
- Department of the Army Pamphlet (DA PAM) 40-501,27 August 1991, Hearing Conservation.
- Title 29 CFR, Part 1910.1200, The Hazard Communication Standard.

Non-Responsive

RECOMMENDATIONS

- Provide supplemental lighting at the computer desks that were below the recommended standard and to replace burned out lights bulbs (See Light Readings Measurement section).

- Recommend that when using computers for extended periods of time, personnel should take occasional breaks and change position to minimize the possibility of eyes and/or hands/wrist injury. That employee with past history of soreness and numbness of right thumb seek medical attention if the problem affects him again.

- Continue to ensure that weapon maintenance and cleaning is done in a well-ventilated area. Continue to practice good personal hygiene by washing hands after handling and cleaning weapons and ammunition.

- Recommend that after weapons cleaning, the used rags should be properly disposed of through an independent contractor or through an OMS facility.

- The weapons vault racks and the areas in the Drill Hall where the weapons are cleaned should be cleaned properly after been used for such a purpose.

- MSDS book should be developed if there is not one in the armory (No MSDS book found in the armory the day of the survey).

- A Hazardous Materials Inventory List with current MSDS forms should be developed and placed in the Oil Shed and any other place where chemicals are stored. A Hazardous Materials warning sign should be made and place outside the Oil Shed.

- Ensure that personnel and troops have knowledge of the location of the MSDS book. And is enrolled hazardous materials safety training.

- That the IFR be permanently locked by the state Facilities Office (if it has not been done yet) to prevent entrance to this area unless the IFR is cleaned/ "sanitized" first. The IFR will need decontamination if it is going to be used for any other purpose.

Signature

Disclosure of your Social Security Number is not mandatory; however, nondisclosure may result in untimely provision of proper medical monitoring.

Title 6 U.S. Code, Section 301; Executive Order 9397 authorizes the use of your Social Security Number as a identification number. The purpose of this information is to identify and monitor data relating each DA civilian employee exposed to a hazardous workplace or operation. The use of this information is to provide histories of exposure for any given worker.

PRIVACY ACT STATEMENT

SECTION 7. COMMENTS (Add blank sheet of paper if necessary)

Non-Responsive

Non-Responsive

SECTION 6. PERSONNEL DATA

a. HAZARD	b. SAMPLE TYPE	c. RESULTS	d. REMARKS

SAMPLING DATA

(For use of this form, see HHIM User's Instructions.)

SECTION 1. DEMOGRAPHIC DATA

a. ARLOC ______ b. INSTALLATION Beaumont, Tx Armery c. BLDG/RM NUMBER Operations

d. LOCATION/CODE AA e. OPERATION/CODE AD f. DESCRIPTION Operations SGT BN 1/133rd FA, Computers work 7-8 hr/day

g. MACOM/CODE NO [redacted] M/CODE / i. SUPERV [redacted]

j. TELEPHONE/AUTOVON N[redacted] k. RAC ______ l. FREQUENCY ______

m. NO CIV(S) ______ n. NO MIL ______ o. NO CONTRACTOR(S) ______ p. NO LOC(S) ______ q. NO OTHER ______

SECTION 2. IH STAFFING DATA

a. LAB HOODS — b. VAPOR DEGREASERS — c. MAINTENANCE BAYS — d. SPRAY BOOTHS —

e. OPEN SURFACE TANKS — f. VENTILATION UNITS —

SECTION 3. SURVEY DATA

a. SURVEY DATE 1-13-04 b. EVALUATOR (INITIALS) [redacted]

c. CONTROLS PRESENT	d. EVALUATION	e. UNIT CODE	f. CONTROLS REQUIRED	g. STATUS
Lighting				

h. PERSONAL PROTECTIVE EQUIPMENT (R=REQUIRED; A=AVAILABLE)

1. RESPIRATOR	MANUFACTURER	NIOSH TC NO	R/A
DISPOSABLE			
½ FACE AIR PURIFYING			/
½ FACE AIR PURIFYING			/
FULL FACE AIR PURIFYING			/
POWERED AIR PURIFYING			/
AIRLINE			/
SELF-CONTAINED			/
ABRASIVE BLASTING HOOD			/

2. GLOVES	R/A	3. EYES/FACE	R/A	4. HEARING	R/A	5. BODY	R/A	6. HEAD/FOOT	R/A
ACID	/	CHEMICAL/SPLASH	/	MUFFS	/	APRONS	/	HARD HATS	
OIL	/	SAFETY/IMPACT	/	EARPLUGS	/	COVERALLS	/	IMPERMEABLE BOOTS	
SOLVENTS	/	CHEMICAL/SAFETY	/	CANAL CAPS	/	FULL BODY SUIT	/	SAFETY CONDUCT SHOES	
HOT SURFACES	/	FULL FACE SHIELD	/	HELMETS	/	SAFETY BELT/ HARNESS	/	SAFETY/NONCONDUCTIVE SHOES	
COLD SURFACES	/	WELDING HELMET	/			HEAT REFLECT VEST/SUIT	/		
NBC AGENTS	/								

SECTION 4. HAZARD INVENTORY DATA

a. CAS CODE	b. HAZARD DESCRIPTION	c. PAC or EPC	d. MEDICAL SURVEILLANCE RECOMMENDED (YES or NO)
PO VDT	Daily use of computers for long periods of time	3	

SECTION 5. SAMPLING DATA

a. HAZARD	b. SAMPLE TYPE	c. RESULTS	d. REMARKS

SECTION 6. PERSONNEL DATA

[redacted]

SECTION 7. COMMENTS (Add blank sheet of paper if necessary)

① Supply SGT HHB 1/133rd FA
② Has ~~long~~ been at the facility since 1995
③ Refore - active duty
④ computer work about 5 hrs
⑤ No health problems related to job
⑥ should take breaks when working c̄ computers for long periods of time

* PRIVACY ACT STATEMENT

Title 5 U.S. Code, Section 301; Executive Order 9397 authorizes the use of your Social Security Number as a identification number. The purpose of this information is to identify and monitor data relating each DA civilian employee exposed to a hazardous workplace or operation. The use of this information is to provide histories of exposure for any given worker.

Disclosure of your Social Security Number is not mandatory; however, nondisclosure may result in untimely provision of proper medical monitoring.

Signature

(For use of this form, see IHRIM User's Instructions.)

SECTION 1. DEMOGRAPHIC DATA

a. ARLOC _____ b. INSTALLATION Beaumont TX Armory c. BLDG/RM NUMBER Supply Room

d. LOCATION/CODE AA USA e. OPERATION/CODE ADD SAA f. DESCRIPTION

Supply Sgt for HHB 1/133rd FA, Computer work about 5 hrs/day

g. MACOM/CODE ARG [redacted]/CODE 1 i. SUP[redacted]

j. TELEPHONE/AUTOVON NUM[redacted] k. RAC ____ l. FREQUENCY (Hrs Per Day) ____

m. NO CIV(S) ____ n. NO MIL ____ o. NO CONTRACTOR(S) ____ p. NO LOC(S) ____ q. NO OTHER ____

SECTION 2. IH STAFFING DATA

a. LAB HOODS ____ b. VAPOR DEGREASERS ____ c. MAINTENANCE BAYS ____ d. SPRAY BOOTHS ____

e. OPEN SURFACE TANKS ____ f. VENTILATION UNITS ____

SECTION 3. SURVEY DATA

a. SURVEY DATE 1-13-06 b. EVALUATOR (INITIA[redacted]

c. CONTROLS PRESENT	d. EVALUATION	e. UNIT CODE	f. CONTROLS REQUIRED	g. STATUS
Lighting - Office	65-85; Avg 74	FC	50-100	Adq
" Storage	16-27; Avg 20	FC	20	Adq

h. PERSONAL PROTECTIVE EQUIPMENT (R=REQUIRED; A=AVAILABLE)

1. RESPIRATOR	MANUFACTURER	NIOSH TC NO	R/A
DISPOSABLE			
½ FACE AIR PURIFYING			
½ FACE AIR PURIFYING			
FULL FACE AIR PURIFYING			
POWERED AIR PURIFYING			
AIRLINE			
SELF-CONTAINED			
ABRASIVE BLASTING HOOD			

2. GLOVES	R/A	3. EYES/FACE	R/A	4. HEARING	R/A	5. BODY	R/A	6. HEAD/FOOT	R/A
ACID		CHEMICAL/SPLASH		MUFFS		APRONS		HARD HATS	
OIL		SAFETY/IMPACT		EARPLUGS		COVERALLS		IMPERMEABLE BOOTS	
SOLVENTS		CHEMICAL/SAFETY		CANAL CAPS		FULL BODY SUIT		SAFETY CONDUCT SHOES	
HOT SURFACES		FULL FACE SHIELD		HELMETS		SAFETY BELT/ HARNESS		SAFETY/NONCONDUCTIVE SHOES	
COLD SURFACES		WELDING HELMET				HEAT REFLECT VEST/SUIT			
NBC AGENTS									

SECTION 4. HAZARD INVENTORY DATA

a. CAS CODE	b. HAZARD DESCRIPTION	c. PAC or EPC	d. MEDICAL SURVEILLANCE RECOMMENDED (YES or NO)
POVDT	Daily use of computer for long periods of time	3	
POLIFTING	Heavy lifting	3	
10FOOTHAZ	Foot Hazard	3	

SECTION 5. **SAMPLING DATA**

a. HAZARD	b. SAMPLE TYPE	c. RESULTS	d. REMARKS

SECTION 6. **PERSONNEL DATA**

[redacted]

SECTION 7. **COMMENTS** *(Add blank sheet of paper if necessary)*

① BN Supply SET
② Had been at this Armory about 20 yrs.
③ Was at the Orange Armory before
④ Computer work about 6-8 hrs right thumb about 6 mths ago
⑤ Has soreness + light numbness to
Treated: Medical-prescription.
⑥ No problems right now.
⑦ Should take breaks when working with computers for long period of time

PRIVACY ACT STATEMENT

Title 5 U.S. Code, Section 301; Executive Order 9397 authorizes the use of your Social Security Number as a identification number. The purpose of this information is to identify and monitor data relating each DA civilian employee exposed to a hazardous workplace or operation. The use of this information is to provide histories of exposure for any given worker.

Disclosure of your Social Security Number is not mandatory; however, nondisclosure may result in untimely provision of proper medical monitoring.

Signature

BEST AVAILABLE COPY

(For use of this form, see USAHC User's Instructions.)

SECTION 1. DEMOGRAPHIC DATA

a. ARLOC _____ b. INSTALLATION Beaumont, TX Armory c. BLDG/RM NUMBER S-4 Operations

d. LOCATION/CODE AA / e. OPERATION/CODE AOO / f. DESCRIPTION _____

BDE Supply Sgt., Computers work about 6-10 hrs/day

g. MACOM/CODE NG / h. SUBORDINATION/CODE _____ / i. SUPE Non-Responsive

j. TELEPHONE/AUTOVON NUMBER Non-Responsive k. RAC _____ l. FREQUENCY (Hrs Per Day) _____

m. NO CIV(S) _____ n. NO MIL _____ o. NO CONTRACTOR(S) _____ p. NO LOC(S) _____ q. NO OTHER _____

SECTION 2. IH STAFFING DATA

a. LAB HOODS _____ b. VAPOR DEGREASERS _____ c. MAINTENANCE BAYS _____ d. SPRAY BOOTHS _____

e. OPEN SURFACE TANKS _____ f. VENTILATION UNITS _____

SECTION 3. SURVEY DATA

a. SURVEY DATE 1-13 00 b. EVALUATOR (INITIALS) Non-Responsive

c. CONTROLS PRESENT	d. EVALUATION	e. UNIT CODE	f. CONTROLS REQUIRED	g. STATUS
Lighting	14-99; Avg 56	FC	50-100	Adq F

h. PERSONAL PROTECTIVE EQUIPMENT (R=REQUIRED; A=AVAILABLE)

1. RESPIRATOR	MANUFACTURER	NIOSH TC NO	R/A
DISPOSABLE			
½ FACE AIR PURIFYING			
½ FACE AIR PURIFYING			
FULL FACE AIR PURIFYING			
POWERED AIR PURIFYING			
AIRLINE			
SELF-CONTAINED			
ABRASIVE BLASTING HOOD			

2. GLOVES	R/A	3. EYES/FACE	R/A	4. HEARING	R/A	5. BODY	R/A	6. HEAD/FOOT	R/A
ACID	/	CHEMICAL/SPLASH	/	MUFFS	/	APRONS	/	HARD HATS	
OIL	/	SAFETY/IMPACT	/	EARPLUGS	/	COVERALLS	/	IMPERMEABLE BOOTS	
SOLVENTS	/	CHEMICAL/SAFETY	/	CANAL CAPS	/	FULL BODY SUIT	/	SAFETY CONDUCTIVE SHOES	
HOT SURFACES	/	FULL FACE SHIELD	/	HELMETS	/	SAFETY BELT/ HARNESS	/	SAFETY/NONCONDUCTIVE SHOES	
COLD SURFACES	/	WELDING HELMET	/			HEAT REFLECT VEST/SUIT	/		
NBC AGENTS	/								

SECTION 4. HAZARD INVENTORY DATA

a. CAS CODE	b. HAZARD DESCRIPTION	c. PAC or EPC	d. MEDICAL SURVEILLANCE RECOMMENDED (YES or NO)
POVDT	Daily use of computers for long periods of time	3	

Signature

Disclosure of your Social Security Number is not mandatory; however, nondisclosure may result in untimely provision of proper medical monitoring.

Title 5 U.S. Code, Section 301; Executive Order 9397 authorizes the use of your Social Security Number as a identification number. The purpose of this information is to identify and monitor data relating each DA civilian employee exposed to a hazardous workplace or operation. The use of this information is to provide histories of exposure for any given worker.

PRIVACY ACT STATEMENT

SECTION 7. COMMENTS (Add blank sheet of paper if necessary)

SECTION 6. PERSONNEL DATA

Non-Responsive

SECTION 5. SAMPLING DATA

a. HAZARD	b. SAMPLE TYPE	c. RESULTS	d. REMARKS

(For use of this form, see IHHIM User's Instructions.)

SECTION 1. DEMOGRAPHIC DATA

a. ARLOC ______ b. INSTALLATION Beaumont, TX Armory c. BLDG/RM NUMBER Adm. Office

d. LOCATION/CODE NA e. OPERATION/CODE FDO f. DESCRIPTION Personnel NCO, Security Manager, Equipment Computer 7-9 hr/day

g. MACOM/CODE NG [redacted] ODE / i. SUPER [redacted]

j. TELEPHONE/AUTOVON NUM [redacted] k. RAC ______ l. FREQUENCY (Hrs Per Day) ______

m. NO CIV(S) ______ n. NO MIL ______ o. NO CONTRACTOR(S) ______ p. NO LOC(S) ______ q. NO OTHER ______

SECTION 2. IH STAFFING DATA

a. LAB HOODS ______ b. VAPOR DEGREASERS ______ c. MAINTENANCE BAYS ______ d. SPRAY BOOTHS ______

e. OPEN SURFACE TANKS ______ f. VENTILATION UNITS [redacted]

SECTION 3. SURVEY DATA

a. SURVEY DATE 1-13-06 b. EVALUATOR (INITIALS) [redacted]

c. CONTROLS PRESENT	d. EVALUATION	e. UNIT CODE	f. CONTROLS REQUIRED	g. STATUS
Lighting	35-90; Avg 55	FC	50-100	Adqt

h. PERSONAL PROTECTIVE EQUIPMENT (R=REQUIRED; A=AVAILABLE)

1. RESPIRATOR	MANUFACTURER	NIOSH TC NO	R/A
DISPOSABLE			
¼ FACE AIR PURIFYING			
½ FACE AIR PURIFYING			
FULL FACE AIR PURIFYING			
POWERED AIR PURIFYING			
AIRLINE			
SELF-CONTAINED			
ABRASIVE BLASTING HOOD			

2. GLOVES	R/A	3. EYES/FACE	R/A	4. HEARING	R/A	5. BODY	R/A	6. HEAD/FOOT	R/A
ACID	/	CHEMICAL/SPLASH	/	MUFFS	/	APRONS	/	HARD HATS	
OIL	/	SAFETY/IMPACT	/	EARPLUGS	/	COVERALLS	/	IMPERMEABLE BOOTS	
SOLVENTS	/	CHEMICAL/SAFETY	/	CANAL CAPS	/	FULL BODY SUIT	/	SAFETY CONDUCT SHOES	
HOT SURFACES	/	FULL FACE SHIELD	/	HELMETS	/	SAFETY BELT/ HARNESS	/	SAFETY/NONCONDUC-TIVE SHOES	
COLD SURFACES	/	WELDING HELMET	/			HEAT REFLECT VEST/SUIT	/		
NBC AGENTS	/								

SECTION 4. HAZARD INVENTORY DATA

a. CAS CODE	b. HAZARD DESCRIPTION	c. PAC or EPC	d. MEDICAL SURVEILLANCE RECOMMENDED (YES or NO)
10 VDT	Daily use of Computers for long periods of time	3	

a. HAZARD	b. SAMPLE TYPE	c. RESULTS	d. REMARKS

SECTION 6. **PERSONNEL DATA**

Non-Responsive [redacted]

SECTION 7. **COMMENTS** *(Add blank sheet of paper if necessary)*

① Commander HHB 1/133 d. FA
② Has been at this army ~~for~~ since 1997
③ Before was at [illegible] –
④ Computer work about 0-5 hr
⑤ No health problem related to job
⑥ Should take breaks when using computers for long periods of time

• PRIVACY ACT STATEMENT

Title 5 U.S. Code, Section 301; Executive Order 9397 authorizes the use of your Social Security Number as a identification number. The purpose of this information is to identify and monitor data relating each DA civilian employee exposed to a hazardous workplace or operation. The use of this information is to provide histories of exposure for any given worker.

Disclosure of your Social Security Number is not mandatory; however, nondisclosure may result in untimely provision of proper medical monitoring.

Signature

*SEE PRIVACY ACT STATEMENT ON REVERSE.
(For use of this form, see HHIM User's Instructions.)

SECTION 1. DEMOGRAPHIC DATA

a. ARLOC ______ b. INSTALLATION Beaumont, Tx Armory c. BLDG/RM NUMBER 1st Bat - HQ Office

d. LOCATION/CODE AA e. OPERATION/CODE ADO A,D? f. DESCRIPTION
Commander HHB 1/133 - FA, Deployment Office. Computer work about 5 hrs

g. MACOM/CODE NG / Non-Responsive [redacted] /CODE ___ / ___ i. SUPE Non-Responsive [redacted]

j. TELEPHONE/AUTOVON NUMB Non-Responsive [redacted] k. RAC ______ l. FREQUENCY (Hrs Per Day) ______

m. NO CIV(S) ______ n. NO MIL ______ o. NO CONTRACTOR(S) ______ p. NO LOC(S) ______ q. NO OTHER ______

SECTION 2. IH STAFFING DATA

a. LAB HOODS — b. VAPOR DEGREASERS — c. MAINTENANCE BAYS — d. SPRAY BOOTHS —

e. OPEN SURFACE TANKS — f. VENTILATION UNITS —

SECTION 3. SURVEY DATA

a. SURVEY DATE 1-13-04 b. EVALUATOR (INI Non-Responsive [redacted]

c. CONTROLS PRESENT	d. EVALUATION	e. UNIT CODE	f. CONTROLS REQUIRED	g. STATUS
Lighting	49-93, Avg 70	FC	50 - 100	Adqt

h. PERSONAL PROTECTIVE EQUIPMENT (R=REQUIRED: A=AVAILABLE)

1. RESPIRATOR	MANUFACTURER	NIOSH TC NO	R.A
DISPOSABLE			
¼ FACE AIR PURIFYING			
½ FACE AIR PURIFYING			
FULL FACE AIR PURIFYING			
POWERED AIR PURIFYING			
AIRLINE			
SELF-CONTAINED			
ABRASIVE BLASTING HOOD			

2. GLOVES	R/A	3. EYES/FACE	R/A	4. HEARING	R/A	5. BODY	R/A	6. HEAD/FOOT	R/A
ACID	/	CHEMICAL/SPLASH	/	MUFFS	/	APRONS	/	HARD HATS	
OIL	/	SAFETY/IMPACT	/	EARPLUGS	/	COVERALLS	/	IMPERMEABLE BOOTS	
SOLVENTS	/	CHEMICAL/SAFETY	/	CANAL CAPS	/	FULL BODY SUIT	/	SAFETY CONDUCT SHOES	
HOT SURFACES	/	FULL FACE SHIELD	/	HELMETS	/	SAFETY BELT/ HARNESS	/	SAFETY/NONCONDUCTIVE SHOES	
COLD SURFACES	/	WELDING HELMET	/			HEAT REFLECT VEST/SUIT	/		
NBC AGENTS	/								

SECTION 4. HAZARD INVENTORY DATA

a. CAS CODE	b. HAZARD DESCRIPTION	c. PAC or EPC	d. MEDICAL SURVEILLANCE RECOMMENDED (YES or NO)
PO VDT	Computer work for long periods of time	3	

Analytical Environmental Services, Inc.

Date: 3/11/2004

TOTAL LEAD IN WIPE SAMPLES
N7082

CLIENT: Non-Responsive
Project: Beaumont, TX Armory
Project No: Beaumont, TX A
PO No:

Lab Order: 0403374
Date Received: 3/8/2004 11:00:0
Matrix: Wipe
Analyst: SSS

Laboratory ID	Client Sample ID	Results	Units	MDL	DF	Date Collected	Date Analyzed
0403374-001A	1	BRL	µg, Total	2.83	1	1/13/2004	3/10/2004
0403374-002A	2	BRL	µg, Total	2.83	1	1/13/2004	3/10/2004
0403374-003A	3	BRL	µg, Total	2.83	1	1/13/2004	3/10/2004
0403374-004A	4	BRL	µg, Total	2.83	1	1/13/2004	3/10/2004
0403374-005A	5	24.0	µg, Total	2.83	1	1/13/2004	3/10/2004
0403374-006A	6	BRL	µg, Total	2.83	1	1/13/2004	3/10/2004
0403374-007A	7	23.0	µg, Total	2.83	1	1/13/2004	3/10/2004
0403374-008A	8	BRL	µg, Total	2.83	1	1/13/2004	3/10/2004
0403374-009A	9	BRL	µg, Total	2.83	1	1/13/2004	3/10/2004

Qualifiers: MDL - Method Detection Limit
ND - Not Detected at the Reporting Limit
DF - Dilution Factor

Analytical Environmental Services, Inc.

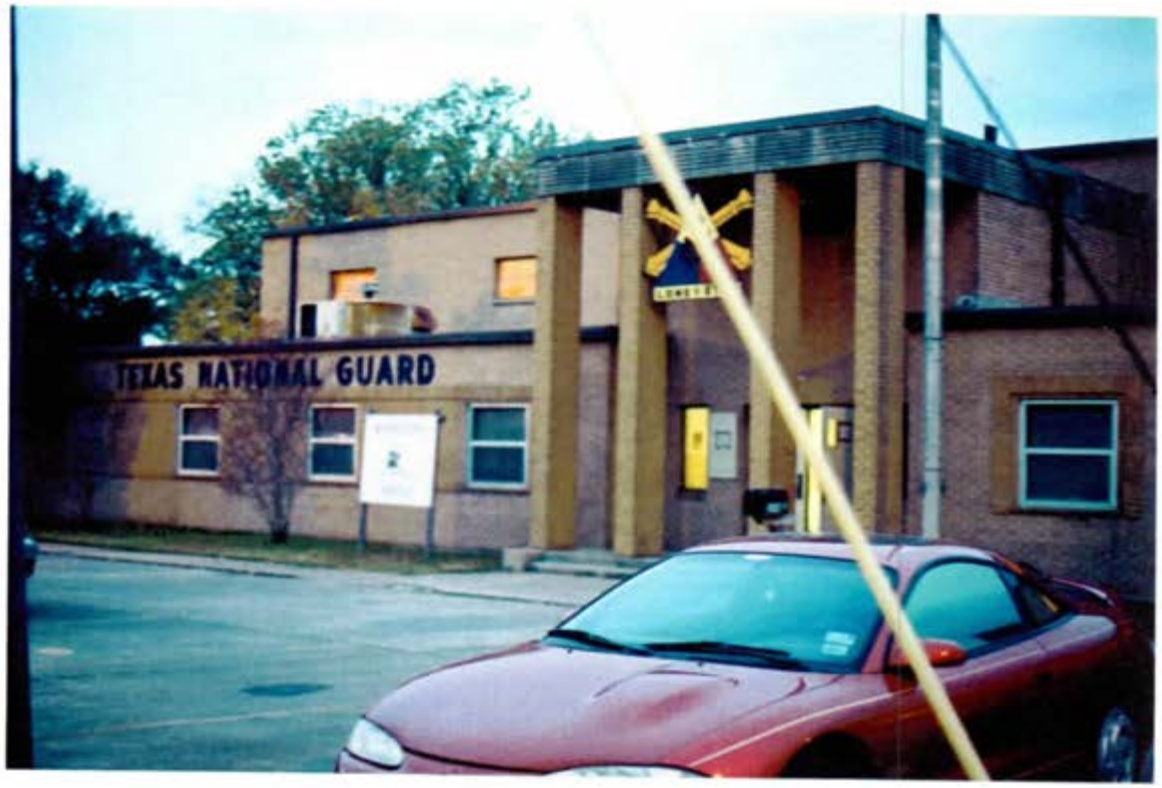
Date: 3/11/2004

TOTAL LEAD IN WIPE SAMPLES
N7082

CLIENT:	Non-Responsive	**Lab Order:**	0403373
Project:	Beaumont, TX Armory	**Date Received:**	3/8/2004 11:00:0
Project No:	Beaumont, TX A	**Matrix:**	Wipe
PO No:		**Analyst:**	SSS

Laboratory ID	Client Sample ID	Results	Units	MDL	DF	Date Collected	Date Analyzed
0403373-001A	10	119	µg, Total	2.83	1	1/13/2004	3/10/2004
0403373-002A	11	260	µg, Total	2.83	1	1/13/2004	3/10/2004
0403373-003A	12	192	µg, Total	2.83	1	1/13/2004	3/10/2004
0403373-004A	13	643	µg, Total	2.83	1	1/13/2004	3/10/2004
0403373-005A	14	1310000	µg, Total	3200	1132	1/14/2004	3/10/2004
0403373-006A	15	135000	µg, Total	283	100	1/14/2004	3/10/2004
0403373-007A	16	763	µg, Total	2.83	1	1/14/2004	3/10/2004
0403373-008A	17	545	µg, Total	2.83	1	1/14/2004	3/10/2004
0403373-009A	18	587	µg, Total	2.83	1	1/14/2004	3/10/2004
0403373-010A	19	21.0	µg, Total	2.83	1	1/14/2004	3/10/2004

Qualifiers: MDL - Method Detection Limit
ND - Not Detected at the Reporting Limit
DF - Dilution Factor



BEAUMONT, TX
ARMORY

BEST AVAILABLE COPY

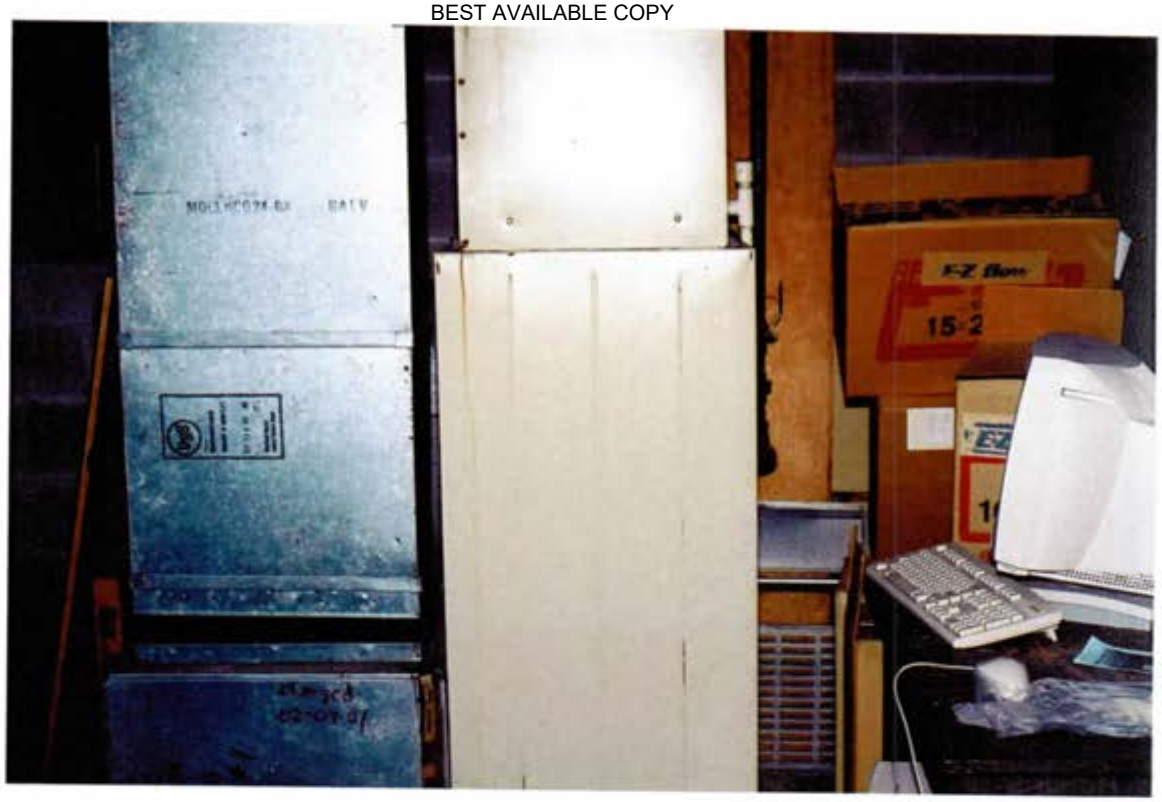
DRILL HALL

IFR FRONT VIEW

IFR, REAR VIEW

IFR, BULLET BACKSTOP

IFR, BULLET FRAGMENTS



A/C-HEATING UNIT

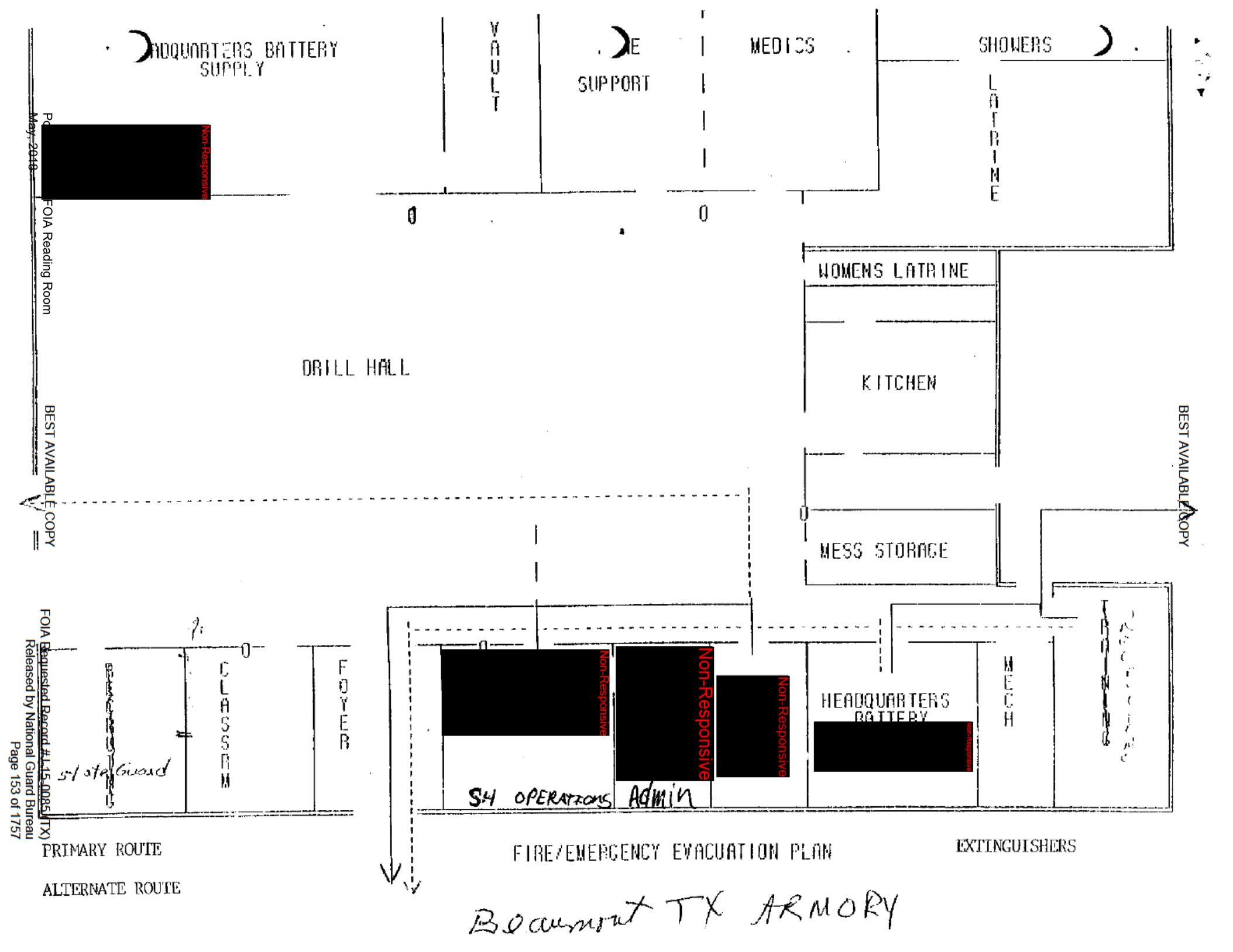
A/C-HEATING UNIT
FILTER

**A/C OUTLET,
CLASSROOM**

A/C OULET, OFFICE

MOTOR POOL

FLAMMABLE STORAGE



DEPARTMENT OF THE ARMY AND THE AIR FORCE
NATIONAL GUARD BUREAU
REGIONAL INDUSTRIAL HYGIENE OFFICE
AIRPORT PLAZA SUITE 1530
510 PLAZA DRIVE
COLLEGE PARK, GA 30349

NGB-ARS-IHSE (40-5f) 24 March 2008

MEMORANDUM FOR: ADJUTANT GENERAL TX ARNG, ATTN.: Beaumont Armory, HQ, 1st BN 133rd FA, 3040 College, Beaumont, Texas 77701

Thru: Non-Responsive Deputy State Army Surgeon, JFTX-ARM-SS, 3500 West 35th Street, Building 10, Austin, TX 78763-5218.

SUBJECT: Transmittal of IH Survey, Beaumont Armory, HQ, 1st BN 133rd FA, 3040 College, Beaumont, Texas 77701

1. References.

a. OSHA Standards 29 CFR (Code of Federal Regulations), General Industry, revised 1996 rev.

b. AR 40-5, Preventive Medicine, 22 July 2005.

c. AR 11-34, 15 February 1990, The Army Respiratory Protection Program.

d. AR 385-10, 29 February 2000, Army Safety Program.

f. TB MED 503, The Army Industrial Hygiene Program, 30 October 2000.

g. Title 29 Code of Federal regulation (CFR), 1989 rev, Part 1910.94 (c) (6) Table G-10, Ventilation.

h. Industrial Ventilation, 25th, 2004, American Conference of Governmental Industrial Hygienist, Cincinnati, Ohio.

i. Title 29 Code of Federal Regulation (CFR), Part 1910.1025 Lead.

k. Title 40 Code of Federal Regulation (CFR), Part 745.227.

2. General.

a. In accordance to the JFTX-H-OH Industrial Hygiene Implementation Plan of 2007, a follow-up industrial hygiene survey was performed at the Beaumont Armory located at 3040 College, Beaumont, Texas 77701. The purpose of the survey was to perform a follow-up industrial hygiene survey to evaluate potential health hazards present in the building.

b. The Point of Contact during the survey was Non-Responsive

c. Non-Responsive Industrial Hygiene Technician for the Texas Army National Guard conducted the survey on 23 January 2008.

3. General.

a. **Site Description.** The Angleton Armory ; a two story brick over cinder block structure with Central HVAC was built in 1960 and renovated in 1986. The facility houses several training rooms and classrooms, administrative office areas, indoor range and a supply room with storage and vault. Six full time employees work at the Armory supporting 40 M-Day Soldiers. The armory has roof top HVAC units and several residential use Central HVAC with interior units mounted inside mechanical rooms. The POC has sent request for various repairs to be made throughout the armory, which are addressed, in the survey. A copy of the floor layout and photos are included in Appendix A.

b. **Scope of Work.** The work included collecting wipe samples for lead, bulk samples for suspect asbestos containing building material, illumination levels, noise readings, and an evaluation of the ventilation system as it pertains to indoor air quality.

c. **Methodology** Lead wipe samples collected from various surfaces throughout the building are collected accordance to instructions published by Region South National Guard Bureau, which required the use of Ghost wipes or unscented baby wipes to wipe one square foot of surface. Samples are then placed in a sealed plastic bag and sent for analysis to an American Industrial Hygiene Association (AIHA) Accredited laboratory. Asbestos bulk samples are collected from suspect building materials that were grouped based on similarity of composition. Bulk sample collection was minimally destructive and samples are collected from inconspicuous areas. Bulk samples are also collected from suspect friable and damaged building material. Each bulk sample are then placed in a sealed bag and sent to the laboratory for analysis. Area Illumination readings were collected using an EXTECH 401025 light meter Serial Number Q168802. Illumination readings are taken on work surfaces and approximately four feet from the floor. A copy of the floor layout and photos are included in Appendix A.

4. Findings.

a. **Lead Wipe Samples:** Wipe samples for lead dust were collected from various areas in the prior survey dated 12 April 2004. Elevated Lead dust contamination was found in supply areas, on drill hall floor and in the locked indoor range as listed in the prior survey. Access to the locked range is limited to facilities commission and industrial hygiene personnel only. Reportedly no action has been taken after the last survey; the visual inspection confirmed that finding. Due to this no areas were sampled or tested during current survey. During the out brief, site personnel were encouraged to follow recommendations listed in the survey to reduce lead exposures prevent further cross contamination.

The US Environmental Protection Agency (EPA), under a new standard issued in 2000, considers lead dust as a hazard if levels are greater than 40 micrograms of lead in dust per square foot on floors; 250 micrograms of lead in dust per square foot on interior window sills and 400 parts per million (ppm) of lead in bare soil in children's play areas or 1200 ppm average for bare soil in the rest of the yard. This standard is a major effort by the EPA to identify dangerous levels of lead in paint, dust and soil in order to protect children from lead poisoning. The National Guard Bureau recommends a limit of 200 micrograms per square foot for surface contamination. Deteriorated Paint surfaces that contain lead levels at or above 0.06 % by weight or 600 (ppm) are considered a hazard.

b. **Asbestos Suspect Building Material:** **Asbestos Suspect Building Material:** Based in the build date, 1986 and visual inspection, no ACBM was identified or tested during the current survey.

c. **Noise Survey:** No noise Hazardous areas were identified or tested on the day of the survey.

d. **Illumination Survey** Evaluated lighting levels within the Armory ranged between 1 to 117 foot-candles.

Beaumont Armory	Reading in Foot-candles
Classrooms	38-107
Office Areas	13-117
Hallways and Lobby	22-69
Latrines	15-36
Drill Hall	8-41
Indoor Range	5-30
Supply Areas	11-92
Kitchen	1-62

Most readings are within the Army Design Guide (DG415-2) minimum illumination level of 50 foot-candle for office area and 20 foot-candles for parts storage/supply. The American National Standard Institute (ANSI) recommends a minimum illumination level of 50 to 100 foot-candles for office work, 20 to 50 for general lighting. Luminance depends on various factors including the task to be performed, the age of the individual, and the surroundings. Luminance of 50 to 100 foot-candles is recommended for performance of visual tasks of medium contrast or small size such as reading pencil handwriting and poorly printed or reproduced material. Depending on the type of display, background luminance of 30 to 60 foot-candles is recommended for VDT work. Areas with low light readings have burnt out bulbs or fixtures are in need of repair. Replacing light bulbs with higher wattage will increase lighting levels. Replacing broken light fixtures and or lights and or cleaning them should improve the lighting levels. The POC also has request for additional exterior lighting around the armory, within the motor pool and repairs for down line to the back security light. A copy of the floor layout and photos are included in Appendix .

e. **Heating Ventilating and Air Conditioning (HVAC):** The Heating Ventilating and Air-Conditioning (HVAC) System for the Armory, updated in 2007 consisted of various roof top, residential use Central HVAC with units inside mechanical rooms and local ceiling mounted heating units in latrines and supply areas. The system is capable to deliver outside makeup air to the occupied space. Various HVAC issues have been documented or communicated with the POC and will be forwarded to the State Facilities Commission to include adding a damper within the learning center duct to regulate airflow in the occupied space.. A copy of the floor layout and photos are included in Appendix A.

5. Recommendations.

a. Evidence of Lead contaminated surfaces was found in various areas and inside the locked range as listed in the 2004 report. To reduce further cross contamination clean weapons offsite and practice good housekeeping by washing hands after handling and cleaning weapons and after leaving weapons vault. (RAC 3)

b. Have facilities clean and decontaminate lead contaminated surfaces inside Indoor Range and discard FRG items from supply areas per NG PAM 385-18 and NG PAM 420-15. (RAC 3)

c. To reduce further damage and maintain overall indoor air quality, continue document and monitor roof leaks and contact your local facilities commission for roof repair and ceiling tile replacement where needed. (RAC 3)

d. Ventilate all occupied areas by repairing all exhaust vents and ensuring vents in latrines and supply rooms are within design guide and ventilation standards. Balance HVAC system to eliminate hot and cold spots and reduce excess humidity in occupied areas. (RAC 2)

e. Due to geographic location, include the addition of a local HVAC system in all latrines and supply rooms. (RAC 2)

f. Repair and or replace broken light fixtures to improve luminescence in areas with low light readings and add additional exterior lighting per POC request. (RAC 3)

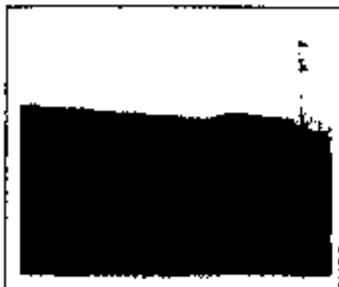
Non-Responsive

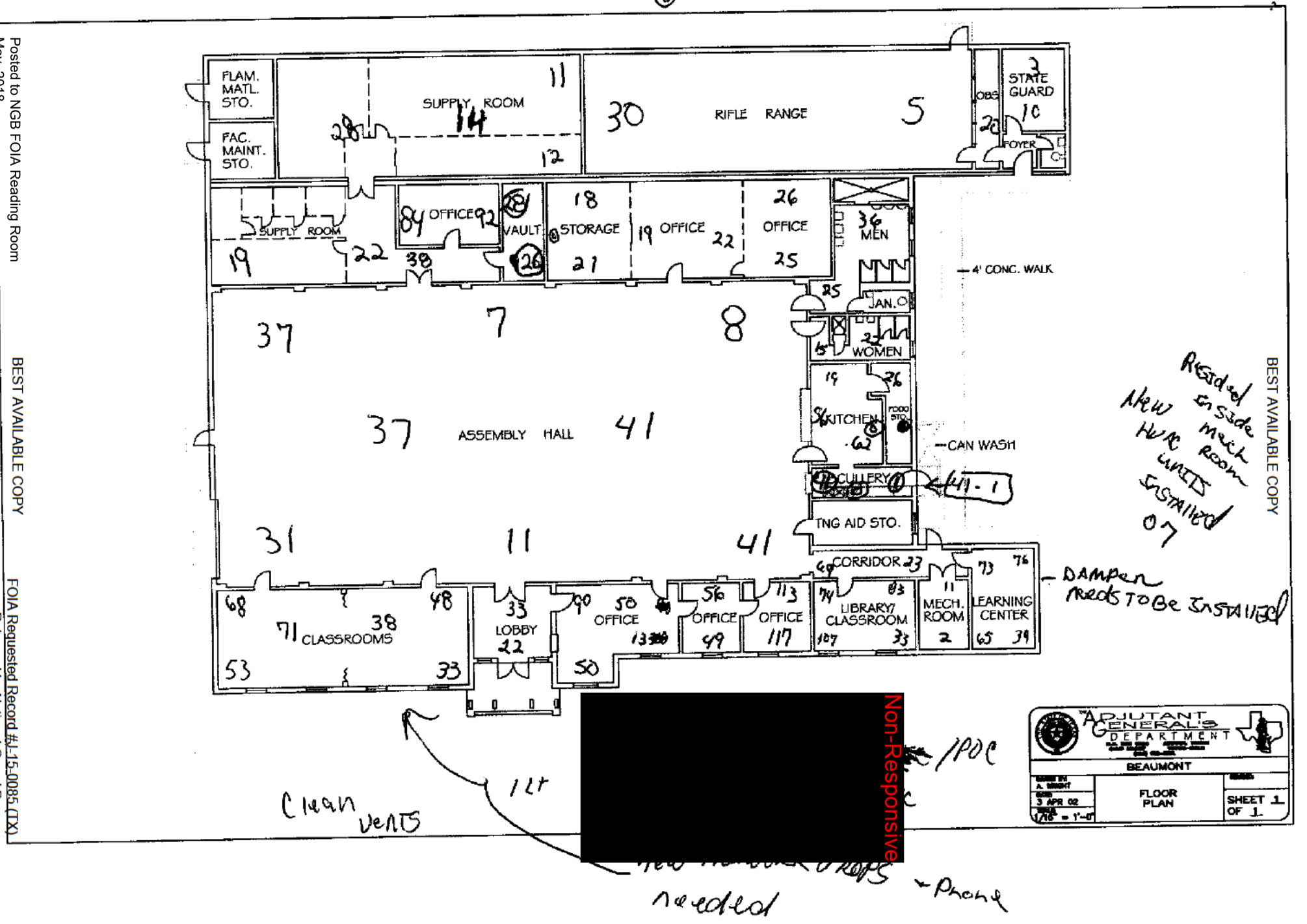
CF: NGB-ARS-IHSE
State Occupational Health Office, 3500 West 35th Street, Building 86, Austin, TX 78763.
State Safety Manager, P. O. BOX 5218, Austin, TX 78763-5218.
ENCL.
as

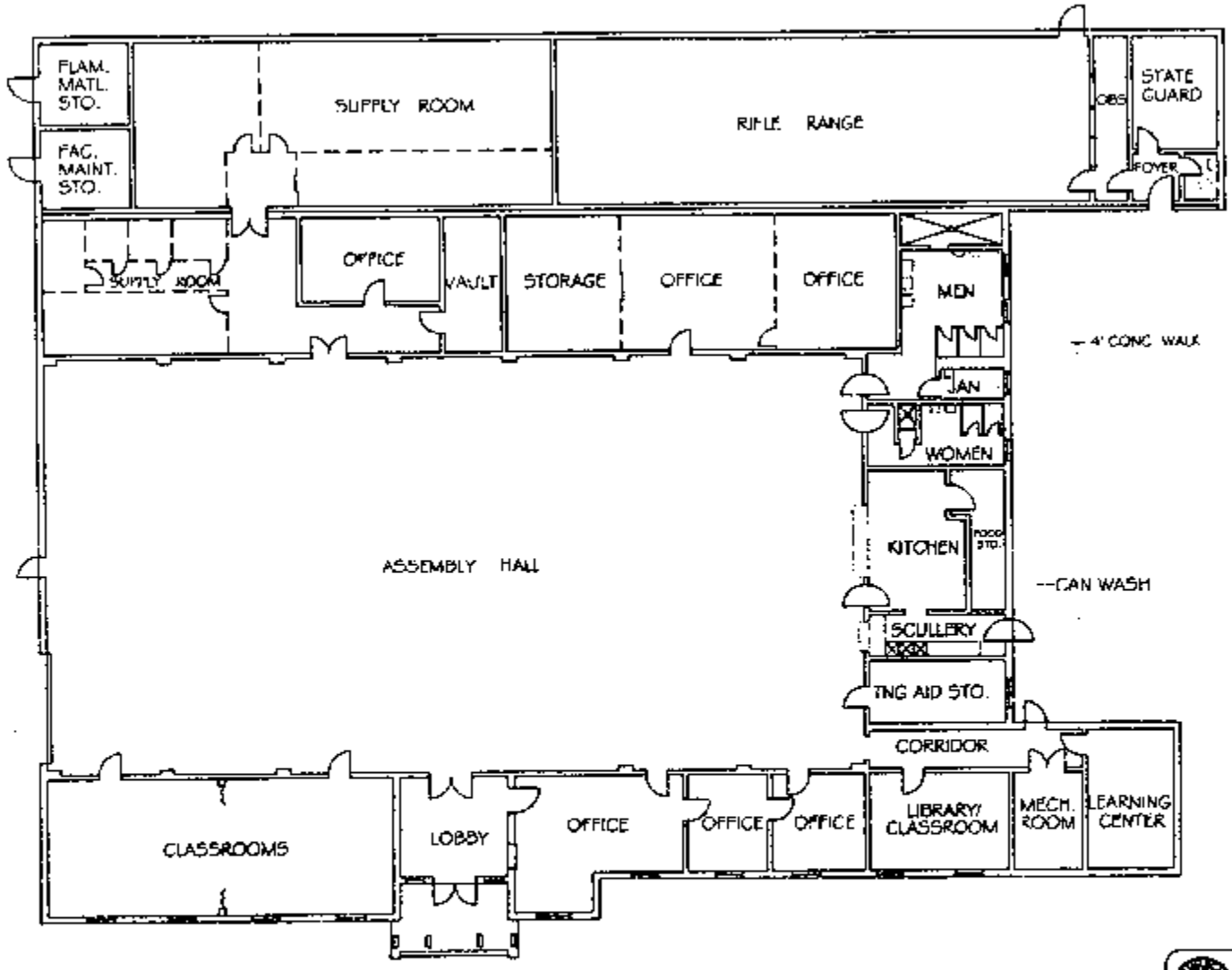
Appendix A

Photographs and Floor Layout

Beaumont Armory

			
Beaumont Armory	Beaumont Armory	Mechanical Room	Indoor Range
			
Supply Room	FRG Items on Supply Room Floor		





ADJUTANT GENERAL'S DEPARTMENT

BEAUMONT

FLOOR PLAN

SHEET 1 OF 1

DEPARTMENT OF THE ARMY AND THE AIR FORCE
NATIONAL GUARD BUREAU
REGIONAL INDUSTRIAL HYGIENE OFFICE
AIRPORT PLAZA SUITE 1530
510 PLAZA DRIVE
COLLEGE PARK, GA 30349

NGB-ARS-IHSE (40-5f) 04 September 2009

MEMORANDUM FOR: ADJUTANT GENERAL TX ARNG, ATTN.: Beaumont Armory, HQ, 1st BN 133rd FA, 3040 College, Beaumont, Texas 77701

Thru: Non-Responsive Deputy State Army Surgeon, JFTX-ARM-SS, 3500 West 35th Street, Building 10, Austin, TX 78763-5218.

SUBJECT: Transmittal of IH Survey, Beaumont Armory, HQ, 1st BN 133rd FA, 3040 College, Beaumont, Texas 77701

1. References.

a. OSHA Standards 29 CFR (Code of Federal Regulations), General Industry, revised 1996 rev.

b. AR 40-5, Preventive Medicine, 22 July 2005.

c. AR 11-34, 15 February 1990, The Army Respiratory Protection Program.

d. AR 385-10, 29 February 2000, Army Safety Program.

f. TB MED 503, The Army Industrial Hygiene Program, 30 October 2000.

g. Title 29 Code of Federal regulation (CFR), 1989 rev, Part 1910.94 (c) (6) Table G-10, Ventilation.

h. Industrial Ventilation, 25th, 2004, American Conference of Governmental Industrial Hygienist, Cincinnati, Ohio.

i. Title 29 Code of Federal Regulation (CFR), Part 1910.1025 Lead.

k. Title 40 Code of Federal Regulation (CFR), Part 745.227.

2. General.

a. In accordance to the JFTX-H-OH Industrial Hygiene Implementation Plan of 2009, a follow-up industrial hygiene survey was performed at the Beaumont Armory located at 3040 College, Beaumont, Texas 77701. The purpose of the survey was to perform a follow-up industrial hygiene survey to evaluate potential health hazards present in the building.

b. The Point of Contact during the survey was Non-Responsive

c. Non-Responsive Industrial Hygiene Technician for the Texas Army National Guard conducted the survey on 01 June 2009.

3. General.

a. **Site Description.** The Beaumont Armory ; a one story brick over cinder block structure with Central HVAC was built in 1960 and renovated in 1986. The facility houses several training rooms and classrooms, administrative office areas, indoor range and a supply room with storage and vault. Six full time employees work at the Armory supporting 40 M-Day Soldiers. The armory has roof top HVAC units and several residential use Central HVAC with interior units mounted inside mechanical rooms. The POC has sent request for various repairs to be made throughout the armory, which are addressed, in the survey. A copy of the floor layout and photos are included in Appendix C.

b. **Scope of Work.** The work included collecting wipe samples for lead, bulk samples for suspect asbestos containing building material, illumination levels, noise readings, and an evaluation of the ventilation system as it pertains to indoor air quality.

c. **Methodology** Lead wipe samples collected from various surfaces throughout the building are collected accordance to instructions published by Region South National Guard Bureau, which required the use of Ghost wipes or unscented baby wipes to wipe one square foot of surface. Samples are then placed in a sealed plastic bag and sent for analysis to an American Industrial Hygiene Association (AIHA) Accredited laboratory. Asbestos bulk samples are collected from suspect building materials that were grouped based on similarity of composition. Bulk sample collection was minimally destructive and samples are collected from inconspicuous areas. Bulk samples are also collected from suspect friable and damaged building material. Each bulk sample are then placed in a sealed bag and sent to the laboratory for analysis. Area Illumination readings were collected using an EXTECH 401025 light meter Serial Number Q168802. Illumination readings are taken on work surfaces and approximately four feet from the floor. A copy of the floor layout and photos are included in Appendix A.

4. Findings.

a. **Lead Wipe Samples:** Wipe samples for lead dust were collected from various in the prior survey dated 12 April 2004. Elevated Lead dust contamination was found in supply areas, on drill hall floor and in the locked indoor range as listed in the prior survey. Access to the locked range is limited to facilities commission and industrial hygiene personnel only. Due to non-remediation, no areas were wipe sampled during current survey. Paint chips were collected and tested. Results are listed in table below. During the out brief, personnel were encouraged to follow recommendations listed in the survey to reduce lead exposures prevent further cross contamination.

Sample Number	Sample Location	% by weight
BMT 62	Paint Chip Latrine Pipe	3.99%
BMT 63	Paint Chip Latrine Wall	Below Recordable Limits

The US Environmental Protection Agency (EPA), under a new standard issued in 2000, considers lead dust as a hazard if levels are greater than 40 micrograms of lead in dust per square foot on floors; 250 micrograms of lead in dust per square foot on interior window sills and 400 parts per million (ppm) of lead in bare soil in children's play areas or 1200 ppm average for bare soil in the rest of the yard. This standard is a major effort by the EPA to identify dangerous levels of lead in paint, dust and soil in order to protect children from lead poisoning. The National Guard Bureau recommends a limit of 200 micrograms per square foot for surface contamination. Deteriorated Paint surfaces that contain lead levels at or above 0.06 % by weight or 600 (ppm) are considered a hazard.

b. **Asbestos Suspect Building Material:** Various types of building materials were identified as potentially containing asbestos. Bulk samples were collected randomly from the identified materials. The table below lists the samples collected and the results

Sample Number	Sample Location	% Asbestos Type
BMT 61	H20 Heater Pipe Insulation (Layer 1)	None Detected
BMT 63	H20 Heater Pipe Insulation (Layer 2)	None Detected

c. **Noise Survey:** No noise Hazardous areas were identified or recorded on the day of the survey.

d. **Illumination Survey** Evaluated lighting levels within the Armory ranged between 0 to 139 foot-candles.

Beaumont Armory	Reading in Foot-candles
Classrooms	63-99
Office Areas	33-139
Hallways and Lobby	18-36
Latrines	16-43
Drill Hall	14-56
Indoor Range	0-35
Supply Areas	17-70
Kitchen	30-57

Most readings are within the Army Design Guide (DG415-2) minimum illumination level of 50 foot-candle for office area and 20 foot-candles for parts storage/supply. The American National Standard Institute (ANSI) recommends a minimum illumination level of 50 to 100 foot-candles for office work, 20 to 50 for general lighting. Luminance depends on various factors including the task to be performed, the age of the individual, and the surroundings. Luminance of 50 to 100 foot-candles is recommended for performance of visual tasks of medium contrast or small size such as reading pencil handwriting and poorly printed or reproduced material. Depending on the type of display, background luminance of 30 to 60 foot-candles is recommended for VDT work. Areas with low light readings have burnt out bulbs or fixtures are in need of repair. Replacing light bulbs with higher wattage will increase lighting levels. Replacing broken light fixtures and or lights and or cleaning them should improve the lighting levels. The POC also has request for additional exterior lighting around the armory, within the motor pool and repairs for down line to the back security light. A copy of the floor layout and photos are included in Appendix C

c. **Heating Ventilating and Air Conditioning (HVAC):** The Heating Ventilating and Air-Conditioning (HVAC) System for the Armory, updated in 2007 with new units installed for office areas in March 2009 consisted of various roof top, residential use Central HVAC with units inside mechanical rooms and local ceiling mounted heating units in latrines and supply areas. The system is capable to deliver outside makeup air to the occupied space. Various HVAC issues have been documented or communicated with the POC and will be forwarded to the State Facilities Commission to include adding a damper within the learning center duct to regulate airflow in the occupied space.. A copy of the floor layout and photos are included in Appendix C.

Analytical Environmental Services, Inc.

Date: 6/30/2009

TOTAL LEAD IN PAINT (N7082)
PAINT

CLIENT: National Guard Bureau Region-South IH
Project: Beaumount, TX Armory
Delivery Order:
PO Nu:

Lab Order: 0906J03
Date Received: 6/24/2009 9:55 AM
Matrix: Paint

Laboratory ID	Client Sample ID	Results	Units	Report Limit.	DF	Date Collected	Date Analyzed	Analyst
0906J03-001A	BMT 62	3.99	wt%	0.139	14.26	6/1/2009	6/26/2009	AZS
0906J03-002A	BMT 63	BRL	wt%	0.00898	1	6/1/2009	6/26/2009	AZS

Qualifiers: BRL - Not Detected at the Reporting Limit DF - Dilution Factor

Results are blank corrected where applicable

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

Bulk Sample Summary Report

Client Name: National Guard Bureau Region-South IH
Project Name: Armory w/ IFR
Project Number: BMT-0609

NVLAP Lab ID# 102082-0
AES Job Number: 0906I91

Client ID	AES ID	Location	Asbestos Mineral Percentage						Comments
			CH	AM	CR	AN	TR	AC	
BMT 61 Layer: 1	0906I91-001A	H2O Heater Pipe	ND	ND	ND	ND	ND	ND	Paint included as binder
BMT 61 Layer: 2	0906I91-001A	H2O Heater Pipe	ND	ND	ND	ND	ND	ND	

Note: CH=chrysotile, AM=amosite, CR=crocidolite, AC=actinolite, TR=tremolite, AN=anthophyllite
For comments on the samples, see the individual analysis sheets.
ND = None Detected
PLM is not consistently reliable in detecting small concentrations of asbestos in floor tiles and similar nonfriable materials. Quantitative TEM is currently the only method that can be used to determine the conclusive asbestos content.

It is certified by the signatures below that the laboratory identified is accredited by the National Institute of Standards and Technology for Polarized Light Microscopy (PLM) analysis under the EPA Interim Asbestos Bulk Sample Quality Assurance Program, Laboratory ID 102082-0. All percentages given are by visually estimated volume. All analyses are performed in accordance with the EPA "Method for the Determination of Asbestos in Bulk Building Materials, EPA/600/R-93/116, July 1993." This report must not be reproduced except in full without the approval of Analytical Environmental Service, Inc. These test results apply only to the samples actually tested.

Microanalyst [redacted] Non-Responsive

Appendix B:
Lab Chain of Custody

BULK SAMPLE DATA

For use of this form see USAEHA TG 141; the proponent is HSHB-CO.

Return Address (complete address including Zip Code)

NATIONAL GUARD BUREAU REGION SOUTH IH OFFICE
510 PLAZA DRIVE, SUITE 1530
COLLEGE PARK, GA 30349

Point of Contact (Name, DSN, COMM)

Non-Responsive

Sampled Installation	Project Number	ARNG
BEAUMONT, TX ARMORY	BMT-0609	
Samples Collected By	**Date Collected**	**Date Shipped**
Non-Responsive	1 JUNE 09	18 JUNE 09
Description of Operation		**Location** (BLDG/AREA)
ARMORY W/IFR		ARMORY MALE LATRINE

Associated Complaints (be specific)

Associated Air Samples ☐ Yes ☒ No — If yes, list sample numbers

Label Information

Trade Name	NSN	Manufacturer

Address	MSDS Attached
	☐ Yes ☐ No

Analysis Desired

LEAD

Lab Use Only	Sample No.	Constituents	Results	Remarks
	BMT62	PAINT CHIP PIPE LATRINE		
	BMT63	PAINT CHIP WALL LATRINE		

Comments to Lab:

Lab Use Only

Analyst (Initials)	Reviewed By (Initials)	Date Received	Date Reported

Procedures Performed	Comments:

AEHA Form 3-R, Oct 94

Replaces AEHA Form 3, Oct 80 which is obsolete.

09 06 I 91

BEST AVAILABLE COPY

BULK SAMPLE DATA

For use of this form see USAEHA TG 141; the proponent is HSHB-LO.

Return Address (complete address including Zip Code)	[redacted]
NATIONAL GUARD BUREAU REGION SOUTH IH OFFICE 510 PLAZA DRIVE, SUITE 1530 COLLEGE PARK, GA 30349	

Sampled Installation	Project Number	
BEAUMOUNT TX ARMORY	BMT-0609	

Samples Collected By	Date Collected	Date Shipped
[redacted]	1 June 09	18 June 09

Description of Operation	Location (BLDG/AREA)
ARMORY W/ IFR	ARMORY H2O HEATER

Associated Complaints (be specific)

Associated Air Samples ☐ Yes ☒ No — If yes, list sample numbers

Label Information

Trade Name	NSN	Manufacturer

Address	MSDS Attached ☐ Yes ☐ No

Analysis Desired: ASBESTOS - PLM

Lab Use Only	Sample No.	Constituents	Results	Remarks
	BMT 61	H2O HEATER PIPE		

Comments to Lab:

Lab Use Only

Analyst (Initials)	Reviewed By (Initials)	Date Received	Date Reported

Procedures Performed	Comments:

RECEIVED [redacted]

AEHA Form 6-R Oct 94

Replaces AEHA Form 6, 1 Oct 80 which is obsolete.

Appendix C.

Photographs and Floor Layout

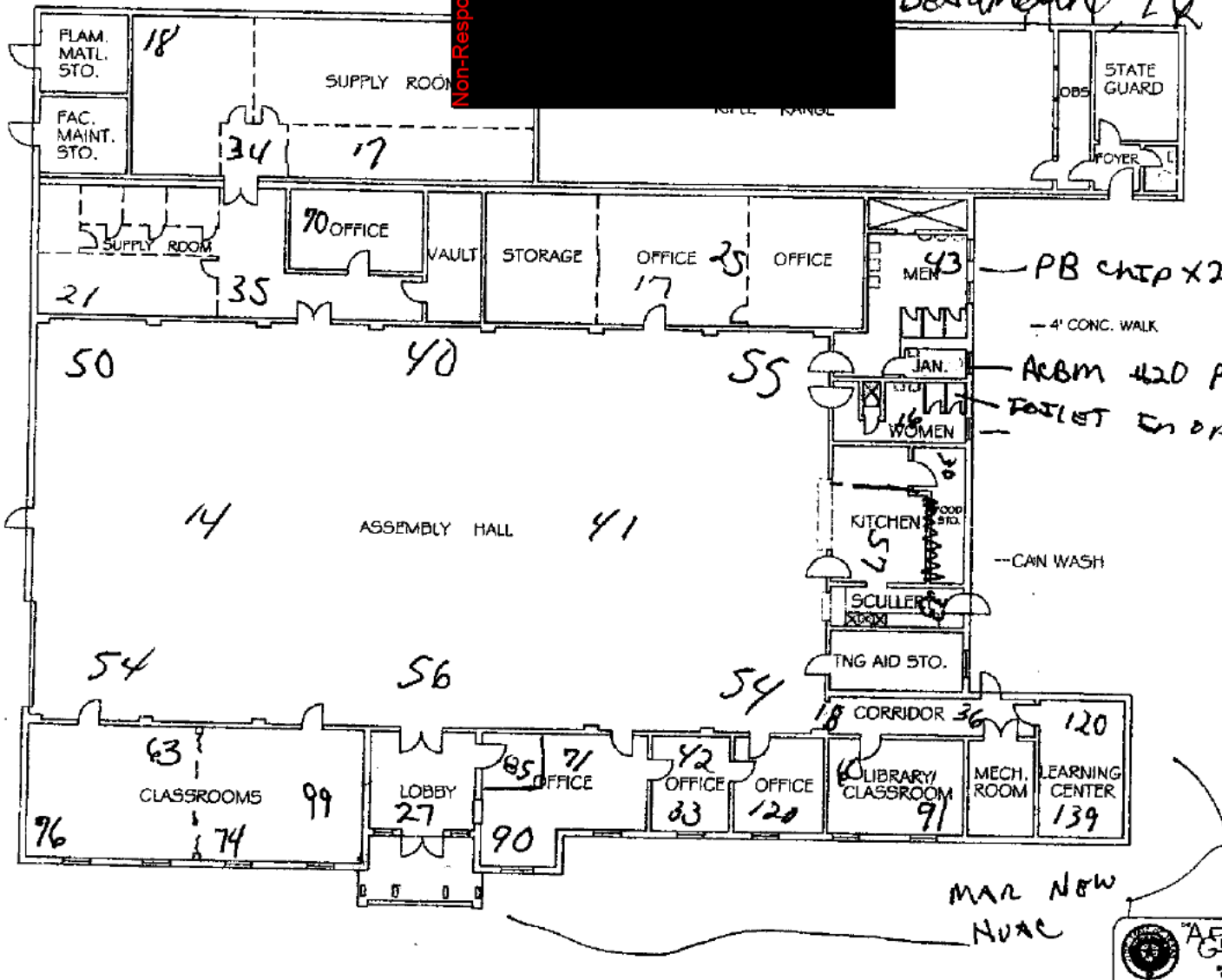
Beaumont Armory

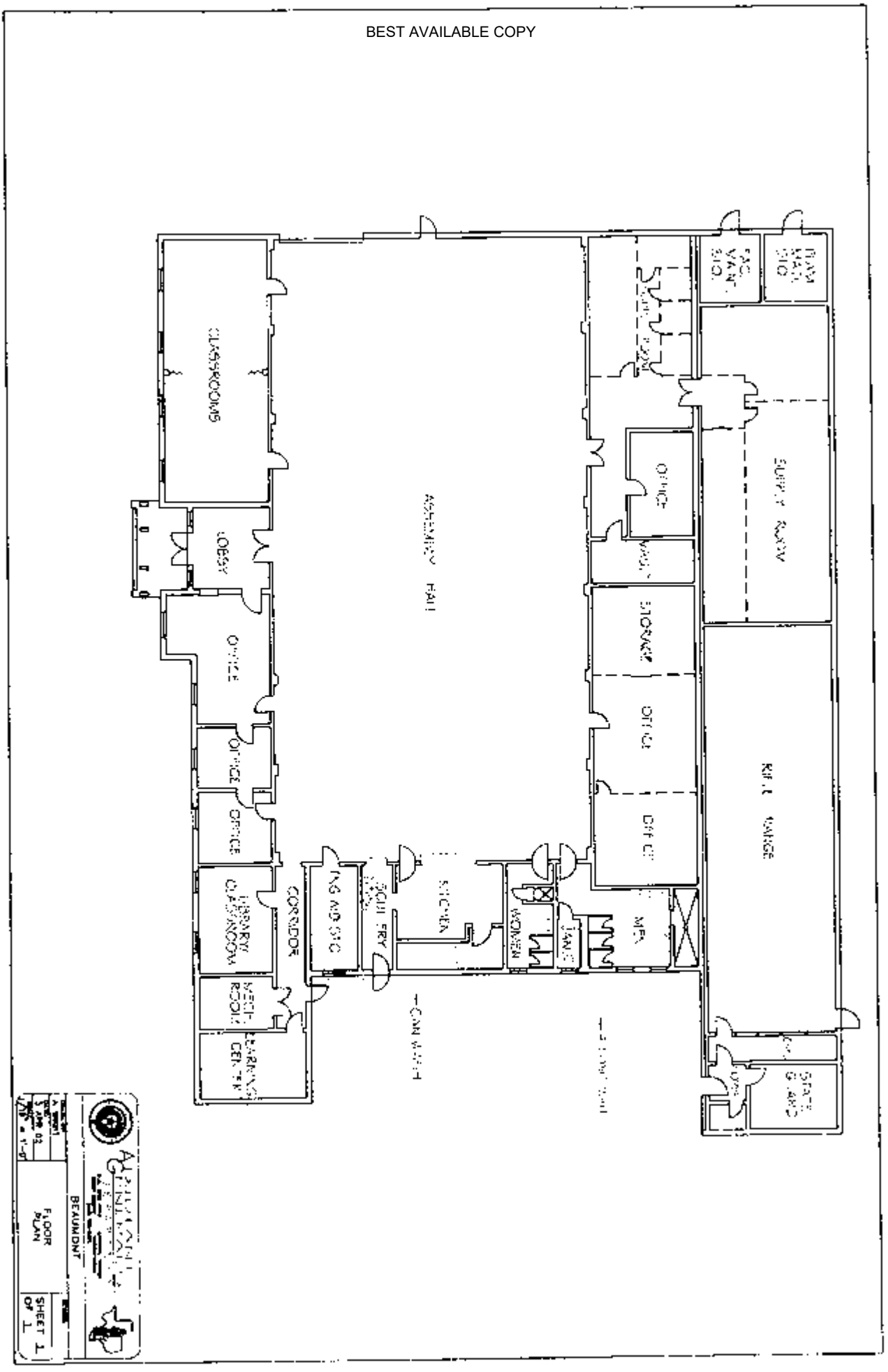
			
Beaumont Armory	Drill Hall	Admin Area	Mechanical Room
			
Supply Room	Kitchen	Latrine Pipes	H2O Heater Insulation

HHR 1-133 FA

Non-Responsive [redacted]

BEAUMONT, TX





DEPARTMENT OF THE ARMY AND THE AIR FORCE
NATIONAL GUARD BUREAU
REGIONAL INDUSTRIAL HYGIENE OFFICE
AIRPORT PLAZA SUITE 1530
510 PLAZA DRIVE
COLLEGE PARK, GA 30349

NGB-AVN-SI July 22, 2004

MEMORANDUM FOR: ADJUTANT GENERAL TX ARNG, ATTN.: State Occupational Health Office, P. O. BOX 5218, Austin, TX 78763-5218

SUBJECT: Transmittal of the Survey Reports for Big Spring Armory, Snyder Armory, Wylie Armory, Terrell Armory, Wichita Falls Armory, Kaufman Armory, and Greenville Armory, TX.

1. References.

a. Department of Defense Instruction 6055.1, Department of Defense Occupational Safety and Health (OSH) Program, 26 October 1984.

b. Army Regulation (AR) 40-5, 30 August 1986, Medical Service, Preventive Medicine.

c. National Guard Regulation (NGR) 385-10, 1988, Army National Guard Safety and Occupational Health Program.

d. AR 11-34, The Army Respiratory Protection Program, 15 February 1990.

e. TB MED 502, Occupational and Environmental Health Respiratory Protection Program, February 1982.

f. DA PAM 40-503, 30 October 2000. The Army Industrial Hygiene Program.

g. DA PAM 40-501, 10 December 1998, Hearing Conservation.

h Threshold Limit Values and Biological Exposure Indices (TLV's) for 2001, American Conference of Governmental Industrial Hygienists (ACGIH), Cincinnati, Ohio.

i. Industrial Ventilation, 23rd Edition. American Conference of Governmental Industrial Hygienist. Cincinnati, Ohio.

j. USAEHA TG-141. November 1997. Guidelines for Air Sampling and Bulk sample Collection.

NGB-AVN-SI
SUBJECT: Transmittal of the Survey Reports for Big Spring Armory, Snyder Armory, Wylie Armory, Terrell Armory, Wichita Falls Armory, Kaufman Armory, and Greenville Armory, TX.

k. Title 29, Code of Federal Regulations (CFR), 2000 rev., part 1910, Occupational Safety and Health Standards.

l. Report of June 30, 2004, Industrial Hygiene Survey, Tammer Sciences INC, 3744 Lawrence Dr., Naperville, IL.

2. General.

a. At the request of the TX ARNG Safety and Occupational Health Office, an Industrial Hygiene Service was put together to conduct Health Hazard Information module (HHIM) Field surveys and industrial hygiene sampling of the Big Spring Armory, Snyder Armory, Wylie Armory, Terrell Armory, Wichita Falls Armory, Kaufman Armory, and Greenville Armory, TX.

b. Non-Responsive ammer Sciences INC, 3744 Lawrence Dr., Naperville, IL 60564, conducted the survey.

3. Findings. All Health Hazard information are on the survey findings of the report. (See enclosure 1)

4. Recommendations.

a. Follow all recommendations made in reference 1.l., requesting industrial hygiene (IH) services where needed to complete the recommendations.

b. Conduct an air sampling survey in the areas in and around those identified with elevated lead dust levels in page 3 0f reference 1.l, to ensure that the lead dust present is not airborne and that employees in these areas are not exposed above the action level where applicable.

c. Control water infiltration in the armory and/or replace or repair damaged surfaces or components (ceiling and floor tiles). Building conditions that present IAQ concerns or problems not only exacerbates normally minor health issues but also tend to promote or accelerate building deterioration.

d. The recommendations given in the comment section and data collected will serve as a baseline for the Industrial Hygiene Implementation Plan (IHIP) for FY-03. A follow up operation and hazard specific air sampling survey based on the enclosed findings will be included in the FY-04 IHIP.

NGB-AVN-SI
SUBJECT: Transmittal of the Survey Reports for Big Spring Armory, Snyder Armory, Wylie Armory, Terrell Armory, Wichita Falls Armory, Kaufman Armory, and Greenville Armory, TX.

e. Consider additional Industrial Hygiene services to monitor operations that were not looked at or surveyed during the present survey, especially if this will help eliminate health hazards and reduce medical surveillance cost.

f. To execute your responsibilities in correcting all deficiencies and meeting all standards coordinate with the Occupational Health Nurse and the Occupational Safety and Health Office for technical guidance.

g. Give special consideration to cleaning light fixtures, increasing the wattage and painting walls a lighter color when upgrading the lighting in the facility.

5. If additional information is needed about the industrial hygiene survey or air sample

Non-Responsive

CF:
NBG-AVN-SH
State Occupational Health Office. P. O. BOX 5218. Austin. TX 78763-5218.
State Safety Manager. P. O. BOX 5218. Austin. TX 78763-5218.

Encl
as

Industrial Hygiene Baseline Survey Report
For
Texas Army National Guard
(TXARNG)

At
Big Spring Armory
1901 W. 16th Street
Big Spring, Texas

Prepared for:

Department of the Army and the Air Force
National Guard Bureau
Regional Industrial Hygiene Office
Region South
Airport Plaza Suite 1530
510 Plaza Drive
College Park, GA 30349

By
Non-Responsive

June 24, 2004

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- Introduction
- Site Description
- Scope of Work
- Methodology

Findings & Discussion

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- Asbestos Suspect Building Material ..... Page 3
- Noise Survey ..... Page 4
- Illumination Survey ..... Page 5
- Heating Ventilating and Air Conditioning (HVAC) ..... Page 5
- Recommendations ..... Page 6

Appendices

A. Floor Layout and illumination levels.
B. Laboratory Analytical Results.
C. Lab Chain of Custody.
D. Photographs.

Executive Summary

An initial baseline industrial hygiene survey was conducted at the Big Spring Armory on 13 April 2004 as part of the Texas Army National Guard Occupational Health Program to identify potential health hazards in the workplace. The survey consisted of collecting lead wipe samples and bulk asbestos samples, conducting an illumination survey, a noise survey, and an evaluation of the Heating Ventilation and Air Conditioning System (HVAC) as it relates to indoor air quality.

The following table summarizes the survey findings and recommendations for each topic surveyed.

Topic	Summary of Findings	Recommendations
Armory Lead Wipe Samples	<10 to 87 microgram per square foot.	No action.
Asbestos Bulk Samples	Tile mastic contained 3% chrysotile	Update the facility asbestos management plan.
Noise Survey	No excessive noise source was identified.	No action.
Illumination Survey	10 to 70 footcandles	No action.
HVAC/IAQ	No issues observed or documented.	No action.

SUBJECT: Industrial Hygiene Initial Baseline Survey of the Big Spring Armory in Big Spring, Texas on 13 April 2004

BACKGROUND:

Introduction. At the request of Non-Responsive of the National Guard Bureau Region South Industrial Hygiene Office, an initial baseline industrial hygiene survey was performed at the Big Spring Armory in Big Spring, Texas. Non-Responsive Industrial Hygiene Technician for the Texas Army National Guard and Dennis Bridge, contract Industrial Hygienist, Tammer Sciences, Inc. conducted the survey on 13 April 2004. The purpose of the survey was to perform an initial baseline industrial hygiene survey to identify potential health hazards present at the armory, specifically lead contamination from the indoor firing range.

Site Description. The armory houses Company B and the second of the 142nd Infantry. The building is a one-story structure and consists of an administrative office area, a kitchen, an orderly office, a classroom, a drill hall, and a supply room. No indoor firing range was found at this armory. A copy of the floor layout and photos are included in Appendix A and D, respectively.

Scope of Work. The work included collecting wipe samples for lead, bulk samples for suspect asbestos containing building material, illumination levels, noise readings where necessary, and an evaluation of the ventilation system as it pertains to indoor air quality.

Methodology Lead wipe samples were collected from surfaces in the firing range and in the Armory in accordance to instructions published by Region South National Guard Bureau, which required the use of unscented baby wipes to wipe one square foot of surface. Samples were then placed in a sealed plastic bag and sent for analysis to EMSL laboratory, which is an American Industrial Hygiene Association (AIHA) Accredited laboratory. Asbestos bulk samples were collected from suspect building materials that were grouped based on similarity of composition. Bulk sample collection was minimally destructive and samples were collected from inconspicuous areas. Bulk samples were also collected from suspect friable and damaged building material. Each bulk sample was placed in a sealed bag and sent to EMSL laboratory for analysis. Noise readings were collected using a noise level meter in areas where a noise source was identified. All noise measurements were area readings. Illumination readings were collected using a Western Schlumberger light meter Serial 8384. Illumination readings were taken on work surfaces such as desks or approximately four feet from the floor.

FINDINGS and DISCUSSION:

The Point of Contact during the survey was Non-Responsive

Lead Wipe Samples: Twelve wipe samples were collected from various areas of the armory as listed in the table below.

Sample Number	Sample Location	Micrograms of lead (ug) per square foot
BSP01	Top of refrigerator in kitchen.	14.0
BSP02	Top of serving line between kitchen and drill hall	14.0
BSP03	Supply diffuser in administrative office	14.0
BSP04	Return air grill in the administrator office	28.0
BSP05	Top of a cabinet in the administrative office	<10.0
BSP06	Drill hall floor by supply room	52.0
BSP07	Drill hall floor diagonally opposite the floor sample by supply	19.0
BSP08	Drill hall floor in center.	13.0
BSP09	Top of the soda machine in the drill hall	87.0
BSP10	Top of a surface in the classroom	<10.0
BSP11	Top of a random surface in the armory	<10.0
BSP12	Field Blank	<10.0

The US Environmental Protection Agency (EPA), under a new standard issued in 2000, considers lead dust as a hazard if levels are greater than 40 micrograms of lead in dust per square foot on floors; 250 micrograms of lead in dust per square foot on interior window sills and 400 parts per million (ppm) of lead in bare soil in children's play areas or 1200 ppm average for bare soil in the rest of the yard. This standard is a major effort by the EPA to identify dangerous levels of lead in paint, dust and soil in order to protect children from lead poisoning. The National Guard Bureau recommends a limit of 200 micrograms per square foot for surface contamination. The laboratory report and chain of custody forms are attached in Appendices B and C.

Asbestos Suspect Building Material: Typical building materials identified in the Armory consisted of 12 by 12 inches floor tiles, 2x4 feet ceiling tiles, and Baseboard in the administrative office areas. Cement floors, cinder block walls, and corrugated steel deck in the drill hall, supply, storage, and other areas. The table below lists the samples collected and the results:

Sample #	Description	% Asbestos Type
BSP A01B	2x4 foot ceiling tile in drill hall and exercise room	None.
BSP A02B	12x12 inch floor tile.	None.
BSP A02B	12x12 inch floor tile mastic	3% Chrysotile.
BSP A03B	Baeboard	

The facility asbestos management plan should be updated to include the floor tile mastic. The laboratory report and chain of custody forms are attached in Appendices B and C.

Noise Survey: Based on observations during the walkthrough baseline survey, no sources of excessive noise were identified and therefore no area noise readings were collected. Noise levels are likely to be well below the Occupational Safety and Health Administration (OSHA) regulated limit of 90 dBA and the Army recommended limit of 85 dBA.

Illumination Survey Lighting levels throughout the Armory ranged between 10 foot-candles to 70 foot-candles. Illumination levels are noted on the floor layout in Appendix A. Illumination ranges for each area are listed in the Table below:

Area	Reading in Foot-candles
Administrative Offices.	40 – 60
Locker Room.	50 – 60
Supply Room.	10 – 30
Drill Hall.	30 – 60
Classroom.	30 – 70
Kitchen.	15 – 20

The Army Design Guide (DG415-2) minimum illumination level of 50 foot-candle for office area and 20 foot-candles for parts storage/supply. The American National Standard Institute (ANSI) recommends a minimum illumination level of 50 to 100 foot-candles for office work, 20 to 50 for general lighting. Luminance depends on various factors including the task to be performed, the age of the individual, and the surroundings. Luminance of 50 to 100 foot-candles is recommended for performance of visual tasks of medium contrast or small size such as reading pencil handwriting and poorly printed or reproduced material. Depending on the type of display, background luminance of 30 to 60 foot-candles is recommended for VDT work. Replacing light bulbs with higher wattage will increase lighting levels. Replacing burnt out light bulbs and cleaning the light fixture should improve the lighting levels.

Heating Ventilating and Air Conditioning (HVAC) The Heating Ventilating and Air-Conditioning (HVAC) System for the Armory consisted of a forced air furnace unit. No other complaints of indoor air quality issues were documented or communicated with the POC.

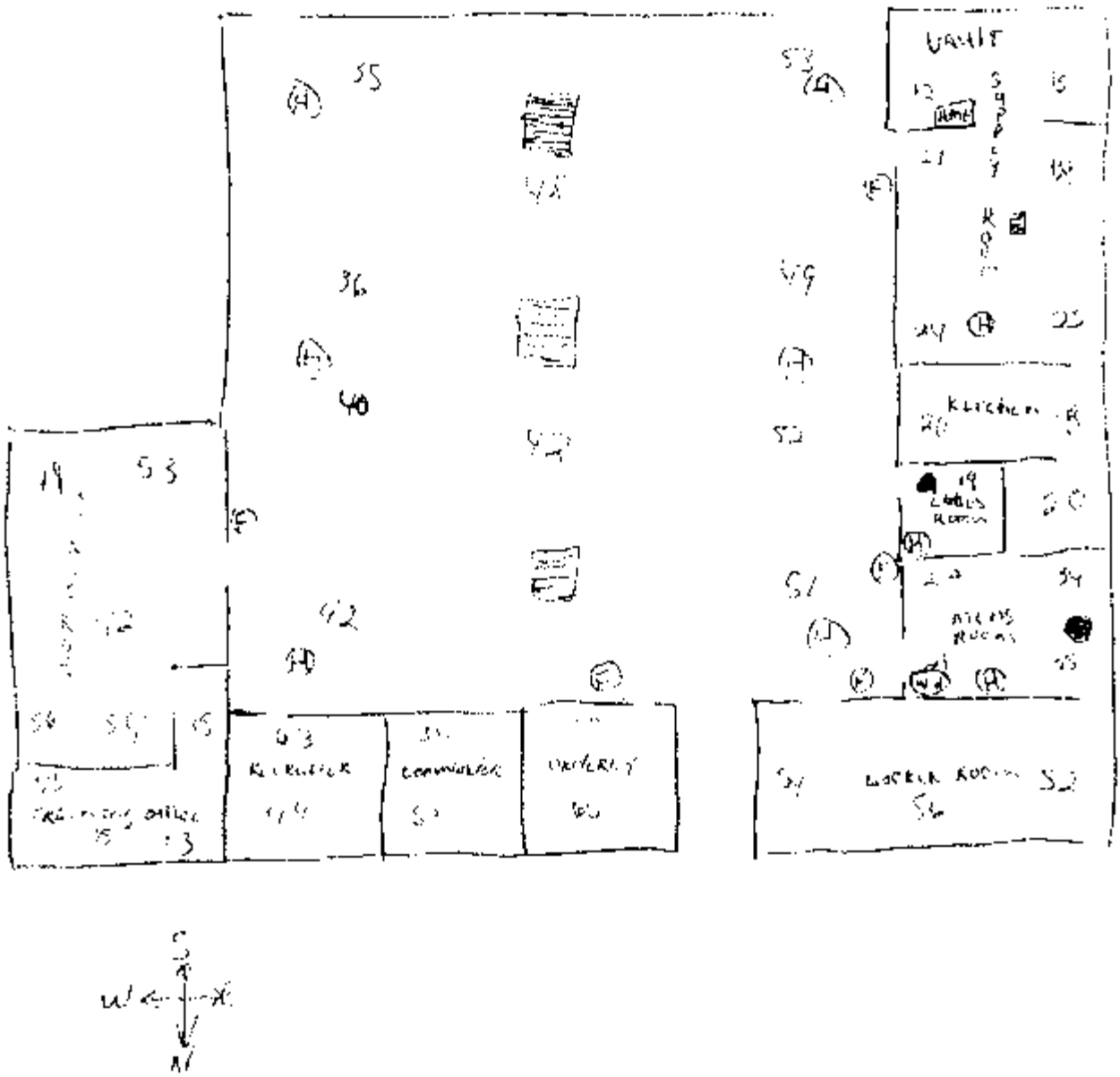
Recommendation:

Update the facility asbestos management plan to include the tile mastic.

Technical Assistance: For technical assistance regarding information found in this report

Non-Responsive

APPENDIX A



APPENDIX B

EMSL Analytical
3 Cooper St., Westmont, NJ 08108
Phone: (856) 858-4800 Fax: (856) 858-8551 Email: skauffman@emsl.com

Attn: Non-Responsive
Fax:
Project: Big Springs

Customer ID: TS80
Customer PO:
Received: 04/22/04 1:43 PM

EMSL Order: 200404877
EMSL Proj:

Lead in Wipes by Flame AAS (SW 846, 7420)

Client Sample Description		Lab ID	Analyzed	Area Sampled	Lead Concentration
BSP 01	Results for these wipe samples do not meet the EPA standards for sample matrix and are not recognized under the NLLAP accreditation program	0001	5/6/04	144 in²	14.0 µg/ft²
BSP 02		0002	5/6/04	144 in²	14.0 µg/ft²
BSP 03		0003	5/6/04	144 in²	14.0 µg/ft²
BSP 04		0004	5/6/04	144 in²	28.0 µg/ft²
BSP 05		0005	5/6/04	144 in²	<10.0 µg/ft²
BSP 06		0006	5/6/04	144 in²	52.0 µg/ft²
BSP 07		0007	5/6/04	144 in²	19.0 µg/ft²
BSP 08		0008	5/6/04	144 in²	13.0 µg/ft²
BSP 09		0009	5/6/04	144 in²	87.0 µg/ft²
BSP 10		0010	5/6/04	144 in²	<10.0 µg/ft²
BSP 11		0011	5/6/04	144 in²	<10.0 µg/ft²
BSP 12		0012	5/6/04	144 in²	<10.0 µg/ft²

Non-Responsive

The QC data associated with the sample results included in this report meet the recovery and precision requirements established by the AIHA, unless specifically indicated otherwise in the comment section. The test results contained within this report meet the requirements of NELAC unless otherwise noted. This report relates only to those items tested. Unless otherwise noted, the results in this report have not been blank corrected.
ACCREDITATION IS: NJ-NELAP: 04553, AIHA Environmental Lead Laboratory Approval Program: 100184

/04 4:15:26 PM

EMSL Analytical, Inc.
[illegible] Westmont, NJ 08108
Phone: (856) 858-4800 Fax: (856) 858-4960 Email: [illegible]@EMSL.com

Attn: Non-Responsive

Fax:

Project:

Customer ID: TS80
Customer PO:
Received: 04/22/04 12:31 PM

EMSL Order: 040407154
EMSL Proj:
Analysis Date: 4/30/04

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Treatment	Non-Asbestos %	Fibrous	Non-Asbestos %	Non-Fibrous	Asbestos %	Type
BSP A01B 040407154-0001		Gray Fibrous Heterogeneous	Teased	60%	Cellulose 20% Glass	20%	Non-fibrous (other)	None Detected	
BSP A02B-Tile 040407154-0002		Gray Non-Fibrous Heterogeneous	Dissolved			100%	Non-fibrous (other)	None Detected	
BSP A02B-Mastic 040407154-0004		Black Non-Fibrous Heterogeneous	Dissolved			97%	Non-fibrous (other)	3%	Chrysotile
BSP A03B 040407154-0003		Brown Non-Fibrous Heterogeneous	Ashed			100%	Non-fibrous (other)	None Detected	

Non-Responsive

PLM1

THIS IS THE LAST PAGE OF THE REPORT

1

APPENDIX C

2004 0977

EMSL ANALYTICAL CHAIN OF CUSTODY LEAD

Date: _____ EMSL Representative: _____ Project Name/No.: _____ P.O.#: _____

Company Name: Tanner Sciences, Inc. EMSL-Bill to: Same as mail to

Street: 3744 Lawrence Drive Street: _____

Box #: _____ Box #: _____

City/State: Naperville IL Zip: 60564 City/State: _____ Zip: _____

Phone Results to: (Name) [redacted]

Fax Results to: (Name) _____

MATRIX	METHOD	INSTRUMENT	RL (Reporting Limit)	EA
Lead Chip*	SW846-7420, 3050B Mod. / AOAC (974.02)	Flame Atomic Absorption	0.01% ---	
Lead Wastewater	SW846-7420	Flame Atomic Absorption	0.4 mg/l water 40 mg/kg (ppm) soil	
Lead Soil -	or SW846-6010B	ICP	0.1 mg/l water 10 mg/kg (ppm) soil	
Lead in Air***	NIOSH 7082 Mod.	Flame Atomic Absorption	4 ug/filter	
	or NIOSH 7300 Mod.	ICP	3.0 ug/filter	
Lead in Wipe* ☑ -ASTM List Wipe Type ☐ -non ASTM	SW846-7420 / HUD Appendix 14.2 Digest.	Flame Atomic Absorption	10 ug/wipe	Routine
	or SW846-6010B	ICP	3.0 ug/wipe	
TCLP Lead **	SW846-1311/ 7420	Flame Atomic Absorption	0.4 mg/l (ppm)	
	or SW846-6010B	ICP	0.1 mg/l (ppm)	
STLC Lead - California *	CA Title 22 section 66 / SW846-7420	Flame Atomic Absorption	0.4 mg/l (ppm)	
	or SW846-6010B	ICP	0.1 mg/l (ppm)	
Lead in Air****	NIOSH 7105 Mod.	Graphite Furnace Atomic Absorption	0.03 ug/filter	
Lead Wastewater	SW846-7421	Graphite Furnace Atomic Absorption	0.003 mg/l (ppm) water	
Lead Soil -			0.3 mg/kg (ppm) soil	
Lead in Drinking Water (check state Certification Requirements)	EPA 239.2 / 200.9	Graphite Furnace Atomic Absorption	0.005 mg/l (ppm)	
Total Dust	NIOSH 0500-0600	Gravimetric Reduction	0.0001g	

T/T (Turnaround) - Same day, 24 hr - 1 Day, 2 Days, 3 Days, 4 Days, 5 Days, 6-10 Days

*, **, ***, ****, -, --, # Please Refer to Price Quote

▲ If no box is checked, non-ASTM is assumed

SAMPLE #	LOCATION	Air volume, L / Area, in²	LAB #
BSP 01	Big Springs	144	0977
BSP 02			-2

@ Relinquished By: (Person) [redacted] Date: 4/19/04

Received at EMSL By: _____ Date: 4/20/04

Received at EMSL By: _____

Note: Please duplicate this form and use additional sheets if necessary.

@ The individual signing and relinquishing these samples to the laboratory attests to the accuracy of the information reported on this chain of custody

Lead Chain Nov 2001 / STLC.doc

Dec 04 17

EMSL ANALYTICAL CHAIN OF CUSTODY LEAD

SAMPLE #	LOCATION	Air volume, L Area, in²	LAB #
BSP-03			647773
04			4
05			5
06			6
07			7
08			8
09			9
10			10
11			11
12			12

Relinquished By: (Person) [redacted] Date: 4/19/04

Received at EMSL By: [redacted] Date: 4/19/04

Received at EMSL By: [redacted]

Note: Please duplicate this form and use additional sheets if necessary.

The individual signing and relinquishing these samples to the laboratory attests to the accuracy of the information reported on this chain of custody.

Lead Chain Now 2001 v STLC.doc

EMSL Analytical, Inc.
Revised 07/07/99

CHAIN OF CUSTODY

Asbestos

EMSL Rep:

Your Company Name: Tommer Sciences Div
Street: 3144 Lawrence Drive
Box #:
City/State: Naperville, IL Zip: 60564

EMSL-Bill to: Same as mail to
Street:
Box #:
City/State: Zip:

Third Party Billing requires written authorization from third party

Non-Responsive

Phone Results to:
Name:
Telephone #:
Project:
Name/Number:

Non-Responsive

MATRIX

☐ Air ☐ Floor Tile ☐ Soil
☑ Bulk ☐ Drinking Water ☐ Dust
☐ Wipe ☐ Wastewater ☐ Micro-Vac

TURNAROUND

☐ 3 hrs ☐ 6 Hours ☐ Same Day or 12 Hours* ☐ 24 Hours 1 day
☐ 48 Hours 2 days ☐ 72 Hours 3 days ☐ 96 Hours 4 days ☐ 120 Hours 5 Days
☑ 144+ hours 6-10 Days

*TEM AIR, 3 hours, 6 hours. Please call ahead to schedule. There is a premium charge for 3 hour tat, please call 1-800-220-3675 for price prior to sending samples. You will be asked to sign and authorization form for this service. 12 hours (must arrive by 11:00 a.m Mon - Fri.). Please Refer to Price Quote

PCM - Air
☐ NIOSH 7400
☐ OSHA
☐ Other:

PLM - Bulk
☑ EPA 600/R-93/116
☐ EPA Point Count
☐ NY Stratified Point Count
☐ PLM NOB (Gravimetric) NY 198.1
☐ Other:

TEM Air or Bulk
☐ Qualitative
☐ Quantitative

TEM AIR
☐ AHERA
☐ NIOSH 7402
☐ EPA Level II

TEM BULK/misc
☐ Drop Mount (Qualitative)
☐ Chatfield
☐ TEM NOB (Gravimetric) NY 198.4

SAMPLES ACCEPTED FOR ANALYSIS BY EMSL ANALYTICAL INC

TEM WATER
☐ Wastewater
☐ Drinking Water EPA 100.1
☐ Water - NY Wastewater
☐ Water-NY Drinking Water

TEM MICROVAC / WIPE
☐ ASTM D 5755-95 quantitative method

XRD
☐ Asbestos
☐ Silica

OTHER
☐

SAMPLE NUMBER	LOCATION	VOLUME (If Applicable)
BSP A01B		

Client Sample # (s): BSP-A01B, BSP-A03B Total Samples #: 3

Relinquished: Non-Responsive Date: 4/19/04 Time: AM

Received: Date: Time:

1

05 Mar

APPENDIX D

Photo #1: Armory front entrance.

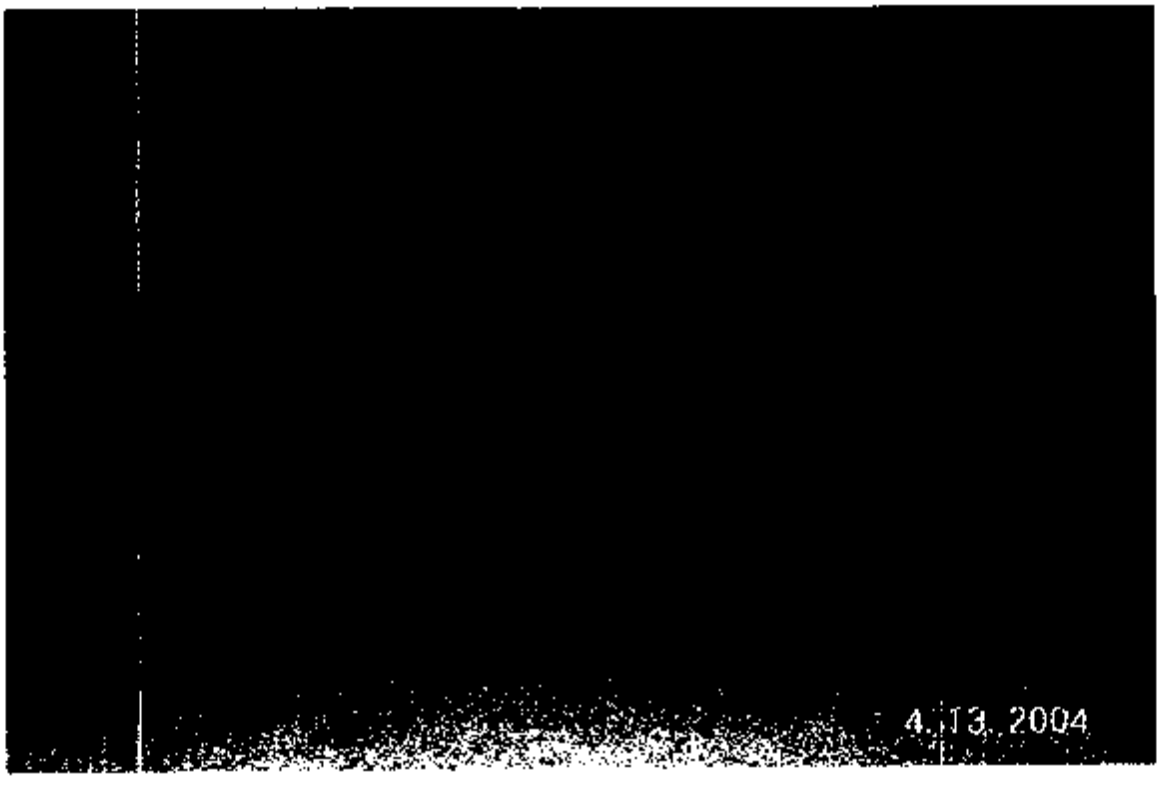


Photo #2: East side of the armory.

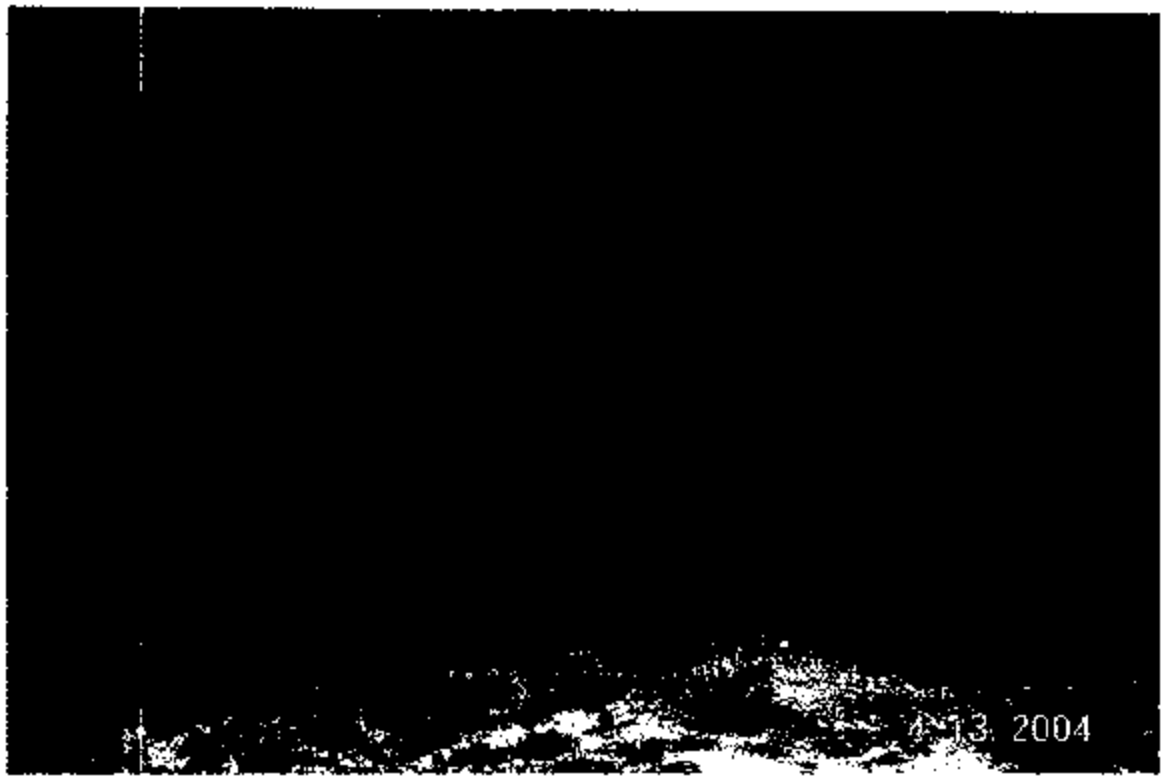


Photo #3: South west corner of the armory.

Photo #4: South east side of the armory.

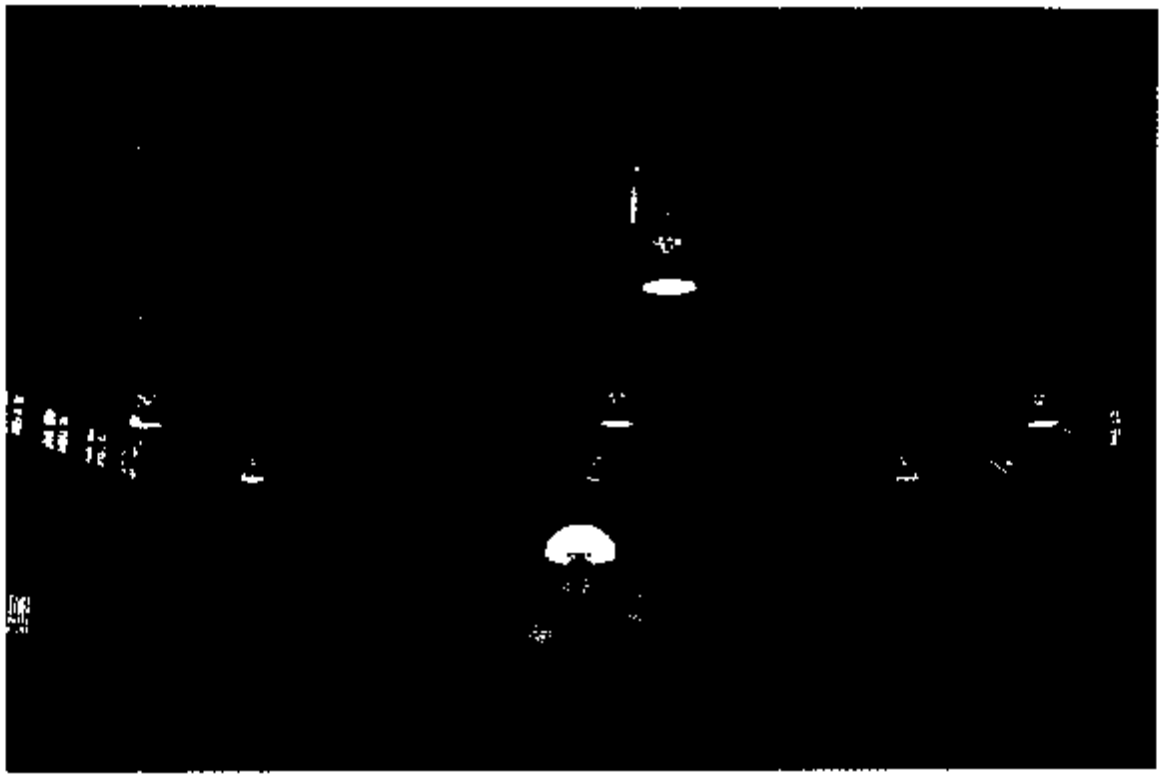
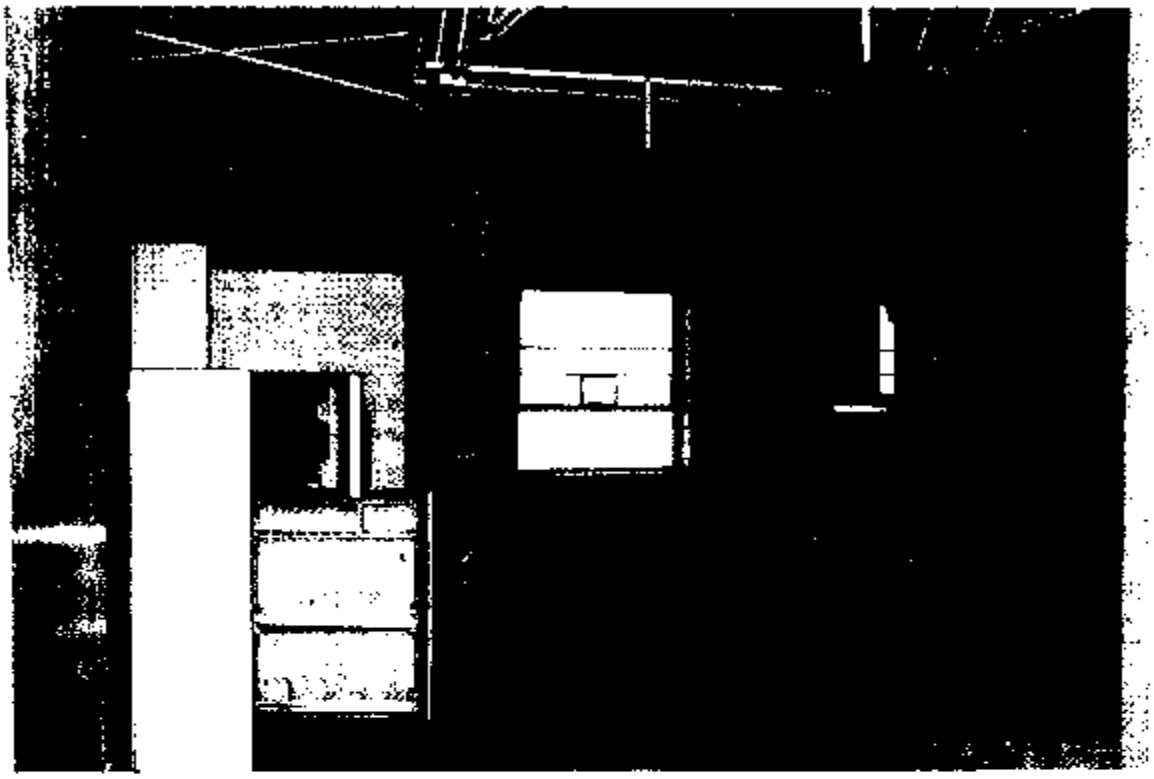


Photo #5: Drill hall facing south.

Photo #6: Drill hall facing south east.



Photo#7: Armory's kitchen showing the stove and refrigerator.

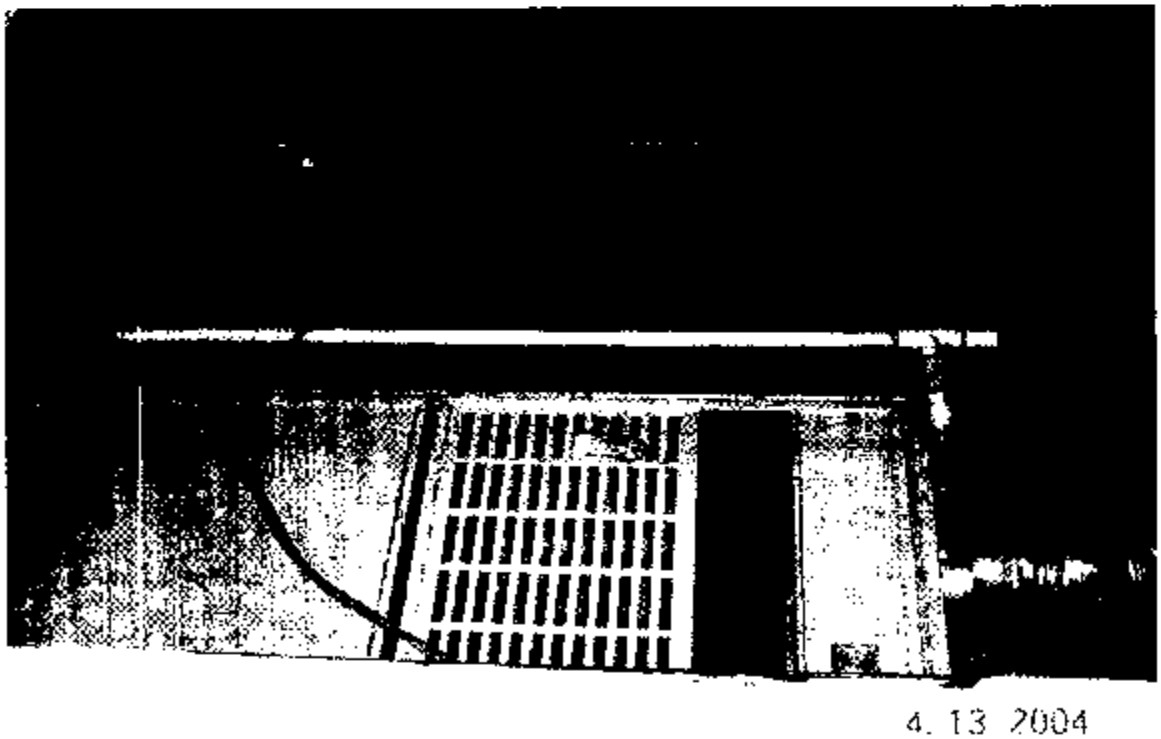


Photo #8: The Armory's furnace

DEPARTMENT OF THE ARMY AND THE AIR FORCE
NATIONAL GUARD BUREAU
REGIONAL INDUSTRIAL HYGIENE OFFICE
AIRPORT PLAZA SUITE 1530
510 PLAZA DRIVE
COLLEGE PARK, GA 30349

NGB-ARS-IHSE (40-5f) 24 March 2008

MEMORANDUM FOR: ADJUTANT GENERAL TX ARNG, ATTN.: Brenham Armory, Det 1, 551st EN CO (MRB) (386EN), 1204 Tom Green Street, Brenham, Texas 77833-5061

Thru: Non-Responsive Deputy State Army Surgeon, JFTX-ARM-SS, 3500 West 35th Street, Building 10, Austin, TX 78763-5218.

SUBJECT: Transmittal of IH Survey, Brenham Armory, Det 1, 551st EN CO (MRB) (386EN), 1204 Tom Green Street, Brenham, Texas 77833-5061

1. References.

a. OSHA Standards 29 CFR (Code of Federal Regulations), General Industry, revised 1996 rev.

b. AR 40-5, Preventive Medicine, 22 July 2005.

c. AR 11-34, 15 February 1990, The Army Respiratory Protection Program.

d. AR 385-10, 29 February 2000, Army Safety Program.

f. TB MED 503, The Army Industrial Hygiene Program, 30 October 2000.

g. Title 29 Code of Federal regulation (CFR), 1989 rev, Part 1910.94 (c) (6) Table G-10, Ventilation.

h. Industrial Ventilation, 25th, 2004, American Conference of Governmental Industrial Hygienist, Cincinnati, Ohio.

i. Title 29 Code of Federal Regulation (CFR), Part 1910.1025 Lead.

k. Title 40 Code of Federal Regulation (CFR), Part 745.227.

2. General.

a. In accordance to the JFTX-H-OH Industrial Hygiene Implementation Plan of 2007, a follow-up industrial hygiene survey was performed at the Brenham Armory, located at 1204 Tom Green Street, Brenham, Texas 77833-5061. The purpose of the survey was to perform a follow-up industrial hygiene survey to evaluate potential health hazards present in the building.

b. The Point of Contact during the survey was Non-Responsive

c. Non-Responsive Industrial Hygiene Technician for the Texas Army National Guard conducted the survey on 22 January 2008.

3. General.

a. **Site Description.** The Brenham Armory ; a one story brick over cinder block structure with Central HVAC was built in 1955 and renovated in 1982. The facility houses several training rooms and classrooms, administrative office areas, indoor range and a supply room with storage and vault. Two full time employees work at the Armory supporting 40 M-Day Soldiers. The armory has several residential use Central HVAC with interior units mounted inside mechanical closets. The POC has sent request for various repairs to be made throughout the armory, which are addressed, in the survey. A copy of the floor layout and photos are included in Appendix A.

b. **Scope of Work.** The work included collecting wipe samples for lead, bulk samples for suspect asbestos containing building material, illumination levels, noise readings, and an evaluation of the ventilation system as it pertains to indoor air quality.

c. **Methodology** Lead wipe samples collected from various surfaces throughout the building are collected accordance to instructions published by Region South National Guard Bureau, which required the use of Ghost wipes or unscented baby wipes to wipe one square foot of surface. Samples are then placed in a sealed plastic bag and sent for analysis to an American Industrial Hygiene Association (AIHA) Accredited laboratory. Asbestos bulk samples are collected from suspect building materials that were grouped based on similarity of composition. Bulk sample collection was minimally destructive and samples are collected from inconspicuous areas. Bulk samples are also collected from suspect friable and damaged building material. Each bulk sample are then placed in a sealed bag and sent to the laboratory for analysis. Area Illumination readings were collected using an EXTECH 401025 light meter Serial Number Q168802. Illumination readings are taken on work surfaces and approximately four feet from the floor. A copy of the floor layout and photos are included in Appendix A.

4. Findings.

a. **Lead Wipe Samples:** Wipe samples for lead dust were collected from various areas in the prior survey dated 12 July 2004. No Elevated Lead dust contamination was found as listed in the prior survey. Due to non existence of an indoor range and prior testing, no areas was sampled or tested during current survey. During the out brief, site personnel were encouraged to follow recommendations listed in the survey to minimize lead exposures prevent further cross contamination.

The US Environmental Protection Agency (EPA), under a new standard issued in 2000, considers lead dust as a hazard if levels are greater than 40 micrograms of lead in dust per square foot on floors; 250 micrograms of lead in dust per square foot on interior window sills and 400 parts per million (ppm) of lead in bare soil in children's play areas or 1200 ppm average for bare soil in the rest of the yard. This standard is a major effort by the EPA to identify dangerous levels of lead in paint, dust and soil in order to protect children from lead poisoning. The National Guard Bureau recommends a limit of 200 micrograms per square foot for surface contamination. Deteriorated Paint surfaces that conrain lead levels at or above 0.06 % by weight or 600 (ppm) are considered a hazard.

b. **Asbestos Suspect Building Material:** Bulk samples for ACBM were collected from various locations in the prior survey dated 12 July 2004. The floor tile mastic composed of 2% Chrysotile was found as listed in the prior survey. No ACBM were tested or noted during current survey. During the out brief, site personnel were encouraged to follow recommendations listed in the survey to minimize asbestos exposures prevent the release of asbestos fibers.

c. **Noise Survey:** No noise Hazardous areas were identified or recorded on the day of the survey.

d. **Illumination Survey** Evaluated lighting levels within the Armory ranged between 3 to 91 foot-candles.

Brenham Armory	Reading in Foot-candles
Classrooms	32-91
Office Areas	60-74
Hallways and Lobby	3-76
Latrines	7-39
Drill Hall	19-67
Supply Areas	7-55
Kitchen	19-48

Most readings are within the Army Design Guide (DG415-2) minimum illumination level of 50 foot-candle for office area and 20 foot-candles for parts storage/supply. The American National Standard Institute (ANSI) recommends a minimum illumination level of 50 to 100 foot-candles for office work, 20 to 50 for general lighting. Luminance depends on various factors including the task to be performed, the age of the individual, and the surroundings. Luminance of 50 to 100 foot-candles is recommended for performance of visual tasks of medium contrast or small size such as reading pencil handwriting and poorly printed or reproduced material. Depending on the type of display, background luminance of 30 to 60 foot-candles is recommended for VDT work. Areas with low light readings have burnt out bulbs or fixtures are in need of repair. Replacing light bulbs with higher wattage will increase lighting levels. Replacing broken light fixtures and or lights and or cleaning them should improve the lighting levels. The POC also has request for additional exterior lighting around the armory, within the motor pool and repairs for down line to the back security light. A copy of the floor layout and photos are included in Appendix A.

e. **Heating Ventilating and Air Conditioning (HVAC):** The Heating Ventilating and Air-Conditioning (HVAC) System for the Armory, The armory has several residential use Central HVAC with interior units mounted inside mechanical closets and local ceiling mounted heating units in latrines drill hall and supply areas. The system is capable to deliver outside makeup air to the occupied space. Various HVAC issues have been documented or communicated with the POC and will be forwarded to the State Facilities Commission to include adding a damper within the learning center duct to regulate airflow in the occupied space. Roof repair was completed in July 2007. No roof leaks were noted on day of survey. A copy of the floor layout and photos are included in Appendix A.

5. Recommendations.

a. To maintain low levels of lead and prevent cross contamination; clean weapons offsite, practice good housekeeping by washing hands after handling and cleaning weapons and after leaving weapons vault. (RAC 3)

b. To maintain overall indoor air quality, continue document and monitor roof leaks and contact your local facilities commission for roof repair and ceiling tile replacement when needed. (RAC 3)

c. Keep all occupied areas ventilated and contact facilities for repair of exhaust vents when needed and to ensure vents in latrines and supply rooms are within design guide and ventilation standards. Balance HVAC system to eliminate hot and cold spots and reduce excess humidity in occupied areas. (RAC 2)

d. Due to geographic location, include the addition of a local HVAC system in all latrines and supply rooms or increase fan motors in areas to keep areas adequately ventilated. (RAC 2)

e. Repair and or replace broken light fixtures to improve luminescence in areas with low light readings and add additional exterior lighting per POC request. (RAC 3)

f. In the 2004 survey, Asbestos fibers was reported in the floor tile mastic (GLUE) but not in the 12 x 12 inch floor tile. Contact facilities for contract to repair and or removal of any floor tile when needed. Do not remove any tiles. Be aware that the hazard is present and intact in floor tile mastic. (RAC 3)

CF: NGB-ARS-IHSE
State Occupational Health Office, 3500 West 35th Street, Building 86, Austin, TX 78763.
State Safety Manager, P. O. BOX 5218, Austin, TX 78763-5218.
ENCL.
as

Appendix A

Photographs and Floor Layout

Brenham Armory

			
Brenham Armory	Brenham Armory	Drill Hall	Classroom
			
Kitchen	Supply Room	Mechanical Room	Wash Rack

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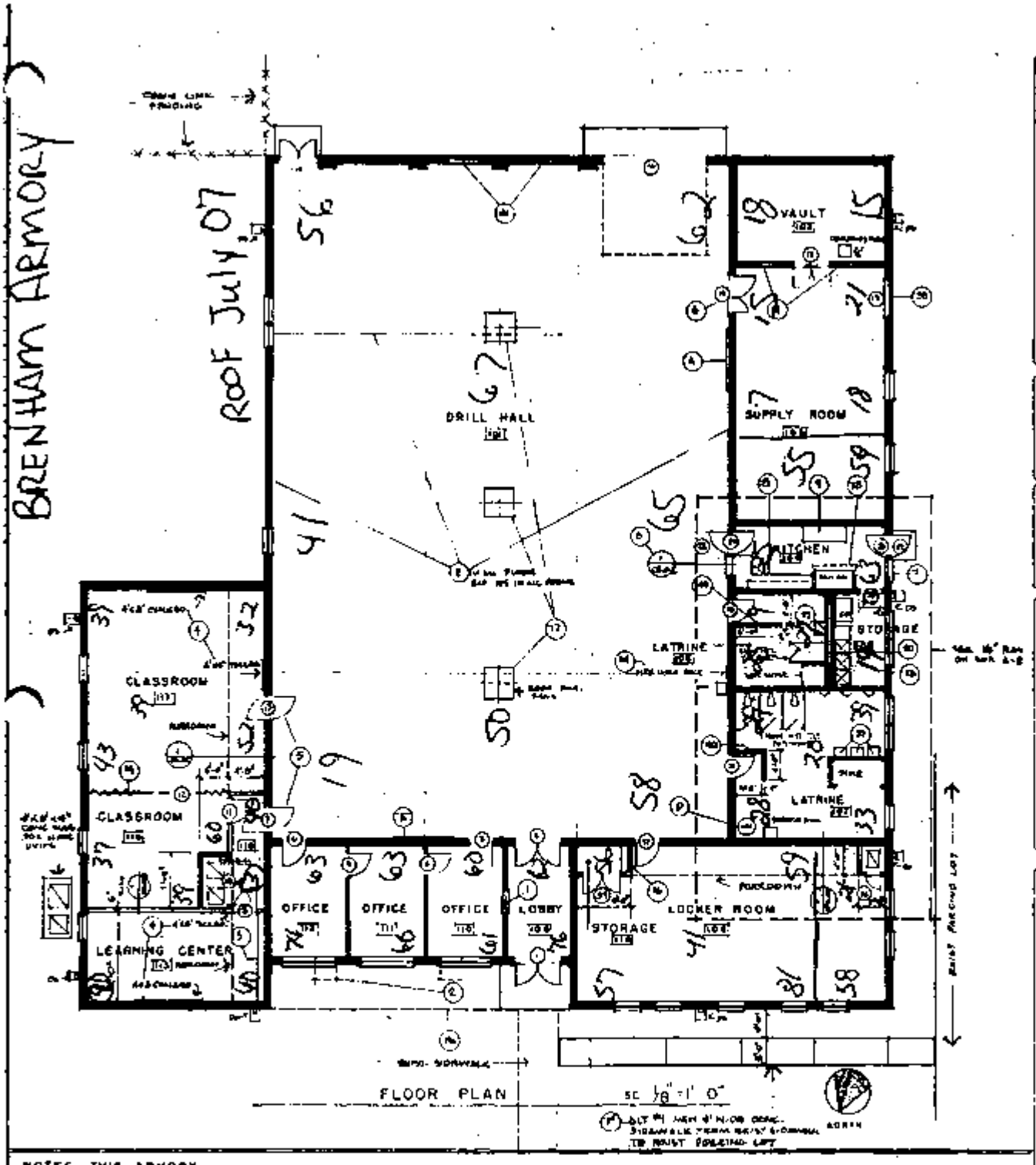
BRENHAM ARMORY

ROOF July 07



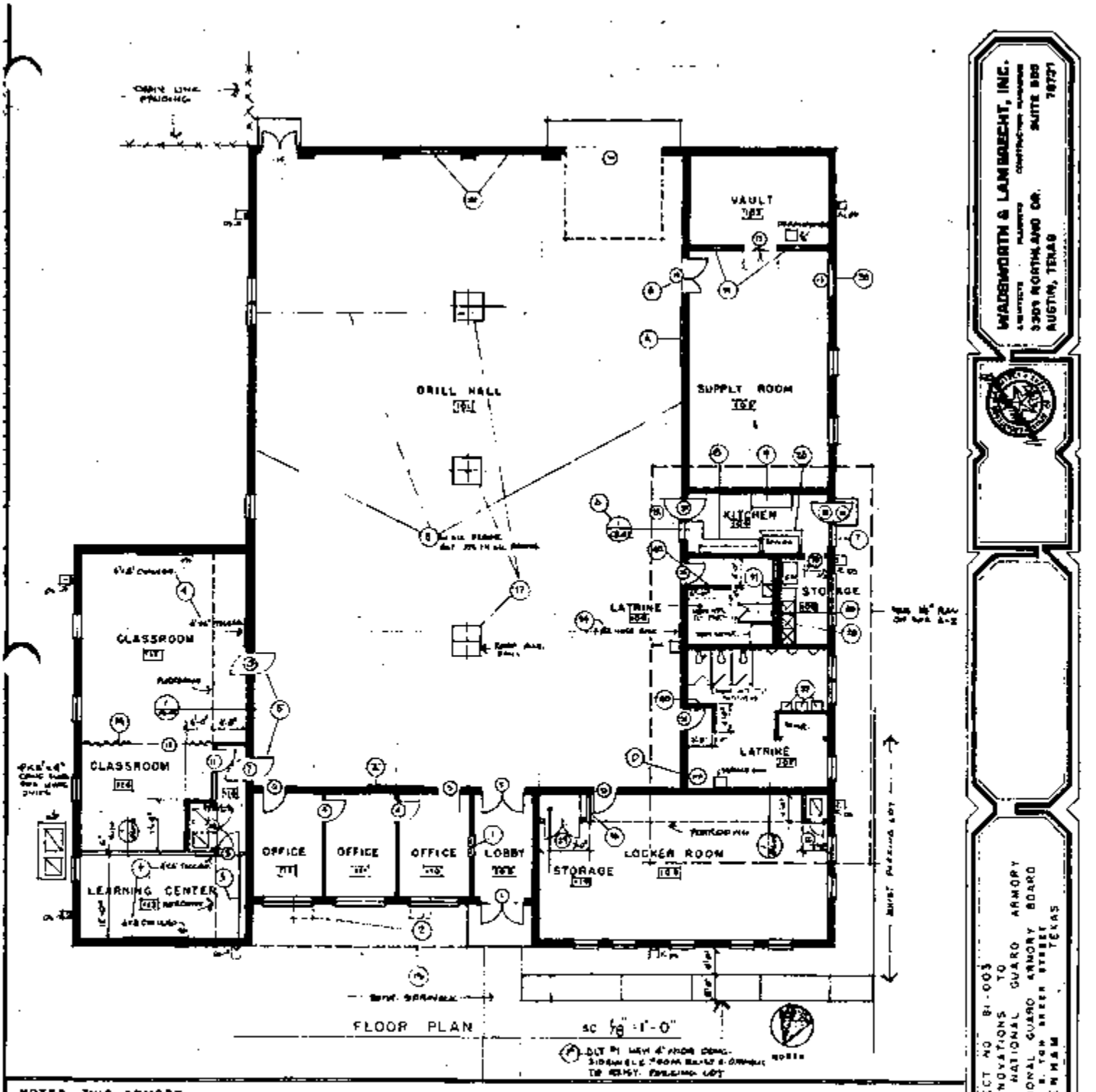
NOTES THIS ARMORY

WADSWORTH & LAMBRECHT, INC.
3301 NORTHLAND DR. SUITE 605
AUSTIN, TEXAS 78731

PROJECT NO BI-003
RENOVATIONS TO
ARMY NATIONAL GUARD ARMORY
TEXAS NATIONAL GUARD ARMORY BOARD
1304 E. TOM GREEN STREET
BRENHAM TEXAS

SET NO. 2

BRENHAM (003)



NOTES THIS ARMORY

WADSWORTH & LAMBRECHT, INC.
ARCHITECTS PLANNERS CONSTRUCTION MANAGERS
3309 NORTH AND CR. SUITE 205
AUSTIN, TEXAS 78731

PROJECT NO 81-003
RENOVATIONS TO
ARMY NATIONAL GUARD ARMORY
TEXAS NATIONAL GUARD ARMORY BOARD
1304 E. 10TH STREET
BRENHAM TEXAS

SET NO. 2

BRENHAM (003)

DEPARTMENT OF THE ARMY AND THE AIR FORCE
NATIONAL GUARD BUREAU
REGIONAL INDUSTRIAL HYGIENE OFFICE
AIRPORT PLAZA SUITE 1530
510 PLAZA DRIVE
COLLEGE PARK, GA 30349

NGB-AVN-SI

July 22, 2004

MEMORANDUM FOR: ADJUTANT GENERAL TX ARNG, ATTN.: State Occupational Health Office, P. O. BOX 5218, Austin, TX 78763-5218

SUBJECT: Transmittal of the Survey Reports for Waxahachie Armory, Corsicana Armory, Mexia Armory, Waco Armory, Gatesville Armory, Kileen Armory, Temple Armory, Brenham Armory, and Bryan Armory, TX.

1. References.

a. Department of Defense Instruction 6055.1, Department of Defense Occupational Safety and Health (OSH) Program, 26 October 1984.

b. Army Regulation (AR) 40-5, 30 August 1986, Medical Service, Preventive Medicine.

c. National Guard Regulation (NGR) 385-10, 1988, Army National Guard Safety and Occupational Health Program.

d. AR 11-34, The Army Respiratory Protection Program, 15 February 1990.

e. TB MED 502, Occupational and Environmental Health Respiratory Protection Program, February 1982.

f. DA PAM 40-503, 30 October 2000, The Army Industrial Hygiene Program.

g. DA PAM 40-501, 10 December 1998, Hearing Conservation.

h. Threshold Limit Values and Biological Exposure Indices (TLV's) for 2001, American Conference of Governmental Industrial Hygienists (ACGIH), Cincinnati, Ohio.

i. Industrial Ventilation, 23rd Edition, American Conference of Governmental Industrial Hygienist, Cincinnati, Ohio.

j. USAEHA TG-141, November 1997, Guidelines for Air Sampling and Bulk sample Collection.

NGB-AVN-SI
SUBJECT: Transmittal of the Survey Reports for Waxahachie Armory, Corsicana Armory, Mexia Armory, Waco Armory, Gatesville Armory, Kileen Armory, Temple Armory, Brenham Armory, and Bryan Armory, TX.

k. Title 29, Code of Federal Regulations (CFR), 2000 rev., part 1910, Occupational Safety and Health Standards.

l. Report of July 14, 2004, Industrial Hygiene Survey, Tammer Sciences INC, 3744 Lawrence Dr., Naperville, IL.

2. General.

a. At the request of the TX ARNG Safety and Occupational Health Office, an Industrial Hygiene Service was put together to conduct Health Hazard Information module (HHIM) Field surveys and industrial hygiene sampling of the Waxahachie Armory, Corsicana Armory, Mexia Armory, Waco Armory, Gatesville Armory, Kileen Armory, Temple Armory, Brenham Armory Brenham Armory, and Bryan Armory, TX.

b. Non-Responsive ammer Sciences INC, 3744 Lawrence Dr., Naperville, IL 60564, conducted the survey.

3. Findings. All Health Hazard information are on the survey findings of the report. (See enclosure 1)

4. Recommendations.

a. Follow all recommendations made in reference 1.l., requesting industrial hygiene (IH) services where needed to complete the recommendations.

b. Conduct an air sampling survey in the areas in and around those identified with elevated lead dust levels in page 3 0f reference 1.l, to ensure that the lead dust present is not airborne and that employees in these areas are not exposed above the action level where applicable.

c. Control water infiltration in the armory and/or replace or repair damaged surfaces or components (ceiling and floor tiles). Building conditions that present IAQ concerns or problems not only exacerbates normally minor health issues but also tend to promote or accelerate building deterioration.

d. The recommendations given in the comment section and data collected will serve as a baseline for the Industrial Hygiene Implementation Plan (IHIP) for FY-03. A follow up operation and hazard specific air sampling survey based on the enclosed findings will be included in the FY-04 IHIP.

NGB-AVN-SI
SUBJECT: Transmittal of the Survey Reports for Waxahachie Armory, Corsicana Armory, Mexia Armory, Waco Armory, Gatesville Armory, Kileen Armory, Temple Armory, Brenham Armory, and Bryan Armory, TX.

e. Consider additional Industrial Hygiene services to monitor operations that were not looked at or surveyed during the present survey, especially if this will help eliminate health hazards and reduce medical surveillance cost.

f. To execute your responsibilities in correcting all deficiencies and meeting all standards coordinate with the Occupational Health Nurse and the Occupational Safety and Health Office for technical guidance.

g. Give special consideration to cleaning light fixtures, increasing the wattage and painting walls a lighter color when upgrading the lighting in the facility.

5. If additional information is needed about the industrial hygiene survey or air sample

Non-Responsive

CF:
NBG-AVN-SH
State Occupational Health Office. P. O. BOX 5218. Austin. TX 78763-5218.
State Safety Manager. P. O. BOX 5218. Austin. TX 78763-5218.

Encl
as

Industrial Hygiene Baseline Survey Report
For
Texas Army National Guard
(TXARNG)

At
Brenham Armory
1204 E. Tom Green Street
Brenham, Texas

Prepared for:

Department of the Army and the Air Force
National Guard Bureau
Regional Industrial Hygiene Office
Region South
Airport Plaza Suite 1530
510 Plaza Drive
College Park, GA 30349

By
Non-Responsive

July 12, 2004

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- Scope of Work
- Methodology

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- Asbestos Suspect Building Material ..... Page 3
- Noise Survey ..... Page 4
- Illumination Survey ..... Page 4
- Heating Ventilating and Air Conditioning (HVAC) ..... Page 4
- Recommendations ..... Page 4

Appendices

A. Floor Layout and illumination levels.
B. Laboratory Analytical Results.
C. Lab Chain of Custody.
D. Photographs.

Executive Summary

An initial baseline industrial hygiene survey was conducted at the Brenham Armory on 8 June 2004 as part of the Texas Army National Guard Occupational Health Program to identify potential health hazards in the workplace. The survey consisted of collecting lead wipe samples and bulk asbestos samples, conducting an illumination survey, a noise survey, and an evaluation of the Heating Ventilation and Air Conditioning System (HVAC) as it relates to indoor air quality.

The following table summarizes the survey findings and recommendations for each topic surveyed.

Topic	Summary of Findings	Recommendations
Armory Lead Wipe Samples	<10 to 36 microgram per square foot.	No action.
Asbestos Bulk Samples	Floor tile mastic contained 2% chrysotile	Update the facility asbestos management plan.
Noise Survey	No excessive noise source was identified.	No action.
Illumination Survey	20 to 86 footcandles	No action.
HVAC/IAQ	No issues observed or documented.	No action.

SUBJECT: Industrial Hygiene Initial Baseline Survey of the Brenham Armory in Brenham, Texas on 8 June 2004

BACKGROUND:

Introduction. At the request of Non-Responsive of the National Guard Bureau Region South Industrial Hygiene Office, an initial baseline industrial hygiene survey was performed at the Brenham Armory in Brenham, Texas. Non-Responsive Industrial Hygiene Technician for the Texas Army National Guard and Non-Responsive contract Industrial Hygienist, Tammer Sciences, Inc. conducted the survey on 8 June 2004. The purpose of the survey was to perform an initial baseline industrial hygiene survey to identify potential health hazards present at the armory, specifically lead contamination from the indoor firing range.

Site Description. The armory houses the Headquarter of the 176 Engineers. The building is a one story structure and consists of administrative office areas, a kitchen, classrooms, a drill hall, and supply rooms. No indoor firing range was found in this armory. Five full time employees work at this armory. A copy of the floor layout and photos are included in Appendix A and D, respectively.

Scope of Work. The work included collecting wipe samples for lead, bulk samples for suspect asbestos containing building material, illumination levels, noise readings where necessary, and an evaluation of the ventilation system as it pertains to indoor air quality.

Methodology Lead wipe samples were collected from surfaces in the firing range and in the Armory in accordance to instructions published by Region South National Guard Bureau, which required the use of unscented baby wipes to wipe one square foot of surface. Samples were then placed in a sealed plastic bag and sent for analysis to EMSL laboratory, which is an American Industrial Hygiene Association (AIHA) Accredited laboratory. Asbestos bulk samples were collected from suspect building materials that were grouped based on similarity of composition. Bulk sample collection was minimally destructive and samples were collected from inconspicuous areas. Bulk samples were also collected from suspect friable and damaged building material. Each bulk sample was placed in a sealed bag and sent to EMSL laboratory for analysis. Noise readings were collected using a noise level meter in areas where a noise source was identified. All noise measurements were area readings. Illumination readings were collected using a Western Schlumberger light meter Serial 8384. Illumination readings were taken on work surfaces such as desks or approximately four feet from the floor.

FINDINGS and DISCUSSION:

The Point of Contact during the survey was Non-Responsive

Lead Wipe Samples: Ten wipe samples were collected from various areas of the armory as listed in the table below.

Sample Number	Sample Location	Micrograms of lead (ug) per square foot
BRE01	Top of serving line in kitchen.	<10.0
BRE02	Top of refrigerator in kitchen.	<10.0
BRE03	Drill hall floor by supply room	10.0
BRE04	Drill hall floor middle.	15.0
BRE05	Drill hall floor diagonally opposite of the supply room.	<10.0
BRE06	Top of vending machine in drill hall	31.0
BRE07	Supply diffuser in the HHC Orderly Room.	14.0
BRE08	Top of filing cabinet HHC Orderly Room.	13.0
BRE09	Supply diffuser in administrative office.	18.0
BRE10	Return air grill in administrative office.	36.0

The US Environmental Protection Agency (EPA), under a new standard issued in 2000, considers lead dust as a hazard if levels are greater than 40 micrograms of lead in dust per square foot on floors; 250 micrograms of lead in dust per square foot on interior window sills and 400 parts per million (ppm) of lead in bare soil in children's play areas or 1200 ppm average for bare soil in the rest of the yard. This standard is a major effort by the EPA to identify dangerous levels of lead in paint, dust and soil in order to protect children from lead poisoning. The National Guard Bureau recommends a limit of 200 micrograms per square foot for surface contamination. The laboratory report and chain of custody forms are attached in Appendices B and C.

Asbestos Suspect Building Material: Typical building materials identified in the Armory consisted of 12 by 12 inches floor tiles, 2x4 feet ceiling tiles, and Baseboard in the administrative office areas. Cement floors, cinder block walls, and corrugated steel deck in the drill hall, supply, storage, and other areas. The table below lists the samples collected and the results:

Sample #	Description	% Asbestos Type
BRE A01	12x12 inch floor tile.	None.
BRE A01	12x12 inch floor tile mastic.	2% Chrysotile
BRE A02	2x4 foot ceiling tile.	None.
BRE A03	Baseboard.	None.

The facility asbestos management plan should be updated to include the floor tiles. The laboratory report and chain of custody forms are attached in Appendices B and C.

Noise Survey: Based on observations during the walkthrough baseline survey, no sources of excessive noise were identified and therefore no area noise readings were collected. Noise levels are likely to be well below the Occupational Safety and Health Administration (OSHA) regulated limit of 90 dBA and the Army recommended limit of 85 dBA.

Illumination Survey Lighting levels throughout the Armory ranged between 20 foot-candles to 86 foot-candles. Illumination levels are noted on the floor layout in Appendix A. Illumination ranges for each area are listed in the Table below:

Area	Reading in Foot-candles
Administrative Offices.	40 – 65
Supply Rooms.	20 – 55
Drill Hall.	25 – 86
Kitchen.	30 – 80

The Army Design Guide (DG415-2) minimum illumination level of 50 foot-candle for office area and 20 foot-candles for parts storage/supply. The American National Standard Institute (ANSI) recommends a minimum illumination level of 50 to 100 foot-candles for office work, 20 to 50 for general lighting. Luminance depends on various factors including the task to be performed, the age of the individual, and the surroundings. Luminance of 50 to 100 foot-candles is recommended for performance of visual tasks of medium contrast or small size such as reading pencil handwriting and poorly printed or reproduced material. Depending on the type of display, background luminance of 30 to 60 foot-candles is recommended for VDT work. Replacing light bulbs with higher wattage will increase lighting levels. Replacing burnt out light bulbs and cleaning the light fixture should improve the lighting levels.

Heating Ventilating and Air Conditioning (HVAC) The Heating Ventilating and Air-Conditioning (HVAC) System for the Armory consisted of two individual furnace forced air units. Outside makeup air capabilities are available. No complaints of indoor air quality issues were documented or communicated with the POC.

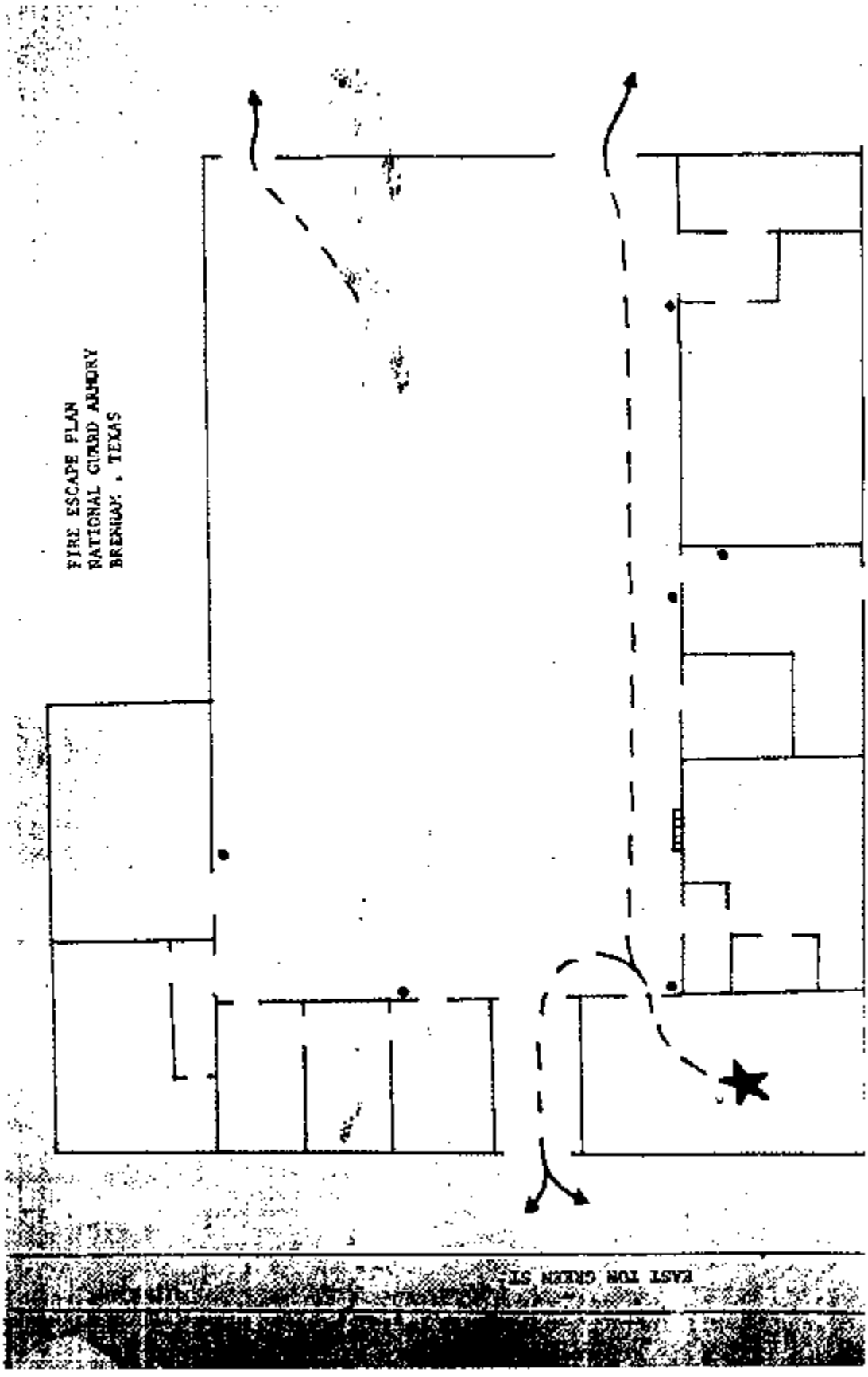
Recommendation:

Update the facility asbestos management plan to include the tile mastic.

Technical Assistance: For technical assistance regarding information found in this report

Non-Responsive

APPENDIX A



APPENDIX B

EMSL Analytical
3 Cooper St., Westmont, NJ 08108
Phone: (856) 858-4800 Fax: (856) 858-4851 Email: skauffman@emsl.com

Attn: Non-Responsive
Fax:
Project: **Brenham**

Customer ID: TS80
Customer PO:
Received: 06/14/04 11:22 AM

EMSL Order: 200407155
EMSL Proj:

Lead in Wipes by Flame AAS (SW 846, 7420)

Client Sample Description		*Lab ID*	*Analyzed*	*Area Sampled*	*Lead Concentration*
BRE 01	Results for these wipe samples do not meet the EPA standards for sample matrix and are not recognized under the NLLAP accreditation program	*0001*	6/25/04	n/a	<10.0 µg/wipe
BRE 02		*0002*	6/25/04	n/a	<10.0 µg/wipe
BRE 03		*0003*	6/25/04	n/a	10.0 µg/wipe
BRE 04		*0004*	6/25/04	n/a	15.0 µg/wipe
BRE 05		*0005*	6/25/04	n/a	<10.0 µg/wipe
BRE 06		*0006*	6/25/04	n/a	31.0 µg/wipe
BRE 07		*0007*	6/25/04	n/a	14.0 µg/wipe
BRE 08		*0008*	6/25/04	n/a	13.0 µg/wipe
BRE 09		*0009*	6/25/04	n/a	18.0 µg/wipe
BRE 10		*0010*	6/25/04	n/a	36.0 µg/wipe

Non-Responsive

The QC data associated with the sample results included in this report meet the recovery and precision requirements established by the AIHA, unless specifically indicated otherwise in the comment section. The test results contained within this report meet the requirements of NELAC unless otherwise noted. This report relates only to those items tested. Unless otherwise noted, the results in this report have not been blank corrected.
ACCREDITATIONS: NJ-NELAP: 04852, AIHA Environmental Lead Laboratory Approval Program: 100194

Date Printed: 6/28/04 11:21:46 AM

EMSL Analytical, Inc.
[redacted]
Phone: (856) 858-4800 Fax: (856) 858-4571 Email: [redacted]@EMSL.com

Attn [redacted]

Fax:

Project

Customer ID: TS80
Customer PO:
Received: 06/15/04 9:19 AM

EMSL Order: 040410800
EMSL Proj:
Analysis Date: 6/23/04

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Treatment	Non-Asbestos %	Fibrous	Non-Asbestos %	Non-Fibrous	Asbestos %	Type
BRE A01-Tile		Tan Non-Fibrous Heterogeneous	Dissolved			100%	Non-fibrous (other)	None Detected	
BRE A01-Mastic		Black Non-Fibrous Heterogeneous	Dissolved			98%	Non-fibrous (other)	2%	Chrysotile
BRE A02		Gray/White Fibrous Heterogeneous	Teased	40% 40%	Cellulose Glass	20%	Non-fibrous (other)	None Detected	
BRE A03		Brown Non-Fibrous Heterogeneous	Ashed			100%	Non-fibrous (other)	None Detected	

Analyst(s)

[redacted]

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected may require additional testing by TEM to confirm asbestos quantities. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. The test results contained within this report meet the requirements of NELAC unless otherwise noted.

Analysis performed by EMSL Westmont (NVLAP #101048-0) NY ELAP 10872

PLM-1

THIS IS THE LAST PAGE OF THE REPORT.

1

APPENDIX C

EMSL ANALYTICAL CHAIN OF CUSTODY LEAD

Date: ________ EMSL Representative: ________ Project Name/No.: ________ P.O.#: ________

Company Name: Tammer Sciences, Inc. EMSL Bill to: Same as Mail to

Street: 3144 Lawrence Drive Street: ________

Box #: ________ Box #: ________

City/State: Naperville, IL Zip: 60564 City/State: ________ Zip: ________

Phone Results to: (Name) [redacted]

Fax Results to: (Name) [redacted]

MATRIX	METHOD	INSTRUMENT	RL (Reporting Limit)	TAT
Lead Chips*	SW846-7420, 3050B Mod. / AOAC (974.02)	Flame Atomic Absorption	0.01%	
Lead Wastewater	SW846-7420	Flame Atomic Absorption	0.4 mg/l water 40 mg/kg (ppm) soil	
Lead Soil	or SW846-6010B	ICP	0.1 mg/l water 10 mg/kg (ppm) soil	
Lead in Air***	NIOSH 7082 Mod.	Flame Atomic Absorption	4 ug/filter	
	or NIOSH 7300 Mod.	ICP	3.0 ug/filter	
Lead in Wipe* ☑ ASTM List Wipe Type	SW846-7420 / HUD Appendix 14.2 Digest.	Flame Atomic Absorption	10 ug/wipe	Rush
☐ non ASTM	or SW846-6010B	ICP	3.0 ug/wipe	
TCLP Lead **	SW846-1311/7420	Flame Atomic Absorption	0.4 mg/l (ppm)	
	or SW846-6010B	ICP	0.1 mg/l (ppm)	
STLC Lead (California) #	CA Title 22 / SW846-7420	Flame Atomic Absorption	0.4 mg/l (ppm)	
	or SW846-6010B	ICP	0.1 mg/l (ppm)	
Lead in Air ****	NIOSH 7105 Mod.	Graphite Furnace Atomic Absorption	0.03 ug/filter	
Lead Wastewater	SW846-7421	Graphite Furnace Atomic Absorption	0.003 mg/l (ppm) water	
Lead Soil			0.3 mg/kg (ppm) soil	
Lead in Drinking Water (check state Certification Requirements)	EPA 239.2 / 200.9	Graphite Furnace Atomic Absorption	0.003 mg/l (ppm)	
Total Dust	NIOSH 0500-0600	Gravimetric Reduction	0.0001g	

T/T (Turnaround) - Same day, 24 hr - 1 Day, 2 Days, 3 Days, 4 Days, 5 Days, 6-10 Days

*, **, ***, ****, +, ++, # Please Refer to Price Quote

▲If no box is checked, non-ASTM is assumed

SAMPLE #	LOCATION	Air volume, L Area, in²	LAB #
BRE01 – BRE10			07/15-1-26

10 samples

Relinquished By: (Person) [redacted] Date: 6/10/04

Received at EMSL By: Date: 6/14/04

Received at EMSL By: ________ Date: ________

Note: Please duplicate this form and use additional sheets if necessary.

The individual signing and relinquishing these samples to the laboratory attests to the accuracy of the information reported on this chain of custody.

Lead Chip Nov 2001 STLC.doc

EMSL Analytical, Inc.
Revised 07/07/99

CHAIN OF CUSTODY

TS80

EMSL Rep:

Your Company Name: Tommey Services Inc

Street: 3744 Lawrence Drive

Box #:

City/State: Naperville IL Zip: 60564

EMSL-Bill to: Same as above

Third Party Billing requires written authorization from third party

Street:

Box #:

City/State: Zip:

Phone Results to: [redacted]

Name:

Telephone #:

Project Name/Number:

MATRIX			TURNAROUND			
☐ Air	☐ Floor Tile	☐ Soil	☐ 3 hrs	☐ 6 Hours	☐ Same Day or 12 Hours*	☐ 24 Hours 1 day
☑ Bulk	☐ Drinking Water	☐ Dust	☐ 48 Hours 2 days	☐ 72 Hours 3 days	☐ 96 Hours 4 days	☐ 120 Hours 5 Days
☐ Wipe	☐ Wastewater	☐ Micro-Vac	☑ 144+ hours 6-10 Days			

*TEM AIR, 3 hours, 6 hour, Please call ahead to schedule. There is a premium charge for 3 hour tat, please call 1-800-220-3675 for price prior to sending samples. You will be asked to sign and authorization form for this service. 12 hours (must arrive by 11:00 a.m Mon - Fri.), Please Refer to Price Quote

PCM - Air
- ☐ NIOSH 7400
- ☐ OSHA
- ☐ Other:

TEM AIR
- ☐ AHERA
- ☐ NIOSH 7402
- ☐ EPA Level II

TEM WATER
- ☐ Wastewater
- ☐ Drinking Water EPA 100.1
- ☐ Water - NY Wastewater
- ☐ Water-NY Drinking Water

PLM - Bulk
- ☑ EPA 600/R-93/116
- ☐ EPA Point Count
- ☐ NY Stratified Point Count
- ☐ PLM NOB (Gravimetric) NY 198.1
- ☐ Other:

TEM BULK/misc
- ☐ Drop Mount (Qualitative)
- ☐ Chatfield
- ☐ TEM NOB (Gravimetric) NY 198.4

TEM MICROVAC / WIPE
- ☐ ASTM D 5755/5956 quantitative method

SEM Air or Bulk
- ☐ Qualitative
- ☐ Quantitative

XRD
- ☐ Asbestos
- ☐ Silica

OTHER
- ☐

SAMPLES ACCEPTED FOR ANALYSIS BY EMSL ANALYTICAL INC

RECEIVED WESTMONT JUN 15 2004

SAMPLE NUMBER	LOCATION	VOLUME (If Applicable)

Client Sample # (s): BRE A01 - BRE A03 Total Samples #: 3

Relinquished: [redacted] 6/10/04 Time: PM

Received: Time:

1

APPENDIX D

Photo #1: Armory front entrance.

Photo #2: Armory's north west side.

Photo #3: south west side of the armory.

Photo #4: East side of the armory.

Photo #5: Drill hall facing south.

Photo #6: Drill hall facing north.

Photo #7: Armory's kitchen.

Photo #8: Armory's furnace room.

DEPARTMENT OF THE ARMY AND THE AIR FORCE
NATIONAL GUARD BUREAU
REGIONAL INDUSTRIAL HYGIENE OFFICE
AIRPORT PLAZA SUITE 1530
510 PLAZA DRIVE
COLLEGE PARK, GA 30349

NGB-AVN-SI July 22, 2004

MEMORANDUM FOR: ADJUTANT GENERAL TX ARNG, ATTN.: State Occupational Health Office, P. O. BOX 5218, Austin, TX 78763-5218

SUBJECT: Transmittal of the Survey Reports for Waxahachie Armory, Corsicana Armory, Mexia Armory, Waco Armory, Gatesville Armory, Kileen Armory, Temple Armory, Brenham Armory, and Bryan Armory, TX.

1. References.

a. Department of Defense Instruction 6055.1, Department of Defense Occupational Safety and Health (OSH) Program, 26 October 1984.

b. Army Regulation (AR) 40-5, 30 August 1986, Medical Service, Preventive Medicine.

c. National Guard Regulation (NGR) 385-10, 1988, Army National Guard Safety and Occupational Health Program.

d. AR 11-34, The Army Respiratory Protection Program, 15 February 1990.

e. TB MED 502, Occupational and Environmental Health Respiratory Protection Program, February 1982.

f. DA PAM 40-503, 30 October 2000, The Army Industrial Hygiene Program.

g. DA PAM 40-501, 10 December 1998, Hearing Conservation.

h. Threshold Limit Values and Biological Exposure Indices (TLV's) for 2001, American Conference of Governmental Industrial Hygienists (ACGIH), Cincinnati, Ohio.

i. Industrial Ventilation, 23rd Edition, American Conference of Governmental Industrial Hygienist, Cincinnati, Ohio.

j. USAEHA TG-141, November 1997, Guidelines for Air Sampling and Bulk sample Collection.

NGB-AVN-SI
SUBJECT: Transmittal of the Survey Reports for Waxahachie Armory, Corsicana Armory, Mexia Armory, Waco Armory, Gatesville Armory, Kileen Armory, Temple Armory, Brenham Armory, and Bryan Armory, TX.

k. Title 29, Code of Federal Regulations (CFR), 2000 rev., part 1910, Occupational Safety and Health Standards.

l. Report of July 14, 2004, Industrial Hygiene Survey, Tammer Sciences INC, 3744 Lawrence Dr., Naperville, IL.

2. General.

a. At the request of the TX ARNG Safety and Occupational Health Office, an Industrial Hygiene Service was put together to conduct Health Hazard Information module (HHIM) Field surveys and industrial hygiene sampling of the Waxahachie Armory, Corsicana Armory, Mexia Armory, Waco Armory, Gatesville Armory, Kileen Armory, Temple Armory, Brenham Armory Brenham Armory, and Bryan Armory, TX.

b. Non-Responsive ammer Sciences INC, 3744 Lawrence Dr., Naperville, IL 60564, conducted the survey.

3. Findings. All Health Hazard information are on the survey findings of the report. (See enclosure 1)

4. Recommendations.

a. Follow all recommendations made in reference 1.l., requesting industrial hygiene (IH) services where needed to complete the recommendations.

b. Conduct an air sampling survey in the areas in and around those identified with elevated lead dust levels in page 3 0f reference 1.l, to ensure that the lead dust present is not airborne and that employees in these areas are not exposed above the action level where applicable.

c. Control water infiltration in the armory and/or replace or repair damaged surfaces or components (ceiling and floor tiles). Building conditions that present IAQ concerns or problems not only exacerbates normally minor health issues but also tend to promote or accelerate building deterioration.

d. The recommendations given in the comment section and data collected will serve as a baseline for the Industrial Hygiene Implementation Plan (IHIP) for FY-03. A follow up operation and hazard specific air sampling survey based on the enclosed findings will be included in the FY-04 IHIP.

NGB-AVN-SI
SUBJECT: Transmittal of the Survey Reports for Waxahachie Armory, Corsicana Armory, Mexia Armory, Waco Armory, Gatesville Armory, Kileen Armory, Temple Armory, Brenham Armory, and Bryan Armory, TX.

e. Consider additional Industrial Hygiene services to monitor operations that were not looked at or surveyed during the present survey, especially if this will help eliminate health hazards and reduce medical surveillance cost.

f. To execute your responsibilities in correcting all deficiencies and meeting all standards coordinate with the Occupational Health Nurse and the Occupational Safety and Health Office for technical guidance.

g. Give special consideration to cleaning light fixtures, increasing the wattage and painting walls a lighter color when upgrading the lighting in the facility.

5. If additional information is needed about the industrial hygiene survey or air sample

Non-Responsive

CF:
NBG-AVN-SH
State Occupational Health Office, P. O. BOX 5218, Austin, TX 78763-5218.
State Safety Manager, P. O. BOX 5218, Austin, TX 78763-5218.

Encl
as

Industrial Hygiene Baseline Survey Report
For
Texas Army National Guard
(TXARNG)

At
Bryan Armory
1700 East 25th Street
Bryan, Texas

Prepared for:

Department of the Army and the Air Force
National Guard Bureau
Regional Industrial Hygiene Office
Region South
Airport Plaza Suite 1530
510 Plaza Drive
College Park, GA 30349

P
Non-Responsive

July 12, 2004

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A. Floor Layout and illumination levels.
B. Laboratory Analytical Results.
C. Lab Chain of Custody.
D. Photographs.

Executive Summary

An initial baseline industrial hygiene survey was conducted at the Bryan Armory on 8 June 2004 as part of the Texas Army National Guard Occupational Health Program to identify potential health hazards in the workplace. The survey consisted of collecting lead wipe samples and bulk asbestos samples, conducting an illumination survey, a noise survey, and an evaluation of the Heating Ventilation and Air Conditioning System (HVAC) as it relates to indoor air quality.

The following table summarizes the survey findings and recommendations for each topic surveyed.

Topic	Summary of Findings	Recommendations
Armory Lead Wipe Samples	<10 to 19 microgram per square foot.	No action.
Asbestos Bulk Samples	No Suspect asbestos containing material identified.	No action.
Noise Survey	No excessive noise source was identified.	No action.
Illumination Survey	20 to 125 footcandles	No action.
HVAC/IAQ	No issues observed or documented.	No action.

SUBJECT: Industrial Hygiene Initial Baseline Survey of the Bryan Armory in Bryan, Texas on 8 June 2004

BACKGROUND:

Introduction. At the request of Non-Responsive of the National Guard Bureau Region South Industrial Hygiene Office, an initial baseline industrial hygiene survey was performed at the Bryan Armory in Bryan, Texas. Non-Responsive Industrial Hygiene Technician for the Texas Army National Guard and Non-Responsive contract Industrial Hygienist, Tammer Sciences, Inc. conducted the survey on 8 June 2004. The purpose of the survey was to perform an initial baseline industrial hygiene survey to identify potential health hazards present at the armory, specifically lead contamination from the indoor firing range.

Site Description. The armory, which was built in 1957 and renovated in 2001, houses the Headquarter of the 4th Battalion and the 112 Armory. The building is a one story structure and consists of administrative office areas, a kitchen, classrooms, a drill hall, and supply rooms. No indoor firing range was found in this armory. Five full time employees work at this armory. A copy of the floor layout and photos are included in Appendix A and D, respectively.

Scope of Work. The work included collecting wipe samples for lead, bulk samples for suspect asbestos containing building material, illumination levels, noise readings where necessary, and an evaluation of the ventilation system as it pertains to indoor air quality.

Methodology Lead wipe samples were collected from surfaces in the firing range and in the Armory in accordance to instructions published by Region South National Guard Bureau, which required the use of unscented baby wipes to wipe one square foot of surface. Samples were then placed in a sealed plastic bag and sent for analysis to EMSL laboratory, which is an American Industrial Hygiene Association (AIHA) Accredited laboratory. Asbestos bulk samples were collected from suspect building materials that were grouped based on similarity of composition. Bulk sample collection was minimally destructive and samples were collected from inconspicuous areas. Bulk samples were also collected from suspect friable and damaged building material. Each bulk sample was placed in a sealed bag and sent to EMSL laboratory for analysis. Noise readings were collected using a noise level meter in areas where a noise source was identified. All noise measurements were area readings. Illumination readings were collected using a Western Schlumberger light meter Serial 8384. Illumination readings were taken on work surfaces such as desks or approximately four feet from the floor.

FINDINGS and DISCUSSION:

The Point of Contact during the survey was Non-Responsive

Lead Wipe Samples: Eleven wipe samples were collected from various areas of the armory as listed in the table below.

Sample Number	Sample Location	Micrograms of lead (ug) per square foot
BRY01	Top of serving line in kitchen.	<10.0
BRY02	Top of microwave in kitchen.	<10.0
BRY03	Drill hall floor by supply room	<10.0
BRY04	Drill hall floor middle.	<10.0
BRY05	Drill hall floor by recruiter office.	<10.0
BRY06	Top of fire extinguisher in drill hall	14.0
BRY07	Top of a desk in a classroom	<10.0
BRY08	Main return air grill in administrative office area	19.0
BRY09	Supply diffuser by offices 106 and 110.	<10.0
BRY10	Supply diffuser in Non-Responsive	<10.0
BRY11	Top of filing cabi	<10.0

The US Environmental Protection Agency (EPA), under a new standard issued in 2000, considers lead dust as a hazard if levels are greater than 40 micrograms of lead in dust per square foot on floors; 250 micrograms of lead in dust per square foot on interior window sills and 400 parts per million (ppm) of lead in bare soil in children's play areas or 1200 ppm average for bare soil in the rest of the yard. This standard is a major effort by the EPA to identify dangerous levels of lead in paint, dust and soil in order to protect children from lead poisoning. The National Guard Bureau recommends a limit of 200 micrograms per square foot for surface contamination. The laboratory report and chain of custody forms are attached in Appendices B and C.

Asbestos Suspect Building Material: Typical building materials identified in the Armory consisted of 12 by 12 inches floor tiles, 2x4 feet ceiling tiles, and Baseboard in the administrative office areas. Cement floors, cinder block walls, and corrugated steel deck in the drill hall, supply, storage, and other areas. Bulk samples were not collected because the Armory was completely renovated in 2001 and the presence of asbestos containing material is less likely.

Noise Survey: Based on observations during the walkthrough baseline survey, no sources of excessive noise were identified and therefore no area noise readings were collected. Noise levels are likely to be well below the Occupational Safety and Health Administration (OSHA) regulated limit of 90 dBA and the Army recommended limit of 85 dBA.

Illumination Survey Lighting levels throughout the Armory ranged between 20 foot-candles to 125 foot-candles. Illumination levels are noted on the floor layout in Appendix A. Illumination ranges for each area are listed in the Table below:

Area	Reading in Foot-candles
Administrative Offices.	40 – 125
Classrooms.	50 – 110
Supply Rooms.	60 – 85
Drill Hall.	20 – 60
Storage.	30 – 45
Kitchen.	65 – 100

The Army Design Guide (DG415-2) minimum illumination level of 50 foot-candle for office area and 20 foot-candles for parts storage/supply. The American National Standard Institute (ANSI) recommends a minimum illumination level of 50 to 100 foot-candles for office work, 20 to 50 for general lighting. Luminance depends on various factors including the task to be performed, the age of the individual, and the surroundings. Luminance of 50 to 100 foot-candles is recommended for performance of visual tasks of medium contrast or small size such as reading pencil handwriting and poorly printed or reproduced material. Depending on the type of display, background luminance of 30 to 60 foot-candles is recommended for VDT work. Replacing light bulbs with higher wattage will increase lighting levels. Replacing burnt out light bulbs and cleaning the light fixture should improve the lighting levels.

Heating Ventilating and Air Conditioning (HVAC) The Heating Ventilating and Air-Conditioning (HVAC) System for the Armory consisted of four individual furnace forced air units. Outside makeup air capabilities are available. No complaints of indoor air quality issues were documented or communicated with the POC.

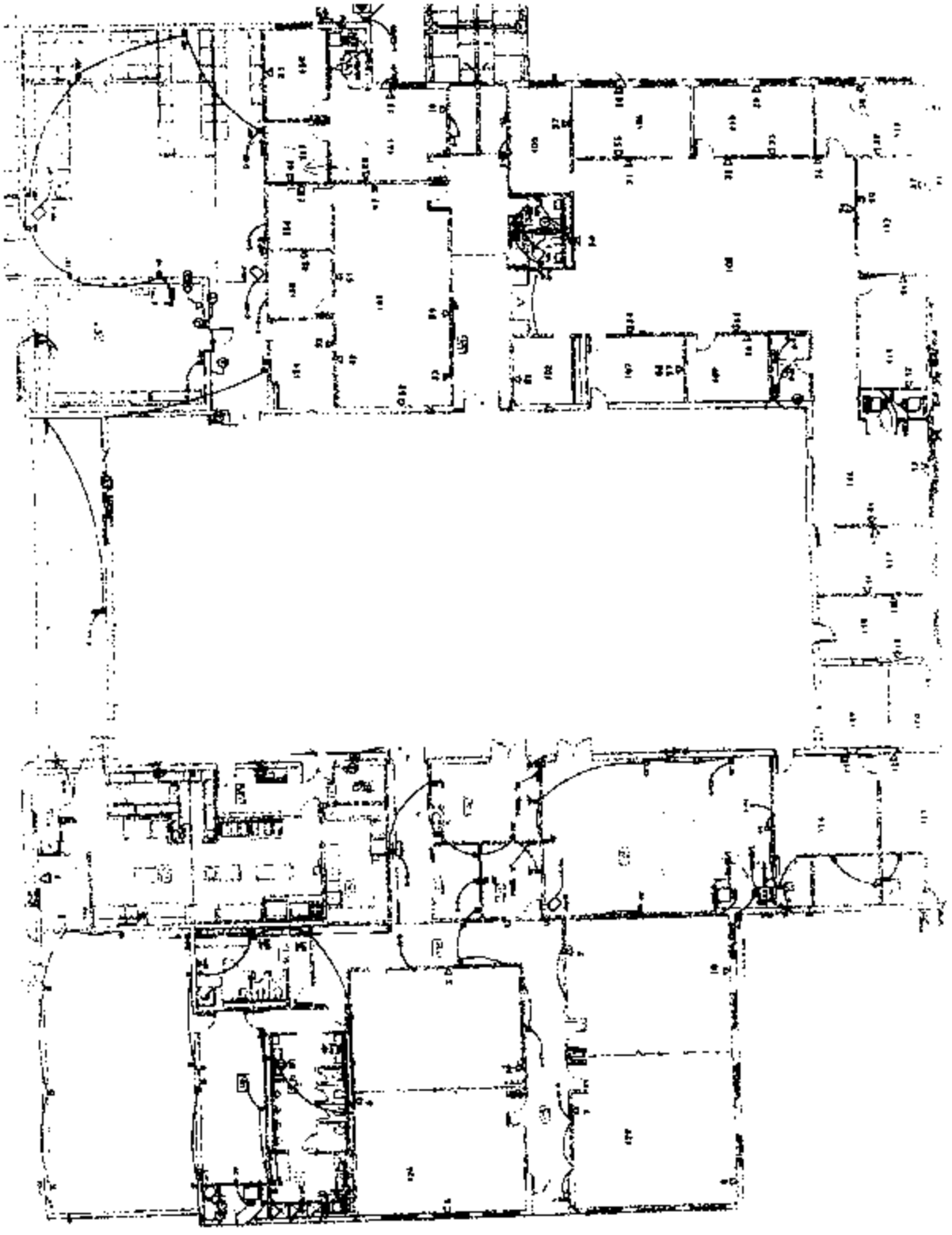
Recommendation:

None.

Technical Assistance: For technical assistance regarding information found in this report

Non-Responsive

APPENDIX A



APPENDIX B

EMSL Analytical
3 Cooper St., Westmont, NJ 08108
Phone: (856) 858-4800 Fax: (856) 858-9551 Email: skauffman@emsl.com

Attn: Non-Responsive
Fax:
Project: Bryan

Customer ID: TS60
Customer PO:
Received: 06/14/04 11:22 AM

EMSL Order: 200407154
EMSL Proj:

Lead in Wipes by Flame AAS (SW 846, 7420)

Client Sample Description		Lab ID	Analyzed	Area Sampled	Lead Concentration
BRY 01	Results for these wipe samples do not meet the EPA standards for sample matrix and are not recognized under the NLLAP accreditation program	0001	6/28/04	n/a	<10.0 µg/wipe
BRY 02		0002	6/28/04	n/a	<10.0 µg/wipe
BRY 03		0003	6/28/04	n/a	<10.0 µg/wipe
BRY 04		0004	6/28/04	n/a	<10.0 µg/wipe
BRY 05		0005	6/28/04	n/a	<10.0 µg/wipe
BRY 06		0006	6/28/04	n/a	14.0 µg/wipe
BRY 07		0007	6/28/04	n/a	<10.0 µg/wipe
BRY 08		0008	6/28/04	n/a	19.0 µg/wipe
BRY 09		0009	6/28/04	n/a	<10.0 µg/wipe
BRY 10		0010	6/28/04	n/a	<10.0 µg/wipe
BRY 11		0011	6/28/04	n/a	<10.0 µg/wipe

Non-Responsive

The QC data associated with the sample results included in this report meet the recovery and precision requirements established by the AIHA, unless specifically indicated otherwise in the comment section. The test results contained within this report meet the requirements of NELAC unless otherwise noted. This report relates only to those items tested. Unless otherwise noted, the results in this report have not been blank corrected.
ACCREDITATIONS: NJ-NELAP: 04883, AIHA Environmental Lead Laboratory Approval Program: 100194

Date Printed: 6/28/04 11:24:40 AM

APPENDIX C

EMSL ANALYTICAL CHAIN OF CUSTODY LEAD

Date: ______ EMSL Representative: ______ Project Name/No.: ______ P.O.#: ______

Company Name: Tommer Sciences, Inc EMSL-Bill to: Same as Mail to

Street: 3744 Lawrence Drive Street: ______

Box #: ______ Box #: ______

City/State: Naperville IL Zip: 60564 City/State: ______ Zip: ______

Phone Results to: (Name) [redacted]

Fax Results to: (Name) ______

fax / mail

MATRIX	METHOD	INSTRUMENT	RL (Reporting Limit)	TAT
Lead Chips*	SW846-7420, 3050B Mod. / AOAC (974.02)	Flame Atomic Absorption	0.01%***	
Lead Wastewater	SW846-7420	Flame Atomic Absorption	0.4 mg/l water 40 mg/kg (ppm) soil	
Lead Soil	or SW846-6010B	ICP	0.1 mg/l water 10 mg/kg (ppm) soil	
Lead in Air***	NIOSH 7082 Mod.	Flame Atomic Absorption	4 ug/filter	
	or NIOSH 7300 Mod.	ICP	3.0 ug/filter	
Lead in Wipe* List Wipe Type ☑-ASTM	SW846-7420 / HUD Appendix 14.2 Digest	Flame Atomic Absorption	10 ug/wipe	Routine
☐-non ASTM	or SW846-6010B	ICP	3.0 ug/wipe	
TCLP Lead **	SW846 1311/ 7420	Flame Atomic Absorption	0.4 mg/l (ppm)	
	or SW846 6010B	ICP	0.1 mg/l (ppm)	
STLC Lead (California) #	CA Title 22 / SW846-7420	Flame Atomic Absorption	0.4 mg/l (ppm)	
	or SW846-6010B	ICP	0.1 mg/l (ppm)	
Lead in Air ****	NIOSH 7105 Mod.	Graphite Furnace Atomic Absorption	0.03 ug/filter	
Lead Wastewater	SW846-7421	Graphite Furnace Atomic Absorption	0.003 mg/l (ppm) water	
Lead Soil *			0.3 mg/kg (ppm) soil	
Lead in Drinking Water (check state Certification Requirements)	EPA 239.2 / 200.9	Graphite Furnace Atomic Absorption	0.003 mg/l (ppm)	
Total Dust	NIOSH 0500-0600	Gravimetric Reduction	0.0001g	

TAT (Turnaround) - Same day, 24 hr - 1 Day, 2 Days, 3 Days, 4 Days, 5 Days, 6-10 Days

*, **, ***, ****, +, ++, # Please Refer to Price Quote

* If no box is checked, non-ASTM is assumed

SAMPLE #	LOCATION	Air volume, L Area, in²	LAB #
			0715X-1-11
11 Samples BRY01 – BRY11			

@ Relinquished By: (Person) [redacted] Date: 6/10/04

Received at EMSL By: Date: 6/14/04

Received at EMSL By: Date: ______

Note: Please duplicate this form and use additional sheets if necessary.

@ The individual signing and relinquishing these samples to the laboratory attests to the accuracy of the information reported on this chain of custody.

Lead Chain Nov 2001 w STLC.doc

APPENDIX D

Photo #1: Armory front entrance.

Photo #2: Armory's south west side.

Photo #3: North east side of the armory.

Photo #4: East side of the armory.

Photo #5: Drill hall facing north.

Photo #6: Drill hall facing south.

Photo #7: Armory's kitchen.

Photo #8: Typical classroom in the armory.

DEPARTMENT OF THE ARMY AND THE AIR FORCE
NATIONAL GUARD BUREAU
REGIONAL INDUSTRIAL HYGIENE OFFICE
AIRPORT PLAZA SUITE 1530
510 PLAZA DRIVE
COLLEGE PARK, GA 30349

NGB-AVN-SI July 15, 2003

MEMORANDUM FOR: ADJUTANT GENERAL TX ARNG, ATTN.: Commander 3rd Brigade HQ Armory, California Crossing, Dallas, TX 75220-7001

SUBJECT: Transmittal 3rd Brigade HQ Armory Survey Report.

1. References.

a. Department of Defense Instruction 6055.1, Department of Defense Occupational Safety and Health (OSH) Program, 26 October 1984.

b. Army Regulation (AR) 40-5, 30 August 1986, Medical Service, Preventive Medicine.

c. National Guard Regulation (NGR) 385-10, 1988, Army National Guard Safety and Occupational Health Program.

d. AR 11-34, The Army Respiratory Protection Program, 15 February 1990.

e. TB MED 502, Occupational and Environmental Health Respiratory Protection Program, February 1982.

f. DA PAM 40-503, 30 October 2000, The Army Industrial Hygiene Program.

g. DA PAM 40-501, 10 December 1998, Hearing Conservation.

h. Threshold Limit Values and Biological Exposure Indices (TLV's) for 2001, American Conference of Governmental Industrial Hygienists (ACGIH), Cincinnati, Ohio.

i. Industrial Ventilation, 23rd Edition, American Conference of Governmental Industrial Hygienist, Cincinnati, Ohio.

j. USAEHA TG-141, November 1997, Guidelines for Air Sampling and Bulk sample Collection.

NGB-AVN-SI
SUBJECT: Transmittal 3rd Brigade HQ Armory Survey Report.

k. Title 29, Code of Federal Regulations (CFR), 2000 rev., part 1910, Occupational Safety and Health Standards.

l. Report dated 2 July 2003, Industrial Hygiene Survey, Tamar Sciences, Inc., Naperville, IL.

2. General.

a. At the request of the TXARNG Safety and Occupational Health Office, an Industrial Hygiene Service was put together to conduct Health Hazard Information module (HHIM) Field surveys and industrial hygiene sampling of the 3rd Brigade HQ Armory, Dallas , TX.

b. The surveys were conducted by Non-Responsive of Tammer Sciences, Inc., Napervile, IL

3. Findings. All Health Hazard information are on the survey findings of the report. (See enclosure 1)

4. Recommendations.

a. Follow all recommendations made in reference 1.l., requesting industrial hygiene (IH) services where needed to complete the recommendations.

b. Conduct an air sampling survey in the areas in and around those identified with elevated lead dust levels in page 3 0f reference 1.l, to ensure that the lead dust present is not airborne and that employees in these areas are not exposed above the action level.

c. Control water infiltration in the armory and/or replace or repair damaged surfaces or components (ceiling and floor tiles). Building conditions that present IAQ concerns or problems not only exacerbates normally minor health issues but also tend to promote or accelerate building deterioration.

d. The recommendations given in the comment section and data collected will serve as a baseline for the Industrial Hygiene Implementation Plan (IHIP) for FY-03. A follow up operation and hazard specific air sampling survey based on the enclosed findings will be included in the FY-04 IHIP.

e. Consider additional Industrial Hygiene services to monitor operations that were not looked at or surveyed during the present survey, especially if this will help eliminate health hazards and reduce medical surveillance cost.

NGB-AVN-SI
SUBJECT: Transmittal 3rd Brigade HQ Armory Survey Report.

f. To execute your responsibilities in correcting all deficiencies and meeting all standards coordinate with the Occupational Health Nurse and the Occupational Safety and Health Office for technical guidance.

f. Give special consideration to cleaning light fixtures, increasing the wattage and painting walls a lighter color when upgrading the lighting in the facility.

5. If additional information is needed about the industrial hygiene survey or air sample

Non-Responsive

CF:
NBG-AVN-SH
State Occupational Health Office, P. O. BOX 5218, Austin, TX 78763-5218.
State Safety Manager, P. O. BOX 5218, Austin, TX 78763-5218.

Encl
as

Industrial Hygiene Baseline Survey Report
For
Texas Army National Guard
(TXARNG)

At
3rd Brigade HQ Armory
Dallas #5
1775 California Crossing
Dallas, Texas

Prepared for:

Department of the Army and the Air Force
National Guard Bureau
Regional Industrial Hygiene Office
Region South
Airport Plaza Suite 1530
510 Plaza Drive
College Park, GA 30349

By
Non-Responsive

July 2, 2003

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B. Laboratory Analytical Results.
C. Lab Chain of Custody.
D. Floor Layout and Photographs.
E. Indoor Firing Range Cleaning Guidance.

Executive Summary

An initial baseline industrial hygiene survey was conducted at the Dallas #5 Armory on 6 May 2003 as part of the Texas Army National Guard Occupational Health Program to identify potential health hazards in the workplace. The survey consisted of collecting lead wipe samples and bulk asbestos samples, conducting an illumination survey, a noise survey, and an evaluation of the Heating Ventilation and Air Conditioning System (HVAC) as it relates to indoor air quality.

The following table summarizes the survey findings and recommendations for each topic surveyed.

Topic	Summary of Findings	Recommendations
Lead Wipe Samples	74 to 39000 microgram per square foot.	Do not use the firing range space until it is cleaned and decontaminated properly
Asbestos Bulk Samples	Pipe fitting thermal insulation contained 3% chrysotile.	Update the facility asbestos management plan to include the fitting insulation.
Noise Survey	Noise levels ranged from 45 to 65 dBA.	No action.
Illumination Survey	5 to 180 footcandles	No action.
HVAC/IAQ	No issues observed or documented.	No action.
Emergency Exits	Exit Doors are Locked	Replace with Push or Crash Bar Doors

SUBJECT: Industrial Hygiene Initial Baseline Survey of the 3rd Brigade Head Quarters National Guard Armory in Dallas, Texas on 6 May 2003

BACKGROUND:

Introduction. At the request of Non-Responsive of the National Guard Bureau Region South Industrial Hygiene Office, an initial baseline industrial hygiene survey was performed at the Dallas #5 Armory in Dallas, Texas. Non-Responsive, Industrial Hygiene Technician for the Texas Army National Guard and Non-Responsive contract Industrial Hygienist, Tammer Sciences, Inc. conducted the survey on 6 May 2003. The purpose of the survey was to perform an initial baseline industrial hygiene survey to evaluate potential health hazards present at the armory.

Site Description. The facility houses 3rd Brigade Headquarters, the 249th Signal Battalion, and DET 1, HHB 4-133 Field Artillery (FA). The armory building is a two-story structure that was constructed in 1960. The facility houses several administrative office areas, a kitchen, a mess hall, training or class rooms, a drill hall, several supply rooms, and a converted indoor firing range area used for storage. Approximately 30 full time employees work at this armory. A copy of the employee list and contact information is included in Appendix D with the building layout drawing and photos.

Scope of Work. The work included collecting wipe samples for lead, bulk samples for suspect asbestos containing building material, illumination levels, noise readings, and an evaluation of the ventilation system as it pertains to indoor air quality.

Methodology Lead wipe samples were collected from surfaces that showed signs of lead contamination in Armories that have a renovated, inactive, or closed indoor firing range (IFR). The samples were collected accordance to instructions published by Region South National Guard Bureau, which required the use of unscented baby wipes to wipe one square foot of surface. Samples were then placed in a sealed plastic bag and sent for analysis to EMSL laboratory, which is an American Industrial Hygiene Association (AIHA) Accredited laboratory. Asbestos bulk samples were collected from suspect building materials that were grouped based on similarity of composition. Bulk sample collection was minimally destructive and samples were collected from inconspicuous areas. Bulk samples were also collected from suspect friable and damaged building material. Each bulk sample was placed in a sealed bag and sent to EMSL laboratory for analysis. A photograph of the sampled material and area were also taken. Noise readings were measured using a SPER Scientific Sound Level Meter Model; 840019 Serial Number 0174519, with a calibration date of July 2, 2002. All noise measurement were area readings. Illumination readings were collected using a Western Schlumberger light meter Serial 8384. Illumination readings were taken on work surfaces and approximately four feet from the floor.

FINDINGS and DISCUSSION:

The Point of Contact during the survey was Non-Responsive

Lead Wipe Samples: Eleven wipe samples were collected from the converted indoor firing range area and other administrative areas as listed in the table below.

Sample Number	Sample Location	Micrograms of lead (ug) per square foot
[illegible]	[illegible]	[illegible]
DAL5003	Top of storage shelf in the converted IFR near the trap area.	160
DAL5004	Top of a storage box in the converted IFR.	74
[illegible]	[illegible]	[illegible]
DAL5008	Supply air diffuser in classroom adjacent to the converted firing range.	100
DAL5009	Top of bookshelf in HHC B-3 Office area.	76
DAL5010	Supply air duct in Non-Responsive ice.	110
[illegible]	[illegible]	[illegible]
DAL5012	Field blank	13

The US Environmental Protection Agency (EPA), under a new standard issued in 2000, considers lead dust as a hazard if levels are greater than 40 micrograms of lead in dust per square foot on floors; 250 micrograms of lead in dust per square foot on interior window sills and 400 parts per million (ppm) of lead in bare soil in children's play areas or 1200 ppm average for bare soil in the rest of the yard. This standard is a major effort by the EPA to identify dangerous levels of lead in paint, dust and soil in order to protect children from lead poisoning. The National Guard Bureau recommends a limit of 200 micrograms per square foot for surface contamination. The laboratory report and chain of custody forms are attached in Appendices B and C.

The indoor firing range and other contaminated area as indicated by the wipe sampling results should be properly cleaned and decontaminated in accordance to the instructions found in NG PAM 385-18. Appendix E contains recommended guidelines for cleaning and decontaminating indoor firing range. The firing range should not be used as a storage area until it is properly cleaned and decontaminated.

Asbestos Suspect Building Material Four types of building materials were identified as potentially containing asbestos. The identified types included 12 by 12 inches floor tiles, 2x4 feet ceiling tiles, Baseboard, and pipe thermal insulation. A total of five bulk samples were collected randomly from the identified materials. The table below lists the samples collected and the results:

Sample #	Description	% Asbestos Type
DAL501A	12x12 inch floor tile.	None.
DAL501A	12x12 inch floor tile mastic	None.
DAL502A	Baseboard from office area.	None.
DAL503A	Ceiling tile from lounge.	None.
DAL504A	Pipe thermal insulation from a joint.	5% Chrysotile
DAL505A	Pipe thermal insulation from a straight run.	None.

The laboratory report and chain of custody forms are attached in Appendices B and C.

Noise Survey Area noise readings were collected in the various surveyed areas within the armory and reported as a range. The Table below lists the noise reading ranges as recorded on the day of the survey:

Area	Reading in Decibels on the A-Scale (dBA)
Converted Firing Range	45 – 50
Kitchen	55 – 57
Classrooms #1	45 – 47
Classrooms #2	46 – 48
Drill or Assembly Hall	60 – 65
HHC Administrative Office Areas	45 – 50
Hallways to Admin. Areas	55 – 65
Administrative Offices on the Second Floor	55 – 65
Administrative Offices on the First Floor	55 – 65

All readings are well below the Occupational Safety and Health Administration (OSHA) regulated limit of 90 dBA and the Army recommended limit of 85 dBA.

Illumination Survey Lighting levels throughout the Armory ranged between 5 foot-candles to 180 foot-candles. Specific readings were as follows:

Area	Reading in Foot-candles
Converted Firing Range	5 – 60
Kitchen	150 – 180
Classrooms #1	60 – 120
Classrooms #2	60 – 120
Drill or Assembly Hall	30 – 60
HHC Administrative Office Areas	60 – 100
Hallways to Admin. Areas	30 – 80
Administrative Offices on the First Floor	50 – 70
Administrative Offices on the Second Floor	60 – 100

All readings are within the Army Design Guide (DG415-2) minimum illumination level of 50 foot-candle for office area and 20 foot-candles for parts storage/supply. The American National Standard Institute (ANSI) recommends a minimum illumination level of 50 to 100 foot-candles for office work, 20 to 50 for general lighting. Luminance depends on various factors including the task to be performed, the age of the individual, and the surroundings. Luminance of 50 to 100 foot-candles is recommended for performance of visual tasks of medium contrast or small size such as reading pencil handwriting and poorly printed or reproduced material. Depending on the type of display, background luminance of 30 to 60 foot-candles is recommended for VDT work. Replacing light bulbs with higher wattage will increase lighting levels. Replacing burnt out light bulbs and cleaning the light fixture should improve the lighting levels.

Heating Ventilating and Air Conditioning (HVAC) The Heating Ventilating and Air-Conditioning (HVAC) System for the Armory consisted of 3 to 4 forced air units serving one half of each floor and located in a mechanical room next to the main stairs. It was not certain that outside makeup air is provided to the occupied space. However, all windows can be opened. Supply air ducts are located under the cement slab on the first floor and overhead on the second floor. Some employees expressed concerns about the location of the supply air duct on the first floor. Water and debris can collect inside providing a media for microbiological growth sources. No other complaints of indoor air quality issues were documented or communicated with the POC.

Emergency Exits Employees expressed concerns about the locked emergency exit doors in the administrative offices especially on the second floor. The emergency exit doors were locked because of security reasons. The emergency exit doors should be unlocked at all time of occupancy. Push bar lockable doors can be installed in place of the current doors to provide the necessary security and emergency exit capability.

Recommendations:

1. Clean and decontaminate the converted firing range and other contaminated surfaces and areas by wet wiping and vacuuming using a High Efficiency Particulate Air (HEPA) filter.

2. Update the facility asbestos plan to include the pipe thermal insulation fittings as containing asbestos.

3. Replace the emergency exit doors with push bar type doors.

Technical Assistance: For technical assistance regarding information found in this report

Non-Responsive

APPENDIX A

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

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

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

Army Regulation (AR) 11-34, The Army Respiratory Protection Program, 1990

Army Regulation (AR) 40-5, Preventative Medicine, 15 October 1990.

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

National Fire Protection Association (NFPA) No. 30, Standard for Flammable and Combustibles Liquid Code, 1996.

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

NGR 385-10, Army National Guard Safety and Occupational Health Program, 29 December 1989.

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

Title 29, Code Of Federal Regulations (CFR), 1999, revision, Part 1910, Occupational Safety and Health Standards.

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

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

APPENDIX B

EMSL Analytical

3 Cooper St, Westmont, NJ 08108

Phone: (856) 858-4800 Fax: (856) 858-4571 Email: [redacted]

Attn: Non-Responsive

Fax:

Project:

Customer ID: TS80
Customer PO:
Received: 05/12/03 11:50 AM

EMSL Order: 200304961
EMSL Project ID:

Lead in Wipes by Flame AAS (SW 846, 7420)

Client Sample Description	Lab ID	Analyzed	Area Sampled	Lead Concentration
DAL 5001	0001	5/23/03	144 in²	39000.0 µg/ft²
DAL 5002	0002	5/23/03	144 in²	1200.0 µg/ft²
DAL 5003	0003	5/23/03	144 in²	180.0 µg/ft²
DAL 5004	0004	5/23/03	144 in²	74.0 µg/ft²
DAL 5005	0005	5/23/03	144 in²	240.0 µg/ft²
DAL 5006	0006	5/23/03	144 in²	1500.0 µg/ft²
DAL 5007	0007	5/23/03	144 in²	500.0 µg/ft²
DAL 5008	0008	5/23/03	144 in²	100.0 µg/ft²
DAL 5009	0009	5/23/03	144 in²	76.0 µg/ft²
DAL 5010	0010	5/23/03	144 in²	110.0 µg/ft²
DAL 5011	0011	5/23/03	144 in²	380.0 µg/ft²
DAL 5012	0012	5/23/03	144 in²	13.0 µg/ft²

Non-Responsive

The QC data associated with the sample results included in this report meet the recovery and precision requirements established by the AIHA, unless specifically indicated otherwise in the corrective action.

ACCREDITATIONS: AIHA Environmental Lead Laboratory Accreditation Program # 100191

Date Printed: 5/27/03 10:19:28 AM

Page 1 of 1

EMSL Analytical, Inc.
107 Haddon Ave., Westmont, NJ 08108
Phone: (856) 858-4800 Fax: (856) 858-4571 Email: asbestos@EMSL.com

Attn: Non-Responsive
Fax
Project

Customer ID: TS80
Customer PO:
Received: 05/12/03 2:35 PM

EMSL Order: 040307669
EMSL Project ID:
Analysis Date: 5/20/2003

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Treatment	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
DAL 501A TR E	DALLAS #5	Gray Non-Fibrous Heterogeneous	Teased		100% Non-fibrous (other)	None Detected
DAL 501A MASTIC	DALLAS #5	Yellow Fibrous Heterogeneous	Teased Dispersion	2% Cellulose	98% Non-fibrous (other)	None Detected
DAL 502A	DALLAS #5	Brown Non-Fibrous Heterogeneous	Teased		100% Non-fibrous (other)	None Detected
DAL 503A	DALLAS #5	Gray/White Fibrous Heterogeneous	Teased	20% Cellulose 5% Glass	75% Non-fibrous (other)	None Detected
DAL 504A	DALLAS #5	Gray/White Fibrous Heterogeneous	Teased	5% Cellulose 10% Hair	80% Non-fibrous (other)	5% Chrysotile
DAL 505A	DALLAS #5	Yellow/White Fibrous Heterogeneous	Teased	90% Glass	10% Non-fibrous (other)	None Detected

Non-Responsive

Non-Responsive

Analysis performed by: EMSL Westmont (NVLAP #101048-0, NY ELAP 10872)

PLM-1

1

THIS IS THE LAST PAGE OF THE REPORT.

APPENDIX C

EMSL ANALYTICAL — CHAIN OF CUSTODY — 190764961 — LEAD

Revised 7/1/99

EMSL Rep:

DATE: 5/8/03

Third party billing requires written authorization from third party

Your Company Name:	Tommer Sciences, Inc.	EMSL-Bill to:	Same as previous
Street:	3744 Lawrence Dr	Street:	
Box #:		Box #:	
City/State:	Naperville, IL Zip: 60564	City/State:	Zip:

Phone Results to: [redacted]
Name:
Telephone #:
Project Name/Number:
Purchase Order #:

MATRIX	METHOD	INSTRUMENT	mdls	TAT
Lead Chips*	SW846-7420 or AOAC 5.009 (974.02)	Flame Atomic Absorption	0.01% ++	144 hrs
Lead Wastewater	SW846-7420	Flame Atomic Absorption	0.4 mg/l water 50 mg/kg (ppm) soil	
Lead Soil +	or SW846-6010	ICP	0.1 mg/l water 10 mg/kg (ppm) soil	
Lead in Air**	NIOSH 7082	Flame Atomic Absorption	5 ug/filter	
	or NIOSH 7300	ICP	3.0 ug/filter	
Lead in Wipe	SW846-7420	Flame Atomic Absorption	10 ug/wipe Same 72 hr	144 hrs A
	or SW846-6010	ICP	3.0 ug/wipe	
TCLP Lead **	SW846-1311/7420	Flame Atomic Absorption	0.4 mg/l (ppm)	
	or SW846-6010	ICP	0.1 mg/l (ppm)	
Lead in Air****	NIOSH 7105	Graphite Furnace Atomic Absorption	0.03 ug/filter	
Lead Wastewater	SW846-7421	Graphite Furnace Atomic Absorption	0.003 mg/l (ppm) water	
Lead Soil +			0.3 mg/kg (ppm) soil	
Lead in Drinking Water (check state Certification Requirements)	EPA 239.2	Graphite Furnace Atomic Absorption	0.003 mg/l (ppm)	
Total Dust	NIOSH 0500-0600	Gravimetric Reduction	0.0001g	

TAT (Turnaround) - 3 hours, 6 hours, Please call ahead to schedule.
12 hours (must arrive by 11:00 a.m),
24 hours (1day), 48 hours (2 days), 72 hours, 96 hours (3 days), 120 hours(4 days), 144 + hours (5-10 days)
*, **, ***, ****, +, ++ Please Refer to Price Quote

SAMPLE #	LOCATION	Air volume, L Area, in²	LAB #
DAL-5001	DALLAS 5	144 in²	0496[illegible]-1
DAL-5002			2
DAL-5003			3
DAL-5004			4
Relinquished By: (Person)	[redacted]		
Date: 5/8/03			

Note: Please duplicate this form and use additional sheets if necessary.

Page 1 of 4

EMSL ANALYTICAL
Revised 7/1/99

CHAIN OF CUSTODY

260349C / LEAD

SAMPLE #	LOCATION	Air volume, L Area, in²	LAB #
DAL 5005	DALLAS #5	144 in2	649615
DAL 5006			6
DAL 5007			7
DAL 5008			8
DAL 5009			9
DAL 5010			10
DAL 5011			11
DAL 5012			12
⇒ # SEPERATE REPORT #			⇐
IRV 001	IRVING / DALLAS	144 in2	
IRV 002			
IRV 003			
IRV 004			
IRV 005			
IRV 006			
IRV 007			
IRV 008			
IRV 009			
IRV 010			
IRV 011			
IRV 012			
⇒ # SEPERATE REPORT #			⇐
DAL 2001	DALLAS # 2	144 in2	
DAL 2002			
DAL 2003			
DAL 2004			
DAL 2005			
DAL 2006			
DAL 2007			
DAL 2008			
⇒ # SEPERATE REPORT #			⇐
DAL 4001	DALLAS # 4	144 in2	
DAL 4002			
DAL 4003			

Relinquished By: (Person) KAL H. KAWAR	Received at EMSL By:
Date 5/8/03	Date 5/12/03 11:17 HRS

Note: Please duplicate this form and use additional sheets if necessary.

Page 2 of 4

0403075B9

EMSL Analytical, Inc.
Revised 07/27/99

CHAIN OF CUSTODY

Asbestos

EMSL Rep:

Your Company Name: Tanner Sciences, Inc.
Street: 3944 Lawrence Dr.
Box #:
City/State: Naperville, IL Zip: 60564

EMSL-Bill to: Same as Shipping
Third Party Billing requires written authorization from third party
Street:
Box #:
City/State: Zip:

Phone Results to:
Name:
Telephone #:
Project Name/Number:

Fax Results to:

Non-Responsive

MATRIX			TURNAROUND			
☐ Air	☐ Floor Tile	☐ Soil	☐ 3 hrs	☐ 6 Hours	☐ Same Day or 12 Hours*	☐ 24 Hours 1 day
☑ Bulk	☐ Drinking Water	☐ Dust	☐ 48 Hours 2 days	☐ 72 Hours 3 days	☐ 96 Hours 4 days	☐ 120 Hours 5 Days
☐ Wipe	☐ Wastewater	☐ Micro-Vac	☑ 144+ hours 6-10 Days			

*TEM AIR, 3 hours, 6 hours. Please call ahead to schedule. There is a premium charge for 3 hour tat, please call 1-800-220-3675 for price prior to sending samples. You will be asked to sign a tat authorization form for this service. 12 hours (must arrive by 11:00 a.m Mon - Fri.), Please Refer to Price Quote

PCM - Air
- ☐ NIOSH 7400
- ☐ OSHA
- ☐ Other:

TEM AIR
- ☐ AHERA
- ☐ NIOSH 7402
- ☐ EPA Level II

TEM WATER
- ☐ Wastewater
- ☐ Drinking Water EPA 100.1
- ☐ Water - NY Wastewater
- ☐ Water-NY Drinking Water

PLM Bulk
- ☑ EPA 600/R-93/116
- ☐ EPA Point Count
- ☐ NY Stratified Point Count
- ☐ PLM NOB (Gravimetric) NY 198.1
- ☐ Other:

TEM BULK/misc
- ☐ Drop Mount (Qualitative)
- ☐ Chatfield
- ☐ TEM NOB (Gravimetric) NY 198.4

TEM MICROVAC / WIPE
- ☐ ASTM D 5755-95 quantitative method

XRD
- ☐ Asbestos
- ☐ Silica

SEM Air or Bulk
- ☐ Qualitative
- ☐ Quantitative

OTHER
- ☐

SAMPLE NUMBER	LOCATION	VOLUME (If Applicable)
DAL-501A	DALLAS # 5	N/A
DAL-502A		

Client Sample # (s)
Total Samples #:

Relinquished: Non-Responsive Date: 5/8/03 Time: PM

Received: Date: Time:

Page 1 of 3

1

041030'7589

EMSL Analytical, Inc.
Revised 07/07/98

CHAIN OF CUSTODY

Asbestos

SAMPLE NUMBER	LOCATION	VOLUME (If Applicable)
DAL 503A	DALLAS # 5	NA
DAL 504A		↓
DAL 505A		←
→ # SEPERATE REPORT # ←		
IRV01A	IRVING/DALLAS	N/A
IRV02A	↓	↓
IRV03A		
IRV04A	↓	↓
→ # SEPERATE REPORT # ←		
DAL201A	DALLAS # 2	N/A
DAL202A	↓	↓
DAL203A		
→ # SEPERATE REPORT # ←		
DAL401A	DALLAS # 4	N/A
DAL-402A	↓	↓
DAL-403A		
DAL404A		
DAL 405A		
DAL 406A		
DAL407A		
DAL408A	↓	↓
→ # SEPERATE REPORT # ←		
DAL 301A	DALLAS # 3	N/A
DAL 302A	↓	↓
DAL-303A		
#	SEPERATE REPORT # ←	

Page 2 of 3

2

0110307589

EMSL Analytical, Inc.
Revised 07/07/99

CHAIN OF CUSTODY

Attention

SAMPLE NUMBER	LOCATION	VOLUME (If Applicable)
FW01A	FORT WORTH # 2	N/A
FW02A	↓	↓
FW03A	↓	↓
FW04A	↓	↓
→ SEPERATE	REPORT*	←

Page 3 of 3

APPENDIX D

DALLAS 5

TEXAS ARMY NATIONAL GUARD
1775 California Crossing Road, Dallas, Texas

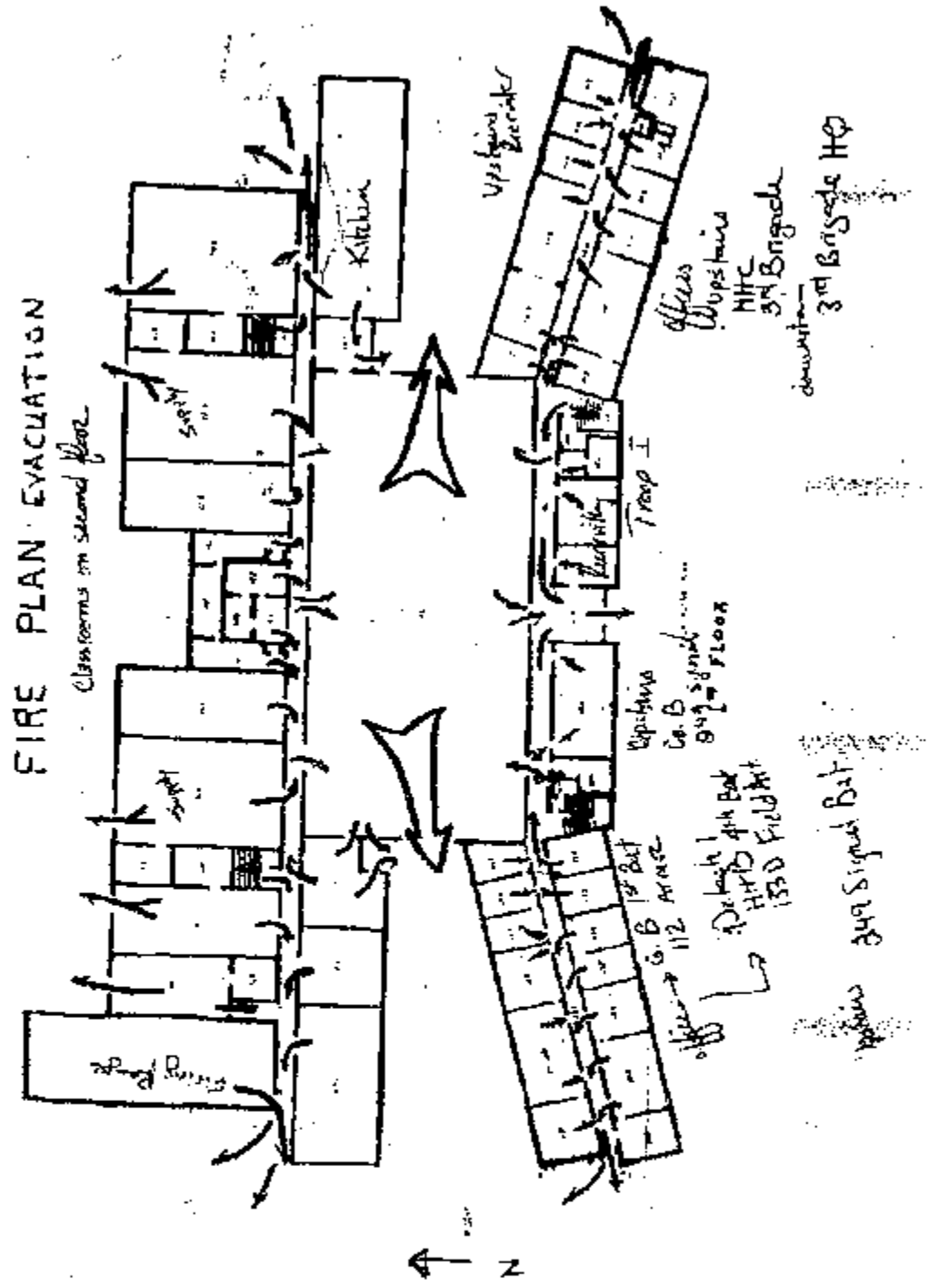
As of: 07 November 2001, Version: 5
Auto Attendant Numbers: 972-556- 0380, 0351, 1613, 0084, 0319, 0888, 0056, 0489, 0475, 1092

HQ 3D BRIGADE	RANK	EXT	DUTY POS	REMARKS
BLACKBURN, DAVID	COL	1301	BDE CDR	(DP) M-Day
MADDEN, DAVID	LTC	1302	BDE XO	(DP) FTUS OIC
BERG, ROBERT	MAJ	1303	BDE S1	(DP) M-Day
LONGORIA, STEVE	SFC	1334	PSNCO	(DP) AGR
MCGUIRE, KIMBERLY	CIC	1304	Acting PSNCO	AGR
M-DAY S-1 SECTION		1305	S-1 SHOP / HHC	(DP) M-Day
PELTIER, JEFFREY N.	MAJ	1306	BDE S2	(DP) M-Day
MCVAY, GREGORY	MAJ	1315	BDE S3	(DP) M-Day
WALKER, KENNETH	1LT	1313	BDE INT	AGR
Vacant	1LT	1312	BDE 2NT	AGR
ROBINSON, JESSE	SGM	1323	S3 NCOIC	(DP) M-Day
RAY, JOE	CSM	1323	BDE OPS	(DP) AGR
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
OPS-TNG ROOM		1307	BDE OPS	(DP) M-DAY
PEREZ, JOSE A.	MAJ	1310	BDE S4	(DP) AGR
RIPLEY, JAMES	MSG	1311	S4 NCOIC	AGR
ASSIST S-4 OFFICER	CPT	1334	ASST S-4	(DP) M-DAY
HHC 3D BRIGADE	**RANK**	**EXT**	**DUTY POS**	**REMARKS**
CHAPMAN, BRIAN	CPT	1314	CO CDR	(DP) M-Day
HOFFMAN, RANDALL L.	SFC	1315	PSNCO	AGR
BRUSHINGHAM, JASON	SGT	1316	SUPPLY NCOIC	(DP) AGR
TRP 1, 124 CAV (RT)	**RANK**	**EXT**	**DUTY POS**	**REMARKS**
HART, JASON T	CPT	1338	TROOP CDR	
ORTIZ, AARON Vacant	SFC	1340	FRNCO	AGR
HQ 2/49 SIG BN	**RANK**	**EXT**	**DUTY POS**	**REMARKS**
BRUNO, JANICE E	LTC	1317	BN CDR	M-Day
AGR (AUSTIN)				
DERRAH, MARK E.	MAJ	1318	BN XO	M-Day
BN S-1 SHOP		1325		
ARMSTRONG, LAURIE B	SSG	1347	SHPSNCO	AGR
WHEELER, JOHN C.	CPT	1320	S1	AGR / FTUS OIC
M-Day OFFICE		1348	ASST S3	M-Day
STOVALL, KENNETH J	CSM	1321	BN CSM / OPS	AGR
CALLAHAN, JOHN R.	SFC	1322	S4 NCOIC	AGR
STAGGART, JENNIFER A.	SGT	1324	DET 1 FRNCO	AGR
CONF ROOM		1333		STU II
LINE DROP	NA	1365	FTUS-OIC	Modem

Calling Austin: Dial 4-digit EXT
Calling Long Distance: Enter 4-digit code & number-authorization code
Voice Mail: 1399
(DP) - Indicates "Deployed"

HQ 249TH SIG BN	RANK	EXT	DUTY POS	REMARKS
[illegible], ROBERT N.	CPT	1319	Co Cdr	M-Day [illegible]
FREEMAN, LAVON	1SG		1SG	[illegible]
MILLER, CLIFFORD E.	SFC	1321	FRNCO	TECH
MADDOX, TIMOTHY J.	SSG	1326	SUPPLY NCOIC	AGR
CO B, 49TH SIG BN	**RANK**	**EXT**	**DUTY POS**	**REMARKS**
HANCOCK, JAY T.	CPT	1339	CO CDR	M-Day
SKINNER, DARRELL	1SG	1327	1SG	M-Day
GRIFFIN, PAUL D.	SFC	1328	FRNCO	AGR
HIDALGO, LUIS L.	SFC	1329	SUPPLY NCOIC	AGR
DET 1 (HHD) 133 FA	**RANK**	**EXT**	**DUTY POS**	**REMARKS**
CRAIGHEAD, MICHAEL R.	SFC	1330	FRNCO	(DP) AGR
LEPARD, LLOYD E.	SGT	1331	SUPPLY NCOIC	AGR
CO B, 1-112 AR	**RANK**	**EXT**	**DUTY POS**	**REMARKS**
COMMANDER	CPT	1351	Cdr	M-Day
BENFORD, TERRY L.	SFC	1332	FRNCO	AGR
ORDERLY ROOM		1352	ORD RM	M-Day
DELACRUZ, ENRIQUE	SSG	1333	SUPPLY NCOIC	AGR
SUPPLY ROOM		1354	SUPPLY RM	M-Day
OMS #10	**RANK**	**EXT**	**DUTY POS**	**REMARKS**
BERRYMAN, JERRY E. JR	WO1	1344	DEPLOYED	TECH
TERRY, JIMMY R.	SFC	1345	SHOP CHIEF	TECH
		1344	SHOP OFFICE	
		1343	MAIN BAY	
RECRUITING	**RANK**	**EXT**	**DUTY POS**	**VOICEMAIL/BACKUP**
JACKSON, CURLY W.	MAJ	1336	ROTO	972-556-0305 (V-F-DU)
GOOD, JAMES W.	MSG	1337	ARRNCO	972-556-0304 (V-F-DU)
SPEASE, MICHAEL H. JR	SFC	1338	RRNCO	972-555-0347
HUTCHINSON, JEFF C.	SGT	1350	RRNCO	972-444-8838
MARTIN, HEIDI A.	SSG	1349	RRNCO-249 BDE	972-[illegible] (EXT 1349)
[illegible]	**RANK**	**EXT**	**DUTY POS**	**REMARKS**
HART, DAVID M.	MAJ	1349	GA ADVISOR	

To page Drill Hall & OMS (ONLY): Dial 110, hear two beeps, dial 33
To page 3 Bde only: Dial 110, hear two beeps, dial 11
To page all ext's: Press "Group Page" on your digital Phone
Transfer: Press Transfer Button - Dial EXT - Press Transfer Button
HQ/HHC, 3rd Bde FAX: 972-401-[illegible] (or EXT: 1341)
Co B 1-112 AR FAX: 972-444-[illegible] (EXT: ____)
HQ / HHC / Co B, 249 Sig Bn FAX: 972-[illegible] (EXT: 13431-
OMS FAX: 972-[illegible]
Recruiter's FAX: 972-401-[illegible] (EXT: None)
DSN Dialing: 9-1-512-782-1068, hear tone, dial DSN Number



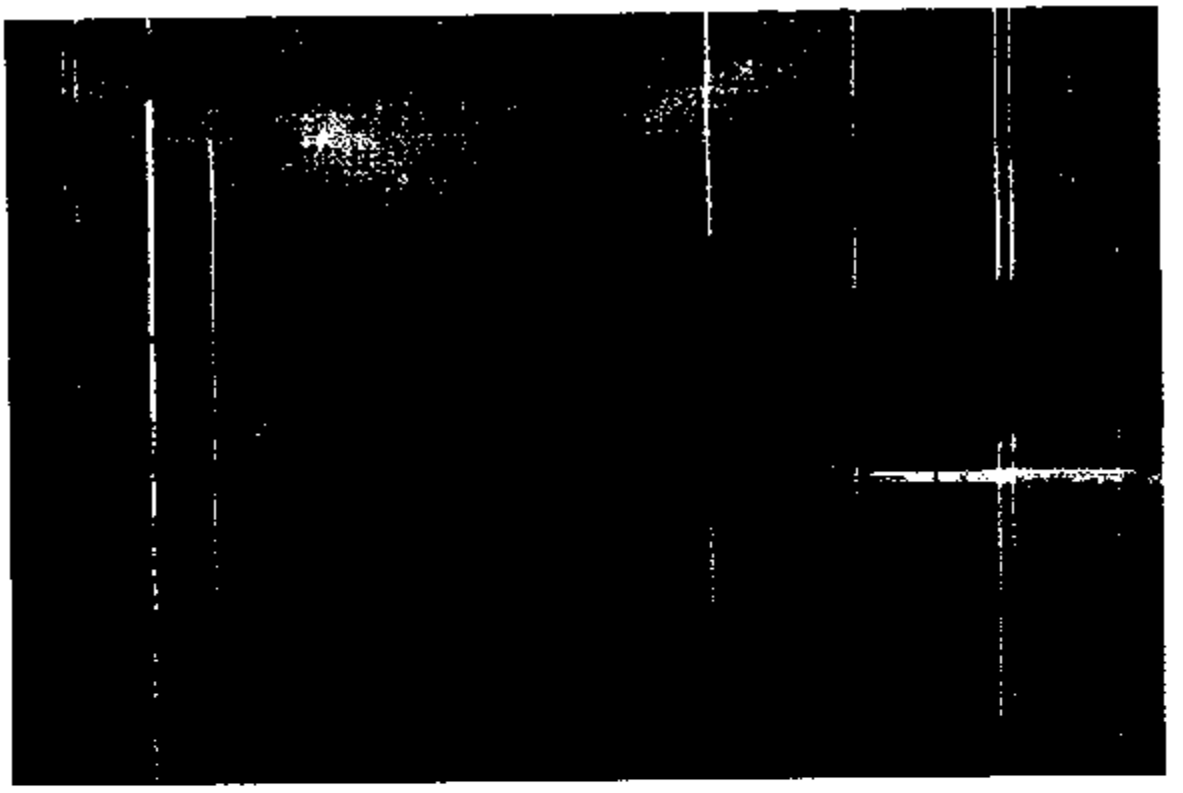


Photo 1: Dallas #5 Armory Front Entrance.

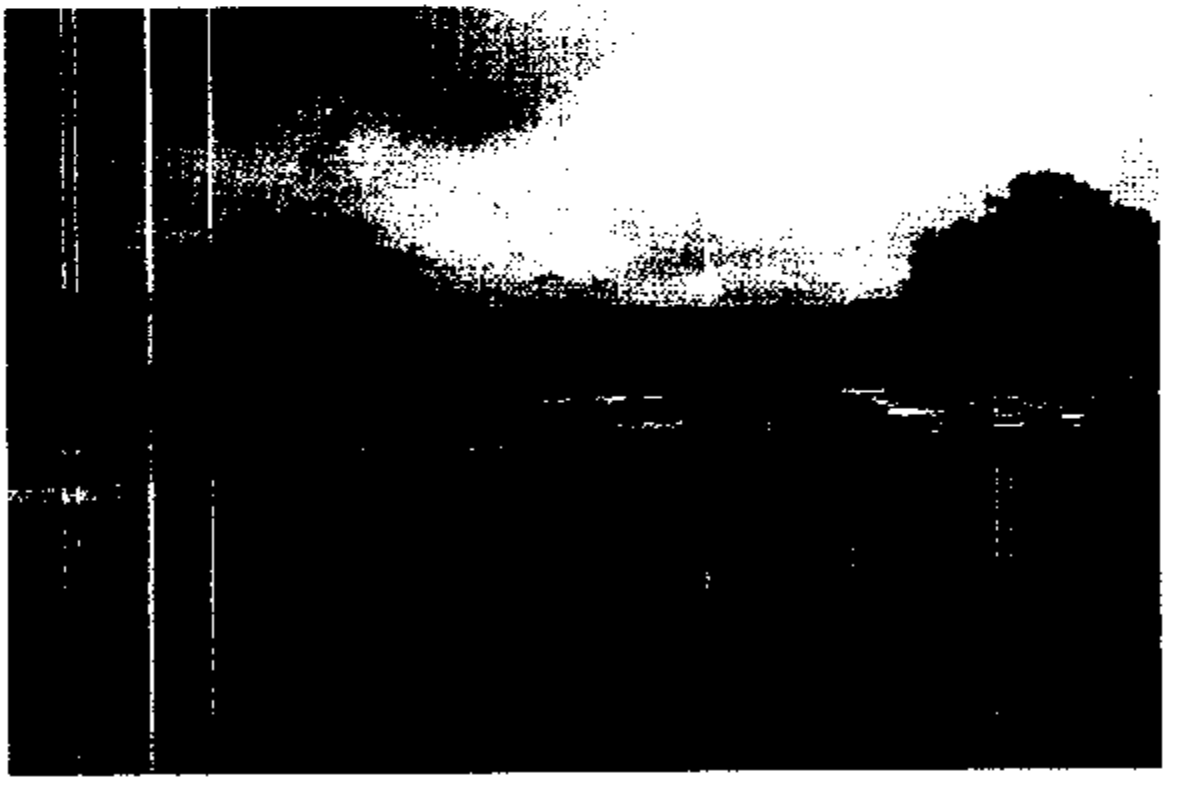


Photo 2: Dallas #5 Armory Front Entrance.

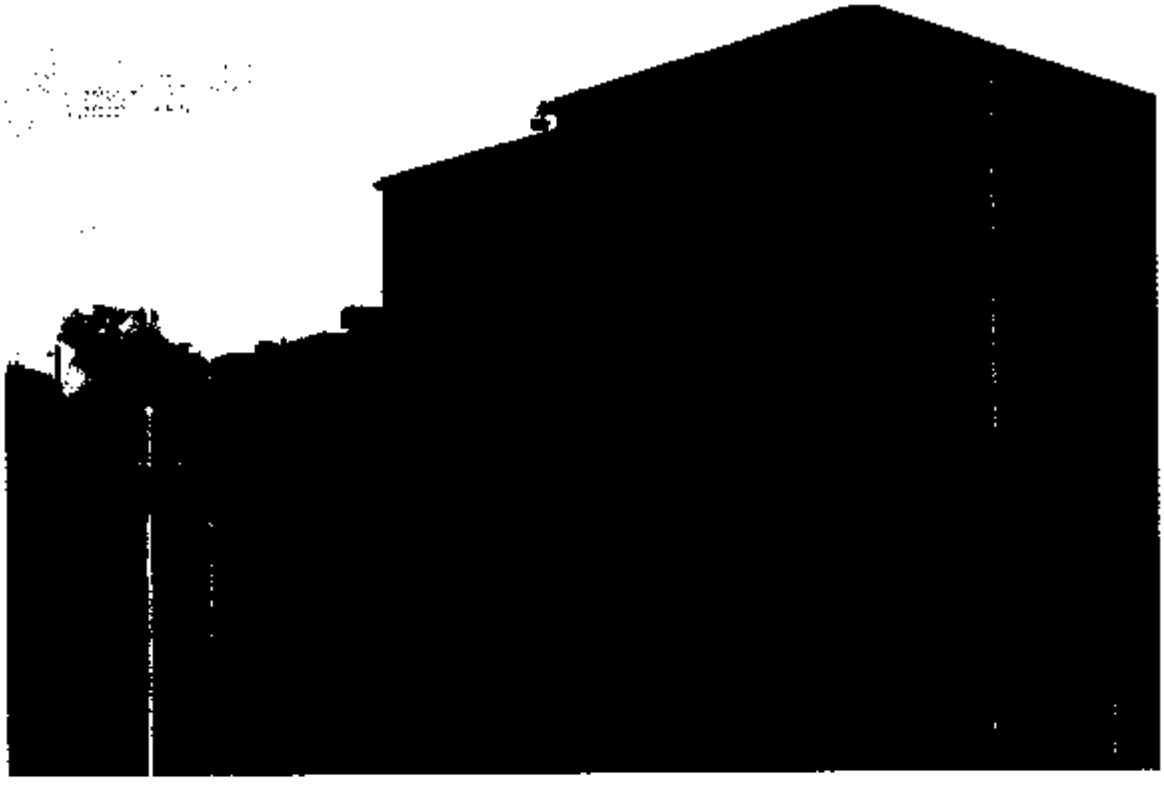


Photo 3: Armory west side

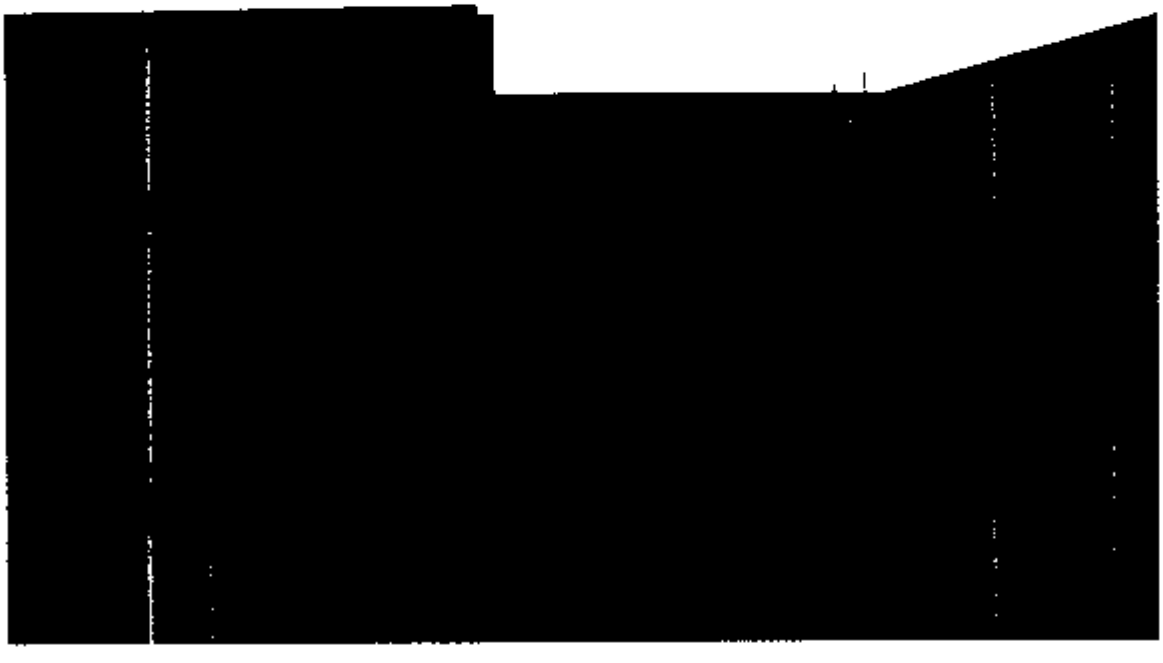


Photo 4: Outside showing the roll top door to the drill hall.

Photo 5: Rear end of the armory showing the firing range end.

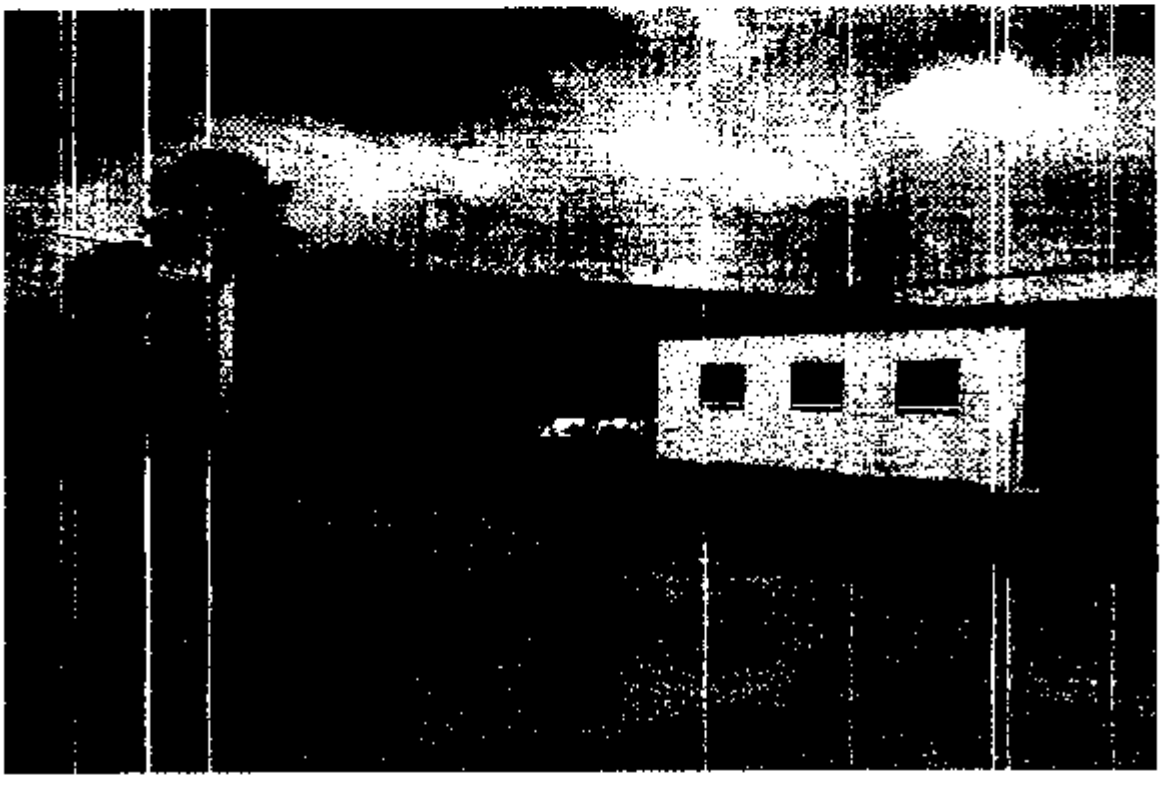


Photo 6: East end of the Armory.

Photo 7: Inside of the Converted Indoor Firing Range showing the items stored.

Photo 8: Inside of the Converted Indoor Firing Range showing the items stored.

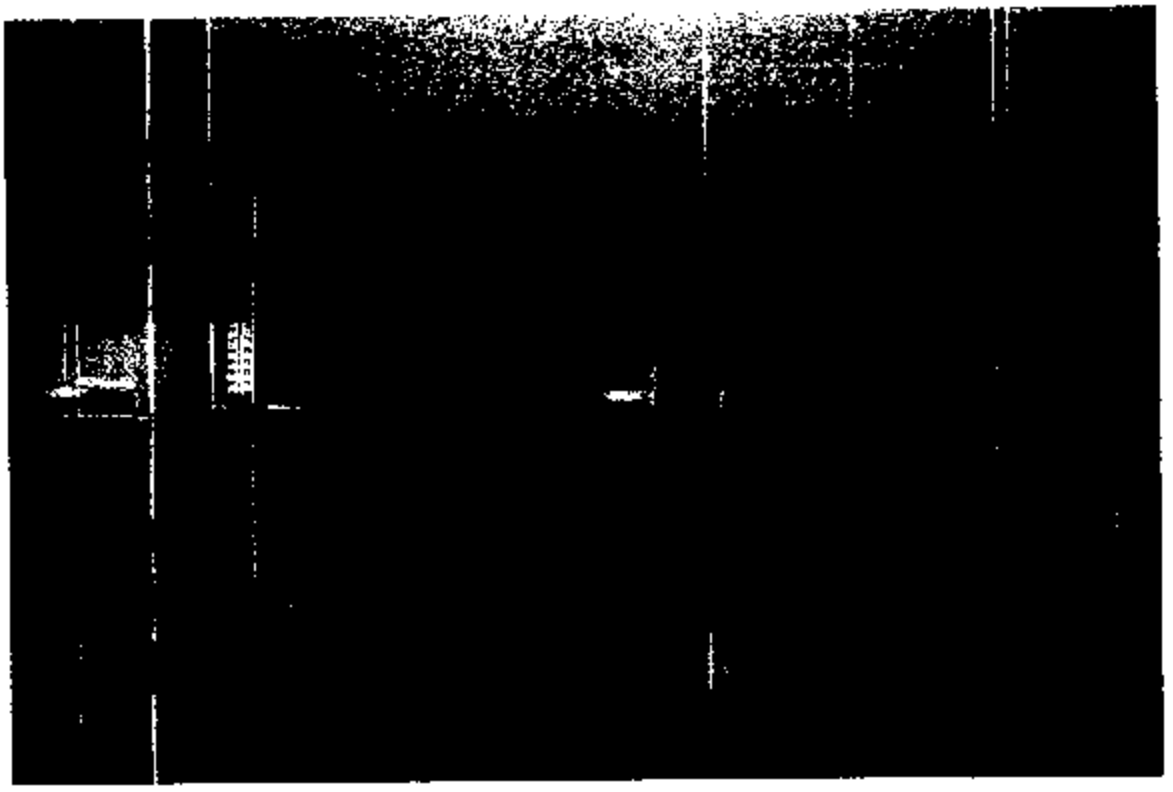


Photo 9: Stored items in the converted firing range..

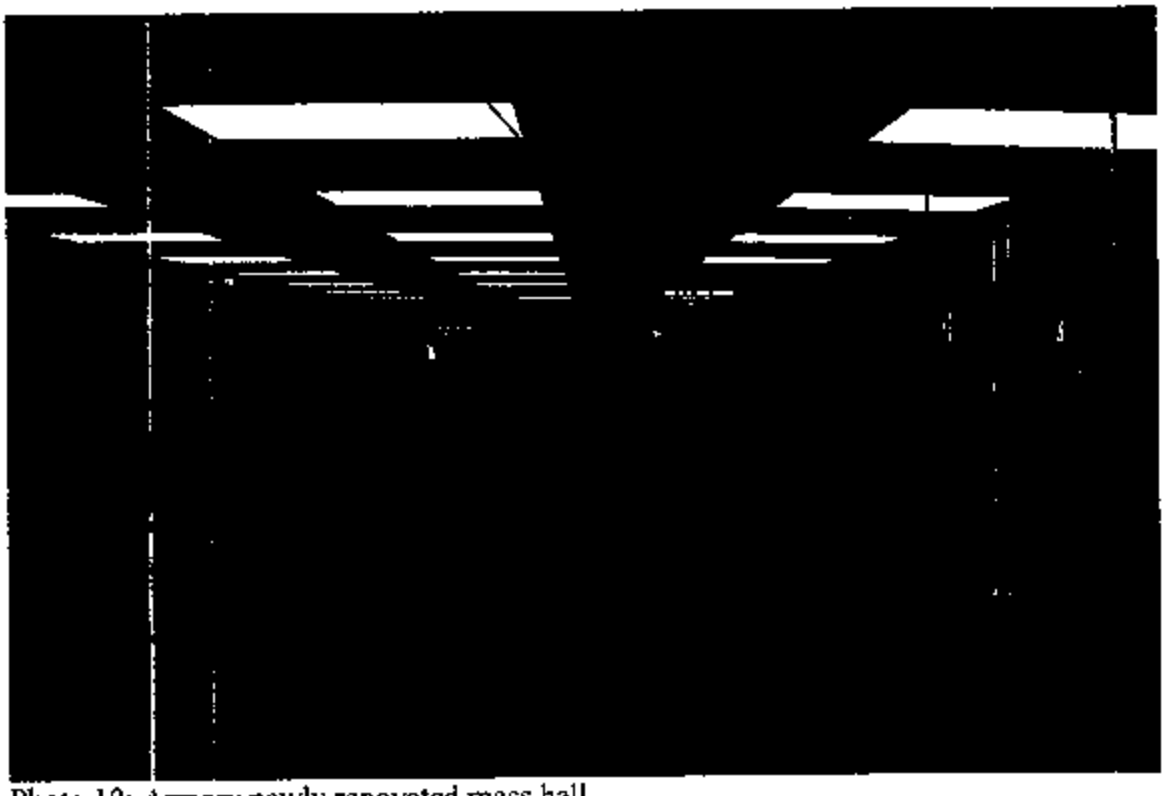


Photo 10: Armory newly renovated mess hall .

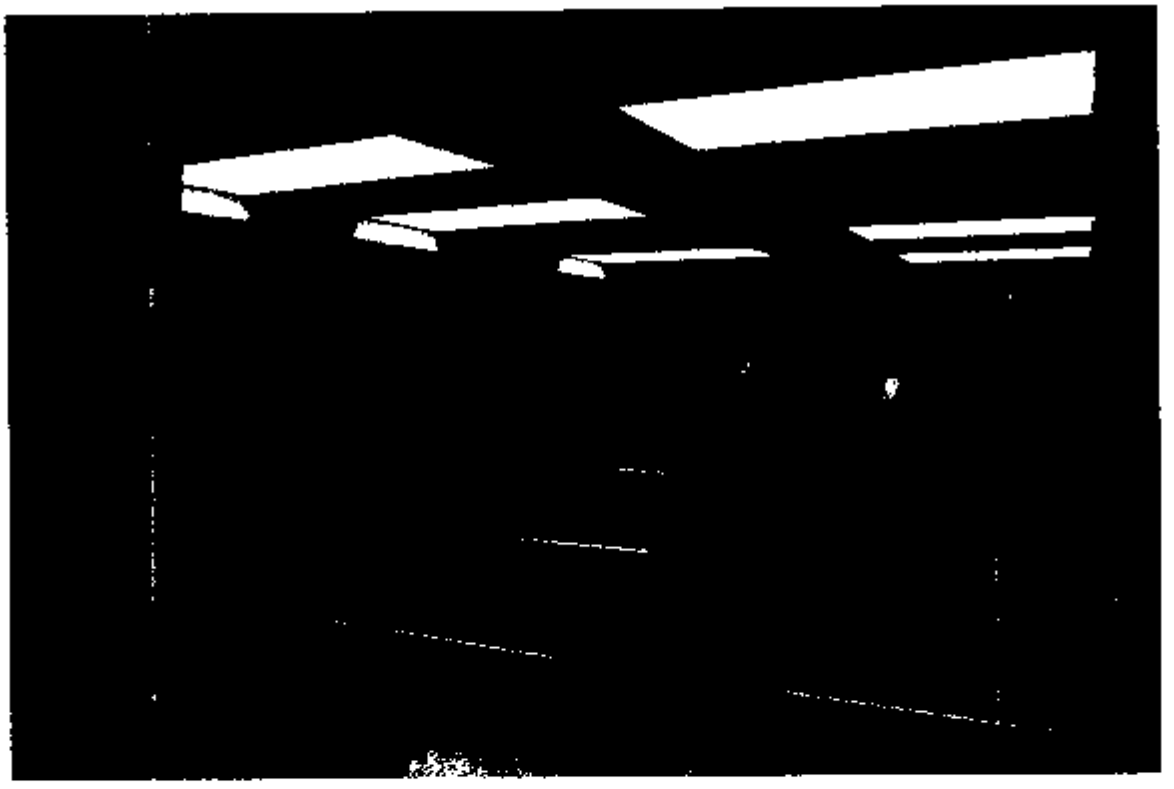


Photo 11: Armory kitchen.

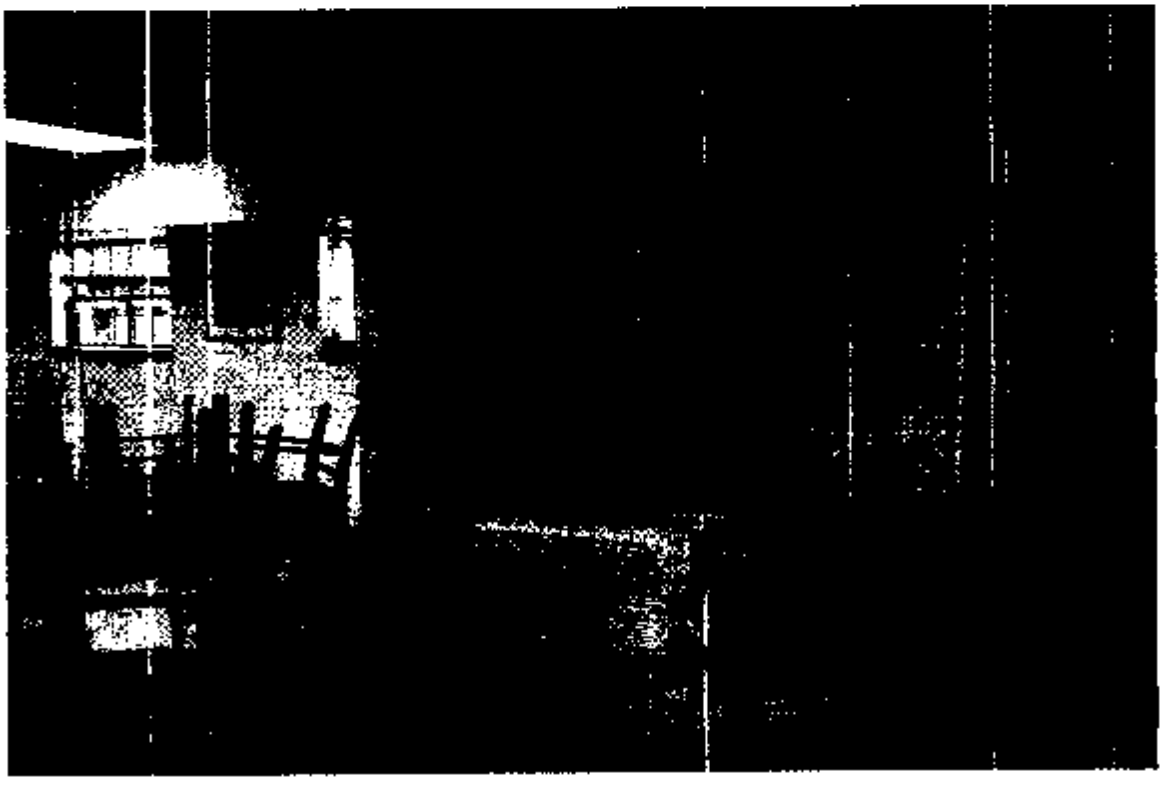


Photo 12: Mechanical Closet in the mess hall.

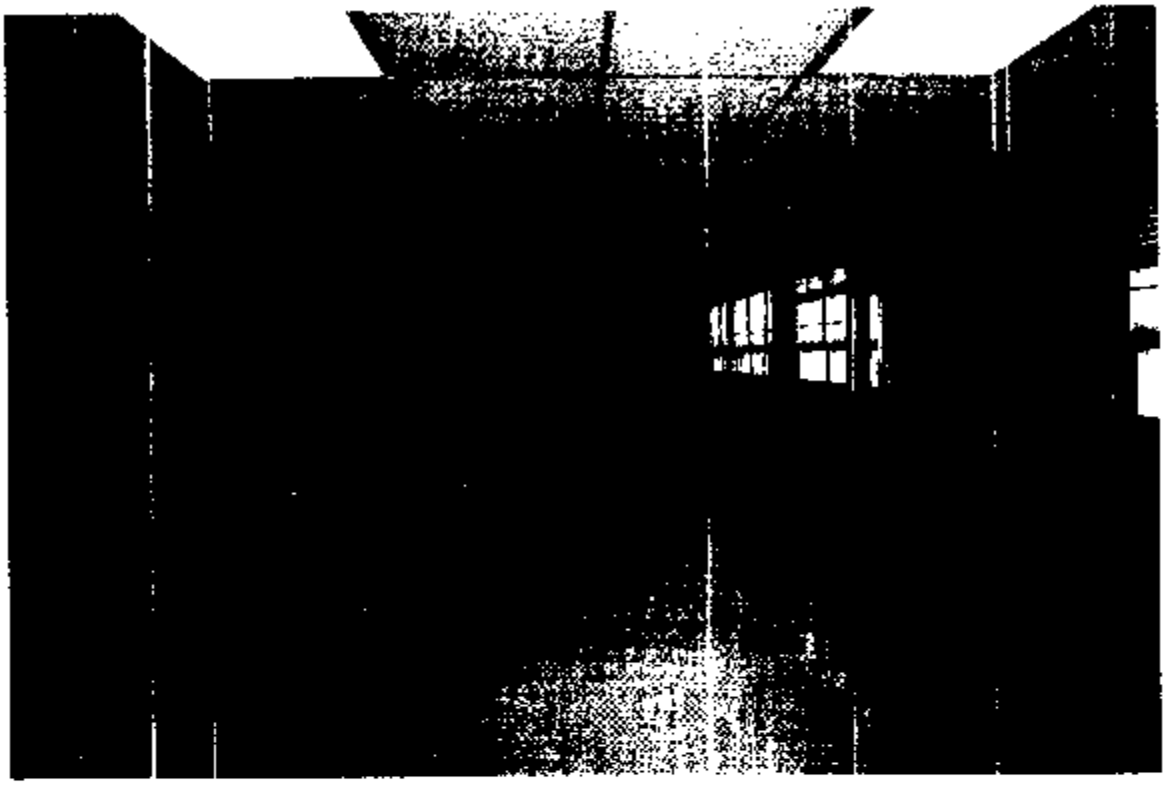


Photo 13: Training class rooms.

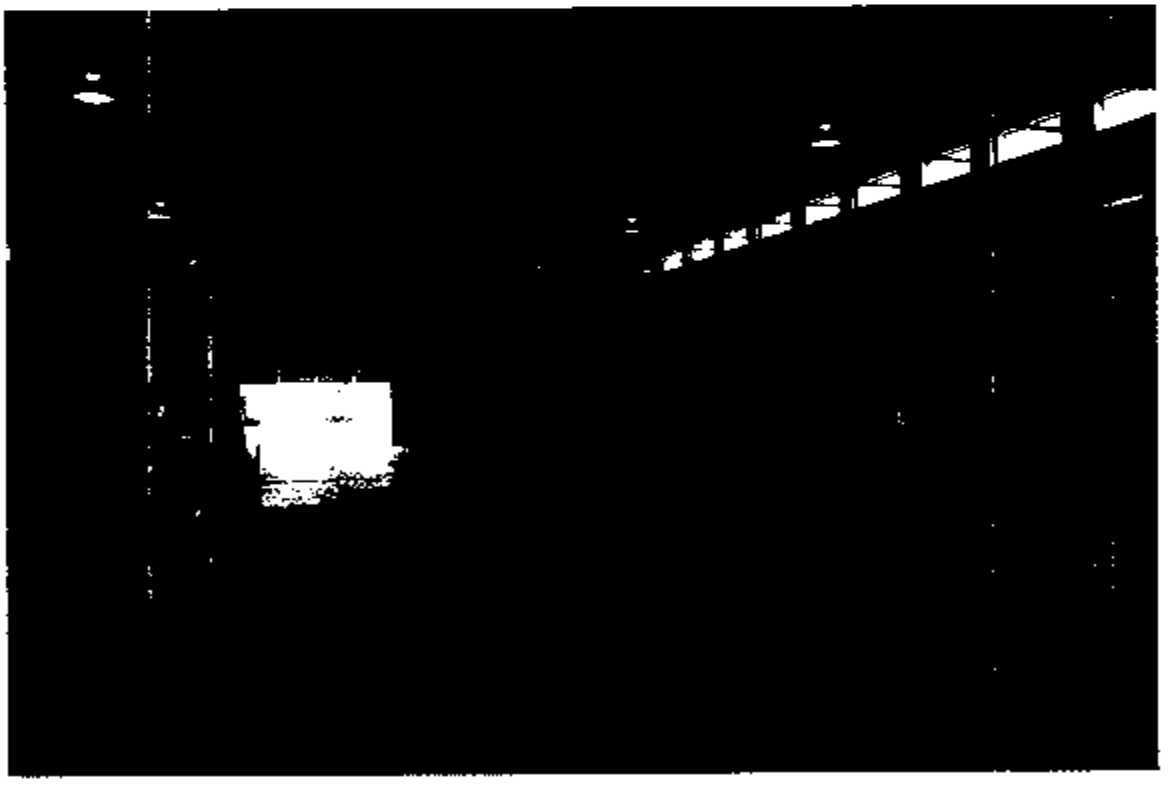


Photo 14: Drill or Assembly Hall.

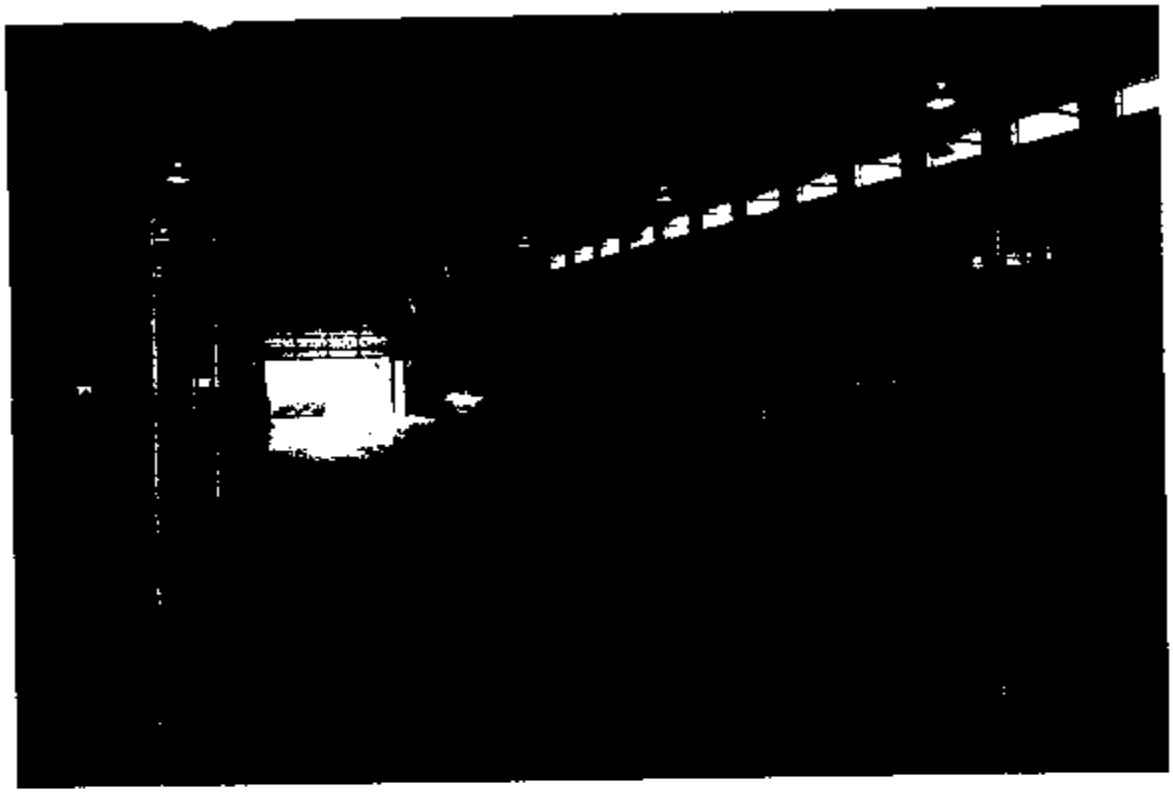


Photo 15: Drill hall facing the east.

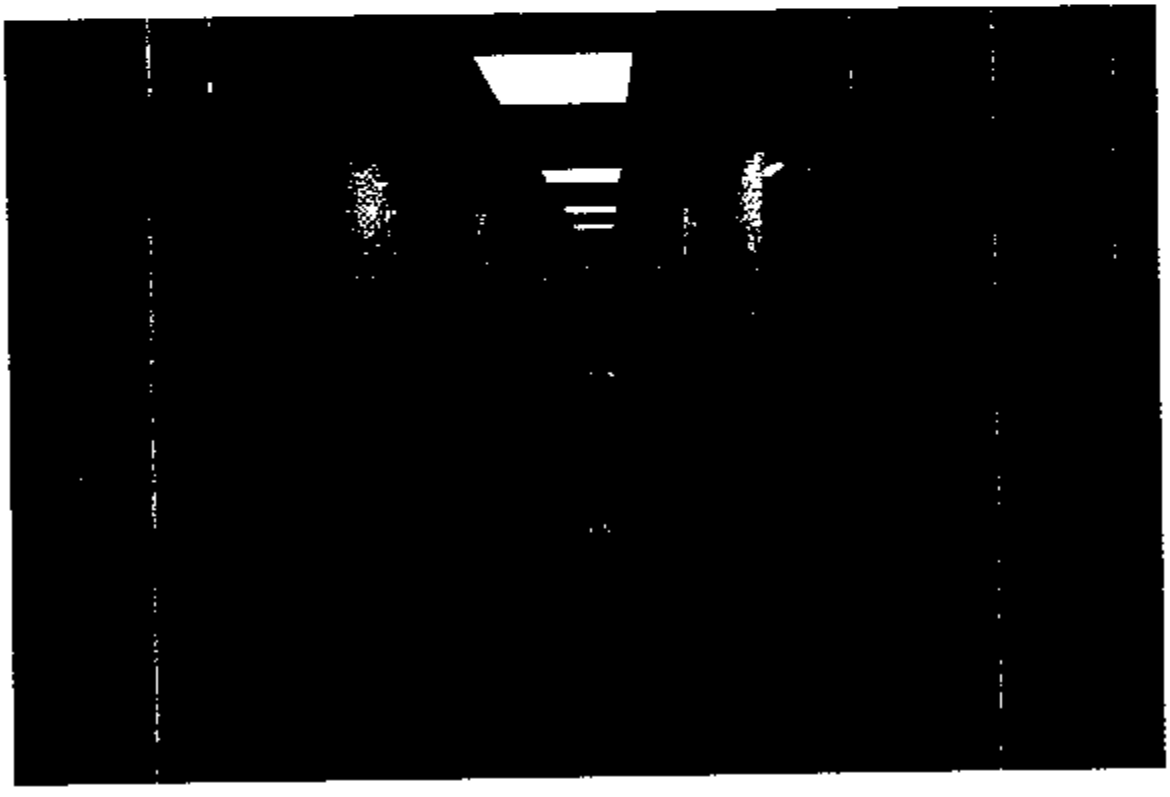


Photo 16: Photo of the hallway leading to the emergency exit. Also showing the floor tiles and baseboard.

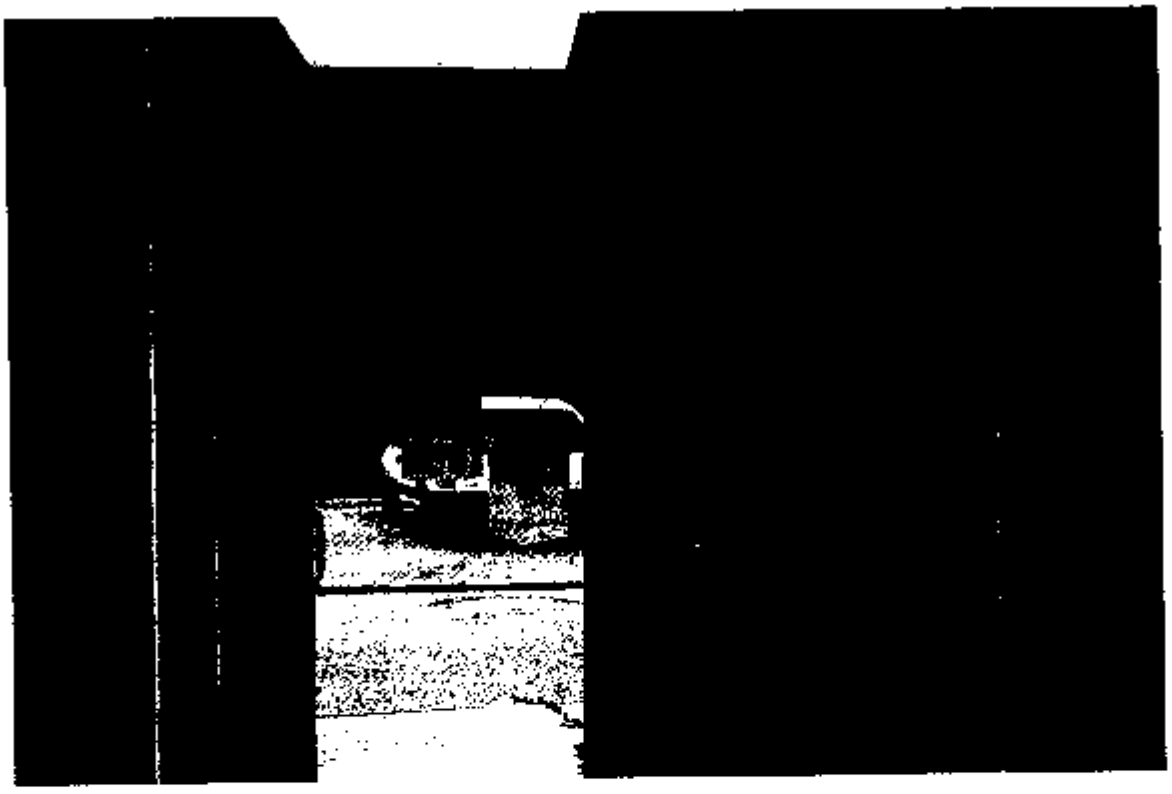


Photo 17: Locked Emergency Door.

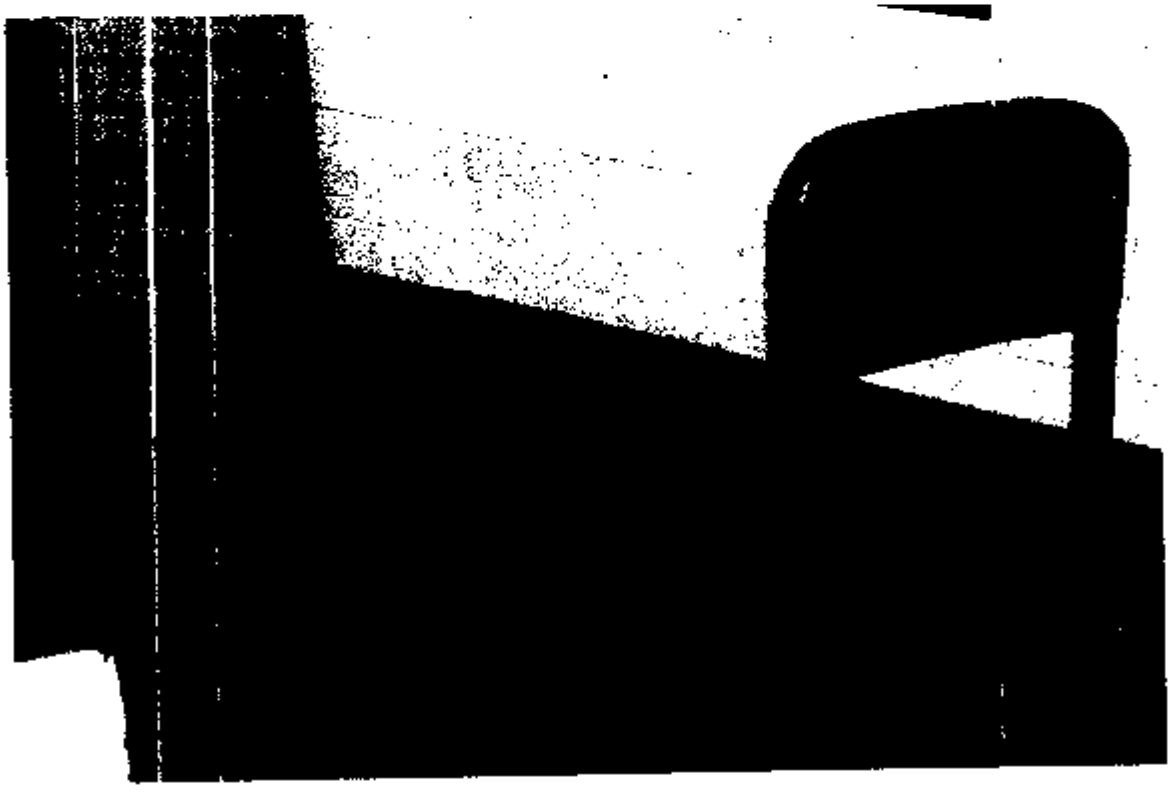


Photo 18: Air supply diffuser on the first floor of the administrative office area

Photo 19: HVAC units in one of the mechanical rooms

Photo 20: Supply air duct with the diffuser removed on the second floor administrative area.

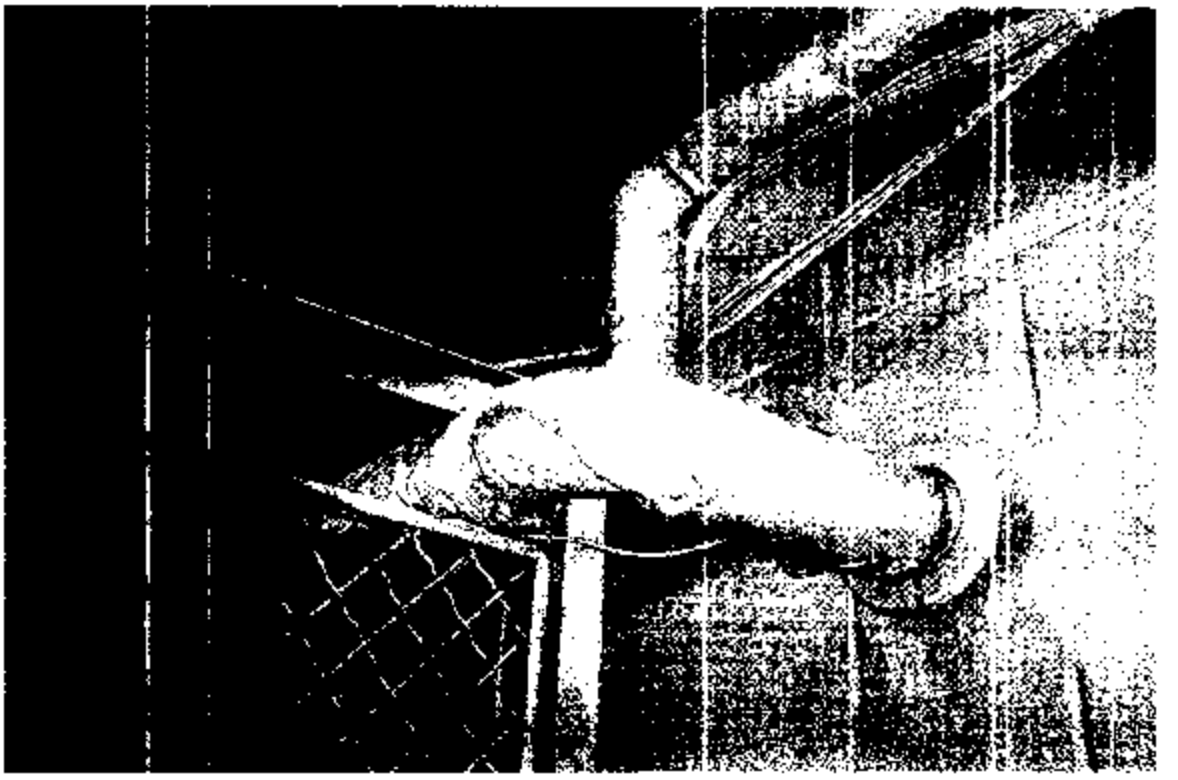


Photo 21: Pipe thermal insulation in the drill hall.

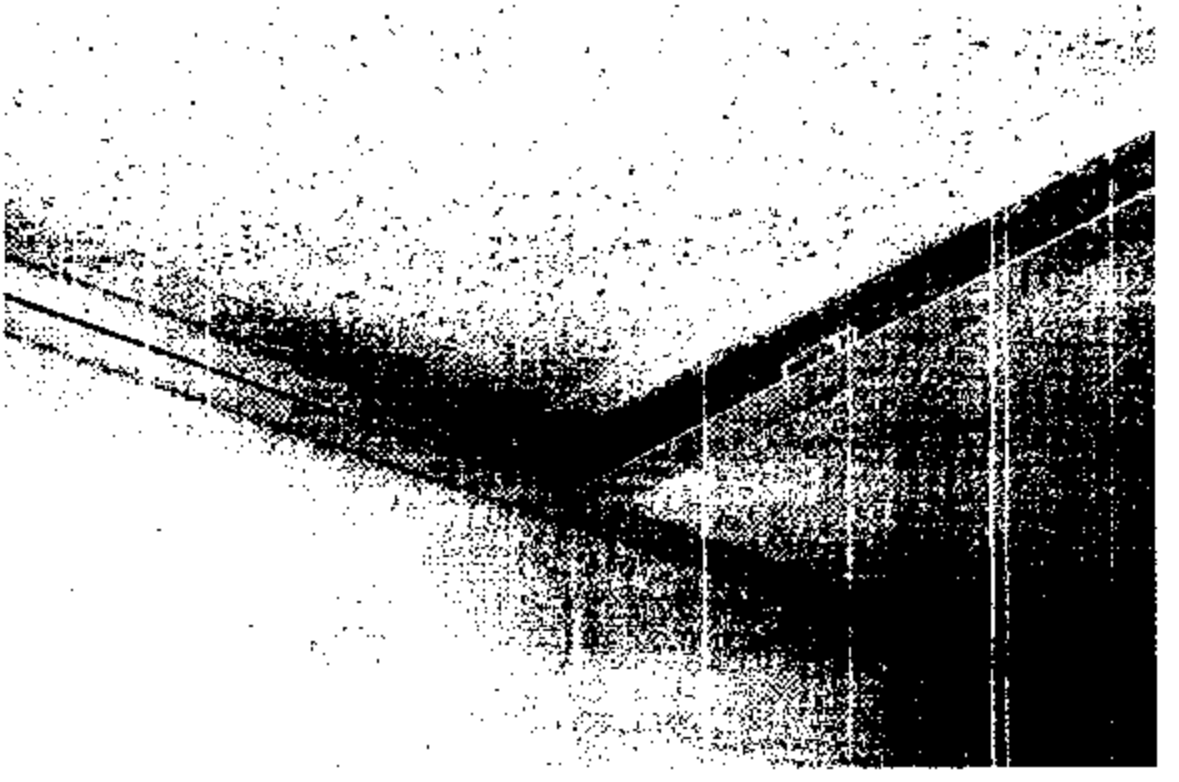


Photo 22: 2x4 ceiling tiles found throughout the armory.

APPENDIX E

Indoor Firing Range Cleaning Guidance

1. Introduction - This document describes procedures to be employed in cleaning a range for non-lead use. All lead hazard control activities can produce dangerous quantities of leaded dust. Unless this dust is properly removed, a facility will be more hazardous after the work is completed than it was originally. Once deposited, leaded dust is difficult to remove effectively. Whenever possible, ongoing and daily cleaning of leaded dust during lead hazard control projects is recommended. Ongoing and daily cleaning is also necessary to minimize worker exposures. Cleaning is the process of removing visible debris and dust particles too small to be seen by the naked eye. Removal of lead hazards in a space will not make the space safe unless excessive levels of leaded dust are also removed. This is true regardless of whether the dust was present before or generated by the lead hazard control process itself. Improper cleaning can increase the cost of a project considerably because additional cleaning and clearance sampling will be necessary. A visibly clean surface may contain high and unacceptable levels of dust particles and require special cleaning procedures. However, cleaning and clearance can be achieved routinely if care and diligence are exercised.

2. Difficulties in Cleaning - While cleaning is an integral and essential component of any lead hazard control activity, it is also the most likely part of the activity to fail. Several common reasons for this failure include worker inexperience, high dust-producing methods, and deadlines.

3. Performance Standard - Although the cleaning methods described in this document are feasible and have been shown to be effective in meeting clearance standards, other methods may also be used if they are safe and effective. This performance-oriented approach should stimulate innovation, reduce cost, and ensure safe conditions for both occupants and workers.

4. Clearance Standard - 200 µg/ft 2 on interior floors and horizontal surfaces (NAVFAC Message 160647Z APR 98), 800 µg/ft 2 for exterior concrete (a HUD interim recommendation and serves as a useful guideline). These levels are based on wipe sampling. Clearance testing determines whether the premises or area are clean enough to be reoccupied as a non-lead work area after the completion of a lead hazard control project. A cleaned area may not be reoccupied until compliance with clearance standards has been established. To prevent delays, final testing and final cleaning activities should be coordinated.

5. Worker Inexperience - To understand the level of cleanliness required to meet the established clearance standards for hazard control cleanup, new hazard control personnel often require a significant reorientation to cleaning. Many construction workers are used to cleaning up only dust that they can see, not the invisible dust particles that are also important to remove.

6. Equipment Needed for Cleaning - The following equipment is needed to conduct cleaning: high-efficiency particulate air (HEPA) vacuums and attachments (crevice tools), detergent, waterproof gloves, rags, sponges, mops, buckets, 6-mil plastic bags, debris containers, waste water containers, shovels, rakes, water-misting sprayers, and 6-mil polyethylene plastic sheeting (or equivalent).

7. Waste Disposal - Regulations governing hazardous and non-hazardous waste storage, transportation, and disposal affect both the daily and final cleaning procedures. The hazard control contractor and the disposal contractor should work together to establish formal written procedures, specifying selected containers, storage areas, and debris pickups, to ensure that all relevant regulations are met.

8. Containment - Because of the difficulty involved in the removal of fine dust, dust generated by hazard control work should be contained to the extent possible to the inside of work areas. Inadequately constructed or maintained containments or poor work practices will result in additional cleaning efforts, due to dust that has leaked out or been tracked out of the work area.

9. Pre-cleaning Procedures – Pre cleaning (i.e., cleaning conducted before lead hazard control is begun) is necessary only in facilities that are heavily contaminated with debris/paint chips, etc. Pre cleaning involves removing large debris and paint chips, followed by HEPA vacuuming. These steps may be followed by removal of occupant furniture or carpeting (rugs or carpets or any porous item in the firing range is not recommended due to the difficulty in cleaning these items effectively), depending on the worksite preparation. Carpeting (if present) should always be misted before its removal to control the generation of hazardous dust. However, if necessary, owners or project management should be prepared to remove furniture before lead hazard control work begins.

10. Basic Cleaning Methods: Wet Wash and Vacuum Cleaning Techniques – Because leaded dust adheres tenaciously, especially to rough or porous materials like weathered or worn wood surfaces and masonry surfaces (particularly concrete), workers should be trained in cleaning methods. As a motivator, some contractors have awarded bonuses to workers who pass clearance the first time. The typical cleaning method uses a special vacuum cleaner equipped with a HEPA filter, followed by wet washing with special cleaning agents and rinsing, followed by a final pass with the HEPA vacuum. Although HEPA filtered vacuums and trisodium phosphate (TSP) cleaners have been considered the standard cleaning tools for lead hazard control projects, new research, discussed under the Alternatives Methods section in this document, suggests that other tools and products may also be effective in efficiently cleaning dust while providing adequate worker protection from airborne exposure risks. Some of these innovations may even be superior.

a. HEPA Vacuuming - HEPA vacuums differ from conventional vacuums in that they contain high-efficiency filters that are capable of trapping extremely small particles. These filters can remove particles of 0.3 microns or greater from air with 99.97 percent efficiency or greater. (A micron is 1 millionth of a meter, or about 0.00004 inches.) Some vacuums are equipped with an ultra-low penetration air (ULPA) filter that is capable of filtering out particles of 0.13microns or greater at 99.9995 percent efficiency. However, ULPA filters are slightly more expensive and may be less available than HEPA filters. Vacuuming with conventional vacuum machines is unlikely to be effective because much of the fine dust will be exhausted back into the environment where it can settle on surfaces. Considerations for the proper use of a HEPA vacuum are listed below.

(1) Operating Instructions - There are a several manufacturers of HEPA vacuums. Although all HEPA vacuums operate on the same general principle, they may vary considerably with respect to specific procedures, such as how to change the filters. To ensure the proper use of equipment, carefully follow the manufacturer's operating instructions and, if possible, arrange training sessions with the manufacturer's representative. Although HEPA vacuums have the same suction capacity as ordinary vacuums that are comparably sized, their filters are more efficient. Improper cleaning or changing of HEPA filters may reduce the vacuum's suction capability.

(2) Special Attachments - Because the HEPA vacuum will be used to vacuum surfaces other than floors, operators should buy attachments and appropriate tool kits for use on different surfaces such as brushes of various sizes, crevice tools, and angular tools.

(3) Selecting Appropriate Size(s) - HEPA vacuums are available in several sizes, ranging from a small lunch bucket-sized unit to rack-mounted systems. Two criteria for size selection are the size of the job and the type of electrical power available. Manufacturer recommendations should be followed.

(4) Wet-Dry HEPA Vacuums - Some hazard control contractors have found the wet-dry HEPA vacuums to be particularly effective in meeting clearance standards. These vacuums are equipped with a special shut-off float switch to protect the electrical motor from water contact.

(5) Pre-filters - HEPA filters are usually used in conjunction with a pre filter or series of pre filters that trap the bulk of the dust in the exhaust air stream, particularly the larger particles. The HEPA filter traps most of the remaining small particles that have passed through the pre filter(s). All filters must be maintained and replaced or cleaned as specified in the manufacturer's instructions. Failure to do so may cause a reduction in suction power (thus reducing the vacuum's efficiency and effectiveness). Failure to change pre filters may damage the vacuum motor and will also shorten the service life of the HEPA filter, which is far more expensive than the pre-filters.

(6) HEPA Vacuuming Procedures - Surfaces to be vacuumed include ceilings, walls, floors, doors, heating, ventilation, and air conditioning (HVAC) equipment (heating diffusers, radiators, pipes, and vents), fixtures of any kind (light), built-in cabinets, and appliances. All rooms and surfaces should be included in the HEPA vacuum process, except for those that (1) were found not to have lead hazards and were properly separated from work areas before the process began, or (2) were never entered during the process. Sidewalks, driveways, and other exterior surfaces should be vacuumed if exterior hazard control work was conducted, or if debris was stored or dropped outside. Vacuuming should begin on the ceilings and end on the floors, sequenced to avoid passing through rooms already cleaned, with the entryway cleaned last.

(7) Emptying the HEPA Vacuum - Used filters and vacuumed debris are potentially hazardous waste and should be treated accordingly. Therefore, operators should use extreme caution when opening the HEPA vacuum for filter replacement or debris removal to avoid accidental release of accumulated dust into the environment. This may occur, for example, if the vacuum's seal has been broken and the vacuum's bag is disturbed. Operators should also wear a full set of

protective clothing and equipment, including appropriate respirators, when performing this maintenance function, which should be done in the containment area or off-site.

b. Wet Detergent Wash - Several types of detergents have been used to remove leaded dust. Those with a high phosphate content (containing at least 5 percent presidium phosphate, also known as TSP) have been found to be effective when used as part of the final cleaning process. TSP detergents are thought to work by coating the surface of dusts with phosphate or polyphosphate groups, which reduces electrostatic interactions with other surfaces and thereby permits easier removal. Because of environmental concerns some states have restricted the use of TSP, and some manufacturers have eliminated phosphates from their household detergents. However, high TSP detergents can usually be found in hardware stores and may be permitted for limited use, such as lead hazard control. Other non-TSP cleaning agents developed specifically for removing leaded dust have also been found to be effective (possibly more effective than TSP) in limited trials by several investigators and may also be safer, since TSP is a skin and eye irritant.* Manufacturer's Dilution Instructions - Users of cleaning agents for leaded dust removal should follow manufacturer's instructions for the proper use of a product, especially the recommended dilution ratio. Even diluted, trisodium phosphate is a skin irritant and users should wear waterproof gloves. Eye protection should also be worn, and portable eyewash facilities manufacturer's instructions. Failure to do so may cause a reduction in suction power (thus reducing the vacuum's efficiency and effectiveness). Failure to change pre-filters may damage the vacuum motor and will also shorten the service life of the HEPA filter, which is far more expensive than the pre-filters.

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(1) Proper Wet-Cleaning Procedures - At the conclusion of the active lead hazard control process and after the initial HEPA vacuuming, all vacuumed surfaces should be thoroughly and completely washed with a high-phosphate solution or other lead-specific cleaning agent (or equivalent) and rinsed. Select a detergent that does not damage existing surface finishes (TSP may damage some finishes). Work should proceed from ceilings to floors and be sequenced to avoid passing through rooms already cleaned.

(2) Changing Cleaning Mixture - Many manufacturers of cleaners will indicate the surface area that their cleaning mixture will cover. To avoid recontaminating an area by cleaning it with dirty water, users should follow manufacturer-specified surface area limits. However, regardless of manufacturers' recommendations, the cleaning mixture should be changed after its use for each room. As a rule of thumb, 5 gallons should be used to clean no more than 1,000 square feet. Used cleaning mixture is potentially hazardous waste; consult with your local water and sewage utility for directions on its proper disposal. Wash water should never be poured onto the ground. The wash water is usually filtered and then poured down toilet (if the local water authority approves).

11. The HEPA/Wet Wash/HEPA Cycle Typical Procedures - The usual cleaning cycle that follows lead hazard control activities is called the HEPA vacuum/wet wash/HEPA cycle and is applied to an entire affected area as follows: First, the area is HEPA vacuumed. Next, the area is washed down. After drying, the area is again HEPA vacuumed. The rationale for this three-pass system is as follows: The first HEPA vacuum removes as much dust and remaining debris as possible. The wet wash further dislodges dust from surfaces. The final HEPA cycle removes any remaining particles dislodged but not removed by the wet wash.

12. Single-Pass Wet Wash/HEPA Vacuum - Some lead hazard control contractors have roundhead spray cleaner vacuums to be a cost-effective alternative to the three-pass system. Similar to home carpet-cleaning machines, these vacuums simultaneously deliver a solution to the surface and recover the dirty solution. Theoretically, this process combines two of the steps in the HEPA vacuum/wet wash/HEPA cycle into one step. While anecdotal evidence indicates that the spray cleaner wet wash/HEPA is effective for some uses, limitations have been noted in its use for ceilings, vertical surfaces, and hard to reach areas. This device may be used as long as clearance standards are met.

13. Sealing Floors - Before clearance, all floors without an intact, nonporous coating should be coated. Sealed surfaces are easier to clean and maintain over time than those that are not sealed. Wooden floors should be sealed with a clear polyurethane or epoxy coating. Concrete floors should be sealed with a concrete sealer or other type of epoxy coating. If these floors are already covered by an effective coat of sealant, it may be possible to skip this step. New surfaces should be cleaned with a cleaning solution that is appropriate for that type of surface.

14. Surface Painting or Sealing of Non-floor Surfaces - Surfaces, including walls, ceilings, and wood-work, should be coated with an appropriate primer and repainted. Surfaces enclosed with vinyl, aluminum coil stock, and other materials traditionally not repainted are exempt from the painting provision. Coating of walls may not be appropriate if lined with acoustic material to control noise.

15. Exterior Cleaning - Areas potentially affected by exterior lead hazard control should be protected via a containment system. Because weather can adversely affect the efficacy of exterior containment, the surface plastic of the containment system should be removed at the endow each workday. On a daily basis, as well as during final cleaning, the immediate area should be examined visually to ensure that no debris has escaped containment. Any such debris should be raked or vacuumed and placed in single 6- mil or double 4-mil plastic bags, which should then be sealed and stored along with other contaminated debris. HEPA vacuuming inappropriate for hard exterior surfaces, not for soil.

16. Worker Protection Measures - Studies indicate that during daily cleaning activities, especially while wet sweeping, workers may be exposed to high levels of airborne dust. Therefore, workers should wear protective clothing and equipment and appropriate respirators if required.

17. Maintaining Containment - The integrity of the plastic sheeting used in a lead hazard control project must be maintained. During their daily cleaning activities, workers should monitor the sheeting and immediately repair any holes or rips with 6-mil plastic and duct tape.

18. Decontamination of Workers, Supplies, and Equipment - Decontamination is necessary to ensure that worker's families, other workers, and subsequent properties do not become contaminated. Specific procedures for proper decontamination of equipment, tools, and materials prior to their removal from lead hazard control containment areas should be implemented. Work clothing, work shoes, and tools should not be placed in a worker's automobile unless they have been laundered or placed in sealed bags. All vacuums and tools that were used should be wiped down using sponges or rags and detergent solutions. Consumable/disposable supplies, such as mop heads, sponges, and rags, should be discarded after each space is completed. Soiled items should be treated as contaminated debris. Durable equipment, such as power and hand tools, generators, and vehicles should be cleaned prior to their removal from the site. The cleaning should consist of a thorough HEPA vacuuming followed by washing.

19. Preliminary Visual Examination - After the cleaning work is completed, the certified supervisor should visually evaluate the entire work area to ensure that all work has been completed and all visible dust and debris have been removed. While the preliminary examination may be performed by the lead hazard control supervisor, contractor, or owner as a preparatory step before the final clearance examination, it does not replace the independent visual assessment conducted during clearance. If the visual examination results are unsatisfactory, affected surfaces must be retreated and/or reclined. Therefore, it is more cost-effective to have the supervisor rather than the clearance examiner perform this initial examination.

20. Final Inspection - The final clearance evaluation should take place at least 1 hour after the final cleaning. Clearance has three purposes 1) to ensure that the lead hazard control work incomplete; 2) to detect the presence of leaded dust; and 3) to make sure that all treated surfaces have been repainted or otherwise sealed. Clearance is usually performed after the sealant is applied to the floor.

21. Advanced Screening - Advanced screening for clearance may be considered. Immediate on-site analysis of dust wipes may alert the contractor to continue cleaning prior to final clearance sampling.

22. Recleaning After Clearance Failure - If after passing the final visual examination, the space fails the clearance wipe dust tests, the HEPA/wet wash/HEPA cleaning cycle should be carefully and methodically repeated. Failure is an indication that the cleaning has not been successful. Recleaning should be conducted under the direct supervision of a certified supervisor. Care should be exercised during the recleaning of "failed" surfaces or components to avoid recontaminating "cleared" surfaces or components.

23. Cleaning Cost Considerations - An important consideration in determining lead hazard control strategies and methods is the cost and difficulty of required daily and final cleanup operations and the likelihood that one can meet dust-clearance standards. A general rule of thumb is that lead hazard control strategies that generate the most dust will have higher cleanup costs and higher initial clearance test-failure rates.

24. Initial Clearance Test Failure Rates - The likelihood of passing final dust-clearance tests is highly correlated with the chosen intervention strategy, methods, and care exercised by the contractor. Chemical removal and hand-scraping strategies generally experience higher failure rates than replacement and encapsulation/ enclosure strategies. However, clearance failure is not solely related to abatement method. The diligence and effectiveness of an abatement contractor's cleaning process has a major impact on the likelihood of the space to pass the final wipe test clearance.

25. Key Factors In Effective Cleaning - Effective cleaning will be aided by adequate sealing of surfaces with polyethylene sheeting prior to lead hazard control, proper daily cleaning practices, good worker training, and attention to detail. Where poor worksite preparation is employed, additional cleaning may be required to meet clearance.

26. Special Problems - Surfaces such as porous concrete, old porous hardwood floors, and areas such as corners of rooms and window troughs pose especially difficult cleaning challenges. Porous concrete and corners of rooms normally require additional vacuuming to achieve unacceptable level of cleanliness.

27. Alternative Methods - Alternatives to the recommended cleaning tools and practices discussed in this document are available, some with significant potential for increasing effectiveness and lowering costs. Other vacuums may be used if worker exposures do not increase, if compliance with clearance standards is achieved, and if a variance from OSHA regulation is obtained by the contractor or employer (if required). The OSHA lead standard requires the use of HEPA vacuum equipment (see 29 CFR 1926.62 (h)(4), which states, "where vacuuming methods are selected, the vacuums shall be equipped with HEPA filters.").Agitator heads on vacuums have been shown to significantly enhance vacuum effectiveness on carpets in cleaning fine dust without increasing airborne dust levels. Vacuums without agitator heads appear to perform relatively poorly on carpets.

DEPARTMENT OF THE ARMY AND THE AIR FORCE
NATIONAL GUARD BUREAU
REGIONAL INDUSTRIAL HYGIENE OFFICE
AIRPORT PLAZA SUITE 1530
510 PLAZA DRIVE
COLLEGE PARK, GA 30349

NGB-AVN-SI July 16, 2003

MEMORANDUM FOR Adjutant General, ATTN: Non-Responsive State Safety Manager, P. O. BOX 5218, Austin, TX 78763-5218.

SUBJECT: Transmital of air sampling results of samples taken at the California Crossing Armory, Dallas, TX.

1. References.
   a. 385-10, Army Safety Program
   b. OSHA Standards 29 CFR (Code of Federal Regulations), 1910.1025, Lead Standard
   c. OSHA Standards 29 CFR (Code of Federal Regulations), 1926.62, Construction Standard

2. General. The sample results from air samples taken at the California Crossing Armory, Dallas, TX by SGT. Louis Scott.

3. Findings. A review of air sampling results show the TWA to be bellow the ACGIH TLV Standard of 0.05 mg/m^3 for Lead (CAS No. 7439-92-1).

4. Recommendations.
   a. The sampling results demonstrates that the employees working in this area were not exposed above the action level of 0.03 mg/m^3 for Lead the day of the survey.
   b. Follow the recommendations given in the report for the IH Baseline Survey performed 6 May 2003 in this facility.
   c. When other personnel return to work and normal operations resume re sample the areas to ensure that the lead dust present is nort airborne and that employees in these areas are not exposed above the action level.

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

AES

June 30, 2003

Non-Responsive

RE: CA/IF Xing Dallas TX

Dear Non-Responsive

Order No.: 0306787

Analytical Environmental Servs, Inc. received 14 samples on 6/24/2003 11:50:00 AM for the analyses presented in the following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative. AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water, effective 07/01/02-06/30/04.
-AIHA Certification number 505 for analysis of Air, Paint Chips, Soil and Dust Wipes, effective until 03/01/03.

These results relate only to the items tested. This report may only be reproduced in full and contains 11 total pages (including cover letter).

If you have any questions regarding these test results, please feel free to call.

Sincerely,

Non-Responsive

3785 PRESIDENTIAL PARKWAY • ATLANTA, GEORGIA 30340 • TEL: (770) 457-8177 • FAX: (770) 457-8188

INDUSTRIAL HYGIENE AIR SAMPLE DATA

0306787

For use of this form see USAEHA TG 141; the proponent is HSHB-LO.

Return Address *(complete address including Zip Code)* National Guard Bureau Region South IH Office 510 Plaza Drive, Suite 1530 College Park, GA 30349	Point of Contact *(name/AUTOVON)*
	Associated Bulk Samples ☐ Yes ☐ No Bulk Sample No(s):

Samples Collected By	Date Collected	Date Shipped
[redacted]	13 Jun 03	

Project Number	Sampled Installation	ARLOC
-	CAMP F. XING DALLAS, TX	

Location *(BLDG/AREA)*	Description of Operation *(details on reverse)*
CAMP KING ARMORY ROOM 223	-NA-

☐ Persons Exposed [8-10] Hrs/Day

Method of Collection: AIR SAMPLING / POST BASELINE SURVEY (LEAD)

Associated Complaints *(be specific) (state NONE if applicable)*

Analysis Desired: LEAD

Sampling Data

Sample No.	1-CX							1CX Blank
Pump No.	A00040							BLANK
Time On	1035							
Time Off	1635							
Total Time (min)	360 MIN							
Flow Rate (LPM)	3.6 LPM							
Volume (Liters)	1296 L							
GA/BZ	[redacted]							
Employee Name/ID	[redacted]							
Laboratory No.								

Results

Comments to Lab:

Lab Use Only

Analyst *(initials)*	Reviewed By *(initials)*	Date Received	Date Dispatched

AEHA Form 9-R, 1 Oct 84 [redacted] Replaces AEHA Form 9, 1 Oct 80 which is obsolete.

Rec'd Po[redacted]m 6/24/03 Ma[redacted] mail B-10

Calibration Information

Pump No.	Calibration (L/min) 1000cc = 1 Liter		Rotometer Setting	Date
	Pre-Use	Post-Use		
A00040	Avg. 3630cc/min	Avg. 3574 cc/min		13 Jun 03

Name of Calibrator NGB # C70902
SKC ULTRAflow # 709

Operation

Source of Contaminant:

LEAD DUST

Operation Employee(s) Perform:

Ventilation: ☐ Local Exhaust ☒ General Area ☐ None

Personal Protective Equipment *(check if worn)*

☐ Respiratory Protective Equipment Type: _____

☐ Protective Clothing Type: _____

☐ Gloves Type: _____

☐ Goggles/Face Shield

☐ Ear Protection

☐ Other: _____

Field Notes/Additional Comments

DUE TO RECONSTRUCTION, ALL AREAS ARE DUSTY
ALL AREAS SURVEYED WERE NOT OCCUPIED DUE TO
S.M. ATTENDANCE of SUMMER ANNUAL TRAINING

Non-Responsive

INDUSTRIAL HYGIENE AIR SAMPLE DATA

03067787

For use of this form see USAEHA TG 141; the proponent is HSHB-LO.

Return Address *(complete address including Zip Code)*
National Guard Bureau Region South IH Office
510 Plaza Drive, Suite 1530
College Park, GA 30349

Point of Contact *(name/AUTOVON)*

Associated Bulk Samples ☐ Yes ☐ No
Bulk Sample No(s):

Samples Collected By [redacted]

Date Collected 13 Jun 03

Date Shipped

Project Number

Sampled Installation CALIF. XING DALLAS, TX

ARLOC

Location *(BLDG/AREA)* CA Xing Armory Room 202

Description of Operation *(details on reverse)* -NA-

Persons Exposed: 8-10 Hrs/Day

Method of Collection AIR SAMPLING / POST BASELINE SURVEY (LEAD)

Associated Complaints *(be specific) (state NONE if applicable)*

Analysis Desired
LEAD

Sampling Data

Sample No.	2-CX							2-CX Blank
Pump No.	A00038							
Time On	1030							
Time Off	1630							
Total Time (min)	360 min							
Flow Rate (LPM)	3.5 LPM							
Volume (Liters)	1260 L							
GA/BZ								
Employee Name/ID	[redacted]							
Laboratory No.								

Results

Comments to Lab:

Lab Use Only

Analyst *(initials)*	Reviewed By *(initials)*	Date Received	Date Dispatched

AEHA Form 9-R, 1 Oct 84 [redacted] Replaces AEHA Form 9, 1 Oct 80 which is obsolete.

Rec'd [redacted] 6/24/03

Calibration Information

Pump No.	Calibration (L/min) Pre-Use	Calibration (L/min) Post-Use	Rotometer Setting	Date
A00038	Avg 3534 cc/min	Avg 3492 cc/min		13 Jun 03

Name of Calibrator NGB # C709D2
SKC UltraFlow # 709

Operation

Source of Contaminant:

LEAD DUST

Operation Employee(s) Perform:

Ventilation: ☐ Local Exhaust ☒ General Area ☐ None

Personal Protective Equipment *(check if worn)*

☐ Respiratory Protective Equipment Type: _____

☐ Protective Clothing Type: _____

☐ Gloves Type: _____

☐ Goggles/Face Shield

☐ Ear Protection

☐ Other: _____

Field Notes/Additional Comments

DUE TO RECONSTRUCTION, ALL AREAS ARE DUSTY
ALL AREAS SURVEYED WERE NOT OCCUPIED DUE TO
S.M. ATTENDANCE of SUMMER ANNUAL TRAINING

Non-Responsive

INDUSTRIAL HYGIENE AIR SAMPLE DATA

03067787

For use of this form see USAEHA TG 141; the proponent is HSHB-LO.

Return Address (complete address including Zip Code)
National Guard Bureau Region South IH Office
510 Plaza Drive, Suite 1530
College Park, GA 30349

Point of Contact (name/AUTOVON)

Associated Bulk Samples ☐ Yes ☐ No
Bulk Sample No(s):

Sampler/Collected By: Non-Responsive

Date Collected: 13JUN03

Date Shipped:

Project Number:

Sampled Installation: CAL-F. XING DALLAS, TX

ARLOC:

Location (BLDG/AREA/ROOM): CA Xing Armory Room 250

Description of Operation (details on reverse): -NA-

☐ Persons Exposed 8-10 Hrs/Day

Method of Collection: AIR SAMPLING / POST BASELINE SURVEY (LEAD)

Associated Complaints (be specific) (state NONE if applicable)

Analysis Desired
LEAD

Sampling Data

Sample No.	3-CX							
Pump No.	A20404							
Time On	1040							
Time Off	1640							
Total Time (min)	360							
Flow Rate (LPM)	3.5LPM							
Volume (Liters)	1260L							
GA/BZ								
Employee Name/ID	Non-Responsive							
Laboratory No.								

Results

Comments to Lab:

Lab Use Only

Analyst (initials)	Reviewed By (initials)	Date Received	Date Dispatched

AEHA Form 9-B, 1 Oct 84 Replaces AEHA Form 9, 1 Oct 80 which is obsolete.

Non-Responsive

Received Post Mail 6/24/03

B-10

Calibration Information

Pump No.	Calibration (L/min) /1000cc = 1 LITER		Rotometer Setting	Date
	Pre-Use	Post-Use		
A22404	Avg 3580 cc/min	Avg 3436 cc/min		13 Jun 03

Name of Calibrator NGB# C70902
SKC UltraFlow # 709

Operation

Source of Contaminant:

LEAD DUST

Operation Employee(s) Perform:

Ventilation: ☐ Local Exhaust ☒ General Area ☐ None

Personal Protective Equipment *(check if worn)*

- ☐ Respiratory Protective Equipment Type: _____
- ☐ Protective Clothing Type: _____
- ☐ Gloves Type: _____
- ☐ Goggles/Face Shield
- ☐ Ear Protection
- ☐ Other: _____

Field Notes/Additional Comments

DUE TO RECONSTRUCTION, ALL AREAS ARE DUSTY
ALL AREAS SURVEYED WERE NOT OCCUPIED DUE TO
S.M. ATTENDANCE of SUMMER ANNUAL TRAINING

Non-Responsive

INDUSTRIAL HYGIENE AIR SAMPLE DATA

03067787

For use of this form see USAEHA TG 141; the proponent is HSHB-LO.

Return Address *(complete address including Zip Code)*
National Guard Bureau Region South IH Office
510 Plaza Drive, Suite 1530
College Park, GA 30349

Point of Contact *(name/AUTOVON)*

Associated Bulk Samples ☐ Yes ☐ No
Bulk Sample No(s):

Non-Responsive

Date Collected: 13JUN03

Date Shipped:

Sampled Installation: CALIF. XING DALLAS, TX

ARLOC:

Location *(BLDG/AREA)* CA XING Armory Room 148 KITCHEN

Description of Operation *(details on reverse)*: -NA-

☐ **Persons Exposed** 8-10 **Hrs/Day**

Method of Collection: AIR SAMPLING / POST BASELINE SURVEY (LEAD)

Associated Complaints *(be specific)* *(state NONE if applicable)*

Analysis Desired
LEAD

Sampling Data

Sample No.	4-CX							4CX Blank
Pump No.	N0032							
Time On	1045							
Time Off	1645							
Total Time (min)	360MIN							
Flow Rate (LPM)	3.6 LPM							
Volume (Liters)	1296L							
GA/BZ								
Employee Name/ID	Non-Responsive							
Laboratory No.								

Results

Comments to Lab:

Lab Use Only

Analyst *(initials)*	Reviewed By *(initials)*	Date Received	Date Dispatched

AEHA Form 9-R, 1 Oct 84 ...places AEHA Form 9, 1 Oct 80 which is obsolete.

Non-Responsive

5/24/03 5-10

Calibration Information

Pump No.	Calibration (L/min) 1000cc = 1 LITER Pre-Use	Post-Use	Rotometer Setting	Date
A00032	Avg 3622cc/MIN	Avg 3591cc/min		13 Jun 03

Name of Calibrator NGB# C.70902
SKC UltraFlow # 709

Operation

Source of Contaminant:

LEAD DUST

Operation Employee(s) Perform:

Ventilation: ☐ Local Exhaust ☒ General Area ☐ None

Personal Protective Equipment *(check if worn)*

☐ Respiratory Protective Equipment Type: _____

☐ Protective Clothing Type: _____

☐ Gloves Type: _____

☐ Goggles/Face Shield

☐ Ear Protection

☐ Other: _____

Field Notes/Additional Comments

DUE TO RECONSTRUCTION, ALL AREAS ARE DUSTY
ALL AREAS SURVEYED WERE NOT OCCUPIED DUE TO
S.M. ATTENDANCE of SUMMER ANNUAL TRAINING

Non-Responsive

INDUSTRIAL HYGIENE AIR SAMPLE DATA

03067787

For use of this form see USAEHA TG 141; the proponent is HSHB-CO.

Return Address *(complete address including Zip Code)*
National Guard Bureau Region South IH Office
510 Plaza Drive, Suite 1530
College Park, GA 30349

Point of Contact *(name/AUTOVON)*

Associated Bulk Samples ☐ Yes ☐ No
Bulk Sample No(s):

Samples Collected By
Non-Responsive

Date Collected 13Jun03

Date Shipped

Sampled Installation CALIF. XING DALLAS, TX

ARLOC

Location *(BLDG/AREA)* CAXing ARMORY Room 145 Drill Hall

Description of Operation *(details on reverse)* -NA-

☐ **Persons Exposed** B-10 **Hrs/Day**

Method of Collection AIR SAMPLING / POST BASELINE SURVEY (LEAD)

Associated Complaints *(be specific)* *(state NONE if applicable)*

Analysis Desired
LEAD

Sampling Data

Sample No.	S-CX							S-CX Blank
Pump No.	A00035							
Time On	1050							
Time Off	1650							
Total Time (min)	360							
Flow Rate (LPM)	3.1LPM							
Volume (Liters)	1116 L							
GA/BZ								
Employee Name/ID	Non-Responsive							
Laboratory No.								

Results

Comments to Lab:

Lab Use Only

Analyst *(initials)*	Reviewed By *(initials)*	Date Received	Date Dispatched

AEHA Form 9-R, 1 Oct 84 Replaces AEHA Form 9, 1 Oct 80 which is obsolete.

Non-Responsive

6 24 03

Calibration Information

Pump No.	Calibration (L/min) 1000cc = 1 LITER Pre-Use	Post-Use	Rotometer Setting	Date
A00035	Avg 3594cc/min	Avg 2559cc/min		13 Jun 03

Name of Calibrator NGB# C70902
SKC ULTRAflow # 709

Operation

Source of Contaminant:

LEAD DUST

Operation Employee(s) Perform:

Ventilation: ☐ Local Exhaust ☒ General Area ☐ None
BAY DOORS WERE OPEN SM DOING INVENTORY OF EQUIPMENT

Personal Protective Equipment *(check if worn)*

- ☐ Respiratory Protective Equipment Type: _____
- ☐ Protective Clothing Type: _____
- ☐ Gloves Type: _____
- ☐ Goggles/Face Shield
- ☐ Ear Protection
- ☐ Other: _____

Field Notes/Additional Comments

DUE TO RECONSTRUCTION, ALL AREAS ARE DUSTY
ALL AREAS SURVEYED WERE NOT OCCUPIED DUE TO
[redacted] ING

Non-Responsive

INDUSTRIAL HYGIENE AIR SAMPLE DATA

0306787

For use of this form see USAEHA TG 141; the proponent is HSHB-LO.

Return Address *(complete address including Zip Code)*
National Guard Bureau Region South IH Office
510 Plaza Drive, Suite 1530
College Park, GA 30349

Point of Contact *(name/AUTOVON)*

Associated Bulk Samples ☐ Yes ☐ No
Bulk Sample No(s):

Samples Collected By	Date Collected	Date Shipped
Non-Responsive	13 Jun 03	

Sampled Installation CALIF. XING DALLAS, TX

ARLOC

Location *(BLDG/AREA)* Outside Room 193 Wing Armory LFT Hallway

Description of Operation *(details on reverse)* -NA-

☐ **Persons Exposed** 8-10 **Hrs/Day**

Method of Collection AIR SAMPLING / POST BASELINE SURVEY (LEAD)

Associated Complaints *(be specific)* *(state NONE if applicable)*

Analysis Desired
LEAD

Sampling Data

Sample No.	6-CX							6CX
Pump No.	14143							
Time On	1125							
Time Off	1725							
Total Time (min)	360							
Flow Rate (LPM)	3.6 LPM							
Volume (Liters)	1296L							
GA/BZ								
Employee Name/ID	Non-Responsive							
Laboratory No.								

Results

Comments to Lab:

Lab Use Only

Analyst *(initials)*	Reviewed By *(initials)*	Date Received	Date Dispatched

AEHA Form 9-R, 1 Oct 84

Non-Responsive

m 9, 1 Oct 80 which is obsolete.

B-10

Calibration Information

Pump No.	Calibration (L/min) 1000cc=1liter Pre-Use	Post-Use	Rotometer Setting	Date
14143	Avg 3166cc/min	Avg 3550 cc/min		13 Jun 03

Name of Calibrator NGB# C70902
SKC ULTRAflow # 709

Operation

Source of Contaminant:

LEAD DUST

Operation Employee(s) Perform:

Ventilation: ☐ Local Exhaust ☒ General Area ☐ None

Personal Protective Equipment *(check if worn)*

☐ Respiratory Protective Equipment Type: _____

☐ Protective Clothing Type: _____

☐ Gloves Type: _____

☐ Goggles/Face Shield

☐ Ear Protection

☐ Other: _____

Field Notes/Additional Comments

DUE TO RECONSTRUCTION, ALL AREAS ARE DUSTY
ALL AREAS SURVEYED WERE NOT OCCUPIED DUE TO
S.M. ATTENDANCE of SUMMER ANNUAL TRAINING

Non-Responsive

INDUSTRIAL HYGIENE AIR SAMPLE DATA

0306787

For use of this form see USAEHA TG 141; the proponent is HSHB-LO.

Return Address *(complete address including Zip Code)*
National Guard Bureau Region South IH Office
510 Plaza Drive, Suite 1530
College Park, GA 30349

Non-Responsive

Point of Contact *(name/AUTOVON)*

Associated Bulk Samples ☐ Yes ☐ No
Bulk Sample No(s):

Date Collected 13JUN03

Date Shipped

Sampled Installation CALIF. XING DALLAS, TX

ARLOC

Location *(BLDG/AREA/Room)* CAXSng Parkway Range Hallway (4)

Description of Operation *(details on reverse)* -NA-

☐ **Persons Exposed** 8-10 **Hrs/Day**

Method of Collection PER SAMPLING / POST BASELINE SURVEY (LEAD)

Associated Complaints *(be specific)* *(state NONE if applicable)*

Analysis Desired
LEAD

Sampling Data

Sample No.	7-CX							
Pump No.	14138							
Time On	1125							
Time Off	1725							
Total Time (min)	360							
Flow Rate (LPM)	3.5LPM							
Volume (Liters)	1260L							
GA/BZ								
Employee Name/ID	Non-Responsive							
Laboratory No.								

Results

Comments to Lab:

Lab Use Only

Analyst *(initials)*	Reviewed By *(initials)*	Date Received	Date Dispatched

AEHA Form Non-Responsive Replaces AEHA Form 9, 1 Oct 80 which is obsolete.

Calibration Information

Pump No.	Calibration (L/min) 1000cc=1 Liter Pre-Use	Post-Use	Rotometer Setting	Date
14138	Avg 3565cc/min	Avg=3544 cc/min		13 Jun 03

Name of Calibrator NGB # C70902
SKC UltraFlow # 709

Operation

Source of Contaminant:

LEAD DUST

Operation Employee(s) Perform:

Ventilation: ☐ Local Exhaust ☒ General Area ☐ None

Personal Protective Equipment *(check if worn)*

☐ Respiratory Protective Equipment Type: _____

☐ Protective Clothing Type: _____

☐ Gloves Type: _____

☐ Goggles/Face Shield

☐ Ear Protection

☐ Other: _____

Field Notes/Additional Comments

DUE TO RECONSTRUCTION, ALL AREAS ARE DUSTY
ALL AREAS SURVEYED WERE NOT OCCUPIED DUE TO
SUM. ATTENDANCE OF SUMMER ANNUAL TRAINING

Non-Responsive

Analytical Environmental Services, Inc.

Sample Receipt Checklist

Client CANGB

Date and Time 6/24/03 11:50

Work Order Number 0306787

Received by [redacted]

Checklist completed by [redacted] 6/24/03 Date

Reviewed by [redacted] 6/24/03 Date

Carrier name: FedEx __ UPS __ Courier __ Client __ US Mail ✓ Other _____

Shipping container/cooler in good condition?	Yes ✓	No __	Not Present __
Custody seals intact on shipping container/cooler?	Yes __	No __	Not Present ✓
Custody seals intact on sample bottles?	Yes __	No __	Not Present ✓
Chain of custody present?	Yes ✓	No __	
Chain of custody signed when relinquished and received?	Yes ✓	No __	
Chain of custody agrees with sample labels?	Yes ✓	No __	
Samples in proper container/bottle?	Yes ✓	No __	
Sample containers intact?	Yes ✓	No __	
Sufficient sample volume for indicated test?	Yes ✓	No __	
All samples received within holding time?	Yes ✓	No __	
Was TAT marked on the COC?	Yes __	No ✓	
Proceed with Standard TAT as per project history?	Yes ✓	No __	Not Applicable __
Container/Temp Blank temperature in compliance?	Yes ✓	No __	

Cooler #1 Ambient Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Water - VOA vials have zero headspace? No VOA vials submitted ✓ Yes __ No __

Water - pH acceptable upon receipt? Yes __ No __ Not Applicable ✓

Adjusted? _____ Checked by _____

Any No and/or NA (not applicable) response must be detailed in the comments section below:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments:

Corrective Action

Analytical Results
for
National Guard Bureau Region-South IH

WorkOrder: 0306787

Client Reference: CA/IF Xing Dallas TX

Analyte	Concentration (ug)	Concentration (mg/m³)	Concentration (ppm)	Limit of Detection (ug)	Qual	Test Method	Date Analyzed /Analyst
Client ID: 1-CX	**Lab ID: 001A**	**Date Sampled: 6/13/2003**			**Media: Filter**		**Air Vol.(L): 1296**
Lead	<0.200	<0.000154	--	0.2		NIOSH 7300	06/25/2003 CDW
Client ID: 1CXBLANK	**Lab ID: 002A**	**Date Sampled: 6/13/2003**			**Media: Filter**		**Air Vol.(L): NA**
Lead	<0.200	--	--	0.2		NIOSH 7300	06/25/2003 CDW
Client ID: 2CX	**Lab ID: 003A**	**Date Sampled: 6/13/2003**			**Media: Filter**		**Air Vol.(L): 1260**
Lead	<0.200	<0.000159	--	0.2		NIOSH 7300	06/25/2003 CDW
Client ID: 2CXBLANK	**Lab ID: 004A**	**Date Sampled: 6/13/2003**			**Media: Filter**		**Air Vol.(L): NA**
Lead	<0.200	--	--	0.2		NIOSH 7300	06/25/2003 CDW
Client ID: 3CX	**Lab ID: 005A**	**Date Sampled: 6/13/2003**			**Media: Filter**		**Air Vol.(L): 1260**
Lead	<0.200	<0.000159	--	0.2		NIOSH 7300	06/25/2003 CDW
Client ID: 3CXBLANK	**Lab ID: 006A**	**Date Sampled: 6/13/2003**			**Media: Filter**		**Air Vol.(L): NA**
Lead	<0.200	--	--	0.2		NIOSH 7300	06/25/2003 CDW
Client ID: 4CX	**Lab ID: 007A**	**Date Sampled: 6/13/2003**			**Media: Filter**		**Air Vol.(L): 1296**
Lead	<0.200	<0.000154	--	0.2		NIOSH 7300	06/25/2003 CDW
Client ID: 4CXBLANK	**Lab ID: 008A**	**Date Sampled: 6/13/2003**			**Media: Filter**		**Air Vol.(L): NA**
Lead	<0.200	--	--	0.2		NIOSH 7300	06/26/2003 CDW
Client ID: 5CX	**Lab ID: 009A**	**Date Sampled: 6/13/2003**			**Media: Filter**		**Air Vol.(L): 1116**
Lead	<0.200	<0.000179	--	0.2		NIOSH 7300	06/26/2003 CDW
Client ID: 5CXBLANK	**Lab ID: 010A**	**Date Sampled: 6/13/2003**			**Media: Filter**		**Air Vol.(L): NA**
Lead	<0.200	--	--	0.2		NIOSH 7300	06/26/2003 CDW
Client ID: 6CX	**Lab ID: 011A**	**Date Sampled: 6/13/2003**			**Media: Filter**		**Air Vol.(L): 1296**
Lead	<0.200	<0.000154	--	0.2		NIOSH 7300	06/26/2003 CDW
Client ID: 6CXBLANK	**Lab ID: 012A**	**Date Sampled: 6/13/2003**			**Media: Filter**		**Air Vol.(L): NA**
Lead	<0.200	--	--	0.2		NIOSH 7300	06/26/2003 CDW
Client ID: 7CX	**Lab ID: 013A**	**Date Sampled: 6/13/2003**			**Media: Filter**		**Air Vol.(L): 1260**
Lead	<0.200	<0.000159	--	0.2		NIOSH 7300	06/26/2003 CDW
Client ID: 7CXBLANK	**Lab ID: 014A**	**Date Sampled: 6/13/2003**			**Media: Filter**		**Air Vol.(L): NA**
Lead	<0.200	--	--	0.2		NIOSH 7300	06/26/2003 CDW

Analytical Results
for

National Guard Bureau Region-South IH

WorkOrder: 0306787

Client Reference: CA/IF Xing Dallas TX

Analyte	Concentration (ug)	Concentration (mg/m^3)	Concentration (ppm)	Limit of Detection (ug)	Qual	Test Method	Date Analyzed /Analyst

(a) Analysis indicates possible breakthrough; back section result is greater than 0% of the front section result.

General Notes:
<: Less than the indicated limit of detection (LOD).
--: Information not available or not applicable.
Back sections were checked and showed no significant breakthrough.

DEPARTMENT OF THE ARMY AND THE AIR FORCE
NATIONAL GUARD BUREAU
REGIONAL INDUSTRIAL HYGIENE OFFICE
AIRPORT PLAZA SUITE 1530
510 PLAZA DRIVE
COLLEGE PARK, GA 30349

NGB-AVN-SI August 19, 2004

MEMORANDUM FOR: ADJUTANT GENERAL TX ARNG, ATTN.: State Occupational Health Office, P. O. BOX 5218, Austin, TX 78763-5218

SUBJECT: Transmittal of the Survey Report of Camp Mabry Indoor Firing Range, Camp Mabry, Austin, TX.

1. References.

a. Department of Defense Instruction 6055.1, Department of Defense Occupational Safety and Health (OSH) Program, 26 October 1984.

b. Army Regulation (AR) 40-5, 30 August 1986, Medical Service, Preventive Medicine.

c. National Guard Regulation (NGR) 385-10, 1988, Army National Guard Safety and Occupational Health Program.

d. AR 11-34, The Army Respiratory Protection Program, 15 February 1990.

e. TB MED 502, Occupational and Environmental Health Respiratory Protection Program, February 1982.

f. DA PAM 40-503, 30 October 2000, The Army Industrial Hygiene Program.

g. DA PAM 40-501, 10 December 1998, Hearing Conservation.

h. Threshold Limit Values and Biological Exposure Indices (TLV's) for 2001, American Conferenca of Governmental Industrial Hygienists (ACGIH), Cincinnati, Ohio.

i. Industrial Ventilation, 23rd Edition, American Conference of Governmental Industrial Hygienist, Cincinnati, Ohio.

j. USAEHA TG-141, November 1997, Guidelines for Air Sampling and Bulk sample Collection.

NGB-AVN-SI
SUBJECT: Transmittal of the Survey Report of Camp Mabry Indoor Firing Range, Camp Mabry, Austin, TX.

k. Title 29, Code of Federal Regulations (CFR), 2000 rev., part 1910, Occupational Safety and Health Standards.

l. Report of June 9, 2004, Industrial Hygiene Survey, Tammer Sciences INC, 3744 Lawrence Dr., Naperville, IL.

2. General.

a. At the request of the TX ARNG Safety and Occupational Health Office, an Industrial Hygiene Service was put together to conduct an industrial hygiene survey of the Camp Mabry Indoor Firing Range, Camp Mabry, Austin, TX.

b. Non-Responsive Tammer Sciences INC, 3744 Lawrence Dr., Naperville, IL 60564, conducted the survey.

3. Findings. All Health Hazard information data can be found on the survey findings of the report. (See enclosure 1)

4. Recommendations.

a. Consider upgrading the range in accordance to National Guard Regulation (NGR) 385-15 by installing a makeup air supply system that includes the introduction of make up air using a properly designed perforated wall. A properly designed plenum wall located at least 15 feet behind the firing line is meant to reduce turbulence and distribute the air evenly and uniformly at the firing line and down range.

b. Consider additional Industrial Hygiene services to monitor the operation of the firing range as soon as these recommendations are incorporated to finalize the IH survey with the appropriate air sampling survey.

c. The recommendations given in the comment section and data collected will serve as a baseline for the Industrial Hygiene Implementation Plan (IHIP) for FY-04. A follow up operation and hazard specific air sampling survey based on the enclosed findings will be included in the FY-05 IHIP.

NGB-AVN-SI
SUBJECT: Transmittal of the Survey Report of Camp Mabry Indoor Firing Range, Camp Mabry, Austin, TX.

d. To execute your responsibilities in correcting all deficiencies and meeting all standards coordinate with the Occupational Health Nurse and the Occupational Safety and Health Office for technical guidance.

5. If additional information is needed about the industrial hygiene survey or air sample Non-Responsive

Non-Responsive

CF:
NBG-AVN-SH
State Occupational Health Office, P. O. BOX 5218, Austin, TX 78763-5218.
State Safety Manager, P. O. BOX 5218, Austin, TX 78763-5218.

Encl
as

Indoor Firing Range Inspection/Evaluation Survey Report

For

Texas Army National Guard
(TXANG)

At

Camp Mabry Indoor Firing Range
Austin, Texas

Prepared for:

Department of the Army and the Air Force
National Guard Bureau
Regional Industrial Hygiene Office
Region South
Airport Plaza Suite 1530
510 Plaza Drive
College Park, GA 30349

By

Non-Responsive

August 16, 2004

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- Site Description
- Scope of Work
- Methodology

Findings & Discussion

- Ventilation ..... Page 3
- Smoke Assessment ..... Page 4

Appendices

A. References.
B. Air Velocity Measurement Result Table.
C. Photographs.

Executive Summary

At the request of the Texas Army National Guard (TXARNG), field personnel representing the National Guard Bureau, Region South Industrial Hygiene Office, conducted an inspection/evaluation of the Camp Mabry indoor firing range (IFR) located in Austin, Texas on 9 June 2004. The evaluation consisted of conducting a physical inspection of the range and evaluating the ventilation system. This survey was conducted as part of the TXARNG occupational safety and health program to identify potential health hazards in the workplace.

Air velocity readings at the firing line and three other planes downstream were collected. Smoke candles were also used to evaluate air patterns and velocities. Based on these measurements the Camp Mabry firing range is classified as unsafe for use based on deficiencies in ventilation. Considerations should be given to providing a makeup supply fan and upgrading the range to meet the Army National Guard Indoor Firing Range Design Criteria ((NGR) 385-15).

SUBJECT: Industrial Hygiene Ventilation Survey of the Camp Mabry Firing Range in Austin, Texas on 6 June 2004

BACKGROUND:

Introduction. At the request of Non-Responsive of the National Guard Bureau Region South Industrial Hygiene Office, an inspection/evaluation survey was performed at the Camp Mabry Indoor Firing Range in Austin, Texas. Non-Responsive, CIH, contract industrial hygienists, conducted the survey on 9 June 2004. The purpose of the survey was to evaluate the range ventilation.

Site Description. The Camp Mabry Indoor Firing Range measures approximately 100 feet long, 28 feet wide, and 10 feet high and is used for weapons firing and qualification. The range has six firing lanes and an inclined steel plate bullet trap. An exhaust fan draws air through the bullet trap and exhausts it to the rear of the building. 100 percent outside air is supplied through the plenum above the suspended ceiling that extends from the firing line to the bullet trap. Refer to photos in Appendix C.

Scope of Work. The work consisted of a physical inspection of the range and an evaluation of the ventilation system. Smoke candles were utilized to observe airflow patterns in the range. Air velocities were also measured at the firing line and downstream. Ventilation measurements were performed to quantify performance of the range and its effectiveness in reducing employee exposure to lead dust.

Methodology A Gray Wolf AS-201 telescoping airspeed probe and a pocket PC were used to measure air velocities at the firing line. A total of eighteen velocity readings were taken at each firing lane. Six measurements were taken at each of the three firing positions; standing, kneeling, and prone positions position for a total of 18 readings. The meter recorded the average velocity every 5 seconds and the reading was logged every 10 seconds. A total of four sets of readings were collected, one at the firing line, one two feet past the line, one approximately 22 feet downstream from the firing line, and the fourth about 44 feet downstream from the firing line.

The most significant hazard present to employees and users of the indoor firing range is lead dust. Shooters using ammunition with lead primers or bullets manufactured with lead are potentially exposed to lead fumes and dust during the firing process. Therefore, proper ventilation is of utmost importance in controlling and minimizing exposure to lead.

FINDINGS and DISCUSSION:

The range is equipped with an exhaust fan behind the bullet trap. There is no makeup air supply fan. Average velocity readings at the firing line ranged from 5 to 325 with an average of 77 feet per minute (fpm). Average velocities in lanes 3, 5, and 6 were below the required 50 feet per minute (fpm). Air velocity was found below 50 fpm in the standing positions in lanes 2 and 3, in the kneeling position in lanes 5 and 6, and in the prone position in lanes 2, 5, and 6. Refer to Table B-1 in Appendix B for a listing of all readings. Table 1 below summarizes the results. Average velocities two feet downstream form the firing line ranged from 2 to 117 fpm. This wide range is an indication of uneven distribution of airflow through the firing line.

Table 1
Summary of Velocity Readings
Texas Army National Guard
Camp Mabry Firing Range
Austin, Texas
9 June 2004

Firing Position	Lane #1	Lane #2	Lane #3	Lane #4	Lane #5	Lane #6
Prone	86.6	49	88	325	29	49
Kneeling	104	102	57	81	23	97
Standing	70	18	5	415	79	57
Lane Average	87	56	49	174	44	48

Firing Position	Lane #1	Lane #2	Lane #3	Lane #4	Lane #5	Lane #6
Prone	27	72	68	87	44	65
Kneeling	73	117	113	224	38	13
Standing	16	3.6	6.2	98	90	86
Lane Average	40	64	62	62	57	55

Firing Position	Lane #1	Lane #2	Lane #3	Lane #4	Lane #5	Lane #6
Prone	85	62	52	60	77	64
Kneeling	50	88	79	142	132	77
Standing	116	84	26	188	108	80
Lane Average	84	78	52	130	106	74

Firing Position	Lane #1	Lane #2	Lane #3	Lane #4	Lane #5	Lane #6
Prone	90		63		67	
Kneeling	121		108		120	
Standing	150		80		107	
Lane Average	120		84		98	

The reason for such disturbances is the lack of proper makeup air introduction. Makeup air is introduced in the range from above the dropped ceiling, which extends only to the firing line. Refer to the photos in Appendix C. This causes high turbulence at the firing

line as shown by the wide range of velocity readings at and near the firing line. Velocity readings were more streamlined and less turbulent downstream from the firing line as depicted in the summary table above. Average velocity 22 and 44 feet downstream from the firing line were 87 and 97 fpm, respectively.

Smoke tube testing confirmed the velocity readings findings. The average time it took the smoke to travel approximately 78 feet from the firing line to the bullet stop was 50 to 55 seconds, which results in an average velocity from 85 to 93 fpm. The smoke curled back behind the firing line right at the opening of the dropped ceiling. This turbulence would result in the lead dust blowing back into the breathing zone during firing.

Results of ventilation and smoke tests indicated that sufficient air velocities are being provided by the fan but the air flow is not evenly and uniformly distributed to move lead dust downrange and away from the firer's breathing zone.

Recommendation:

Consider upgrading the range in accordance to National Guard Regulation (NGR) 385-15 by installing a makeup air supply fan and introducing the air behind the perforated wall. A properly designed plenum wall located at least 15 feet behind the firing line is meant to reduce turbulence and distribute the air evenly and uniformly at the firing line and downrange.

Technical Assistance: For technical assistance regarding information found in this report

Non-Responsive

APPENDIX A

BEST AVAILABLE COPY

REFERENCES

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

2. American Conference of Governmental Industrial Hygienists (ACGIH), Threshold Limit Values for Chemical Substances and Physical Agents and Biological Indices for 2000.

3. Army Regulations - AR 40-5, Preventative Medicine, 15 October 1990.

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

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

6. National Guard Regulation (NGR) 385-10, Army National Guard Safety and Occupational Health Program, 29 December 1989.

7. National Guard Regulation (NGR) 385-15 Policy Responsibilities, and Procedures for Inspection/Evaluation and use of ARNG Indoor Firing Ranges, 18 September 2000..

8. National Guard Pamphlet (NG PAM) 385-16, Guidelines for Converting Firing Ranges to Other Uses, 31 January 1994.

9. National Institute for Occupational Safety and Health, Pocket Guide to Chemical Exposures, 2000.

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

11. TB MED 502, Occupational Safety and Health Respiratory Protection Program..

12. Title 29 Code of Federal Regulations (CFR) 1910.1025, Lead.

APPENDIX B

Table B-1
Velocity Readings for each Plane
Texas Army National Guard
Camp Mabry Firing Range
Austin, Texas
9 June 2004

Firing Position	Lane #1	Lane #2	Lane #3	Lane #4	Lane #5	Lane #6
Prone	0	11	88	69	33	0
	6	88	89	143	8	6
	132	66	111	3	74	84
	104	26	42	1360	19	13
	97	34	88	94	45	122
	94	31	109	25	0	19
Average	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Kneeling	137	87	77	2	2	26
	145	78	22	117	10	3
	24	110	14	125	79	75
	139	131	107	37	4	87
	111	153	105	65	23	0
	99	38	39	62	0	22
Average	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Standing	28	3	7	116	7	72
	83	77	0	114	151	100
	123	1	21	73	19	120
	14	8	0	128	98	13
	80	1	0	328	105	17
	52	5	6	133	22	33
Average	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Firing Position	Lane #1	Lane #2	Lane #3	Lane #4	Lane #5	Lane #6
Prone	23	45	90	3	89	85
	29	14	88	80	16	35
	4	77	2	84	33	63
	52	76	88	42	50	114
	44	116	111	110	41	60
	9	78	52	117	82	54
Average	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Kneeling	105	158	105	12	1	0
	15	122	125	0	119	0
	116	132	119	4	66	29
	126	138	115	2	0	14
	116	111	89	4	3	24
	15	84	116	2	0	0
Average	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Standing	23	0	0	112	124	111
	2	16	0	103	110	94
	0	0	8	98	120	89
	7	0	8	97	29	33
	1	0	5	94	100	117
	69	2	10	99	90	95
Average	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Table B-1
Velocity Readings for each Plane
Texas Army National Guard
Camp Mabry Firing Range
Austin, Texas
9 June 2004

Firing Position	Lane #1	Lane #2	Lane #3	Lane #4	Lane #5	Lane #6
Prone	95	88	13	86	83	41
	83	88	49	15	86	64
	94	56	58	52	68	38
	55	54	30	73	81	37
	102	47	62	77	65	83
	92	62	62	84	86	97
Average	**85**	**62**	**52**	**60**	**77**	**64**
Kneeling	77	153	108	123	122	96
	12	57	90	133	92	80
	52	83	31	165	142	75
	27	103	83	111	167	87
	114	78	87	148	127	42
	46	120	102	153	134	99
Average	**50**	**88**	**79**	**142**	**132**	**77**
Standing	116	103	53	155	112	116
	109	106	11	140	146	57
	103	58	55	199	84	122
	157	8	6	198	83	79
	141	125	35	226	104	92
	69	123	23	178	121	50
Average	**116**	**84**	**26**	**188**	**108**	**80**

Firing Position	Lane #1	Lane #2	Lane #3	Lane #4	Lane #5	Lane #6
Prone	87		37		60	
	91		45		73	
	80		71		74	
	83		54		52	
	77		69		64	
	117		76		70	
Average	**90**		**63**		**67**	
Kneeling	106		88		94	
	135		112		107	
	122		103		82	
	110		99		90	
	135		114		47	
	105		112		84	
Average	**121**		**108**		**120**	
Standing	154		83		41	
	166		101		97	
	170		87		116	
	152		100		88	
	126		45		111	
	136		69		122	
Average	**150**		**80**		**107**	

APPENDIX C

Photo 1: The Firing Range Plaque.

Photo 2: The six firing lanes.

Photo 3: The bullet trap.

Photo 4: The observation deck area and the perforated wall.

Photo 5: Exhaust fan outlets behind the bullet trap.

Photo 6: The outside structure of the range showing the makeup air inlet on the roof.

Photo 7: Range posted rules and regulations.

Photo 8: A close up of the bullet trap.

Photo 9: The firing line as seen from the bullet trap.

Photo 10: The smoke candle as it started.

Photo 11: Smoke traveling downstream the firing line.

Photo 12: Smoke as it gathered around the firing line.

Photo 13: The smoke is being blown towards the observation deck as a result of air rushing through the dropped ceiling opening.

Photo 14: The dropped ceiling opening where makeup air is introduced into the range.

Photo 15: Makeup air inlet above the suspended ceiling.

DEPARTMENT OF THE ARMY AND THE AIR FORCE
NATIONAL GUARD BUREAU
REGIONAL INDUSTRIAL HYGIENE OFFICE
AIRPORT PLAZA SUITE 1530
510 PLAZA DRIVE
COLLEGE PARK, GA 30349

NGB-AVN-SI June 25, 2004

MEMORANDUM FOR: ADJUTANT GENERAL TX ARNG, ATTN.: State Occupational Health Office, P. O. BOX 5218, Austin, TX 78763-5218

SUBJECT: Transmittal of the Survey Reports for Victoria Armory, Corpus Christi Armory, Eagle Pass Armory, Laredo Armory, Columbus Armory and El Campo Armory, TX.

1. References.

a. Department of Defense Instruction 6055.1, Department of Defense Occupational Safety and Health (OSH) Program, 26 October 1984.

b. Army Regulation (AR) 40-5, 30 August 1986, Medical Service, Preventive Medicine.

c. National Guard Regulation (NGR) 385-10, 1988, Army National Guard Safety and Occupational Health Program.

d. AR 11-34, The Army Respiratory Protection Program, 15 February 1990.

e. TB MED 502, Occupational and Environmental Health Respiratory Protection Program, February 1982.

f. DA PAM 40-503, 30 October 2000, The Army Industrial Hygiene Program.

g. DA PAM 40-501, 10 December 1998, Hearing Conservation.

h. Threshold Limit Values and Biological Exposure Indices (TLV's) for 2001, American Conference of Governmental Industrial Hygienists (ACGIH), Cincinnati, Ohio.

i. Industrial Ventilation, 23rd Edition, American Conference of Governmental Industrial Hygienist, Cincinnati, Ohio.

j. USAEHA TG-141, November 1997, Guidelines for Air Sampling and Bulk sample Collection.

NGB-AVN-SI
SUBJECT: Transmittal of the Survey Reports for Victoria Armory, Corpus Christi Armory, Eagle Pass Armory, Laredo Armory, Columbus Armory and El Campo Armory, TX.

k. Title 29, Code of Federal Regulations (CFR), 2000 rev., part 1910, Occupational Safety and Health Standards.

l. Report of June 15, 2004, Industrial Hygiene Survey, Tammer Sciences INC, 3744 Lawrence Dr., Naperville, IL.

2. General.

a. At the request of the TX ARNG Safety and Occupational Health Office, an Industrial Hygiene Service was put together to conduct Health Hazard Information module (HHIM) Field surveys and industrial hygiene sampling of the Victoria Armory, Corpus Christi Armory, Eagle Pass Armory, Laredo Armory, Columbus Armory and El Campo Armory, TX

b. Non-Responsive Tammer Sciences INC, 3744 Lawrence Dr., Naperville, IL 60564, conducted the survey.

3. Findings. All Health Hazard information are on the survey findings of the report. (See enclosure 1)

4. Recommendations.

a. Follow all recommendations made in reference 1.l., requesting industrial hygiene (IH) services where needed to complete the recommendations.

b. Conduct an air sampling survey in the areas in and around those identified with elevated lead dust levels in page 3 0f reference 1.l, to ensure that the lead dust present is not airborne and that employees in these areas are not exposed above the action level where applicable.

c. Control water infiltration in the armory and/or replace or repair damaged surfaces or components (ceiling and floor tiles). Building conditions that present IAQ concerns or problems not only exacerbates normally minor health issues but also tend to promote or accelerate building deterioration.

d. The recommendations given in the comment section and data collected will serve as a baseline for the Industrial Hygiene Implementation Plan (IHIP) for FY-03. A follow up operation and hazard specific air sampling survey based on the enclosed findings will be included in the FY-04 IHIP.

NGB-AVN-SI
SUBJECT: Transmittal of the Survey Reports for Victoria Armory, Corpus Christi Armory, Eagle Pass Armory, Laredo Armory, Columbus Armory and El Campo Armory, TX.

e. Consider additional Industrial Hygiene services to monitor operations that were not looked at or surveyed during the present survey, especially if this will help eliminate health hazards and reduce medical surveillance cost.

f. To execute your responsibilities in correcting all deficiencies and meeting all standards coordinate with the Occupational Health Nurse and the Occupational Safety and Health Office for technical guidance.

f. Give special consideration to cleaning light fixtures, increasing the wattage and painting walls a lighter color when upgrading the lighting in the facility.

5. If additional information is needed about the industrial hygiene survey or air sample

Non-Responsive

CF:
NBG-AVN-SH
State Occupational Health Office, P. O. BOX 5218, Austin, TX 78763-5218.
State Safety Manager, P. O. BOX 5218, Austin, TX 78763-5218.

Encl
as

Industrial Hygiene Baseline Survey Report
For
Texas Army National Guard
(TXARNG)

At
Columbus Armory
101 Legion Drive
Columbus, Texas

Prepared for:

Department of the Army and the Air Force
National Guard Bureau
Regional Industrial Hygiene Office
Region South
Airport Plaza Suite 1530
510 Plaza Drive
College Park, GA 30349

By
Non-Responsive

June 16, 2004

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- Scope of Work
- Methodology

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- Recommendations ..... Page 6

Appendices

A. Floor Layout and illumination levels.
B. Laboratory Analytical Results.
C. Lab Chain of Custody.
D. Photographs.

Executive Summary

An initial baseline industrial hygiene survey was conducted at the Columbus Armory on 23 March 2004 as part of the Texas Army National Guard Occupational Health Program to identify potential health hazards in the workplace. The survey consisted of collecting lead wipe samples and bulk asbestos samples, conducting an illumination survey, a noise survey, and an evaluation of the Heating Ventilation and Air Conditioning System (HVAC) as it relates to indoor air quality.

The following table summarizes the survey findings and recommendations for each topic surveyed.

Topic	Summary of Findings	Recommendations
IFR Lead Wipe Sample Results	<10 to 23,000 microgram per square foot.	Do not use the firing range space until it is cleaned and decontaminated properly.
Armory Lead Wipe Samples	<10 to 77 microgram per square foot.	No action.
Asbestos Bulk Samples	12x12 inch floor tiles	Update the facility asbestos management plan to include the fitting insulation.
Noise Survey	No excessive noise source was identified.	No action.
Illumination Survey	25 to 55 footcandles	No action.
HVAC/IAQ	Extensive water damage in various parts of the armory.	Repair all water leaks and replace damaged building materials.

SUBJECT: Industrial Hygiene Initial Baseline Survey of the Columbus Armory in Columbus, Texas on 25 March 2004

BACKGROUND:

Introduction. At the request of Non-Responsive of the National Guard Bureau Region South Industrial Hygiene Office, an initial baseline industrial hygiene survey was performed at the Columbus Armory in Columbus, Texas. Non-Responsive Industrial Hygiene Technician for the Texas Army National Guard and Non-Responsive contract Industrial Hygienist, Tammer Sciences, Inc. conducted the survey on 23 March 2004. The purpose of the survey was to perform an initial baseline industrial hygiene survey to identify potential health hazards present at the armory, specifically lead contamination from the indoor firing range.

Site Description. The armory, which was constructed in 1985, houses Det 1 Co B 176 Engineers. The building is a one-story structure and consists of administrative office areas, a kitchen, an orderly office, a drill hall, a supply and storage rooms, and an indoor firing range. Currently all full time employees are deployed. A copy of the floor layout and photos are included in Appendix A and D, respectively.

Scope of Work. The work included collecting wipe samples for lead, bulk samples for suspect asbestos containing building material, illumination levels, noise readings where necessary, and an evaluation of the ventilation system as it pertains to indoor air quality.

Methodology Lead wipe samples were collected from surfaces in the firing range and in the Armory in accordance to instructions published by Region South National Guard Bureau, which required the use of unscented baby wipes to wipe one square foot of surface. Samples were then placed in a sealed plastic bag and sent for analysis to EMSL laboratory, which is an American Industrial Hygiene Association (AIHA) Accredited laboratory. Asbestos bulk samples were collected from suspect building materials that were grouped based on similarity of composition. Bulk sample collection was minimally destructive and samples were collected from inconspicuous areas. Bulk samples were also collected from suspect friable and damaged building material. Each bulk sample was placed in a sealed bag and sent to EMSL laboratory for analysis. Noise readings were collected using a noise level meter in areas where a noise source was identified. All noise measurements were area readings. Illumination readings were collected using a Western Schlumberger light meter Serial 8384. Illumination readings were taken on work surfaces such as desks or approximately four feet from the floor.

FINDINGS and DISCUSSION:

The Point of Contact during the survey was Non-Responsive

Lead Wipe Samples: Twenty seven wipe samples were collected from the indoor firing range and various areas of the armory as listed in the table below.

Sample Number	Sample Location	Micrograms of lead (ug) per square foot
CMB01	Top of refrigerator in kitchen.	<10.0
CMB02	Top of serving line on the kitchen side.	<10.0
CMB03	Drill hall floor by kitchen and offices.	<10.0
CMB04	Drill hall floor in center.	<10.0
CMB05	Drill hall floor by supply room.	16.0
CMB06	Top of the soda machine in the drill hall	77.0
CMB07	Supply diffuser in administrative office	<10.0
CMB08	Top of book case in the administrative office	<10.0
CMB09	IFR bullet Stop (facing trap) upper left	18,000.0
CMB10	IFR bullet Stop middle	15,000.0
CMB11	IFR bullet Stop (facing trap) lower right	14,000.0
CMB12	IFR floor to the left of the bullet trap	21,000.0
CMB13	IFR floor middle of range	23,000.0
CMB14	IFR floor to the right of the observation area facing the deck	5000.0
CMB15	IFR left wall (facing trap) upper right	110.0
CMB16	IFR left wall (facing trap) middle	85.0
CMB17	IFR left wall (facing trap) lower left	<10.0
CMB18	IFR right wall (facing trap) lower left	250.0
CMB19	IFR right wall (facing trap) middle	14.0
CMB20	IFR right wall (facing trap) upper right	20.0
CMB21	IFR Ceiling (facing trap) right side	13.0
CMB22	IFR Ceiling (facing trap) middle	<10.0
CMB23	IFR Ceiling (facing trap) left side	<10.0
CMB24	IFR back wall (facing wall) upper left	31.0
CMB25	IFR back wall (facing wall) middle	39.0
CMB26	IFR observation wall ledge left side (facing trap)	870.0
CMB27	IFR top of shelf in the firing line position number 2 from left	2900.0
CMB28	Field Blank	<10.0

The US Environmental Protection Agency (EPA), under a new standard issued in 2000, considers lead dust as a hazard if levels are greater than 40 micrograms of lead in dust per square foot on floors; 250 micrograms of lead in dust per square foot on interior window sills and 400 parts per million (ppm) of lead in bare soil in children's play areas or 1200 ppm average for bare soil in the rest of the yard. This standard is a major effort by the EPA to identify dangerous levels of lead in paint, dust and soil in order to protect children from lead poisoning. The National Guard Bureau recommends a limit of 200 micrograms per square foot for surface contamination. The laboratory report and chain of custody forms are attached in Appendices B and C.

The indoor firing range as indicated by the wipe sampling results should be properly cleaned and decontaminated in accordance to the instructions found in NG PAM 385-15.

Asbestos Suspect Building Material: Typical building materials identified in the Armory consisted of 12 by 12 inches floor tiles, 2x4 feet ceiling tiles, and Baseboard in the administrative office areas. Cement floors, cinder block walls, and corrugated steel deck in the drill hall, supply, storage, and other areas. Bulk samples were collected from typical suspect materials. The table below lists the samples collected and the results:

Sample #	Description	% Asbestos Type
CMB B01	2x4 foot ceiling tile in drill hall and exercise room	None.
CMB B02	Baseboard.	None.
CMB B03	Baseboard mastic	None.
CMB B04	12x12 inch floor tile.	2% Chrysotile.
CMB B04	Mastic from 12x12 inch floor tile.	< 1% Chrysotile.
CMB B05	2x4 Ceiling tile in administrative offices	None.

The facility asbestos management plan should be updated to include the floor tiles. The laboratory report and chain of custody forms are attached in Appendices B and C.

Noise Survey: Based on observations during the walkthrough baseline survey, no sources of excessive noise were identified and therefore no area noise readings were collected. Noise levels are likely to be well below the Occupational Safety and Health Administration (OSHA) regulated limit of 90 dBA and the Army recommended limit of 85 dBA.

Illumination Survey Lighting levels throughout the Armory ranged between 25 foot-candles to 55 foot-candles. Illumination levels are noted on the floor layout in Appendix A. Illumination ranges for each area are listed in the Table below:

Area	Reading in Foot-candles
Administrative Offices.	30 – 55
Storage Areas.	25 – 30
Supply Rooms.	25 – 45
Drill Hall.	25 – 45
Classroom.	40 – 45
Kitchen.	25 – 45

The Army Design Guide (DG415-2) minimum illumination level of 50 foot-candle for office area and 20 foot-candles for parts storage/supply. The American National

Standard Institute (ANSI) recommends a minimum illumination level of 50 to 100 foot-candles for office work, 20 to 50 for general lighting. Luminance depends on various factors including the task to be performed, the age of the individual, and the surroundings. Luminance of 50 to 100 foot-candles is recommended for performance of visual tasks of medium contrast or small size such as reading pencil handwriting and poorly printed or reproduced material. Depending on the type of display, background luminance of 30 to 60 foot-candles is recommended for VDT work. Replacing light bulbs with higher wattage will increase lighting levels. Replacing burnt out light bulbs and cleaning the light fixture should improve the lighting levels.

Heating Ventilating and Air Conditioning (HVAC) The Heating Ventilating and Air-Conditioning (HVAC) System for the Armory consisted of individual rooftop units. Extensive water damage was observed in various parts of the armory. Water leaks should be repaired immediately and water damaged building material should be replaced or decontaminated as soon as possible.

Recommendation:

1. Clean and decontaminate the firing range in accordance to NG PAM 385-15 specifications.

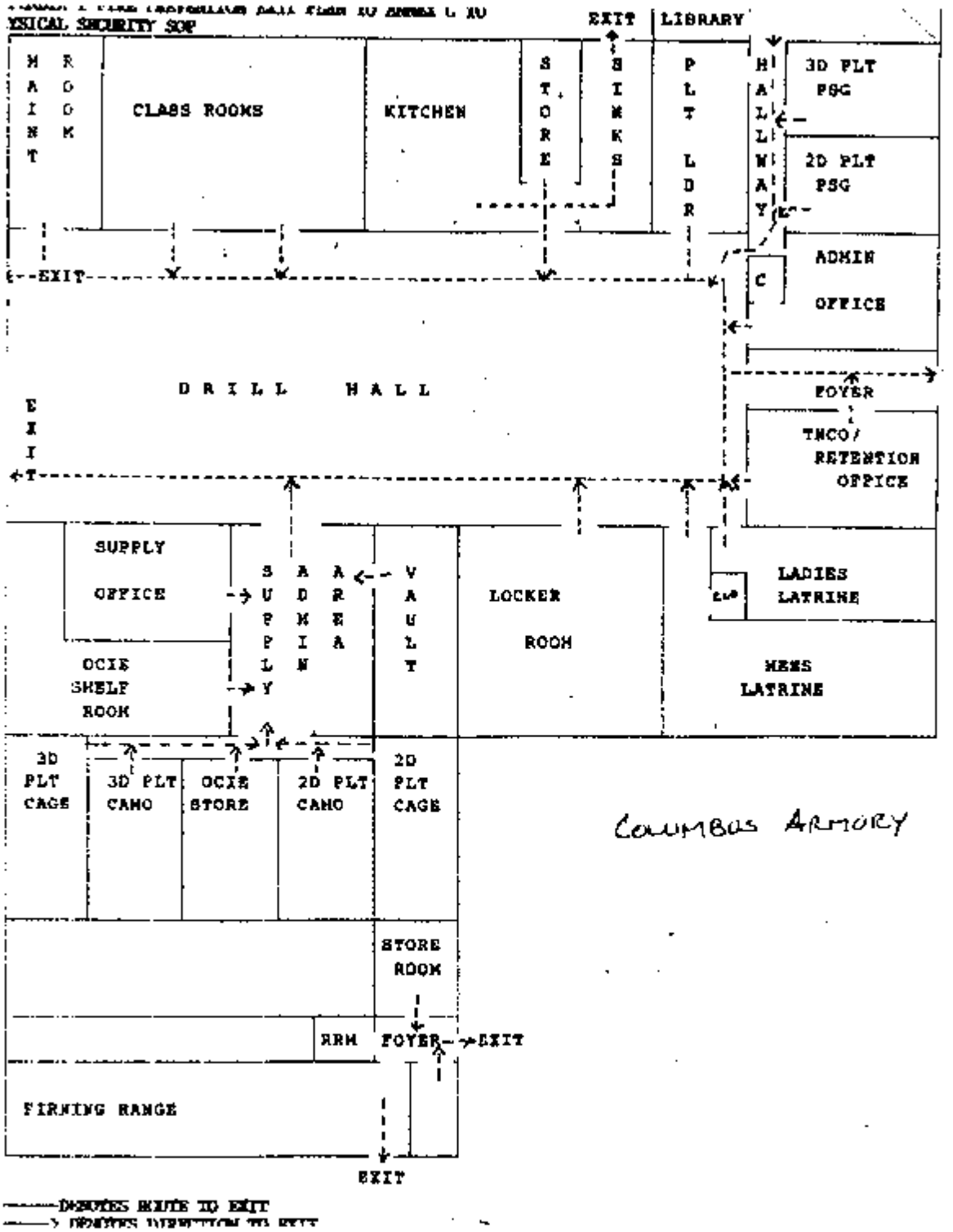
2. Update the facility asbestos management plan to include the fitting insulation

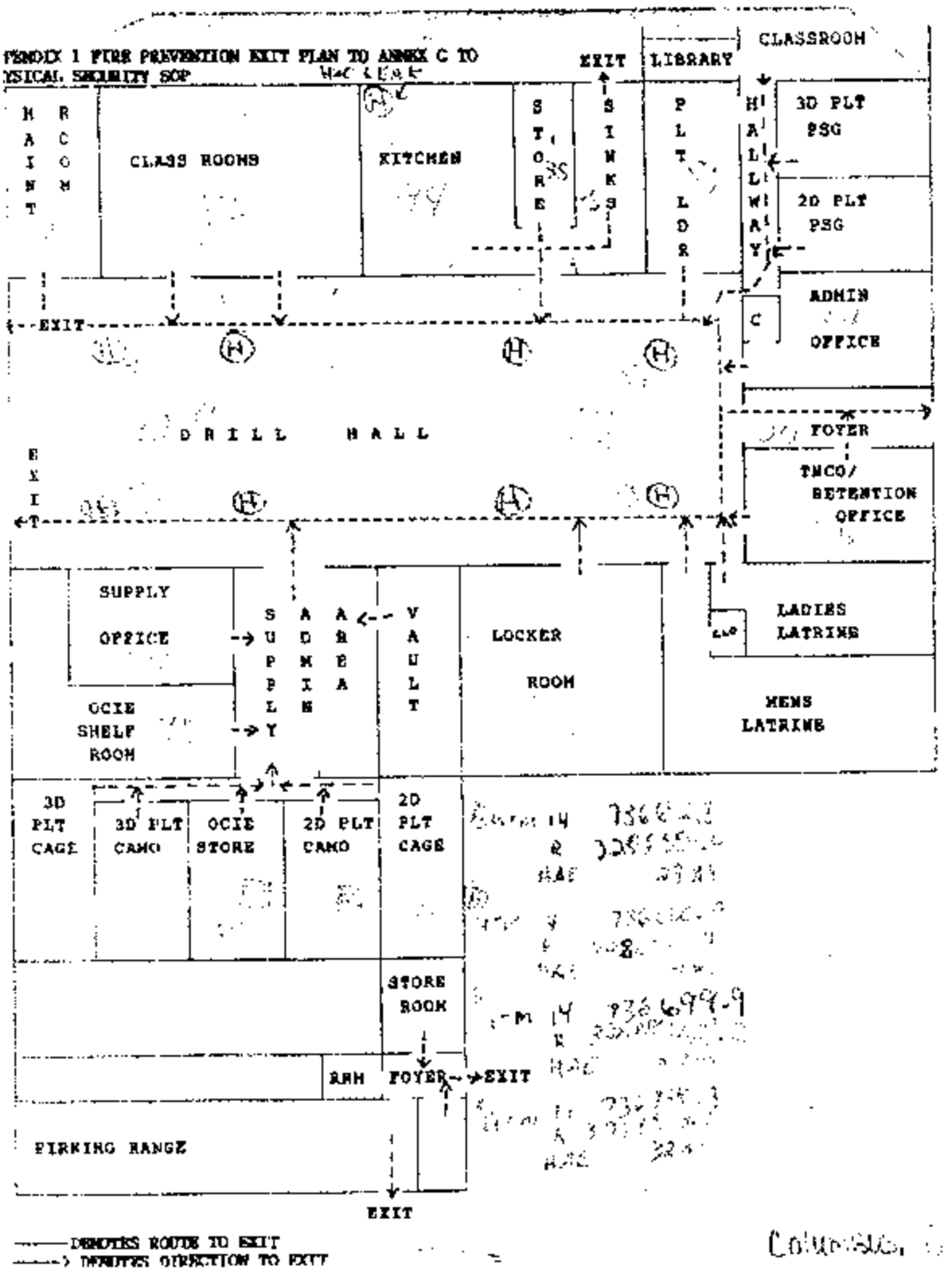
Technical Assistance: For technical assistance regarding information found in this report

Non-Responsive

APPENDIX A

BEST AVAILABLE COPY





APPENDIX B

EMSL Analytical
3 Cooker St., Westmont, NJ 08108
Phone: (856) 858-4800 Fax: (856) 858-9651 Email: skauffman@emsl.com

Attn: Non-Responsive
Fax:
Project: Columbus, TX

Customer ID: TS80
Customer PO:
Received: 03/30/04 10:11 AM

EMSL Order: 200403344
EMSL Proj:

Lead in Wipes by Flame AAS (SW 846, 7420)

Client Sample Description		Lab ID	Analyzed	Area Sampled	Lead Concentration
CMB01	Results for these wipe samples do not meet the EPA standards for sample matrix and are not recognized under the NLLAP accreditation program	0001	4/14/04	n/a	<10.0 µg/wipe
CMB02		0002	4/14/04	n/a	<10.0 µg/wipe
CMB03		0003	4/14/04	n/a	<10.0 µg/wipe
CMB04		0004	4/14/04	n/a	<10.0 µg/wipe
CMB05		0005	4/14/04	n/a	16.0 µg/wipe
CMB06		0006	4/14/04	n/a	77.0 µg/wipe
CMB07		0007	4/14/04	n/a	<10.0 µg/wipe
CMB08		0008	4/14/04	n/a	<10.0 µg/wipe
CMB09		0009	4/14/04	n/a	16000.0 µg/wipe
CMB10		0010	4/14/04	n/a	15000.0 µg/wipe
CMB11		0011	4/14/04	n/a	14000.0 µg/wipe
CMB12		0012	4/14/04	n/a	21000.0 µg/wipe
CMB13		0013	4/14/04	n/a	23000.0 µg/wipe
CMB14		0014	4/14/04	n/a	5000.0 µg/wipe
CMB15		0015	4/14/04	n/a	110.0 µg/wipe
CMB16		0016	4/14/04	n/a	85.0 µg/wipe
CMB17		0017	4/14/04	n/a	<10.0 µg/wipe
CMB18		0018	4/14/04	n/a	250.0 µg/wipe
CMB19		0019	4/14/04	n/a	14.0 µg/wipe
CMB20		0020	4/14/04	n/a	20.0 µg/wipe
CMB21		0021	4/14/04	n/a	13.0 µg/wipe

Non-Responsive

The QC data associated with the sample results included in this report meet the recovery and precision requirements [illegible] this comment section. The test results contained within this report meet the requirements of NELAC unless otherwise noted.

ACCREDITATIONS: NJ-NELAP, 04653, AIHA Environmental Lead Laboratory Approval Program, 100194

Date Printed: 4/14/04 9:20:45 AM

EMSL Analytical
3 Cooper St., Westmont, NJ 08108
Phone: (856) 858-4830 Fax: (856) 858-9551 Email: skauffman@emsl.com

Attn: Non-Responsive
Fax:
Project: Columbus,TX

Customer ID: TS80
Customer PO:
Received: 03/30/04 10:11 AM

EMSL Order: 200403344
EMSL Proj:

Lead in Wipes by Flame AAS (SW 846, 7420)

Client Sample Description	Lab ID	Analyzed	Area Sampled	Lead Concentration
CMB22	0022	4/14/04	n/a	<10.0 µg/wipe
CMB23	0023	4/14/04	n/a	<10.0 µg/wipe
CMB24	0024	4/14/04	n/a	31.0 µg/wipe
CMB25	0025	4/14/04	n/a	39.0 µg/wipe
CMB26	0026	4/14/04	n/a	570.0 µg/wipe
CMB27	0027	4/14/04	n/a	2900.0 µg/wipe
CMB28	0028	4/14/04	n/a	<10.0 µg/wipe

Non-Responsive

The QC data associated with the sample results included in this report meet the recovery and precision requirements established by the AIHA, unless specifically noted in the comments section. The test results contained within this report meet the requirements of NELAC unless otherwise noted.
ACCREDITATIONS: NJ-NELAP: 04852, AIHA Environmental Lead Laboratory Approval Program: 100194

Date Printed: 4/14/04 9:20:54 AM

Page 2 of 2

EMSL Analytical, Inc.
[illegible]
Phone: [illegible] Fax: (856) 858-4960 Email: [illegible]@EMSL.com

EMSL

Attn: [redacted]

Fax:

Project:

Customer ID: TS80
Customer PO:
Received: 03/30/04 8:00 AM

EMSL Order: 040405501
EMSL Proj:
Analysis Date: 4/11/2004

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Treatment	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
CMB 301 040405501-0001		White/Yellow Fibrous Heterogeneous	Teased	90% Min. Wool	10% Non-fibrous (other)	None Detected
CMB 302 040405501-0002		Brown Non-Fibrous Heterogeneous	Teased		100% Non-fibrous (other)	None Detected
CMB 303 040405501-0003		Various Fibrous Heterogeneous	Teased Dissolved	2% Cellulose	98% Non-fibrous (other)	None Detected
CMB 304 TILE 040405501-0004		White Fibrous Heterogeneous	Teased		98% Non-fibrous (other)	2% Chrysotile
CMB 304 MASTIC 040405501-0005		Black Fibrous Heterogeneous	Teased Dissolved		100% Non-fibrous (other)	<1% Chrysotile
CMB 305 040405501-0006		White/Brown Fibrous Heterogeneous	Teased	10% Cellulose 20% Glass	70% Non-fibrous (other)	None Detected

[redacted]

[redacted]

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected may require additional testing by TEM to confirm asbestos quantities. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. The test results contained within this report meet the requirements of NELAC unless otherwise noted.
Analysis performed by EMSL Westmont (NVLAP #101048-0), NY ELAP 10872

PLM-1 THIS IS THE LAST PAGE OF THE REPORT. 1

APPENDIX C

1140(3344

LEAD

EMSL ANALYTICAL CHAIN OF CUSTODY

Date: 3/26/04 EMSL Representative: ________ Project Name/No.: ________ P.O #: ________

Company Name: Tanner Services Inc EMSL-Bill to: ________

Street: 3244 Lawrence Drive Street: ________ Same

________ Box #: ________

City/State: Naperville IL Zip: 60564 City/State: ________ Zip: ________

Phone Results to: (Name) [redacted]

Fax Results to: (Name) ________

MATRIX	METHOD	INSTRUMENT	RL (Reporting Limit)	TAT
Lead Chips*	SW846-7420, 3050B Mod. / AOAC (974.02)	Flame Atomic Absorption	0.01% --	
Lead Wastewater	SW846-7420	Flame Atomic Absorption	0.4 mg/l water / 40 mg/kg (ppm) soil	
Lead Soil	or SW846-6010B	ICP	0.1 mg/l water / 10 mg/kg (ppm) soil	
Lead in Air**	NIOSH 7082 Mod.	Flame Atomic Absorption	4 ug/filter	
	or NIOSH 7300 Mod.	ICP	3.0 ug/filter	
Lead in Wipe* ☑-ASTM ☐-non ASTM	SW846-7420 / HUD Appendix 14.2 Digest	Flame Atomic Absorption	10 ug/wipe	[illegible]
	or SW846-6010B	ICP	3.0 ug/wipe	
TCLP Lead***	SW846-1311/7420	Flame Atomic Absorption	0.4 mg/l (ppm)	
	or SW846-6010B	ICP	0.1 mg/l (ppm)	
STLC Lead	CA Title 22 / SW846-7420	Flame Atomic Absorption	0.4 mg/l (ppm)	
	or SW846-6010B	ICP	0.1 mg/l (ppm)	
Lead in Air****	NIOSH 7105 Mod.	Graphite Furnace Atomic Absorption	0.03 ug/filter	
Lead Wastewater	SW846-7421	Graphite Furnace Atomic Absorption	0.003 mg/l (ppm) water	
Lead Soil			0.3 mg/kg (ppm) soil	
Lead in Drinking Water (check state certification Requirements)	EPA 239.2 / 200.9	Graphite Furnace Atomic Absorption	0.003 mg/l (ppm)	
Total Dust	NIOSH 0500-0600	Gravimetric Reduction	0.0001 g	

TAT (Turnaround) - Same day, 24 hr - 1 Day, 2 Days, 3 Days, 4 Days, 5 Days, 6-10 Days

*, **, ***, ****, --, ---, # Please Refer to Price Quote

* If no box is checked, non-ASTM is assumed

2004 MAR 30 AM 10:41

WESTMONT, IL

SAMPLE #	LOCATION	Air volume L / Area in²	LAB #
CMB01	Columbus, TX		63344-1
CMB02	"		-2

Relinquished By: (Person) [redacted] Date: 3/26/04

Received at EMSL By: [redacted] Date: 3/27/04

Received at EMSL By: [redacted] Date: ________

Note: Please [redacted]

The individual signing and relinquishing these samples to the laboratory attests to the accuracy of the information reported on this chain of custody.

Lead Chain Rev 2031 STLC.doc

C-1

EMSL ANALYTICAL CHAIN OF CUSTODY LEAD

SAMPLE #	LOCATION	Air volume, L Area, in²	LAB #
CM3Q3	Columbus, TX		63744-3
CM3Q4			4
Q5			5
Q6			6
Q7			7
Q8			8
Q9			9
10			10
11			11
12			12
13			13
14			14
15			15
16			16
17			17
18			18
19			19
20			20
21			21
22			22
23			23
24			24
25			25
26			26
27			27
28			28

@ Relinquished By: (Person) [redacted] Date: 3/26/04

Received at EMSL By: [redacted] Date: 3/30/04

Received at EMSL By: [redacted] Date: _____

Non-Responsive

Note: Please duplicate this form and use additional sheets if necessary.

@ The individual signing and relinquishing these samples to the laboratory attests to the accuracy of the information reported on this chain of custody.

EMSL Analytical, Inc.
Revised 07/01/99

CHAIN OF CUSTODY

Asbestos

EMSL Rep: TAMMEL SCIENCES

Third Party Billing requires written authorization from third party

Your Company Name:
Street:

Box #:
City/State:

Phone Results to:
Name:
Telephone #:
Project:
Purchase Number:

[redacted]

MATRIX

☐ Air ☐ Fiber Tile ☐ Soil
☐ Bulk ☐ Drinking Water ☐ Dust
☐ Wipe ☐ Wastewater ☐ Micro-Vac

TURNAROUND

☐ 3 hrs ☐ 6 Hours ☐ Same Day or 12 Hours* ☐ 24 Hours 1 day
☐ 48 Hours 2 days ☐ 72 Hours 3 days ☐ 96 Hours [redacted] Days
☒ 144+ hours 6-10 Days

*EM AIR, 3 hours, 6 hour - Please call ahead to schedule. There is a premium charge for 3 hour tat, please call (800-220-3675 for price prior to sending samples. You will be asked to sign and authorization form for this service. 12 hours (must arrive by 11:00 a.m Mon - Fri.), Please Refer to Price Quote

PCM - Air
☐ NIOSH 7400
☐ OSHA
☐ Other:

TEM AIR
☐ AHERA
☐ NIOSH 7402
☐ EPA Level II

TEM WATER
☐ Wastewater
☐ Drinking Water EPA 100.1
☐ Water - NY Wastewater
☐ Water-NY Drinking Water

PLM - Bulk
☒ EPA 600/R-93/116
☐ EPA Point Count
☐ NY Stratified Point Count
☐ PLM NOB (Gravimetric) NY 198.1
☐ Other:

TEM BULK/misc
☐ Drop Mount (Qualitative)
☐ Chatfield
☐ TEM NOB (Gravimetric) NY 198.4

SAMPLES ACCEPTED FOR ANALYSIS EMSL ANALYTICAL INC

TEM MICROVAC / WIPE
☐ ASTM D 5755-95 (quantitative method)

XRD
☐ Asbestos
☐ Silica

SEM Air or Bulk
☐ Qualitative
☐ Quantitative

OTHER
☐

SAMPLE NUMBER	LOCATION	VOLUME (If Applicable)
CMB B01	Columbus, TX	
CMB B02		

Client Sample # (s): CMB 001 CMB 005

Total Samples #: 5

Relinquished: [redacted] 12/6/04 Time: PM

Received: 3/30 Time: 8AM

APPENDIX D

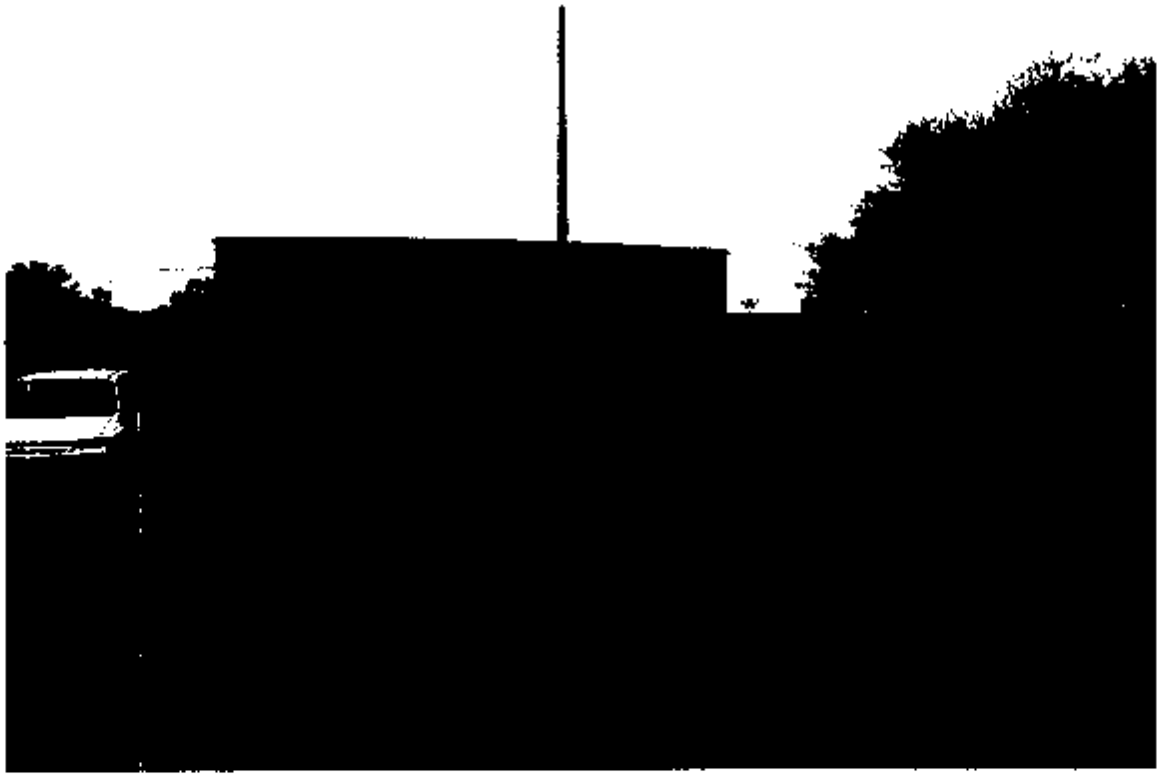


Photo #1: Armory front entrance.

Photo #2: Right side of the armory.

Photo #3: Rear of the armory.

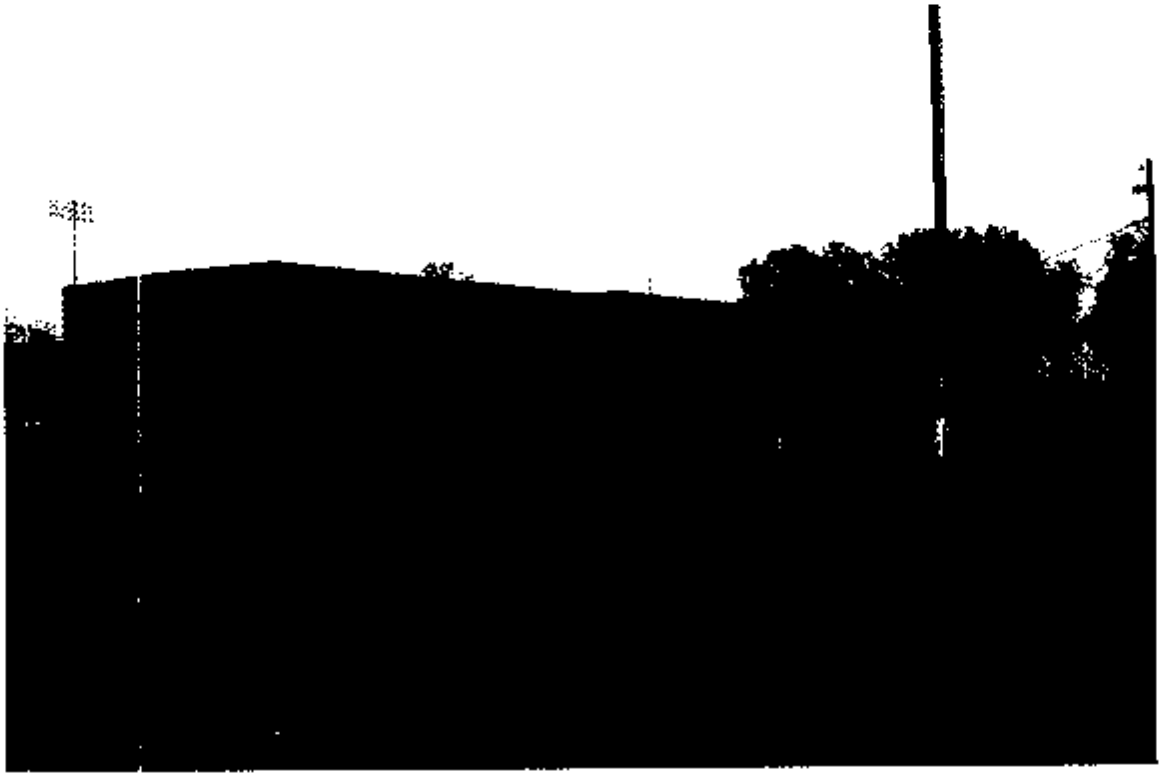


Photo #4: Left side of the armory showing the outside of the firing range.

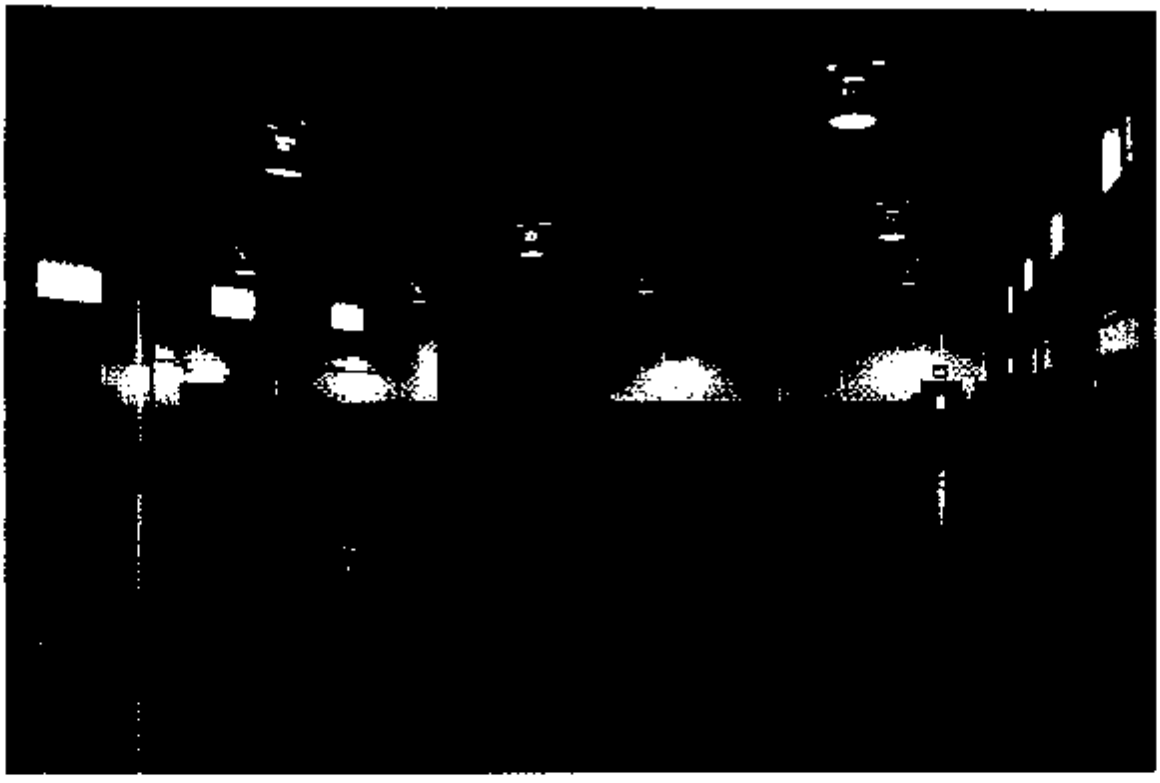


Photo #5: Drill hall facing the rear.

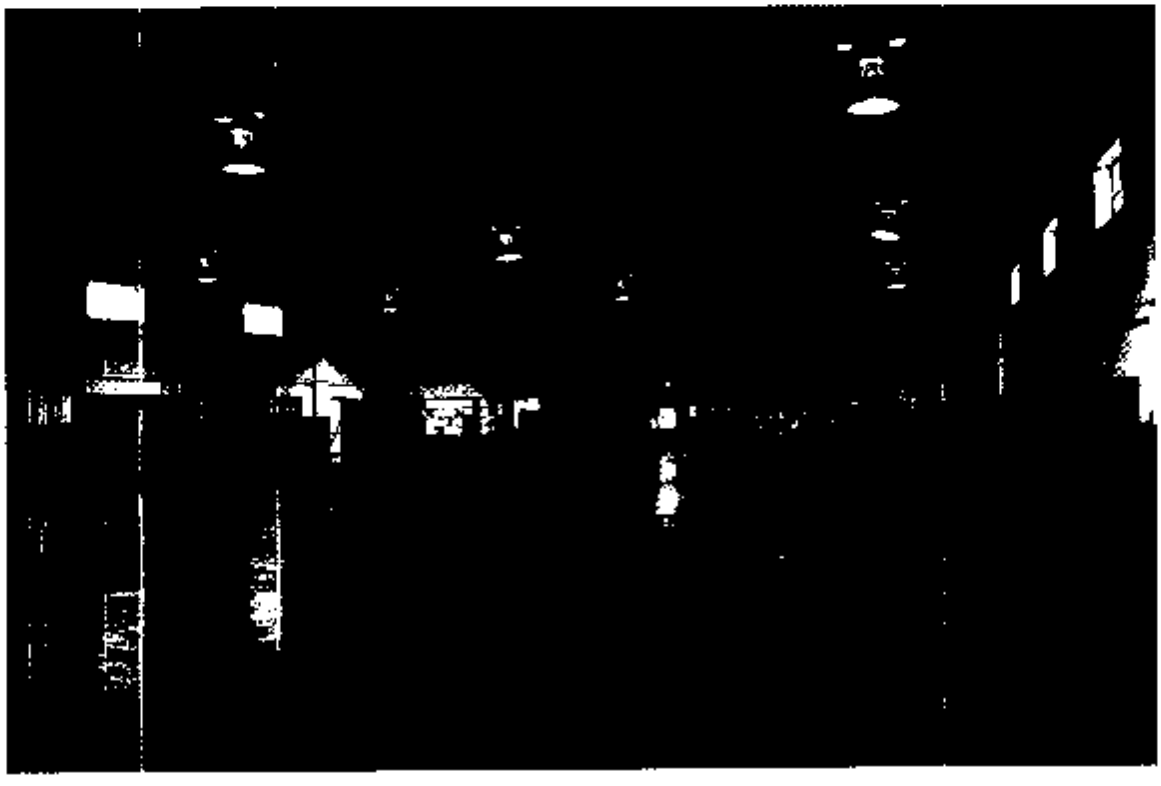
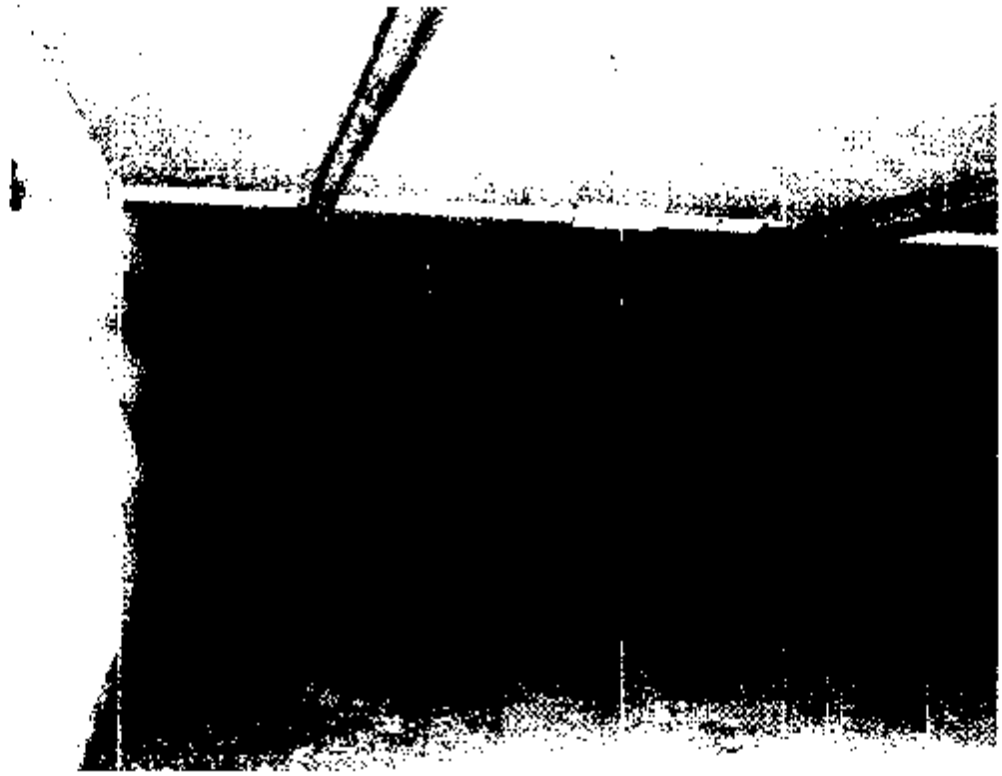


Photo #6: Drill hall facing the entrance.



Photo#7: Indoor firing range facing bullet stop.

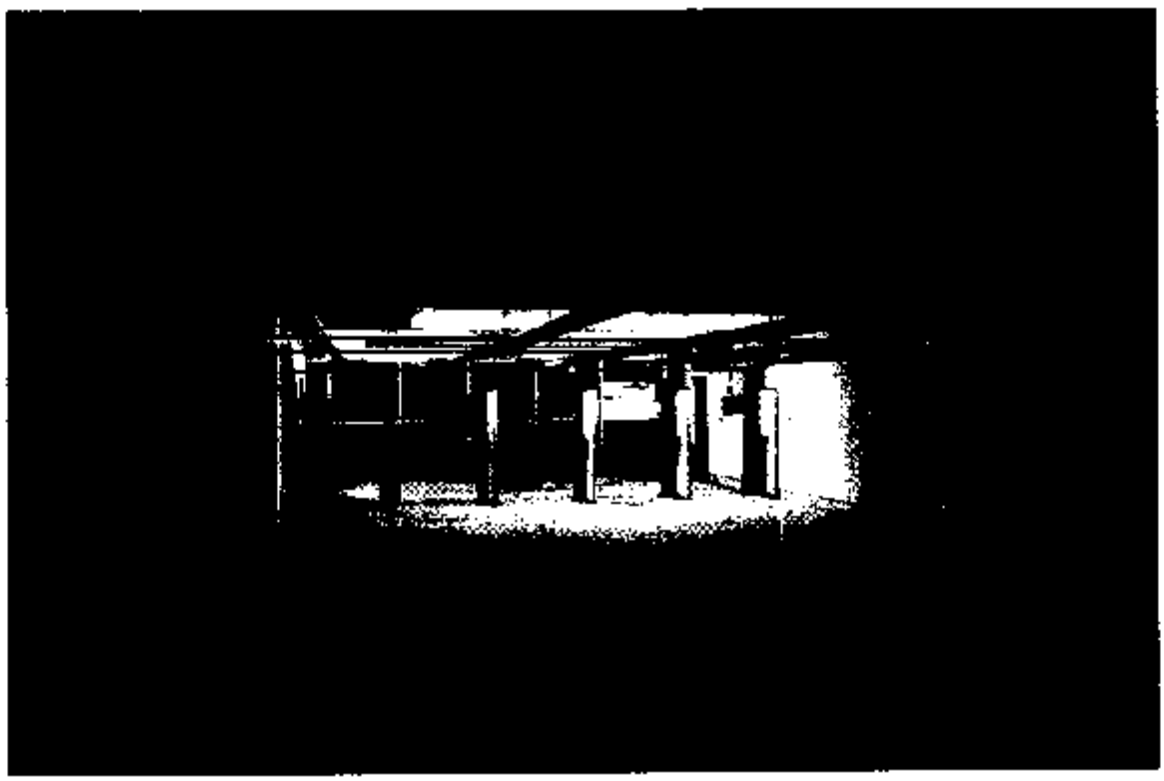


Photo #8: Indoor firing range facing the firing line.

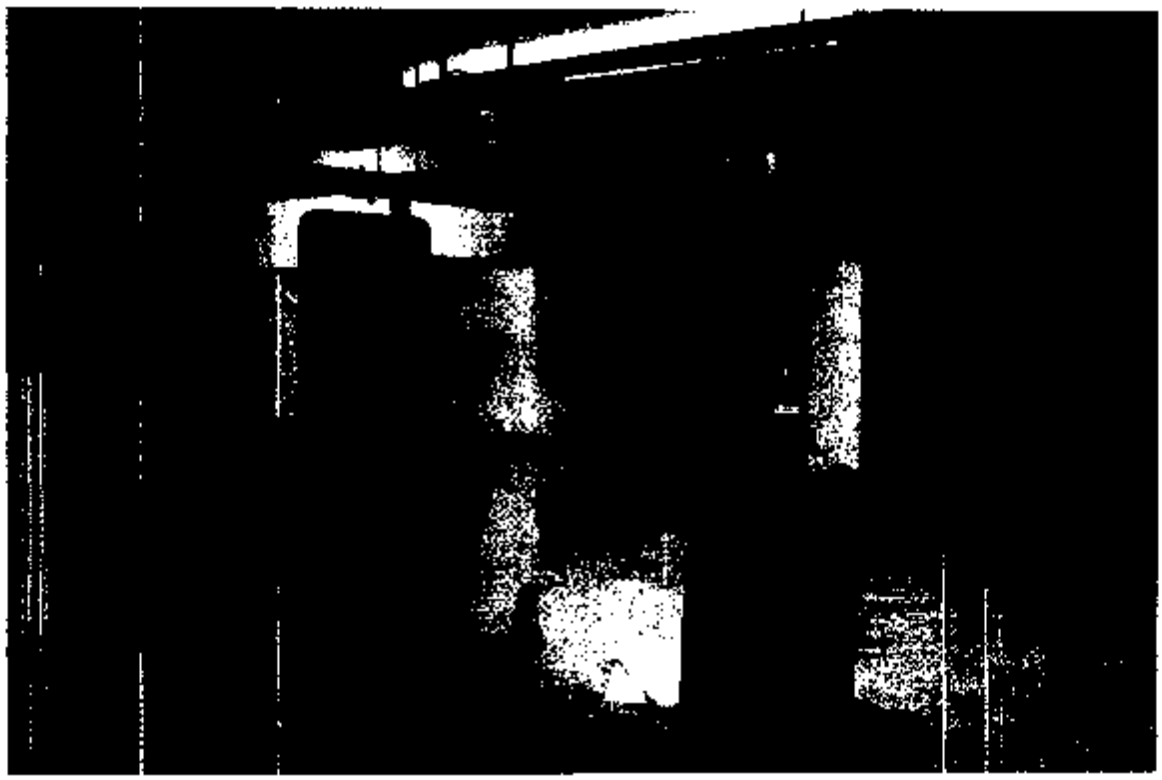


Photo #9: IFR showing the firing line position 2 where a wipe sample was collected.

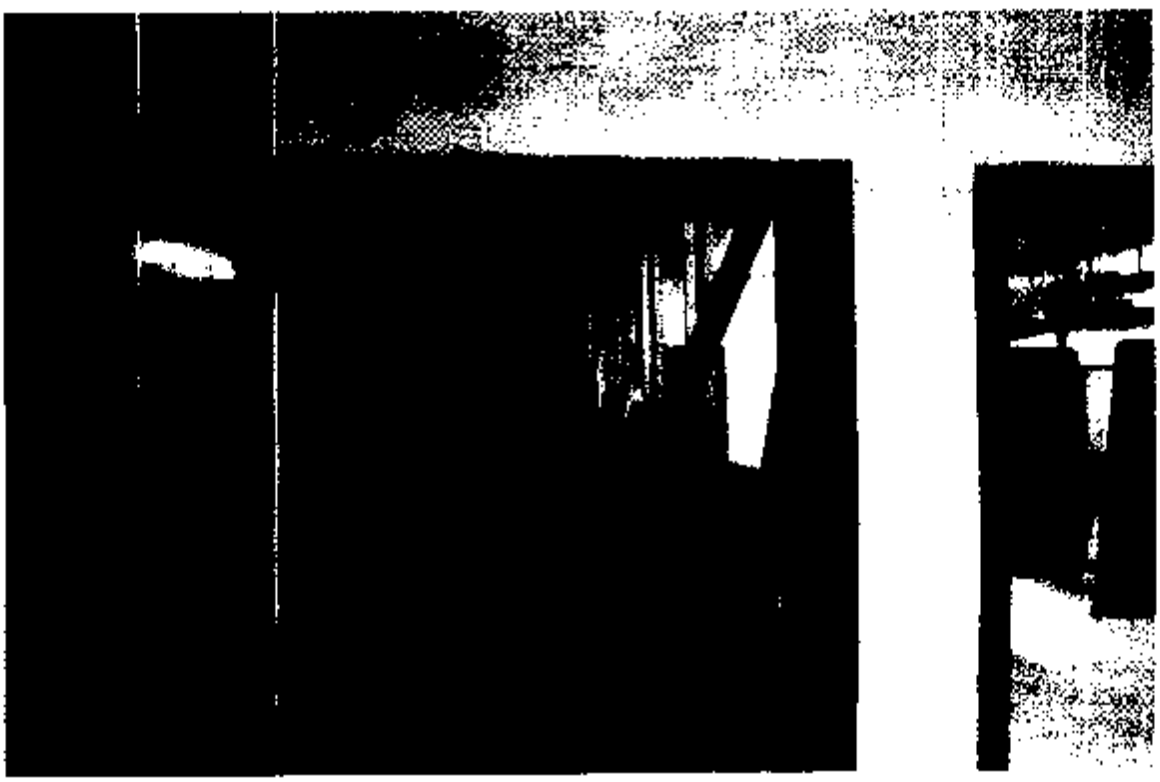


Photo #10: IFR observation deck used for storage.

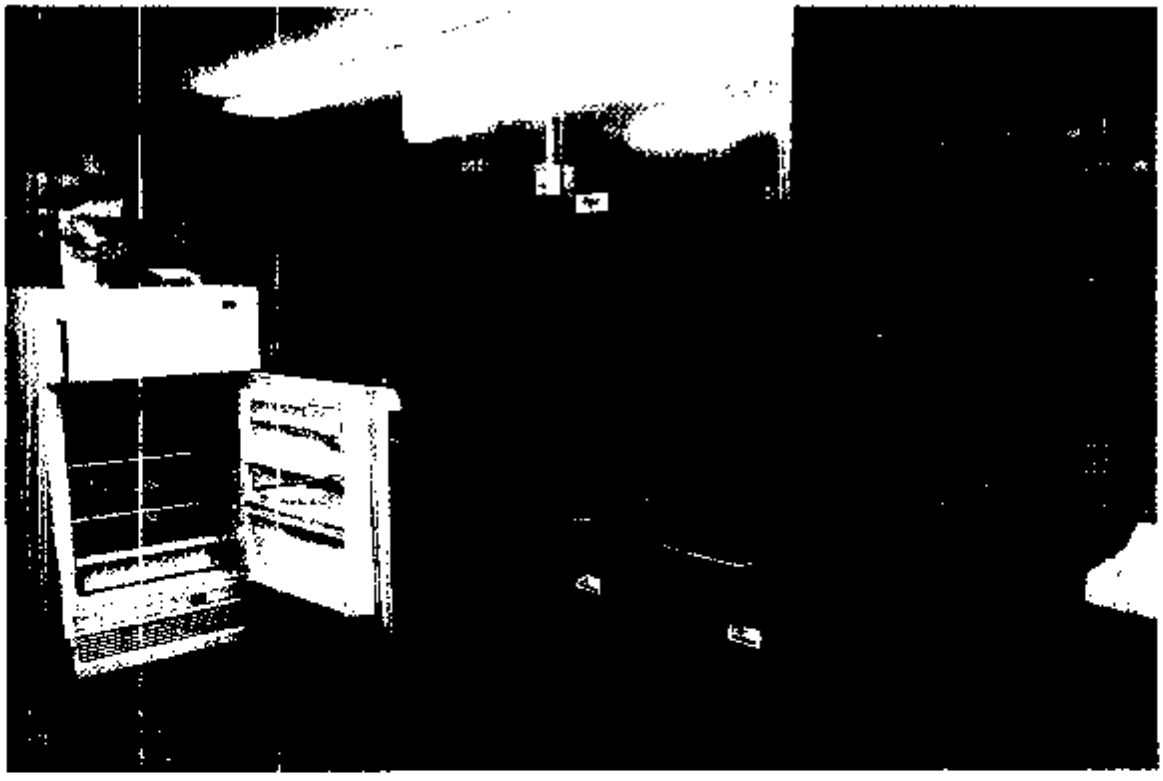


Photo #11: Armory's kitchen showing the stove.

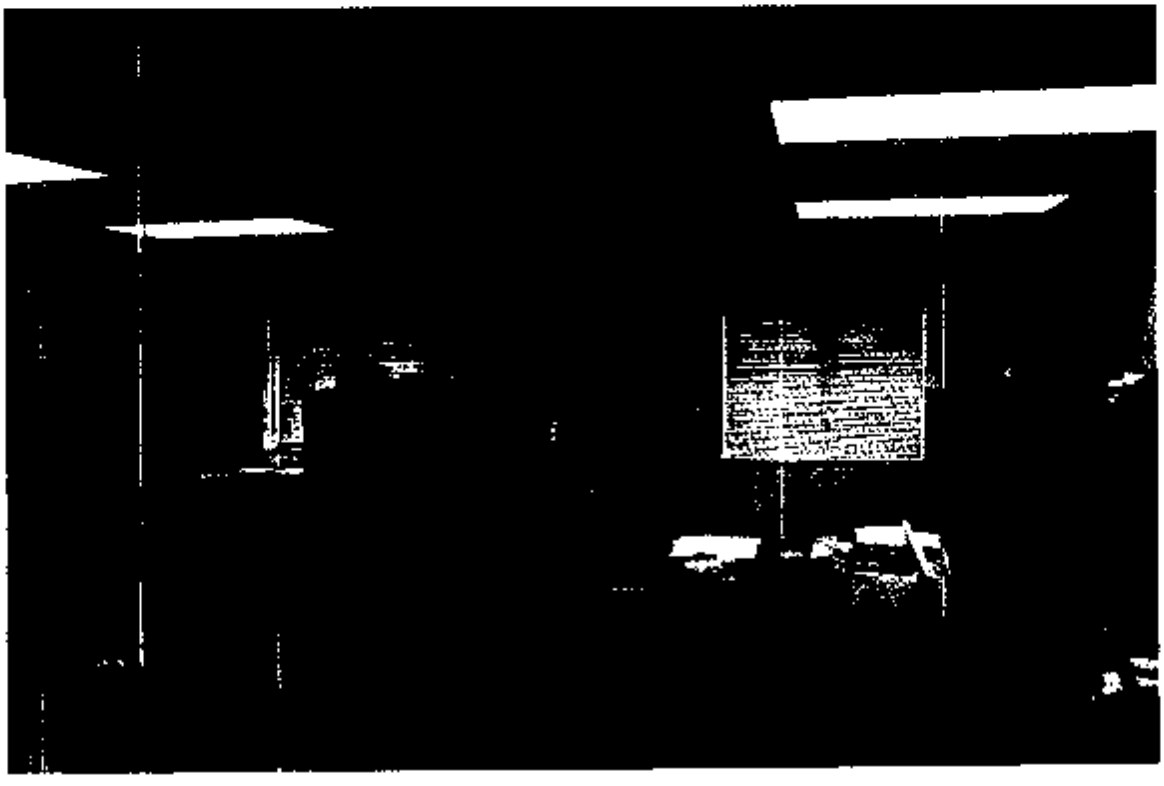


Photo #12: Armory's administrative office.

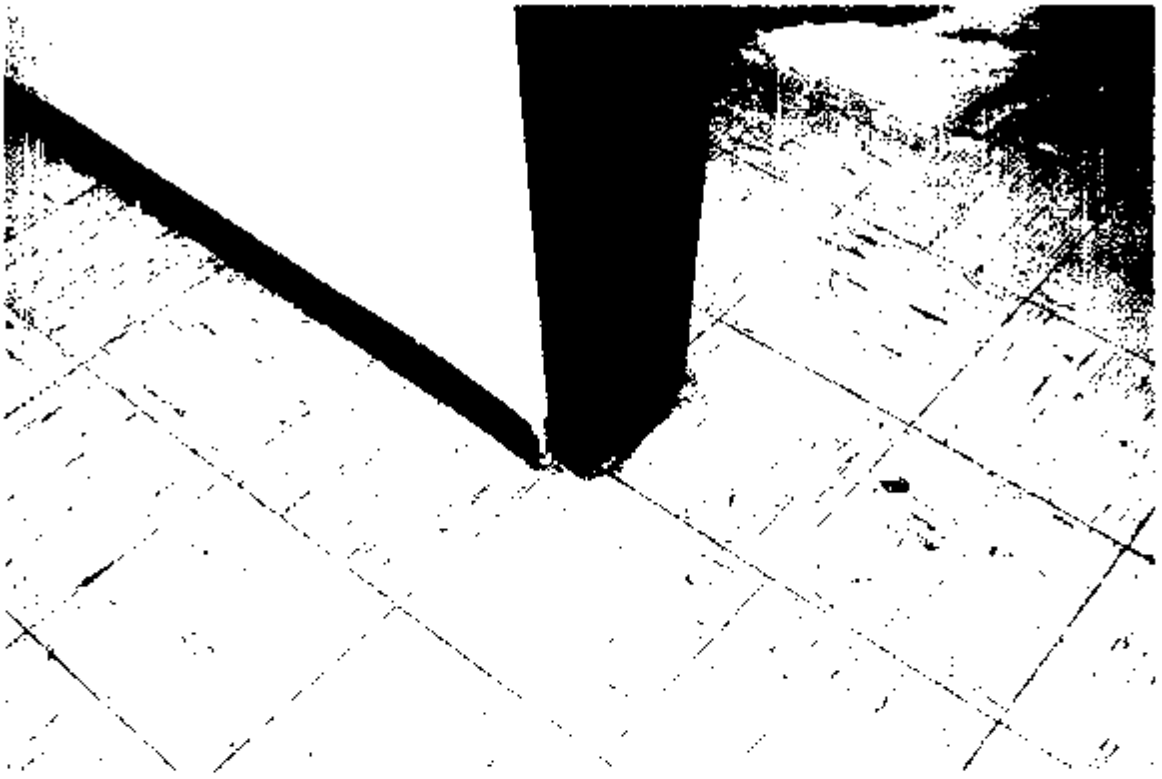


Photo #13: Armory's floor tiles.

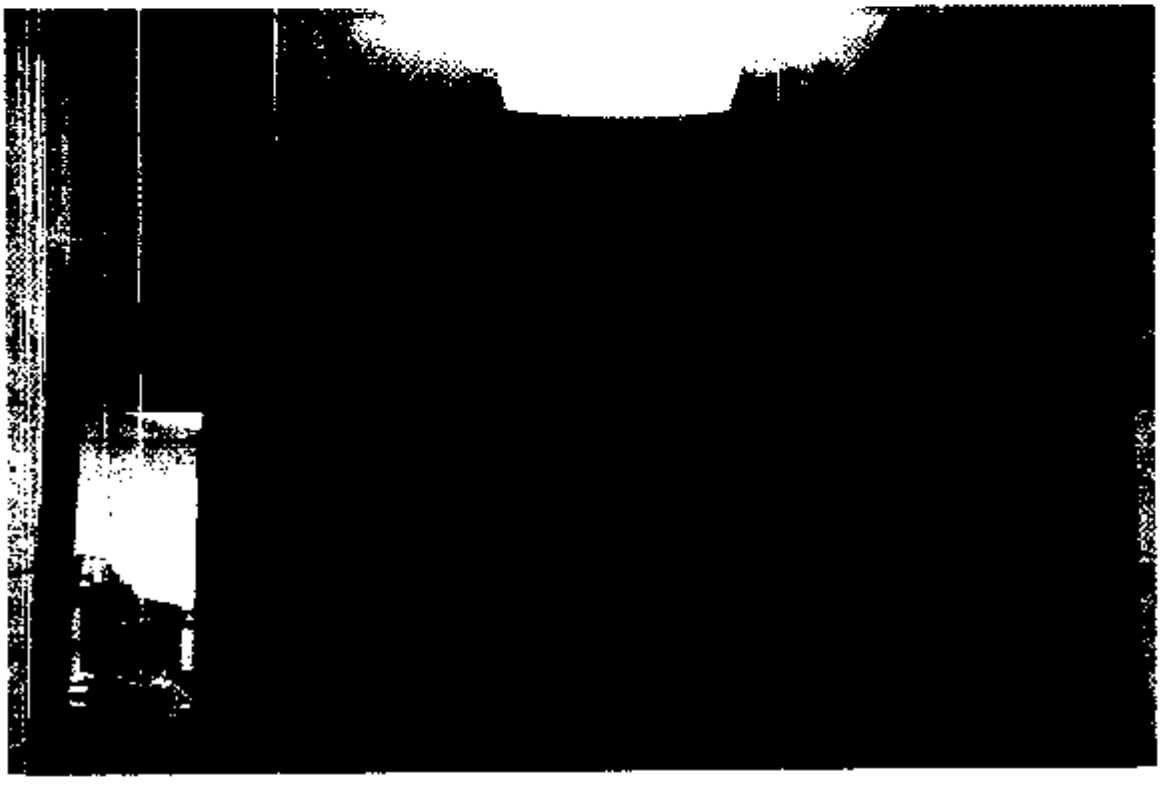


Photo #14: Water damaged ceiling tilss.

DEPARTMENT OF THE ARMY AND THE AIR FORCE
NATIONAL GUARD BUREAU
REGIONAL INDUSTRIAL HYGIENE OFFICE
AIRPORT PLAZA SUITE 1530
510 PLAZA DRIVE
COLLEGE PARK, GA 30349

ARNG-CSG-P (40-5f)

July 23, 2012

MEMORANDUM FOR: The Adjutant General of TX ARNG, ATTN: Non-Responsive TX Army National Guard Armory, 1430 Horne Road, Corpus Christi, TX 78416

Thru: Non-Responsive Deputy State Army Surgeon, JFTX-ARM-SS, 3500 West 35th Street, Building 10, Austin, TX 78763-5218.

SUBJECT: Transmittal of IH Survey of TX ARNG Corpus Christi Armory, Corpus Christi, TX.

1. References.

a. Department of Defense Instruction 6055.1, Department of Defense Occupational Safety and Health (OSH) Program, 26 October 1998.

b. Army Regulation (AR) 40-5, 30 August 1986, Medical Service, Preventive Medicine.

c. National Guard Regulation (NGR) 385-10, 1988, Army National Guard Safety and Occupational Health Program.

d. AR 11-34, The Army Respiratory Protection Program, 15 February 1990.

e. TB MED 502, Occupational and Environmental Health Respiratory Protection Program, February 1982.

f. DA PAM 40-503, 30 October 2000, The Army Industrial Hygiene Program.

g. DA PAM 40-501, 10 December 1998, Hearing Conservation.

h. Threshold Limit Values and Biological Exposure Indices (TLV's) for 2003, American Conference of Governmental Industrial Hygienists (ACGIH), Cincinnati, Ohio.

i. Industrial Ventilation, 23rd Edition, American Conference of Governmental Industrial Hygienist, Cincinnati, Ohio.

j. USAEHA TG-141, January 2007, Guidelines for Air Sampling and Bulk sample Collection.

k. Title 29, Code of Federal Regulations (CFR), 2004 rev., part 1910, Occupational Safety and Health Standards.

2. General. At the request of TX ARNG Occupational Health Office, an Industrial Hygiene Service was put together to conduct Health Hazard Information module (HHIM) Field surveys and industrial hygiene sampling at of TX ARNG Corpus Christi Armory, Corpus Christi, TX.

ARNG-CSG-P (40-5f) July 23, 2012

SUBJECT: Transmittal of IH Survey of TX ARNG Corpus Christi Armory, Corpus Christi, TX.

3. Findings. The information that follows is based on the findings of the survey performed. All HHIM field survey forms, industrial hygiene sampling and survey findings of the report are enclosed (See ENCL 1). Operations of very short duration were not sampled due to the requirements of the sampling method. If the operation changes or if the length of the operation is increased, contact this office to schedule sampling if it is deemed needed.

4. Recommendations. Follow the recommendations made in the enclosed report, requesting industrial hygiene (IH) services where needed to complete the recommendations.

   a. The recommendations given in the comments section of the HHIM data sheets and data collected will serve as an update of the baseline for the Industrial Hygiene Implementation Plan (IHIP) for FY2012. A follow up operation and hazard specific air sampling survey based on the enclosed findings will be included in the FY2013 IHIP.

   b. Have all HHIM data entered into the HHIM computer module.

   c. Use the report to help in correcting all deficiencies noted.

   d. Consider additional Industrial Hygiene services to monitor operations that were not looked at or surveyed during the present visits, especially if this will help eliminate health hazards and reduce medical surveillance cost.

   e. Contact the State Occupational Health Office for any medical Surveillance that may be needed.

   f. To execute your responsibilities in correcting all deficiencies, coordinate with the Occupational Health Nurse and the Occupational Safety and Health Office for technical guidance.

5. The present report addressed to the local facility commanders was divided in such a way that personal data can be detached and kept by the OHM or blocked when forwarding these reports to other entities within the appropriate offices of TX ARNG. If additional

CF:
State Occupational Health Office, 3500 West 35th Street, Building 86, Austin, TX 78763.
State Safety Manager, P. O. BOX 5218, Austin, TX 78763-5218.

ENCL.
as

Non-Responsive

May 9, 2012

Non-Responsive
TX Army National Guard Armory
1430 Horne Road
Corpus Christi, TX 78416

RE: Baseline Industrial Hygiene Survey

FINAL REPORT

FOR

BASELINE INDUSTRIAL HYGIENE SURVEY

TEXAS ARMY NATIONAL GUARD

CORPUS CHRISTI ARMORY

CORPUS CHRISTI, TX

DATE:

APRIL 13, 2012

PREPARED BY

CONTENTS

1.0 INTRODUCTION

2.0 INSTRUMENTATION

3.0 FINDINGS

4.0 REFERENCES

Attachment 1 HHHM Forms

Attachment 2 Laboratory Reports: Converted IFR, Weapons Vaults

Laboratory Reports: A/C-Heating System Outlet Grills

Attachment 3 Converted IFR and Weapons Vaults Sampling Areas

Attachment 4 Photographs of the Facility

Attachment 5 Schematic Drawing of Facility

1.0 INTRODUCTION

At the request of the National Guard Bureau South Region Industrial Hygiene Office, Non-Responsive performed a Baseline Industrial Hygiene Survey at the TX ARNG Corpus Christi Armory. The purpose of the survey was to perform a baseline survey to evaluate health hazards, controls present in the work site, collect lead swipe samples from renovated/inactive or closed Indoor Firing Ranges, Weapons Vault, A/C-Heating System, illumination survey and to make recommendations regarding health hazards associated with the work at the Corpus Christi Armory.

The facility was probably built in 1959. The facility was renovated in the mid 90s to double its size. A new roof was installed in 2011. The facility houses the HSC 386 EN BN. A FA (4^{th}-133 FA) unit had been housed at the armory but the unit is been disbanded here and transferred to San Marcos. A new unit, 627^{th} Dive CO has started using the using the facility. The armory is used by the troops of the above mentioned units for their monthly weekend drills.

The HSC 386 EN BN with about 85 troops had eight full time AGR personnel at the time of the survey. The AGR employees are assigned to perform administrative duties Monday-Friday 7:00am-6:00pm. The facility houses administrative areas, a drill hall, supply room, weapons vaults, classrooms, conference room, a converted IFR and a kitchen. The Dive unit uses the converted IFR for training. Personnel reported that there was a sinkhole at the concrete driveway at the rear of the building. Water drainage from a gutter may be pushing water under the ground at the area of the sinkhole. A request has been sent for repairs. The fire suppressor system in the kitchen needs to be repaired. A schematic drawing of the facility can be found in Attachment 5.

The facility was visually examined and personnel consulted to assess potential hazards present. Health Hazard Information Modules were completed. Illumination survey was performed throughout the facility.

2.0 INSTRUMENTATION/CALIBRATION

The following instrumentation was used to obtain light measurements. The instrument used has been calibrated and was operated according to the manufacturer's recommendations:

- EXTECH INSTRUMENTS Light Meter
- GHOST WIPES, Lead Wipes

3.0 FINDINGS

Illumination

Illumination levels were recorded in administration offices, the drill hall and the supply room. Light measurements were below IES guidelines at the BN CO, BN CSM, PBO, TNG NCO, CO, XO, 1SG and Supply NCO offices. The other areas tested were within IES minimum standards. Consideration should be given to provide supplemental lighting in those areas that were below the recommended standard. See Light Readings Table at the end of this section.

Administration

Personnel perform administrative duties that consist of reading, handling and generating paper work. Computer use comprises a large portion of the working day, four to five hours per day. This continuous use of computers can in the long run lead to eyestrain and hand/wrist soreness. Personnel reported no health problems associated with the job at the time of the survey.

Motor Pool

The motor pool is located at the rear of the FMS 7 building that is next to the armory. It is a large area that is locked, fenced and has many vehicles. Two vehicles were located inside the drill hall the day of the survey. Operator level PMCS are performed at the facility on weekend drills. When major repairs are needed, it is done at FMS 7 next door.

Drill Hall

The Drill Hall is located at the left side of the building. It is used primarily for formation and training on weekend drills. It was reported that the Drill Hall is occasionally used (About two times a year) to clean weapons using rags and CLP mostly on the floor. Personnel were not sure how the rags are disposed of. There are four air exhaust ventilation fans, located at the roof area. At the time of the survey all air exhaust ventilation fans were working. When weapons are used in the field, they are cleaned there. Personnel reported occasionally vehicles are brought in the Drill Hall to load and unload equipment. The Drill Hall has not been rented recently for outside activities.

Kitchen

The facility has a kitchen that is not used to cook on weekend drills. It was not operational because the fire suppressor system needs to be repaired. They go to contracted restaurants to eat on weekend drills and sometimes the food is catered and brought to the armory.

Deactivated Indoor Firing Range

There is a deactivated Indoor Firing Range (IFR) at the facility which is been used as a training area by the Dive unit at the time of the survey. The backstop was still in place. All lead samples were taken using a 10 inch by 10 inch template. The US environmental Protection Agency (EPA), under a new standard issued in 2000, considers lead dust as a hazard if levels are greater than 40 micrograms of lead in dust per square foot on floors. The National Guard Bureau recommends a limit of 200 micrograms per square foot for surface contamination. Three wipe samples were taken from the IFR. One of the samples was above the EPA clearance level of 40ug/ft2 and none above the NGB clearance level of 200ug/ft2. See table 1 for results. See attachment 3 for sampling locations.

Table 1

Sample Number	Sample Location	Results	
48	Bullet Backstop, 5' From The Right Wall	BRL	BRL
49	Floor In Front Of The Backstop, 12' From Right Wall	72ug	102ug/ft2
50	Floor Left Wall, 10' From The Front (Base In Front Of Backstop	BRL	BRL
51	Blank	BRL	BRL

Weapons Vault

The Corpus Christi Armory has three weapons storage vaults. One is located in the supply room of the HSC 386th EN BN, the second in the supply room of the 4th 133 FA. The third one is a portable one located in the drill hall at the left end of the room. Personnel could not open the portable vault the day of the survey. When the troops are going for annual weapons qualification, the Supply NCO transports the weapons from the armory to the field. The weapons are distributed there. After using them they are cleaned in the field, placed back in the racks and return to the armory. As stated in the Drill Hall section, weapons are also cleaned there on the floor about twice a year. Weapons are distributed at the supply room. After, the weapons are returned for storage. Personnel need to collect the dirty rags and take them to the FMS 7 next door for proper disposal. The dehumidifier in the HSC 386th EN BN weapons vault was not working (broken) the day of the survey. It was reported that when it is working is on all the time. It is connected to hoses that drain the water. All lead samples were taken using a 10 inch by 10 inch

template. The US environmental Protection Agency (EPA), under a new standard issued in 2000, considers lead dust as a hazard if levels are greater than 40 micrograms of lead in dust per square foot on floors. The National Guard Bureau recommends a limit of 200 micrograms per square foot for surface contamination. Four wipe samples were taken from the weapons vaults racks and floor of the 133rd (See table 2). Three wipe samples were taken from the weapons vaults racks and floor of the 386th (See table 3).All of the samples from the 386th vault were above the EPA clearance level of 40ug/ft2. None of the samples from the 133rd were above the EPA clearance level of 40ug/ft2. None of the samples of either vault were above the clearance level of 200ug/ft2. See table 2 & 3 for results. See attachments 3 for sampling locations and pictures.

Table 2

Sample Number	Sample Location	Results	
44	Left Wall, 1st Rack From The Front, Floor & Rack Bottom	63ug	90ug/ft2
45	Left Wall, 2nd Rack From The Front, Floor & Rack Bottom	44ug	62ug/ft2
46	Center Left Front Stack, 2nd Rack From Left Wall, Floor & Rack Bottom	96ug	137ug/ft2
47	Center Left Rear Stacks, 2nd Rack From Left Wall, Floor & Rack Bottom	33ug	47ug/ft2
51	Blank	BRL	BRL

Table 3

Sample Number	Sample Location	Results	
41	Rear Wall, 2nd Rack From Left Wall, Floor & Rack Bottom	BRL	BRL
42	Rear Wall, 3rd Rack From Left Wall, Floor & Rack Bottom	BRL	BRL
43	Rear Wall, 4th Rack From Left Wall, Floor & Rack Bottom	BRL	BRL
51	Blank	BRL	BRL

A/C System

Central A/C-Heating units are used to cool the administration offices, classrooms and conference room. Personnel reported that the units cool and heat well. The filters are supposed to be changed on a regular basis by state personnel. All lead samples were taken using a 10 inch by 10 inch template. The US environmental Protection Agency (EPA), under a new standard issued in 2000, considers lead dust as a hazard if levels are greater than 40 micrograms of lead in dust per square foot on floors. The National Guard Bureau recommends a limit of 200 micrograms per square foot for surface contamination. Four wipe samples were collected from the A/C-Heating outlet grills in offices and between offices. All samples were below the clearance level of the EPA 40ug/ft2 and NGB 200ug/ft2. See Table 4 for results. See attachments 4 for pictures.

Table 4

Sample Number	Sample Location	Results
37	A/C-Heating Outlet, Operations/S-3 Office	BRL
38	A/C-Heating Outlet, Hallway Between Offices	BRL
39	A/C-Heating Outlet, Readiness NCO Office	BRL
40	A/C-Heating Outlet, FA Office	BRL
51	Blank	BLR

Material Safety Data Sheets

There was an MSDS Book on top box in the flammables materials storage room located at the rear of the building with access from the outside. This was the only MSDS Book found in the armory the day of the survey. There was a flammables cabinet inside with spray paint cans and gallon paint cans stored inside. The household chemicals were stored on shelves. A Hazardous Materials Inventory List was located inside the room.

Light Readings

Light measurements were taken in various locations throughout the facility. The results were compared to guidelines recommended by the Illuminating Engineering Society (IES). The results of the survey are shown in Table 5.

Table 5

Location	Light Reading (footcandles)	IES Recommendation (footcandles)
ADO Operations Office	58-71 (Avg. 66)	50-100
ADO Recruiter Office	29-82 (Avg. 50)	50-100
ADO 386th Supply NCO Office	20-31 (Avg. 27)	50-100
ADO 386th Supply Room Storage Area	9-28 (Avg. 21)	20
ADO BN CSM Office	23-25 (Avg. 24)	50-100
ADO BN CO Office	20-24 (Avg. 21)	50-100
ADO S-4 Office	30-67 (Avg. 50)	50-100
ADO PBO Office	28-52 (Avg. 42)	50-100
ADO TNG NCO Office	20-58 (Avg. 38)	50-100
XO Office	33-44 (Avg. 38)	50-100
1 SG Office	37-50 (Avg. 45)	50-100
CO Office	28-32 (Avg. 31)	50-100
Conference Room	64-78 (Avg. 71)	50-100
Classroom 01	48-63 (Avg. 53)	50-100
Classroom 02	56-73 (Avg. 62)	50-100
Drill Hall	27-56 (Avg. 39)	30

Light measurements were below IES guidelines at the BN CO, BN CSM, PBO, TNG NCO, CO, XO, 1SG and Supply NCO offices. The other areas tested were within IES minimum standards. Consideration should be given to provide supplemental lighting in those areas that were below the recommended standard. ANSI RP7-1991.

4. REFERENCES

- Guide to Occupational Exposure 2000, American Conference of Governmental Industrial Hygienists (ACGIH). Cincinnati, Ohio.

- American National Standards Institute (ANSI), /Illuminating Engineering Society (IES), Industrial Lighting 1991.
- Title 29, Code of Federal Regulations (CFR). 1999, revision, Part 1910. Occupational Safety and Health Standards
- AR 40-5, Preventative Medicine, 15 October 1990.
- AR 385-10, The Army Safety Program, 23 May 1988.
- National Safety Council, Fundamentals of Industrial Hygiene, 4th edition, 1996.
- AR 385-16, National Guard Pamphlet, Safety Guidelines for Converting Indoor Firing Ranges to Other uses.
- TB MED 503, The Army Industrial Hygiene Program, February 1985.
- Department of the Army Pamphlet (DA PAM) 40-501,27 August 1991, Hearing Conservation.
- Title 29 CFR, Part 1910.1200, The Hazard Communication Standard.

RECOMMENDATIONS

- Consideration should be given to provide supplemental lighting at locations that were below the recommended standards. See Light Readings Section

- Recommend that when using computers for extended periods of time, personnel should take occasional breaks and change position to minimize the possibility of eyes and/or hands/wrist injury.

- Continue to ensure that weapon maintenance and cleaning is done in a well-ventilated area. Continue to practice good personal hygiene by washing hands after handling and cleaning weapons and ammunition. Ensure that the weapons racks are well cleaned before placing them back in the vault.

- Recommend that that a request should be made to the appropriate state agency to install a new dehumidifier in the weapons vault as soon as possible if it has not been done yet

- A request should be made to the appropriate state agency to evaluate and repair the sinkhole at the rear of the building if it has not been done yet.

- Recommend that Emergency/Fire evacuation sketches be produced and place at the offices and other areas used by the unit if it has not been done yet.

- Ensure that personnel rags used to clean weapons are properly collected and taken to the FMS next door for proper disposal.

- Recommend the use of disposable plastic to cover the tables if weapons are cleaned on them at the facility.

- Recommend that the MSDS book be updated as products are eliminated or new products arrive.

- Ensure that personnel and troops have knowledge of the location of the MSDS book. And is enrolled hazardous materials safety training.

DEMOGRAPHIC DATA

a. ARLOC 48000 b. INSTALLATION Corpus Christi, TX Army c. BLDG/RM NUMBER PBO Office

d. LOCATION/CODE PBO / AA e. OPERATION/CODE ADO / f. DESCRIPTION

g. MACOM/CODE NG / [redacted] / i. SUPERVISOR

j. TELEPHONE/AUTOVON NUMBER [redacted] RAC 3 l. FREQUENCY (Hrs Per Day) 10/4

m. NO CIV(S) 1 n. NO [redacted] o. NO CONTRACTOR(S) p. NO LOC(S) q. NO OTHER

SECTION 2. IH STAFFING DATA

a. LAB HOODS b. VAPOR DEGREASERS c. MAINTENANCE BAYS d. SPRAY BOOTHS

e. OPEN SURFACE TANKS f. VENTILATION UNITS

SECTION 3. SURVEY DATA

a. SURVEY DATE 4/13/12 b. EVALUATOR (INITIALS) [redacted]

c. CONTROLS PRESENT	d. EVALUATION	e. UNIT CODE	f. CONTROLS REQUIRED	g. STATUS
Lighting - Office	28-52; Aug 42	FC	50-100	Adequate

h. PERSONAL PROTECTIVE EQUIPMENT (R=REQUIRED; A=AVAILABLE)

1. RESPIRATOR	MANUFACTURER	NIOSH TC NO	R/A
DISPOSABLE			
½ FACE AIR PURIFYING			
½ FACE AIR PURIFYING			
FULL FACE AIR PURIFYING			
POWERED AIR PURIFYING			
AIRLINE			
SELF-CONTAINED			
ABRASIVE BLASTING HOOD			

2. GLOVES	R/A	3. EYES/FACE	R/A	4. HEARING	R/A	5. BODY	R/A	6. HEAD/FOOT	R/A
ACID	/	CHEMICAL/SPLASH	/	MUFFS	/	APRONS	/	HARD HATS	
OIL	/	SAFETY/IMPACT	/	EARPLUGS	/	COVERALLS	/	IMPERMEABLE BOOTS	
SOLVENTS	/	CHEMICAL/SAFETY	/	CANAL CAPS	/	FULL BODY SUIT	/	SAFETY CONDUCT SHOES	
HOT SURFACES	/	FULL FACE SHIELD	/	HELMETS	/	SAFETY BELT/ HARNESS	/	SAFETY/NONCONDUCTIVE SHOES	
COLD SURFACES	/	WELDING HELMET	/			HEAT REFLECT VEST/SUIT	/		
NBC AGENTS	/								

SECTION 4. HAZARD INVENTORY DATA

a. CAS CODE	b. HAZARD DESCRIPTION	c. PAC or EPC	d. MEDICAL SURVEILLANCE RECOMMENDED (YES or NO)
POVDT	Hands/Eye Strain. Computer work for long periods of time	3	0

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a. HAZARD	b. SAMPLE TYPE	c. RESULTS	d. REMARKS

SECTION 6. PERSONNEL DATA

[redacted]

SECTION 7. COMMENTS (Add blank sheet of paper if necessary)

① Has been at this facility for a yr
② Before he was in San Antonio as M-DAY
③ Computer Work about 6-7 hrs/Day
④ No health problems on Day of survey

PRIVACY ACT STATEMENT

Title 5 U.S. Code, Section 301; Executive Order 9397 authorizes the use of your Social Security Number as a identification number. The purpose of this information is to identify and monitor data relating each DA civilian employee exposed to a hazardous workplace or operation. The use of this information is to provide histories of exposure for any given worker.

Disclosure of your Social Security Number is not mandatory; however, nondisclosure may result in untimely provision of proper medical monitor

Signature

DEMOGRAPHIC DATA

a. ARLOC 48000 b. INSTALLATION Corpus Christi Tx Armory c. BLDG/RM NUMBER Supply NCO Office/Storage

d. LOCATION/CODE SA, AA Supply NCO e. OPERATION/CODE SAH, ADO f. DESCRIPTION

g. MACOM/CODE NG [redacted] Non-Responsive

j. TELEPHONE/AUTOVON NUMBER [redacted] i. SUPERVISO [redacted] Non-Responsive

m. NO CIV(S) 1 n. NO [redacted] AC 3 l. FREQUENCY (Hazard Cat) [redacted]

[redacted] CONTRACTOR(S) o. NO LOC(S) p. NO OTHER

SECTION 2. IH STAFFING DATA

a. LAB HOODS b. VAPOR DEGREASERS c. MAINTENANCE BAYS d. SPRAY BOOTHS

e. OPEN SURFACE TANKS f. VENTILATION UNITS

SECTION 3. SURVEY DATA

a. SURVEY DATE 4/13/12 b. EVALUATOR (INITIALS) [redacted] Non-Responsive

c. CONTROLS PRESENT	d. EVALUATION	e. UNIT CODE	f. CONTROLS REQUIRED	g. STATUS
Lighting - Office	11-28; Avg. 20	FC	50-100	Inadeq
Lighting - Main Storage	9-28; Avg. 21	FC	20	Adeq
Lighting - Storage - Old Locker	13-31; Avg. 21	FC	20	Adeq
Storage - Old Tenant Locker	13-30; Avg. 22	FC	20	Adeq

h. PERSONAL PROTECTIVE EQUIPMENT (R=REQUIRED; A=AVAILABLE)

1. RESPIRATOR	MANUFACTURER	NIOSH TC NO	R/A
DISPOSABLE			
½ FACE AIR PURIFYING			
½ FACE AIR PURIFYING			
FULL FACE AIR PURIFYING			
POWERED AIR PURIFYING			
AIRLINE			
SELF-CONTAINED			
ABRASIVE BLASTING HOOD			

2. GLOVES	R/A	3. EYES/FACE	R/A	4. HEARING	R/A	5. BODY	R/A	6. HEAD/FOOT	R/A
ACID	/	CHEMICAL/SPLASH	/	MUFFS	/	APRONS	/	HARD HATS	/
OIL	/	SAFETY/IMPACT	/	EARPLUGS	/	COVERALLS	/	IMPERMEABLE BOOTS	/
SOLVENTS	/	CHEMICAL/SAFETY	/	CANAL CAPS	/	FULL BODY SUIT	/	SAFETY CONDUCT SHOES	/
HOT SURFACES	/	FULL FACE SHIELD	/	HELMETS	/	SAFETY BELT/ HARNESS	/	SAFETY/NONCONDUCTIVE SHOES	/
COLD SURFACES	/	WELDING HELMET	/			HEAT REFLECT VEST/SUIT	/		
NBC AGENTS	/								

SECTION 4. HAZARD INVENTORY DATA

a. CAS CODE	b. HAZARD DESCRIPTION	c. PAC or EPC	d. MEDICAL SURVEILLANCE RECOMMENDED (YES or NO)
POVDT	Hands/Eye Strain. Computer work for long periods of time	3	NO
FOOT HAZ	Falling objects	3	NO
LIFTING	Heavy lifting	3	NO

a. HAZARD	b. SAMPLE TYPE	c. RESULTS	d. REMARKS

SECTION 6. PERSONNEL DATA

				d. CATEGORY
				AGR

SECTION 7. COMMENTS (Add blank sheet of paper if necessary)

(1) Has been at this facility for 7 yrs as AGR
(2) Before in Victoria for 2 yrs
(3) Computer Work about 5 hrs/day
(4) No health problems now
Had back surgery back in 2007 when returned from Iraq

* PRIVACY ACT STATEMENT

Title 5 U.S. Code, Section 301; Executive Order 9397 authorizes the use of your Social Security Number as a identification number. The purpose of this information is to identify and monitor data relating each DA civilian employee exposed to a hazardous workplace or operation. The use of this information is to provide histories of exposure for any given worker.

Disclosure of your Social Security Number is not mandatory; however, nondisclosure may result in untimely provision of proper medical monitor

Signature

Analytical Environmental Services, Inc

Date: 26-Apr-12

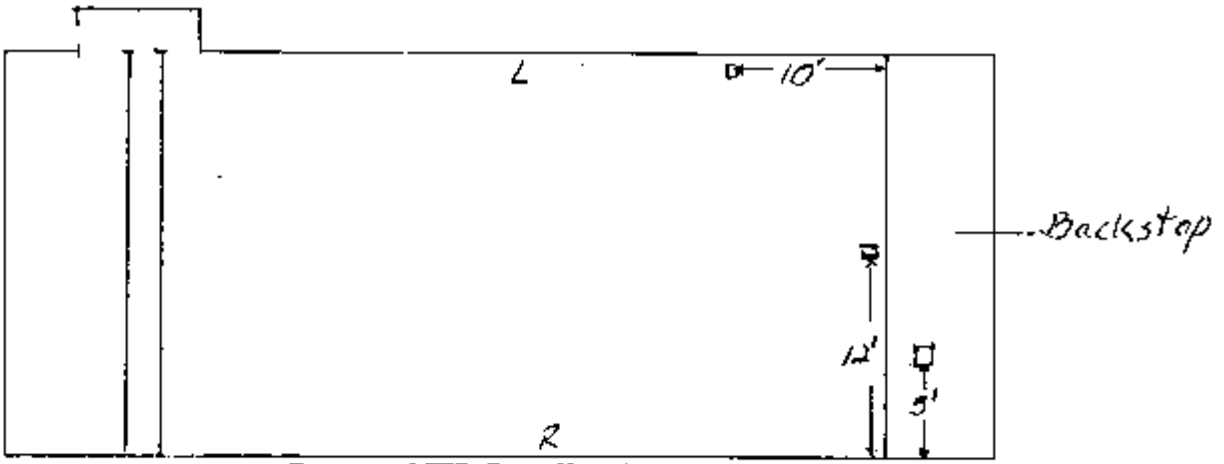
Lab Order: 1204E80
Client: [redacted]
Project: Corpus Christi, Tx Armory
Matrix: Wipe
Date Received: 4/19/2012 2:23:00 PM

LEAD ON WIPES (N9100/7082)

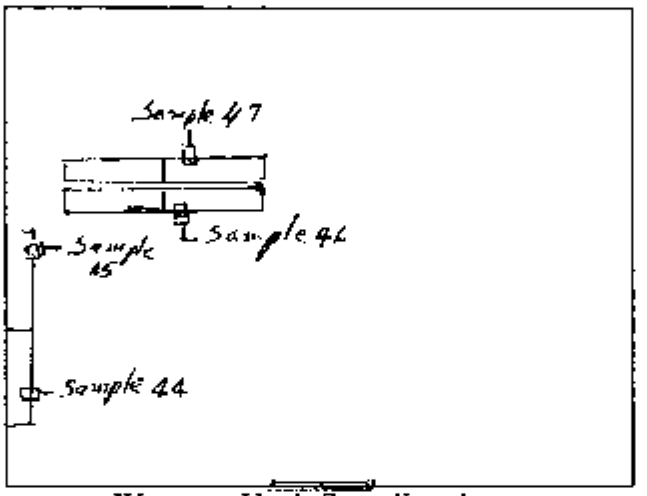
N7082

Laboratory ID	Client Sample ID	Result	Units	Reporting Limit	DF	Qual	Date Collected	Date Analyzed	Analyst
1204E80-001A	37	BRL	ug, Total	20	1		04/13/2012	04/25/2012	MW
1204E80-002A	38	BRL	ug, Total	20	1		04/13/2012	04/25/2012	MW
1204E80-003A	39	BRL	ug, Total	20	1		04/13/2012	04/25/2012	MW
1204E80-004A	40	BRL	ug, Total	20	1		04/13/2012	04/25/2012	MW
1204E80-005A	41	BRL	ug, Total	20	1		04/13/2012	04/24/2012	MW
1204E80-006A	42	BRL	ug, Total	20	1		04/13/2012	04/24/2012	MW
1204E80-007A	43	BRL	ug, Total	20	1		04/13/2012	04/24/2012	MW
1204E80-008A	44	63	ug, Total	20	1		04/13/2012	04/24/2012	MW
1204E80-009A	45	44	ug, Total	20	1		04/13/2012	04/24/2012	MW
1204E80-010A	46	96	ug, Total	20	1		04/13/2012	04/24/2012	MW
1204E80-011A	47	33	ug, Total	20	1		04/13/2012	04/24/2012	MW
1204E80-012A	48	BRL	ug, Total	20	1		04/13/2012	04/24/2012	MW
1204E80-013A	49	72	ug, Total	20	1		04/13/2012	04/24/2012	MW
1204E80-014A	50	BRL	ug, Total	20	1		04/13/2012	04/24/2012	MW
1204E80-015A	51	BRL	ug, Total	20	1		04/13/2012	04/24/2012	MW

Qualifiers: BRL - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
Results are blank corrected where applicable

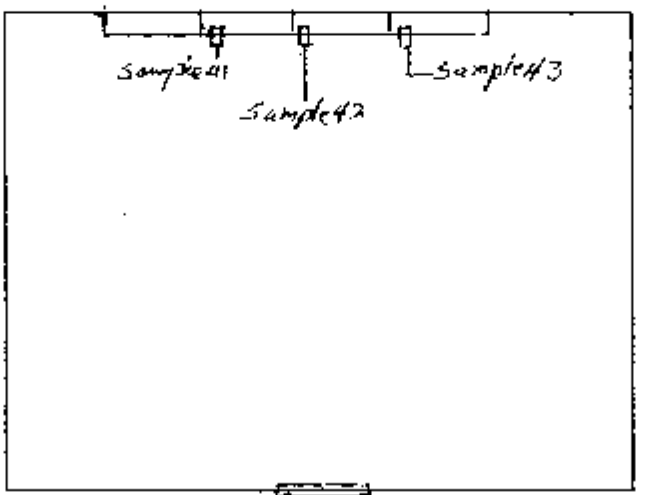


Converted IFR Sampling Areas



Weapons Vault Sampling Areas

386th EN BN



Weapons Vault Sampling Areas

Battery C 4/133 FA

Corpus Christi, TX Armory

Corpus Christi, TX Armory

Drill Hall, Front View

Drill Hall, Rear View

Cracked Concrete At Sinkhole, Rear Of Building

Cracked Concrete At Sinkhole, Another View

Water Drainage In Front of Sinkhole

Sample, A/C-Heating Outlet

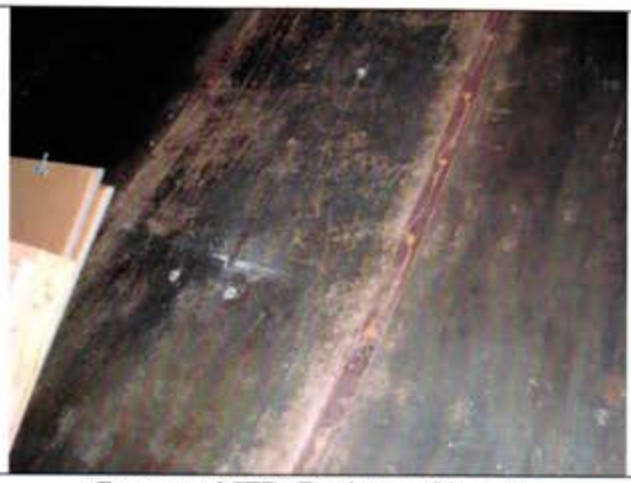
Sample, A/C-Heating Outlet

Sample, A/C-Heating Outlet

Sample, A/C-Heating Outlet

Portable Weapons Vault, At Drill Hall

Converted IFR, Front View



Converted IFR, Backstop Close Up

Converted IFR, Rear View

Sample, Converted IFR

Sample, Converted IFR

Sample, Converted IFR

MSDS Book, Inside Flammables Material Storage

Household Chemicals On Shelves

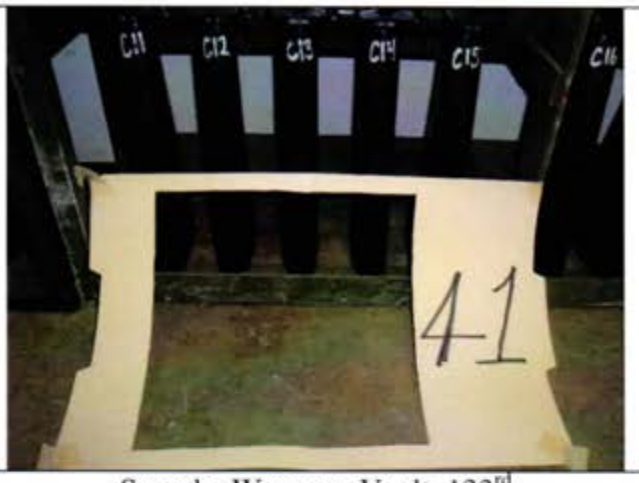
Contents, Flammables Cabinet

Sample, Weapons Vault, 386th

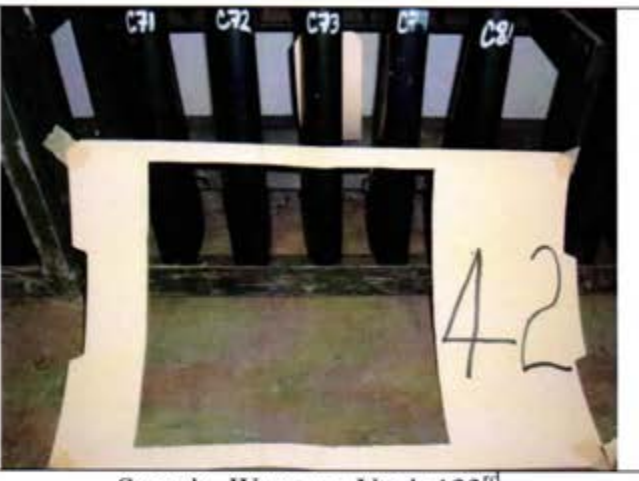
Sample, Weapons Vault, 386th

Sample, Weapons Vault, 386th

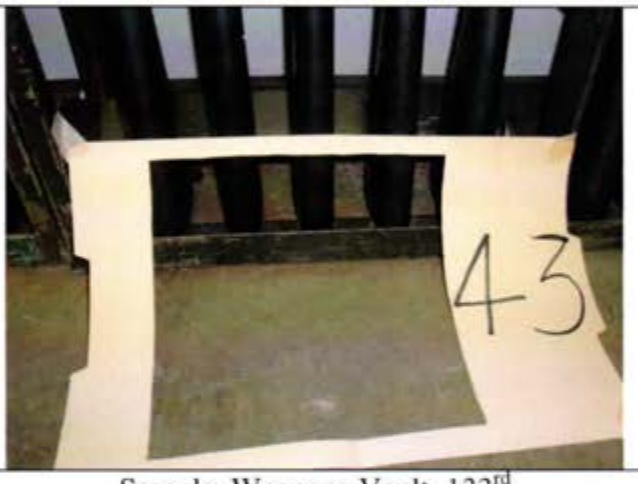
Sample, Weapons Vault, 386th



Sample, Weapons Vault, 133rd



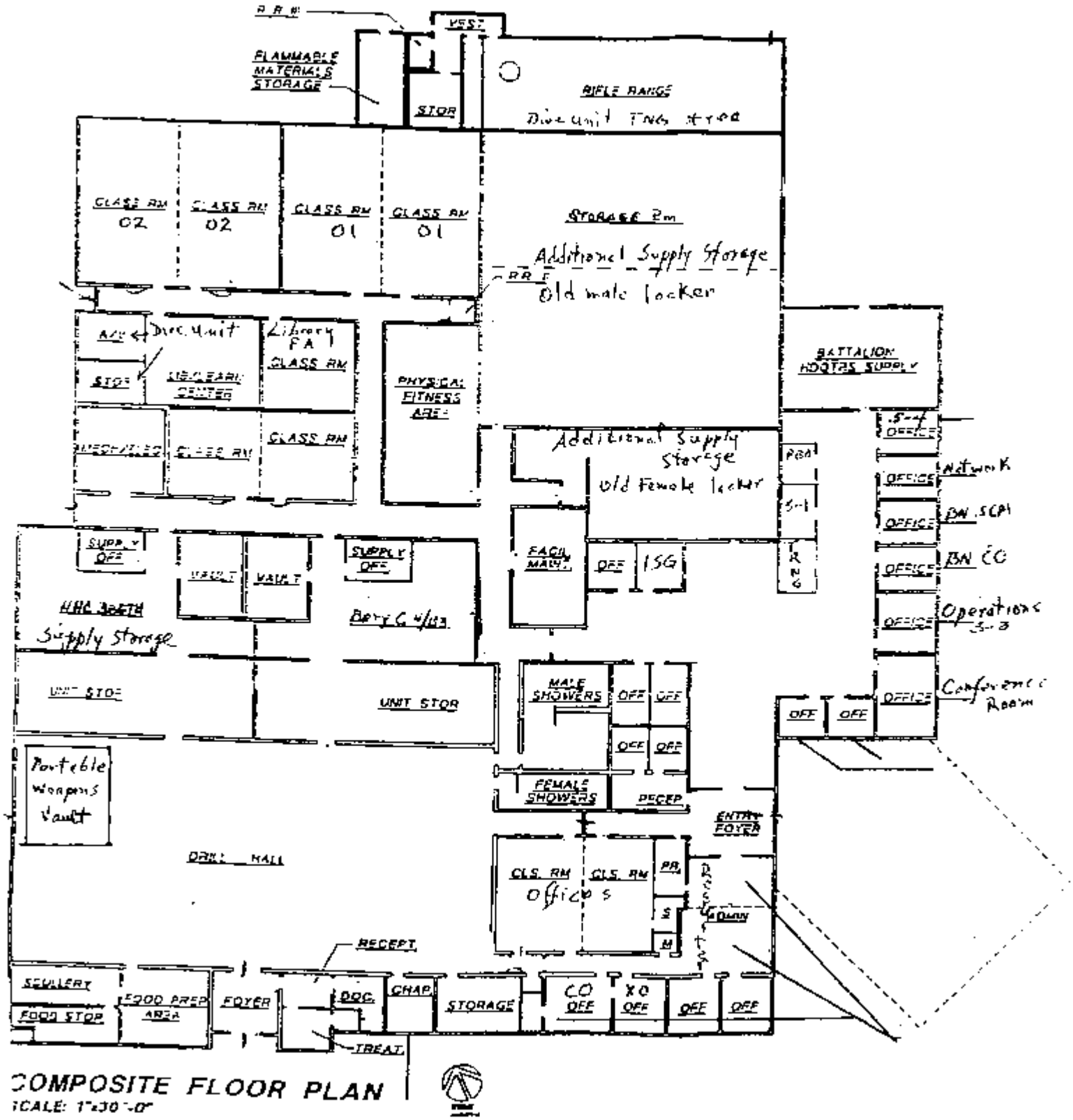
Sample, Weapons Vault,133rd



Sample, Weapons Vault, 133rd

Motor Pool

Motor Pool



COMPOSITE FLOOR PLAN

SCALE: 1"=30'-0"

Corpus Christi, TX Armory

DEPARTMENT OF THE ARMY AND THE AIR FORCE
NATIONAL GUARD BUREAU
REGIONAL INDUSTRIAL HYGIENE OFFICE
AIRPORT PLAZA SUITE 1530
510 PLAZA DRIVE
COLLEGE PARK, GA 30349

NGB-AVN-SI June 25, 2004

MEMORANDUM FOR: ADJUTANT GENERAL TX ARNG, ATTN.: State Occupational Health Office, P. O. BOX 5218, Austin, TX 78763-5218

SUBJECT: Transmittal of the Survey Reports for Victoria Armory, Corpus Christi Armory, Eagle Pass Armory, Laredo Armory, Columbus Armory and El Campo Armory, TX.

1. References.

a. Department of Defense Instruction 6055.1, Department of Defense Occupational Safety and Health (OSH) Program, 26 October 1984.

b. Army Regulation (AR) 40-5, 30 August 1986, Medical Service, Preventive Medicine.

c. National Guard Regulation (NGR) 385-10, 1988, Army National Guard Safety and Occupational Health Program.

d. AR 11-34, The Army Respiratory Protection Program, 15 February 1990.

e. TB MED 502, Occupational and Environmental Health Respiratory Protection Program, February 1982.

f. DA PAM 40-503, 30 October 2000, The Army Industrial Hygiene Program.

g. DA PAM 40-501, 10 December 1998, Hearing Conservation.

h. Threshold Limit Values and Biological Exposure Indices (TLV's) for 2001, American Conference of Governmental Industrial Hygienists (ACGIH), Cincinnati, Ohio.

i. Industrial Ventilation, 23rd Edition, American Conference of Governmental Industrial Hygienist, Cincinnati, Ohio.

j. USAEHA TG-141, November 1997, Guidelines for Air Sampling and Bulk sample Collection.

NGB-AVN-SI
SUBJECT: Transmittal of the Survey Reports for Victoria Armory, Corpus Christi Armory, Eagle Pass Armory, Laredo Armory, Columbus Armory and El Campo Armory, TX.

k. Title 29, Code of Federal Regulations (CFR), 2000 rev., part 1910, Occupational Safety and Health Standards.

l. Report of June 15, 2004, Industrial Hygiene Survey, Tammer Sciences INC, 3744 Lawrence Dr., Naperville, IL.

2. General.

a. At the request of the TX ARNG Safety and Occupational Health Office, an Industrial Hygiene Service was put together to conduct Health Hazard Information module (HHIM) Field surveys and industrial hygiene sampling of the Victoria Armory, Corpus Christi Armory, Eagle Pass Armory, Laredo Armory, Columbus Armory and El Campo Armory, TX

b. Non-Responsive, Tammer Sciences INC, 3744 Lawrence Dr., Naperville, IL 60564, conducted the survey.

3. Findings. All Health Hazard information are on the survey findings of the report. (See enclosure 1)

4. Recommendations.

a. Follow all recommendations made in reference 1.l., requesting industrial hygiene (IH) services where needed to complete the recommendations.

b. Conduct an air sampling survey in the areas in and around those identified with elevated lead dust levels in page 3 0f reference 1.l, to ensure that the lead dust present is not airborne and that employees in these areas are not exposed above the action level where applicable.

c. Control water infiltration in the armory and/or replace or repair damaged surfaces or components (ceiling and floor tiles). Building conditions that present IAQ concerns or problems not only exacerbates normally minor health issues but also tend to promote or accelerate building deterioration.

d. The recommendations given in the comment section and data collected will serve as a baseline for the Industrial Hygiene Implementation Plan (IHIP) for FY-03. A follow up operation and hazard specific air sampling survey based on the enclosed findings will be included in the FY-04 IHIP.

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NGB-AVN-SI
SUBJECT: Transmittal of the Survey Reports for Victoria Armory, Corpus Christi Armory, Eagle Pass Armory, Laredo Armory, Columbus Armory and El Campo Armory, TX.

e. Consider additional Industrial Hygiene services to monitor operations that were not looked at or surveyed during the present survey, especially if this will help eliminate health hazards and reduce medical surveillance cost.

f. To execute your responsibilities in correcting all deficiencies and meeting all standards coordinate with the Occupational Health Nurse and the Occupational Safety and Health Office for technical guidance.

f. Give special consideration to cleaning light fixtures, increasing the wattage and painting walls a lighter color when upgrading the lighting in the facility.

[redacted] industrial hygiene survey or air sample

Non-Responsive

CF:
NBG-AVN-SH
State Occupational Health Office, P. O. BOX 5218, Austin, TX 78763-5218.
State Safety Manager, P. O. BOX 5218, Austin, TX 78763-5218.

Encl
as

BEST AVAILABLE COPY

Industrial Hygiene Baseline Survey Report
For
Texas Army National Guard
(TXARNG)

At
Corpus Christi Armory
1430 Horne Road
Corpus Christi, Texas

Prepared for:

Department of the Army and the Air Force
National Guard Bureau
Regional Industrial Hygiene Office
Region South
Airport Plaza Suite 1530
510 Plaza Drive
College Park, GA 30349

By:
Non-Responsive

June 15, 2004

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Appendices

A. Floor Layout and illumination levels.
B. Laboratory Analytical Results.
C. Lab Chain of Custody.
D. Photographs.

Executive Summary

An initial baseline industrial hygiene survey was conducted at the Corpus Christi Armory on 24 March 2004 as part of the Texas Army National Guard Occupational Health Program to identify potential health hazards in the workplace. The survey consisted of collecting lead wipe samples and bulk asbestos samples, conducting an illumination survey, a noise survey, and an evaluation of the Heating Ventilation and Air Conditioning System (HVAC) as it relates to indoor air quality.

The following table summarizes the survey findings and recommendations for each topic surveyed.

Topic	Summary of Findings	Recommendations
IFR Lead Wipe Sample Results	<10 to 26microgram per square foot.	No action.
Armory Lead Wipe Samples	<10 to 44 microgram per square foot.	No action.
Asbestos Bulk Samples	No Suspect asbestos containing material identified.	No action.
Noise Survey	No excessive noise source was identified.	No action.
Illumination Survey	25 to 90 footcandles	No action.
HVAC/IAQ	No issues observed or documented.	No action.

SUBJECT: Industrial Hygiene Initial Baseline Survey of the Corpus Christi Armory in Corpus Christi, Texas on 24 March 2004

BACKGROUND:

Introduction. At the request of Non-Responsive of the National Guard Bureau Region South Industrial Hygiene Office, an initial baseline industrial hygiene survey was performed at the Corpus Christi Armory in Corpus Christi, Texas. Non-Responsive Industrial Hygiene Technician for the Texas Army National Guard and Non-Responsive, contract Industrial Hygienist, Tammer Sciences, Inc. conducted the survey on 24 March 2004. The purpose of the survey was to perform an initial baseline industrial hygiene survey to identify potential health hazards present at the armory, specifically lead contamination from the indoor firing range.

Site Description. The armory, which was renovated in 1997, houses the Headquarters for the 386 engineers and Battery C. The building is a one-story structure and consists of administrative office areas, a kitchen, classrooms, a library, a drill hall, two supply rooms, and an indoor firing range. Five full time employees work at this armory. A copy of the floor layout and photos are included in Appendix A and D, respectively.

Scope of Work. The work included collecting wipe samples for lead, bulk samples for suspect asbestos containing building material, illumination levels, noise readings where necessary, and an evaluation of the ventilation system as it pertains to indoor air quality.

Methodology Lead wipe samples were collected from surfaces in the firing range and in the Armory in accordance to instructions published by Region South National Guard Bureau, which required the use of unscented baby wipes to wipe one square foot of surface. Samples were then placed in a sealed plastic bag and sent for analysis to EMSL laboratory, which is an American Industrial Hygiene Association (AIHA) Accredited laboratory. Asbestos bulk samples were collected from suspect building materials that were grouped based on similarity of composition. Bulk sample collection was minimally destructive and samples were collected from inconspicuous areas. Bulk samples were also collected from suspect friable and damaged building material. Each bulk sample was placed in a sealed bag and sent to EMSL laboratory for analysis. Noise readings were collected using a noise level meter in areas where a noise source was identified. All noise measurements were area readings. Illumination readings were collected using a Western Schlumberger light meter Serial 8384. Illumination readings were taken on work surfaces such as desks or approximately four feet from the floor.

FINDINGS and DISCUSSION:

The Point of Contact during the survey was Non-Responsive

Lead Wipe Samples: Twenty nine wipe samples were collected from the indoor firing range and various areas of the armory as listed in the table below.

Sample Number	Sample Location	Micrograms of lead (ug) per square foot
CC01	Top of serving line between kitchen and drill hall.	<10.0
CC02	Top of refrigerator in kitchen.	29.0
CC03	Drill hall floor by NW supply room	36.0
CC04	Drill hall floor in center.	<10.0
CC05	Drill hall floor by Battery C supply room NE.	<10.0
CC06	Top of the soda machine in the drill hall	44.0
CC07	Supply diffuser in administrative office	<10.0
CC08	Return air grill in the administrator office	33.0
CC09	Top of refrigerator in break area.	13.0
CC10	Top of mail bin shelves in the administrative area	11.0
CC11	IFR bullet Stop upper left	<10.0
CC12	IFR bullet Stop middle	<10.0
CC13	IFR bullet Stop lower right	<10.0
CC14	IFR floor to the left of the bullet trap	<10.0
CC15	IFR floor middle of range	<10.0
CC16	IFR floor to the right of the observation area	<10.0
CC17	IFR left wall (facing trap) upper right (facing wall)	<10.0
CC18	IFR left wall (facing trap) middle	<10.0
CC19	IFR left wall (facing trap) lower left (facing wall)	<10.0
CC20	IFR right wall (facing trap) lower left (facing wall)	<10.0
CC21	IFR right wall (facing trap) middle	<10.0
CC22	IFR right wall (facing trap) upper right (facing wall)	<10.0
CC23	IFR back wall (facing wall) upper right	<10.0
CC24	IFR back wall (facing wall) middle	<10.0
CC25	IFR back wall (facing wall) lower left	<10.0
CC26	IFR top of bullet deflector by trap right side facing trap.	16.0
CC27	IFR top of bullet deflector mid range.	17.0
CC28	IFR top of heat shield between firing line and observation deck	10.0
CC29	IFR top of firing line shelves.	26.0
CC30	Field Blank	<10.0

The US Environmental Protection Agency (EPA), under a new standard issued in 2000, considers lead dust as a hazard if levels are greater than 40 micrograms of lead in dust per square foot on floors; 250 micrograms of lead in dust per square foot on interior window sills and 400 parts per million (ppm) of lead in bare soil in children's play areas or 1200 ppm average for bare soil in the rest of the yard. This standard is a major effort by the EPA to identify dangerous levels of lead in paint, dust and soil in order to protect children from lead poisoning. The National Guard Bureau recommends a limit of 200 micrograms per square foot for surface contamination. The laboratory report and chain of custody forms are attached in Appendices B and C.

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Asbestos Suspect Building Material: Typical building materials identified in the Armory consisted of 12 by 12 inches floor tiles, 2x4 feet ceiling tiles, and Baseboard in the administrative office areas and classrooms. Cement floors, cinder block walls, and corrugated steel deck in the drill hall, supply, storage, and other areas. Bulk samples were not collected because the Armory was completely renovated in built on 1997 and the presence of asbestos containing material is less likely.

Noise Survey: Based on observations during the walkthrough baseline survey, no sources of excessive noise were identified and therefore no area noise readings were collected. Noise levels are likely to be well below the Occupational Safety and Health Administration (OSHA) regulated limit of 90 dBA and the Army recommended limit of 85 dBA.

Illumination Survey Lighting levels throughout the Armory ranged between 25 foot-candles to 90 foot-candles. Illumination levels are noted on the floor layout in Appendix A. Illumination ranges for each area are listed in the Table below:

Area	Reading in Foot-candles
Administrative Offices.	70 – 90
Classrooms.	80 – 85
Supply Rooms.	25 – 45
Drill Hall.	40 – 45
Hallway.	25 – 60
Kitchen.	30 – 70

The Army Design Guide (DG415-2) minimum illumination level of 50 foot-candle for office area and 20 foot-candles for parts storage/supply. The American National Standard Institute (ANSI) recommends a minimum illumination level of 50 to 100 foot-candles for office work, 20 to 50 for general lighting. Luminance depends on various factors including the task to be performed, the age of the individual, and the surroundings. Luminance of 50 to 100 foot-candles is recommended for performance of visual tasks of medium contrast or small size such as reading pencil handwriting and poorly printed or reproduced material. Depending on the type of display, background luminance of 30 to 60 foot-candles is recommended for VDT work. Replacing light bulbs with higher wattage will increase lighting levels. Replacing burnt out light bulbs and cleaning the light fixture should improve the lighting levels.

Heating Ventilating and Air Conditioning (HVAC) The Heating Ventilating and Air-Conditioning (HVAC) System for the Armory consisted of individual rooftop units. No other complaints of indoor air quality issues were documented or communicated with the POC.

Recommendation:

None.

Technical Assistance: For technical assistance regarding information found in this report

Non-Responsive

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APPENDIX A

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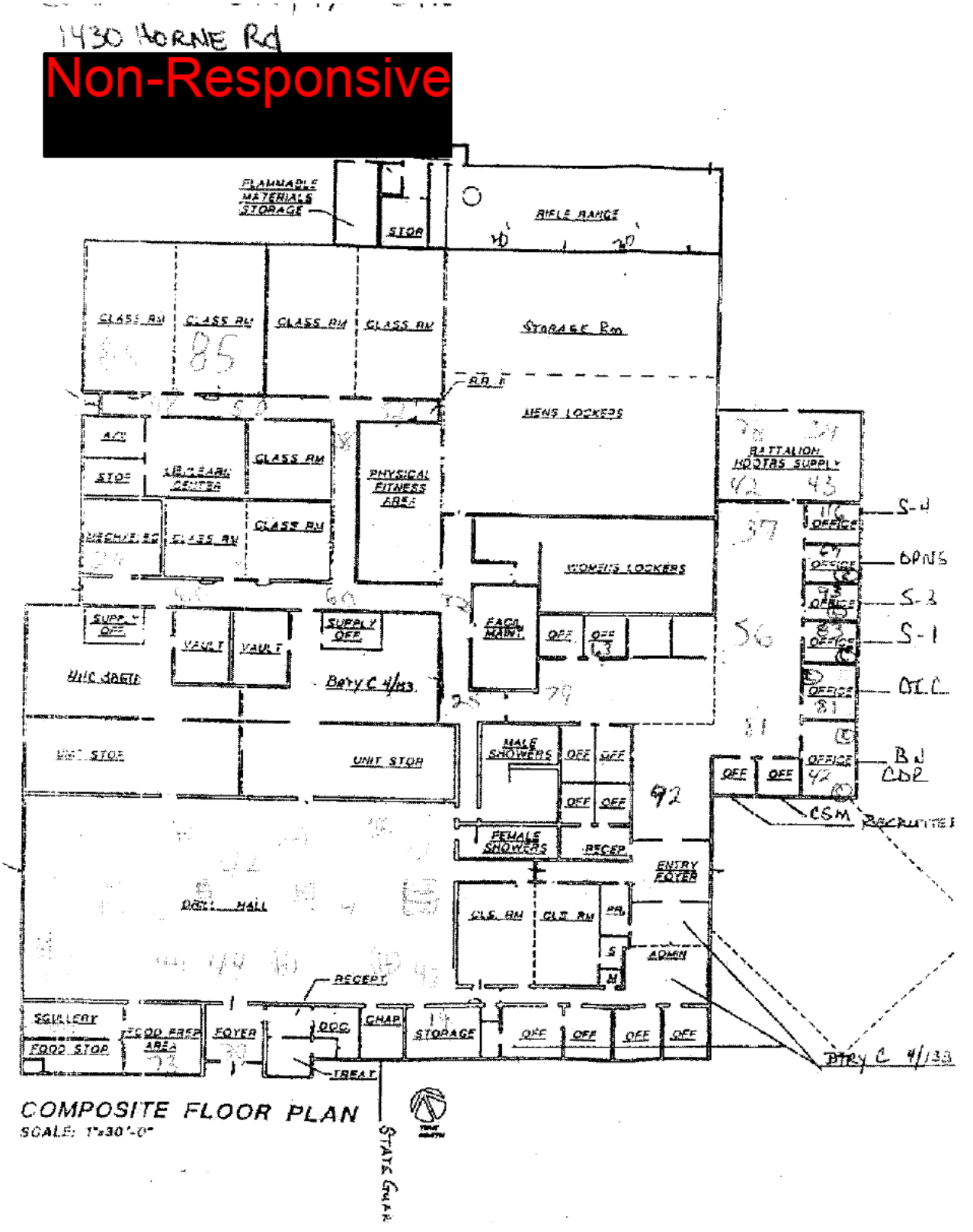
1430 HORNE Rd
Non-Responsive
FLAMMABLE MATERIALS STORAGE
STOR
RIFLE RANGE
CLASS RM
CLASS RM
CLASS RM
CLASS RM
STORAGE RM
MENS LOCKERS
A/C
STOR
CLASS RM
PHYSICAL FITNESS AREA
CLASS RM
CLASS RM
WOMENS LOCKERS
BATTALION HQTRS SUPPLY
OFFICE
OFFICE
OFFICE
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BPNS
S-3
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OIC
BJ
CSM
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VAULT
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OFF
OFF
UNIT STOR
UNIT STOR
MALE SHOWERS
OFF
OFF
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FEMALE SHOWERS
RECEP
ENTRY FOYER
HALL
CLS RM
CLS RM
PR
S
M
ADMN
RECEPT
SCULLERY
FOOD STOR
FOOD PREP AREA
FOYER
DOG
CHAP
STORAGE
OFF
OFF
OFF
OFF
TREAT
Btry C 4/33
COMPOSITE FLOOR PLAN
SCALE: 1"=30'-0"
STATE GRAPH

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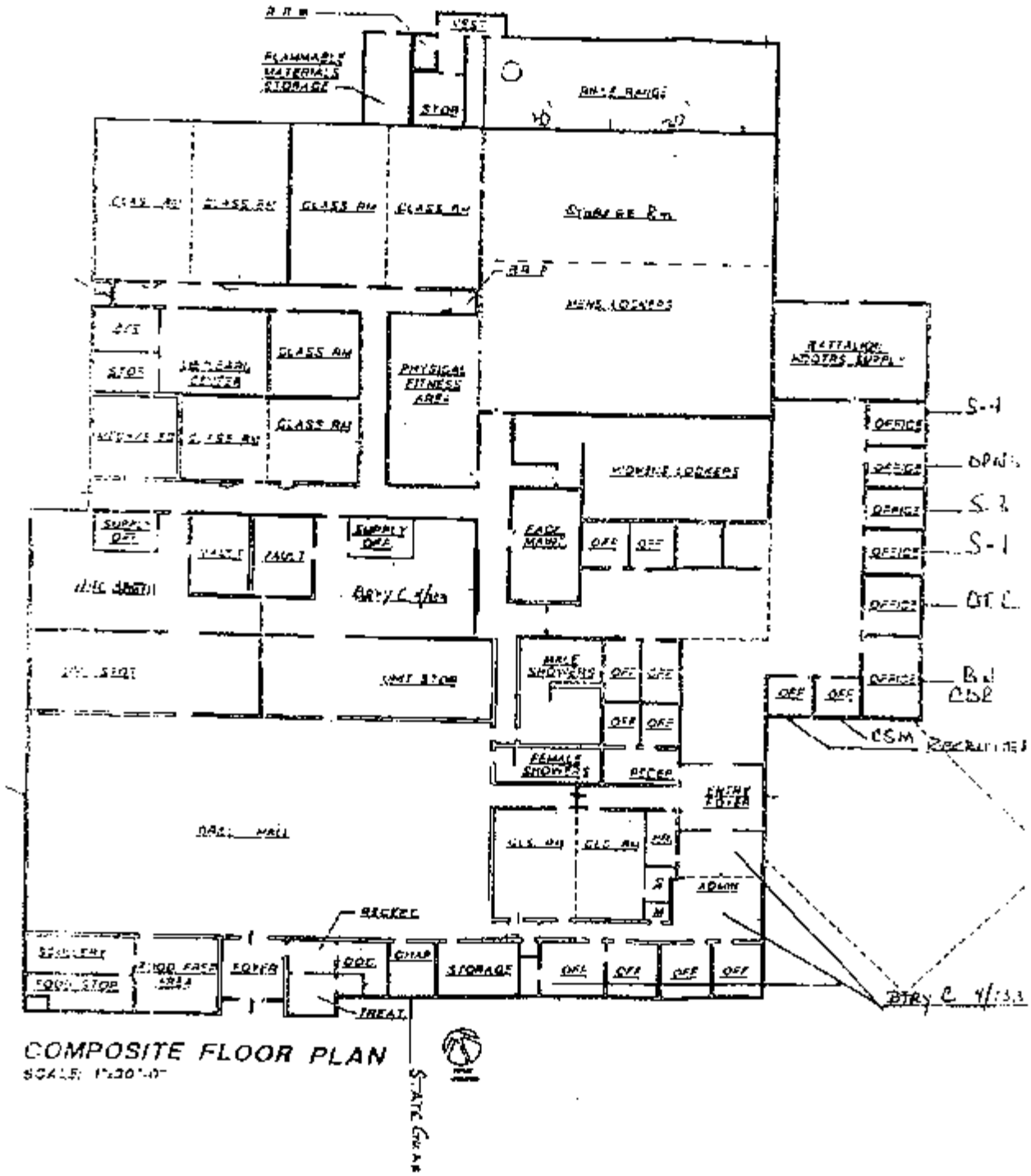

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APPENDIX B

EMSL Analytical
3 Cooper St., Westmont, NJ 08108
Phone: (856) 858-4800 Fax: (856) 858-9551 Email: skauffman@emsl.com

Attn: Non-Responsive
Fax:
Project: Corpus Christi, TX

Customer ID: TS80
Customer PO:
Received: 03/30/04 10:12 AM

EMSL Order: 200403343
EMSL Proj:

Lead in Wipes by Flame AAS (SW 846, 7420)

Client Sample Description		Lab ID	Analyzed	Area Sampled	Lead Concentration
CC01	Results for these wipe samples do not meet the EPA standards for sample matrix and are not recognized under the NLLAP accreditation program	0001	4/13/04	n/a	<10.0 µg/wipe
CC02		0002	4/13/04	n/a	29.0 µg/wipe
CC03		0003	4/13/04	n/a	36.0 µg/wipe
CC04		0004	4/13/04	n/a	<10.0 µg/wipe
CC05		0005	4/13/04	n/a	<10.0 µg/wipe
CC06		0006	4/13/04	n/a	44.0 µg/wipe
CC07		0007	4/13/04	n/a	<10.0 µg/wipe
CC08		0008	4/13/04	n/a	33.0 µg/wipe
CC09		0009	4/13/04	n/a	13.0 µg/wipe
CC10		0010	4/13/04	n/a	11.0 µg/wipe
CC11		0011	4/13/04	n/a	<10.0 µg/wipe
CC12		0012	4/13/04	n/a	<10.0 µg/wipe
CC13		0013	4/13/04	n/a	<10.0 µg/wipe
CC14		0014	4/13/04	n/a	<10.0 µg/wipe
CC15		0015	4/13/04	n/a	<10.0 µg/wipe
CC16		0016	4/13/04	n/a	<10.0 µg/wipe
CC17		0017	4/13/04	n/a	<10.0 µg/wipe
CC18		0018	4/13/04	n/a	<10.0 µg/wipe
CC19		0019	4/13/04	n/a	<10.0 µg/wipe
CC20		0020	4/13/04	n/a	<10.0 µg/wipe
CC21		0021	4/13/04	n/a	<10.0 µg/wipe

Non-Responsive

The QC data associated with the sample results included in this report meet the recovery and precision requirements established by the AIHA, unless specifically indicated otherwise in the comment section. The test results contained within this report meet the requirements of NELAC unless otherwise noted.
ACCREDITATIONS: NJ-NELAP: 04653; AIHA Environmental Lead Laboratory Approval Program: 100194

Date Printed: 4/14/04 9:16:14 AM

EMSL Analytical
3 Cooper St., Westmont, NJ 08108
Phone: (856) 858-4800 Fax: (856) 858-4851 Email: akauffman@emsl.com

Attn: Non-Responsive
Fax:
Project: Corpus Christi, TX

Customer ID: TS60
Customer PO:
Received: 03/30/04 10:12 AM

EMSL Order: 200403343
EMSL Proj:

Lead in Wipes by Flame AAS (SW 846, 7420)

Client Sample Description	Lab ID	Analyzed	Area Sampled	Lead Concentration
CC22	0022	4/13/04	n/a	<10.0 µg/wipe
CC23	0023	4/13/04	n/a	<10.0 µg/wipe
CC24	0024	4/13/04	n/a	<10.0 µg/wipe
CC25	0025	4/13/04	n/a	<10.0 µg/wipe
CC26	0026	4/13/04	n/a	16.0 µg/wipe
CC27	0027	4/13/04	n/a	17.0 µg/wipe
CC28	0028	4/13/04	n/a	10.0 µg/wipe
CC29	0029	4/13/04	n/a	26.0 µg/wipe
CC30	0030	4/13/04	n/a	<10.0 µg/wipe

Non-Responsive

The QC data associated with the sample results included in this report meet the recovery and precision requirements established by the AIHA, unless specifically indicated otherwise in the comment section. The test results contained within this report meet the requirements of NELAC unless otherwise noted.
ACCREDITATIONS: NJ-NELAP, 04053, AIHA Environmental Lead Laboratory Approval Program: 100194

Date Printed: 4/14/04 9:16:23 AM

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APPENDIX C

EMSL ANALYTICAL — CHAIN OF CUSTODY — LEAD

Date: 3/26/04 EMSL Representative: ____ Project Name/No.: ____ P.O #: ____

Company Name: Tommer Sciences Inc. EMSL-Bill to: ____

Street: 2744 Lawrence Drive Street: Same

Box #: ____ Box #: ____

City, State: Naperville, IL Zip: 60564 City/State: ____ Zip: ____

Phone Results to: (Name) [redacted]

Fax Results to: (Name)

MATRIX	METHOD	INSTRUMENT	Limit)	
Lead Chips*	SW846-7420, 3050B Mod. / AOAC (974.02)	Flame Atomic Absorption	0.01% —	
Lead Wastewater	SW846-7420	Flame Atomic Absorption	0.4 mg/l water 40 mg/kg (ppm) soil	
Lead Soil ~	or SW846-6010B	ICP	0.1 mg/l water 10 mg/kg (ppm) soil	
Lead in Air***	NIOSH 7082 Mod.	Flame Atomic Absorption	4 ug filter	
	or NIOSH 7300 Mod.	ICP	3.0 ug/filter	
Lead in Wipe* ☒-ASTM List Wipe Type	SW846-7420 / HUD Appendix 14.2 Digest	Flame Atomic Absorption	10 ug/wipe	
☐-non ASTM	or SW846-6010B	ICP	3.0 ug/wipe	
TCLP Lead **	SW846-1311/7420	Flame Atomic Absorption	0.4 mg/l (ppm)	
	or SW846-6010B	ICP	0.1 mg/l (ppm)	
STLC Lead (California) *	CA Title 22 SW846-7420	Flame Atomic Absorption	0.4 mg/l (ppm)	
	or SW846-6010B	ICP	0.1 mg/l (ppm)	
Lead in Air ****	NIOSH 7105 Mod.	Graphite Furnace Atomic Absorption	0.03 ug/filter	
Lead Wastewater	SW846-7421	Graphite Furnace Atomic Absorption	0.003 mg/l (ppm) water	
Lead Soil ~			0.3 mg/kg (ppm) soil	
Lead in Drinking Water (check state Certification Requirements)	EPA 239.2 / 200.9	Graphite Furnace Atomic Absorption	0.003 mg/l (ppm)	
Lead Dust	NIOSH 0500-0600	Gravimetric Reduction	0.0001g	

2004 MAR 30 AM 10: 12

WESTMONT, ILL.

T/ T (Turnaround) - Same day, 24 hr - 1 Day, 2 Days, 3 Days, 4 Days, 5 Days, 6-10 Days

*, **, ***, ****, ~, ~~, # Please Refer to Price Quote

* If no box is checked, non-ASTM is assumed

SAMPLE #	LOCATION	Air volume L Area, in²	LAB #
CC01	Corpus Christi		633431
CC02	↓		2
CC03			3

@ Relinquished By: (Person) [redacted] Date: 3/26/04

Received at EMSL By: Date: 3/30/04

Received at EMSL By: ____ Date: ____

Note: Please duplicate this form and use additional sheets if necessary.

@ The individual signing and relinquishing these samples to the laboratory attests to the accuracy of the information reported on this chain of custody.

Lead Chain Nov 2001 v STLC.doc

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EMSL ANALYTICAL CHAIN OF CUSTODY LEAD

SAMPLE #	LOCATION	Air volume, L Area, in^2	LAB #
CC04	Corpus Christi, TX		07345 4
05			5
06			6
07			7
08			8
09			9
10			10
11			11
12			12
13			13
14			14
15			15
16			16
17			17
18			18
19			19
20			20
21			21
22			22
23			23
24			24
25			25
26			26
27			27
28			28
29			29
30			30

@ Relinquished By: (Person) [redacted] Non-Responsive Date: 3/26/04

Received at EMSL By: _____ Date: 3/31/04

Received at EMSL By: _____ Date: _____

Note: Please duplicate this form and use additional sheets if necessary.

@ The individual signing and relinquishing these samples to the laboratory attests to the accuracy of the information reported on this chain of custody.

APPENDIX D

Photo #1: Armory front entrance.

Photo #2: East side of the armory.

Photo #3: North side of the armory.

Photo #4: West side of the armory.

Photo #5: Southwest corner of armory.

Photo #6: Drill hall facing east.

Photo#7: Drill hall facing west.

Photo #8: Administrative area showing mail bin.

Photo #9: Armory's kitchen showing the serving line and refrigerator.

Photo #10: Indoor firing range facing bullet trap.

Photo #11: Indoor firing range facing the firing line

DEPARTMENT OF THE ARMY AND THE AIR FORCE
NATIONAL GUARD BUREAU
REGIONAL INDUSTRIAL HYGIENE OFFICE
AIRPORT PLAZA SUITE 1530
510 PLAZA DRIVE
COLLEGE PARK, GA 30349

NGB-AVN-SI July 22, 2004

MEMORANDUM FOR: ADJUTANT GENERAL TX ARNG, ATTN.: State Occupational Health Office, P. O. BOX 5218, Austin, TX 78763-5218

SUBJECT: Transmittal of the Survey Reports for Waxahachie Armory, Corsicana Armory, Mexia Armory, Waco Armory, Gatesville Armory, Kileen Armory, Temple Armory, Brenham Armory, and Bryan Armory, TX.

1. References.

a. Department of Defense Instruction 6055.1, Department of Defense Occupational Safety and Health (OSH) Program, 26 October 1984.

b. Army Regulation (AR) 40-5, 30 August 1986, Medical Service, Preventive Medicine.

c. National Guard Regulation (NGR) 385-10, 1988, Army National Guard Safety and Occupational Health Program.

d. AR 11-34, The Army Respiratory Protection Program, 15 February 1990.

e. TB MED 502, Occupational and Environmental Health Respiratory Protection Program, February 1982.

f. DA PAM 40-503, 30 October 2000, The Army Industrial Hygiene Program.

g. DA PAM 40-501, 10 December 1998, Hearing Conservation.

h. Threshold Limit Values and Biological Exposure Indices (TLV's) for 2001, American Conference of Governmental Industrial Hygienists (ACGIH), Cincinnati, Ohio.

i. Industrial Ventilation, 23rd Edition, American Conference of Governmental Industrial Hygienist, Cincinnati, Ohio.

j. USAEHA TG-141, November 1997, Guidelines for Air Sampling and Bulk sample Collection.

NGB-AVN-SI
SUBJECT: Transmittal of the Survey Reports for Waxahachie Armory, Corsicana Armory, Mexia Armory, Waco Armory, Gatesville Armory, Kileen Armory, Temple Armory, Brenham Armory, and Bryan Armory, TX.

k. Title 29, Code of Federal Regulations (CFR), 2000 rev., part 1910, Occupational Safety and Health Standards.

l. Report of July 14, 2004, Industrial Hygiene Survey, Tammer Sciences INC, 3744 Lawrence Dr., Naperville, IL.

2. General.

a. At the request of the TX ARNG Safety and Occupational Health Office, an Industrial Hygiene Service was put together to conduct Health Hazard Information module (HHIM) Field surveys and industrial hygiene sampling of the Waxahachie Armory, Corsicana Armory, Mexia Armory, Waco Armory, Gatesville Armory, Kileen Armory, Temple Armory, Brenham Armory Brenham Armory, and Bryan Armory, TX.

b. Non-Responsive ammer Sciences INC, 3744 Lawrence Dr., Naperville, IL 60564, conducted the survey.

3. Findings. All Health Hazard information are on the survey findings of the report. (See enclosure 1)

4. Recommendations.

a. Follow all recommendations made in reference 1.l., requesting industrial hygiene (IH) services where needed to complete the recommendations.

b. Conduct an air sampling survey in the areas in and around those identified with elevated lead dust levels in page 3 0f reference 1.l, to ensure that the lead dust present is not airborne and that employees in these areas are not exposed above the action level where applicable.

c. Control water infiltration in the armory and/or replace or repair damaged surfaces or components (ceiling and floor tiles). Building conditions that present IAQ concerns or problems not only exacerbates normally minor health issues but also tend to promote or accelerate building deterioration.

d. The recommendations given in the comment section and data collected will serve as a baseline for the Industrial Hygiene Implementation Plan (IHIP) for FY-03. A follow up operation and hazard specific air sampling survey based on the enclosed findings will be included in the FY-04 IHIP.

NGB-AVN-SI
SUBJECT: Transmittal of the Survey Reports for Waxahachie Armory, Corsicana Armory, Mexia Armory, Waco Armory, Gatesville Armory, Kileen Armory, Temple Armory, Brenham Armory, and Bryan Armory, TX.

e. Consider additional Industrial Hygiene services to monitor operations that were not looked at or surveyed during the present survey, especially if this will help eliminate health hazards and reduce medical surveillance cost.

f. To execute your responsibilities in correcting all deficiencies and meeting all standards coordinate with the Occupational Health Nurse and the Occupational Safety and Health Office for technical guidance.

g. Give special consideration to cleaning light fixtures, increasing the wattage and painting walls a lighter color when upgrading the lighting in the facility.

Non-Responsive

CF:
NBG-AVN-SH
State Occupational Health Office, P. O. BOX 5218, Austin, TX 78763-5218.
State Safety Manager, P. O. BOX 5218, Austin, TX 78763-5218.

Encl
as

Industrial Hygiene Baseline Survey Report
For
Texas Army National Guard
(TXARNG)

At
Corsicana Armory
3700 West 7th Avenue
Corsicana, Texas

Prepared for:

Department of the Army and the Air Force
National Guard Bureau
Regional Industrial Hygiene Office
Region South
Airport Plaza Suite 1530
510 Plaza Drive
College Park, GA 30349

By
Non-Responsive

July 08, 2004

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- Site Description
- Scope of Work
- Methodology

Findings & Discussion

- Lead Wipe Samples ..... Page 3
- Asbestos Suspect Building Material ..... Page 3
- Noise Survey ..... Page 3
- Illumination Survey ..... Page 4
- Heating Ventilating and Air Conditioning (HVAC) ..... Page 4
- Recommendations ..... Page 4

Appendices

A. Floor Layout and illumination levels.
B. Laboratory Analytical Results.
C. Lab Chain of Custody.
D. Photographs.

Executive Summary

An initial baseline industrial hygiene survey was conducted at the Corsicana Armory on 2 June 2004 as part of the Texas Army National Guard Occupational Health Program to identify potential health hazards in the workplace. The survey consisted of collecting lead wipe samples and bulk asbestos samples, conducting an illumination survey, a noise survey, and an evaluation of the Heating Ventilation and Air Conditioning System (HVAC) as it relates to indoor air quality.

The following table summarizes the survey findings and recommendations for each topic surveyed.

Topic	Summary of Findings	Recommendations
Armory Lead Wipe Samples	<10 to 17 microgram per square foot.	No action.
Asbestos Bulk Samples	No Suspect asbestos containing material identified.	No action.
Noise Survey	No excessive noise source was identified.	No action.
Illumination Survey	10 to 70 footcandles	No action.
HVAC/IAQ	No issues observed or documented.	No action.

SUBJECT: Industrial Hygiene Initial Baseline Survey of the Corsicana Armory in Corsicana, Texas on 2 June 2004

BACKGROUND:

Introduction. At the request of Non-Responsive of the National Guard Bureau Region South Industrial Hygiene Office, an initial baseline industrial hygiene survey was performed at the Corsicana Armory in Corsicana, Texas. Non-Responsive Industrial Hygiene Technician for the Texas Army National Guard and Non-Responsive ontract Industrial Hygienist, Tammer Sciences, Inc. conducted the survey on 2 June 2004. The purpose of the survey was to perform an initial baseline industrial hygiene survey to identify potential health hazards present at the armory, specifically lead contamination from the indoor firing range.

Site Description. The armory, which was built in 1954, houses Trouper C and the 1-124 Cavalry. The building is a one story structure and consists of administrative office areas, a kitchen, classrooms, a drill hall, and a supply room. No indoor firing range was found in this armory. One full time employees work at this armory. A copy of the floor layout and photos are included in Appendix A and D, respectively.

Scope of Work. The work included collecting wipe samples for lead, bulk samples for suspect asbestos containing building material, illumination levels, noise readings where necessary, and an evaluation of the ventilation system as it pertains to indoor air quality.

Methodology Lead wipe samples were collected from surfaces in the firing range and in the Armory in accordance to instructions published by Region South National Guard Bureau, which required the use of unscented baby wipes to wipe one square foot of surface. Samples were then placed in a sealed plastic bag and sent for analysis to EMSL laboratory, which is an American Industrial Hygiene Association (AIHA) Accredited laboratory. Asbestos bulk samples were collected from suspect building materials that were grouped based on similarity of composition. Bulk sample collection was minimally destructive and samples were collected from inconspicuous areas. Bulk samples were also collected from suspect friable and damaged building material. Each bulk sample was placed in a sealed bag and sent to EMSL laboratory for analysis. Noise readings were collected using a noise level meter in areas where a noise source was identified. All noise measurements were area readings. Illumination readings were collected using a Western Schlumberger light meter Serial 8384. Illumination readings were taken on work surfaces such as desks or approximately four feet from the floor.

FINDINGS and DISCUSSION:

The Point of Contact during the survey was Non-Responsive

Lead Wipe Samples: Ten wipe samples were collected from various areas of the armory as listed in the table below.

Sample Number	Sample Location	Micrograms of lead (ug) per square foot
COR01	Top of serving line in kitchen.	<10.0
COR02	Top of refrigerator in kitchen.	<10.0
COR03	Supply diffuser in Non-Responsive	17.0
COR04	Top of filing cabi	<10.0
COR05	Drill hall floor by supply room # 3.	<10.0
COR06	Drill hall floor middle.	<10.0
COR07	Drill hall floor by recruiter office.	<10.0
COR08	Top of the water fountain in the drill hall	<10.0
COR09	Top of filing cabinet in an administrative office.	<10.0
COR10	Top of router in the commander office area.	<10.0

The US Environmental Protection Agency (EPA), under a new standard issued in 2000, considers lead dust as a hazard if levels are greater than 40 micrograms of lead in dust per square foot on floors; 250 micrograms of lead in dust per square foot on interior window sills and 400 parts per million (ppm) of lead in bare soil in children's play areas or 1200 ppm average for bare soil in the rest of the yard. This standard is a major effort by the EPA to identify dangerous levels of lead in paint, dust and soil in order to protect children from lead poisoning. The National Guard Bureau recommends a limit of 200 micrograms per square foot for surface contamination. The laboratory report and chain of custody forms are attached in Appendices B and C.

Asbestos Suspect Building Material: Typical building materials identified in the Armory consisted of Cement floors, cinder block walls, and corrugated steel deck. No floor tiles, ceiling tiles or baseboard were found in the armory. Pipe insulation consisting of fiber glass and brown paper covering were found in the drill hall and bathrooms. The table below lists the samples collected and the results:

Sample #	Description	% Asbestos Type
CORA01	Pipe thermal insulation.	None.

Noise Survey: Based on observations during the walkthrough baseline survey, no sources of excessive noise were identified. However, readings were collected in some areas to document the levels. As expected, noise levels were well below the Occupational Safety and Health Administration (OSHA) regulated limit of 90 dBA and the Army recommended limit of 85 dBA, as indicated in the table below.

Area	Reading in decibels dBA
Administrative Offices.	50 – 60
Classrooms.	40 – 45
Drill Hall.	60 – 65

Illumination Survey Lighting levels throughout the Armory ranged between 10 foot-candles to 70 foot-candles. Illumination levels are noted on the floor layout in Appendix A. Illumination ranges for each area are listed in the Table below:

Area	Reading in Foot-candles
Administrative Offices.	40 – 70
Classrooms.	45 – 60
Supply Rooms.	10 – 20
Drill Hall.	45 – 65
Storage.	10 – 20
Kitchen.	20 – 45

The Army Design Guide (DG415-2) minimum illumination level of 50 foot-candle for office area and 20 foot-candles for parts storage/supply. The American National Standard Institute (ANSI) recommends a minimum illumination level of 50 to 100 foot-candles for office work, 20 to 50 for general lighting. Luminance depends on various factors including the task to be performed, the age of the individual, and the surroundings. Luminance of 50 to 100 foot-candles is recommended for performance of visual tasks of medium contrast or small size such as reading pencil handwriting and poorly printed or reproduced material. Depending on the type of display, background luminance of 30 to 60 foot-candles is recommended for VDT work. Replacing light bulbs with higher wattage will increase lighting levels. Replacing burnt out light bulbs and cleaning the light fixture should improve the lighting levels.

Heating Ventilating and Air Conditioning (HVAC) The Heating Ventilating and Air-Conditioning (HVAC) System for the Armory consisted of three individual furnace forced air units. No other complaints of indoor air quality issues were documented or communicated with the POC.

Recommendation:

None.

Technical Assistance: For technical assistance regarding information found in this report

Non-Responsive

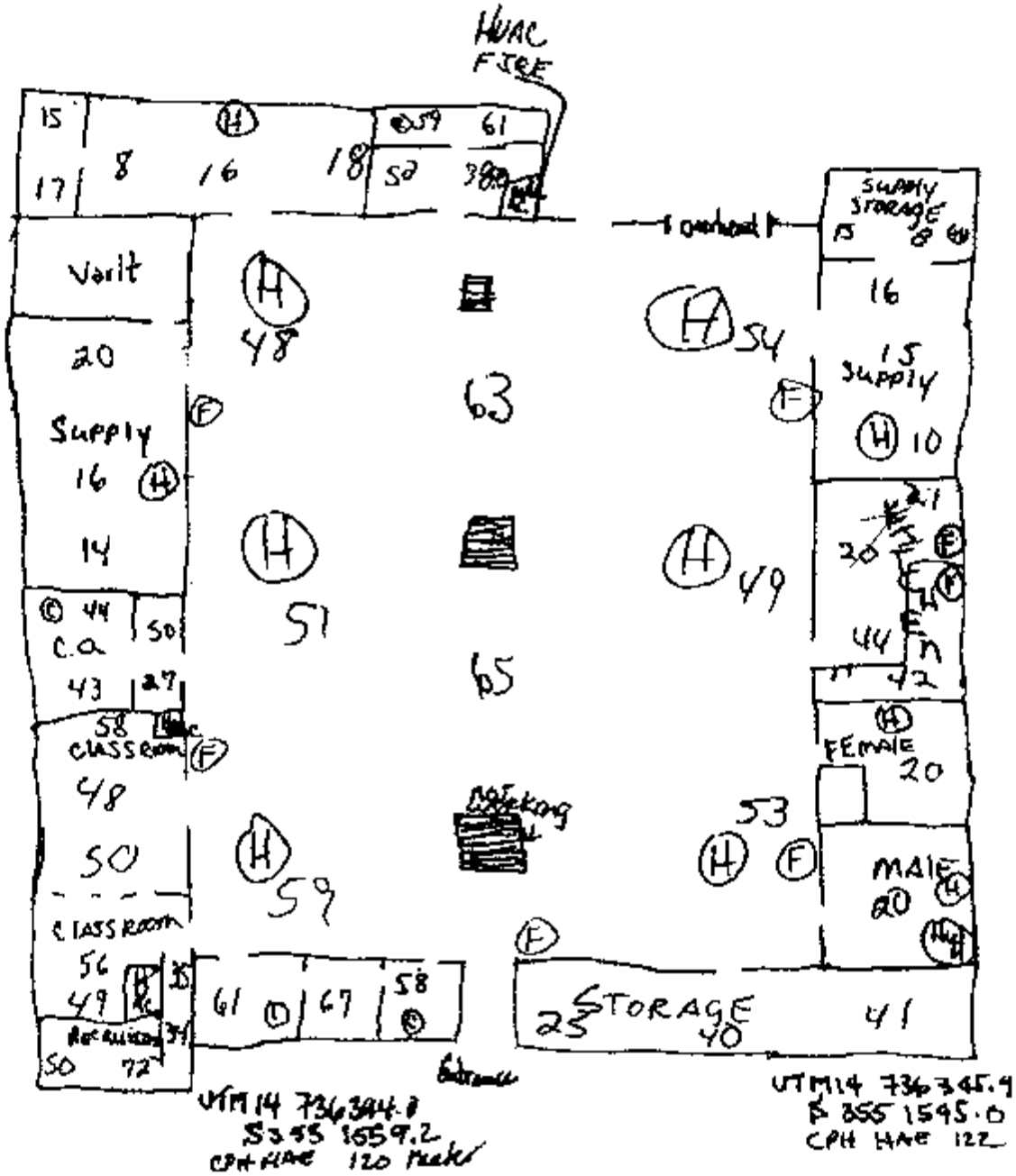
APPENDIX A

Floor Plan
Lighting Readings (ft-cd)
GPS Coordinates

E W N

UTM 14 736454.8
3551523.9
CPH HAE 120

UTM 14 736390.0
3551684.0
CPH HAE 125 meters



APPENDIX B

EMSL Analytical
3 Cooper St., Westmont, NJ 08108
Phone: (856) 858-4800 Fax: (856) 858-4851 Email: skauffman@emsl.com

Attn: Non-Responsive
Fax:
Project: Corsicana

Customer ID: TS80
Customer PO:
Received: 06/07/04 1:19 PM
EMSL Order: 200406803
EMSL Proj:

Lead in Wipes by Flame AAS (SW 846, 7420)

Client Sample Description		Lab ID	Analyzed	Area Sampled	Lead Concentration
COR 01	Results for these wipe samples do not meet the EPA standards for sample matrix and are not recognized under the NLLAP accreditation program	0001	6/21/04	n/a	<10.0 µg/wipe
COR 02		0002	6/21/04	n/a	<10.0 µg/wipe
COR 03		0003	6/21/04	n/a	17.0 µg/wipe
COR 04		0004	6/21/04	n/a	<10.0 µg/wipe
COR 05		0005	6/21/04	n/a	<10.0 µg/wipe
COR 06		0006	6/21/04	n/a	<10.0 µg/wipe
COR 07		0007	6/21/04	n/a	<10.0 µg/wipe
COR 08		0008	6/21/04	n/a	<10.0 µg/wipe
COR 09		0009	6/21/04	n/a	<10.0 µg/wipe
COR 10		0010	6/21/04	n/a	<10.0 µg/wipe

Non-Responsive

The QC data associated with the sample results included in this report meet the recovery and precision requirements established by the AIHA, unless specifically indicated otherwise in the comment section. The test results contained within the report meet the requirements of NELAC unless otherwise noted. This report relates only to those items tested. Unless otherwise noted, the results in this report have not been blank corrected.
ACCREDITATIONS: NJ-NELAP: 04653, AIHA Environmental Lead Laboratory Approval Program: 100184

Date Printed: 6/21/04 4:55:14 PM

BEST AVAILABLE COPY

EMSL Analytical, Inc.
107 Haddon Ave., Westmont, NJ 08108
Phone: (856) 858-4800 Fax: (856) 858-4860 Email: salagel@EMSL.com

Attn: Non-Responsive
Fax:
Project:

Customer ID: TS80
Customer PO:
Received: 06/07/04 12:50 PM
EMSL Order: 040410192
EMSL Proj:
Analysis Date: 6/16/04

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

				Non-Asbestos				Asbestos
Sample	Location	Appearance	Treatment	%	Fibrous	%	Non-Fibrous	% Type
CORA01 040410192-0001	Corsicana	Tan Fibrous Heterogeneous	Teased	80%	Cellulose	20%	Non-fibrous (other)	None Detected

Non-Responsive

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected may require additional testing by TEM to confirm asbestos quantities. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. The test results contained within this report meet the requirements of NELAC unless otherwise noted.
Analysis performed by EMSL Westmont (NVLAP #101048-0), NY ELAP 10872

THIS IS THE LAST PAGE OF THE REPORT

APPENDIX C

EMSL ANALYTICAL **CHAIN OF CUSTODY** **LEAD**

Date: ________ EMSL Representative: ________ Project Name/No.: ________ P.O.#: ________

Company Name: Tammer Sciences, Inc. EMSL-Bill to: Same as mail to

Street: 3744 Lawrence Drive Street: ________

Box #: ________ Box #: ________

City/State: Naperville IL Zip: 60564 City/State: ________ Zip: ________

Phone Results to: (Name) Non-Responsive [redacted]

Fax Results to: (Name)

MATRIX	METHOD	INSTRUMENT	RL (Reporting Limit)	TAT
Lead Chips*	SW846-7420, 3050B Mod. / AOAC (974.02)	Flame Atomic Absorption	0.01% ++	
Lead Wastewater	SW846-7420	Flame Atomic Absorption	0.4 mg/l water 40 mg/kg (ppm) soil	
Lead Soil +	or SW846-6010B	ICP	0.1 mg/l water 10 mg/kg (ppm) soil	
Lead in Air***	NIOSH 7082 Mod.	Flame Atomic Absorption	4 ug/filter	
	or NIOSH 7300 Mod.	ICP	3.0 ug/filter	
Lead in Wipe^ ☑ -ASTM List Wipe Type	SW846-7420 / HUD Appendix 14.2 Digest.	Flame Atomic Absorption	10 ug/wipe	Routine 6-10
☐ -non ASTM	or SW846-6010B	ICP	3.0 ug/wipe	
TCLP Lead **	SW846-1311/ 7420	Flame Atomic Absorption	0.4 mg/l (ppm)	
	or SW846-6010B	ICP	0.1 mg/l (ppm)	
STLC Lead (California) #	CA Title 22 / SW846-7420	Flame Atomic Absorption	0.4 mg/l (ppm)	
	or SW846-6010B	ICP	0.1 mg/l (ppm)	
Lead in Air ****	NIOSH 7105 Mod.	Graphite Furnace Atomic Absorption	0.03 ug/filter	
Lead Wastewater	SW846-7421	Graphite Furnace Atomic Absorption	0.003 mg/l (ppm) water	
Lead Soil +			0.3 mg/kg (ppm) soil	
Lead in Drinking Water (check state Certification Requirements)	EPA 239.2 / 200.9	Graphite Furnace Atomic Absorption	0.003 mg/l (ppm)	
Total Dust	NIOSH 0500-0600	Gravimetric Reduction	0.0001g	

TAT (Turnaround) - Same day, 24 hr - 1 Day, 2 Days, 3 Days, 4 Days, 5 Days, 6-10 Days

*, **, ***, ****, +, ++, # Please Refer to Price Quote

^ If no box is checked, non-ASTM is assumed

SAMPLE #	LOCATION	Air volume, L Area, in²	LAB #
COR 01	Corsicana		06803 1-
COR 02	Non-Responsive [redacted]		2

@ Relinquished By: (Person) [redacted] Date: 6/5/04

Received at EMSL By: ________ Date: ________

Received at EMSL By: ________ Date: ________

Note: Please duplicate this form and use additional sheets if necessary.

@ The individual signing and relinquishing these samples to the laboratory attests to the accuracy of the information reported on this chain of custody.

Lead Chain Nov 2001 w STLC.doc

C-1

EMSL ANALYTICAL **CHAIN OF CUSTODY** LEAD

SAMPLE #	LOCATION	Air volume, L Area, in²	LAB #
COR03	CORSICANA		066033
COR04			7
05			5
06			6
07			7
08			8
09			9
10			10

[redacted] Date: 6/5/04

Relinquished By: (Person) [redacted] Date: 6/7/04

Received at EMSL By: [redacted] Date: _____

Received at EMSL By: _____

Note: Please duplicate this form and use additional sheets if necessary.

The individual signing and relinquishing these samples to the laboratory attests to the accuracy of the information reported on this chain of custody.

EMSL Rep:

Your Company Name: Tammer Sciences Inc

Street: 3744 Lawrence Drive

Box #:

City/State: Naperville, IL Zip: 60564

EMSL-Bill to: Same as mail to

Third Party Billing requires written authorization from third party

Street:

Box #:

City/State: Zip:

Prefer e-mail to

Phone Results to:

Name:

Telephone #:

Project Name/Number:

[redacted]

MATRIX			TURNAROUND			
☐ Air	☐ Floor Tile	☐ Soil	☐ 3 hrs	☐ 6 Hours	☐ Same Day or 12 Hours*	☐ 24 Hours 1 day
☑ Bulk	☐ Drinking Water	☐ Dust	☐ 48 Hours 2 days	☐ 72 Hours 3 days	☐ 96 Hours 4 days	☐ 120 Hours 5 Days
☐ Wipe	☐ Wastewater	☐ Micro-Vac	☒ 144+ hours 6-10 Days			

TEM AIR 3 hours, 6 hours, Please call ahead to schedule. There is a premium charge for 3 hour tat, please call 1-800-220-3675 for price prior to sending samples. You will be asked to sign and authorization form for this service. 12 hours (must arrive by 11:00 a.m Mon - Fri.), Please Refer to Price Quote

PCM - Air
- ☐ NIOSH 7400
- ☐ OSHA
- ☐ Other:

TEM AIR
- ☐ AHERA
- ☐ NIOSH 7402
- ☐ EPA Level II

TEM WATER
- ☐ Wastewater
- ☐ Drinking Water EPA 100.1
- ☐ Water - NY Wastewater
- ☐ Water-NY Drinking Water

PLM - Bulk
- ☑ EPA 600/R-93/116
- ☐ EPA Point Count
- ☐ NY Stratified Point Count
- ☐ PLM NOB (Gravimetric) NY 198.1
- ☐ Other:

TEM BULK/misc
- ☐ Drop Mount (Qualitative)
- ☐ Chatfield
- ☐ TEM NOB (Gravimetric) NY 198.4

TEM MICROVAC / WIPE
- ☐ ASTM D 5755-95 quantitative method

XRD
- ☐ Asbestos
- ☐ Silica

SEM Air or Bulk
- ☐ Qualitative
- ☐ Quantitative

OTHER
- ☐

SAMPLES ACCEPTED FOR ANALYSIS BY EMSL ANALYTICAL INC.

RECEIVED WESTMONT, IL 2004 JUN -7 PM 12:50

SAMPLE NUMBER	LOCATION	VOLUME (If Applicable)
COR A 01	~~Flem~~ Corsicana	

Client Sample # (s) [redacted] Total Samples #:

Relinquished: [redacted] Date: 6/5/04 Time: AM

Received: [redacted] Date: Time:

APPENDIX D

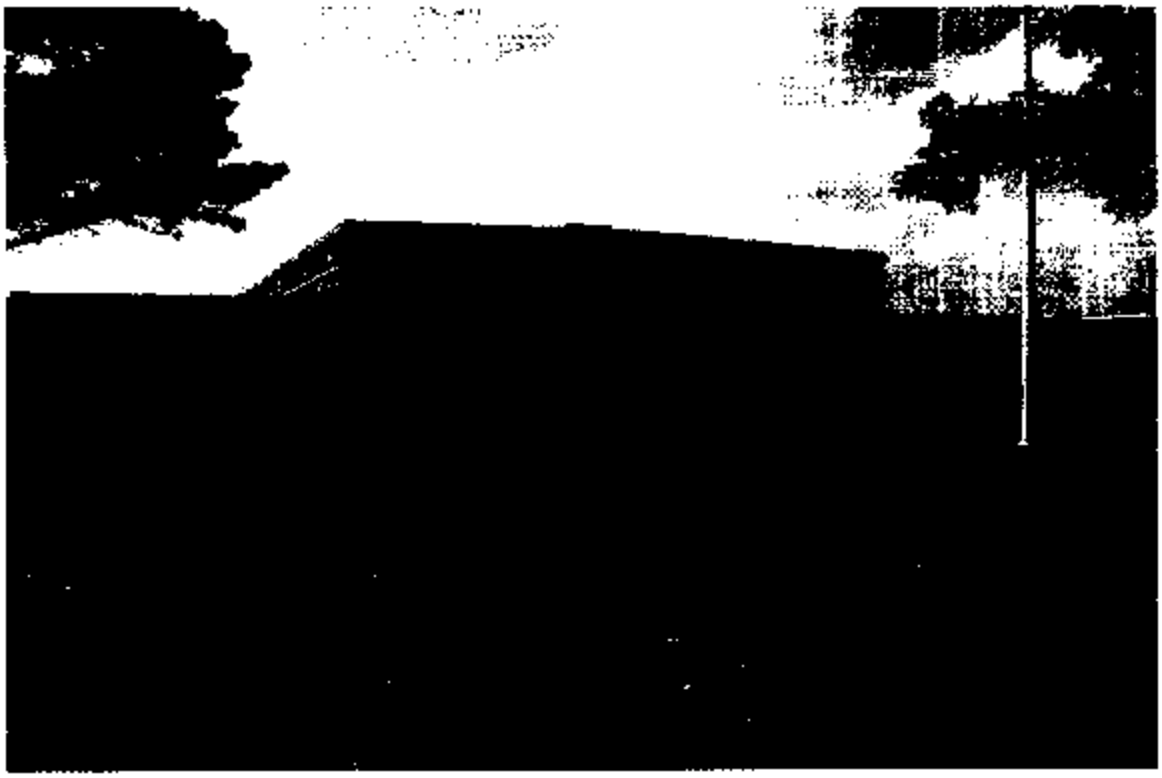


Photo #1: Armory front entrance.

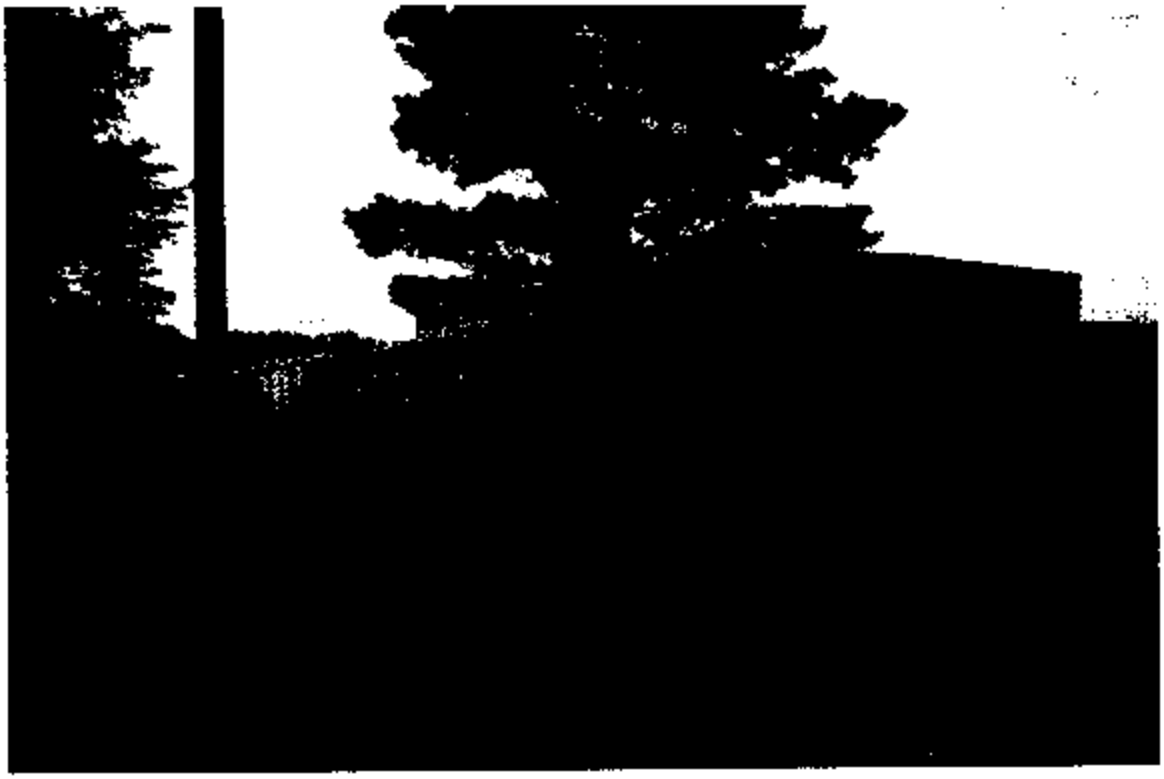


Photo #2: Armory's north east side.

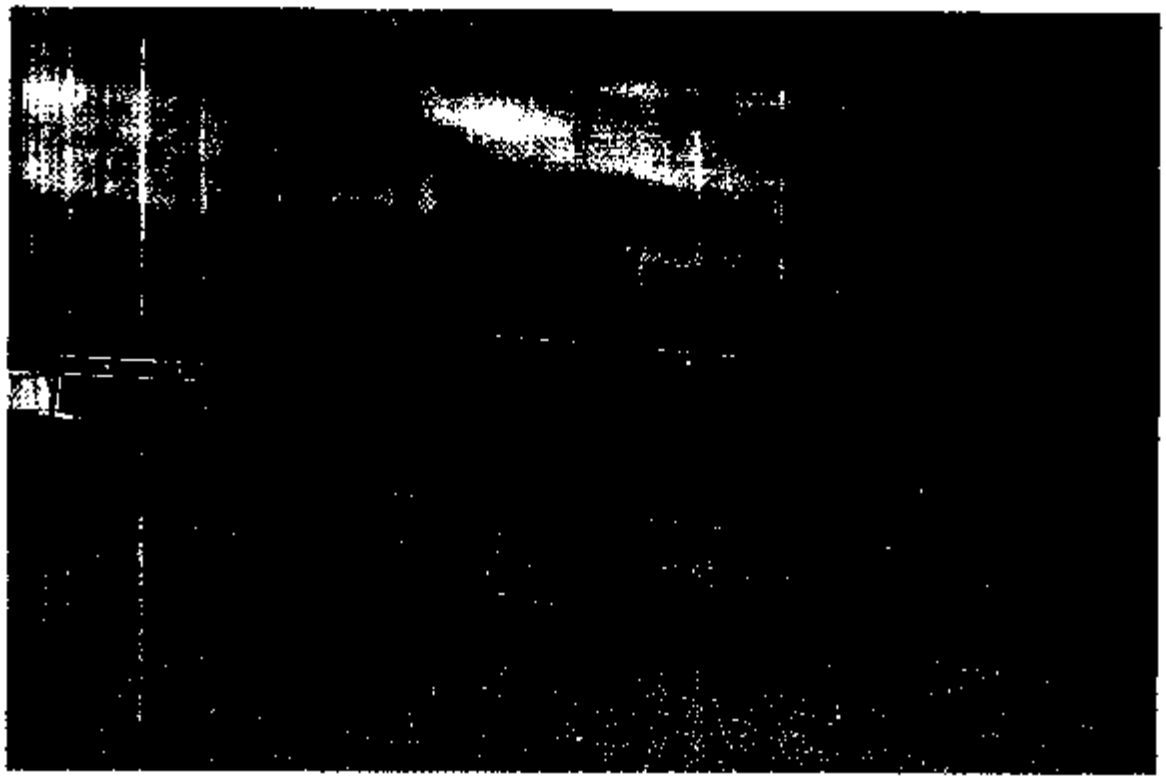


Photo #3: South east side of the armory.

Photo #4: South west side of the armory.

Photo #5: Northwest corner of armory.

Photo #6: Drill hall facing south.

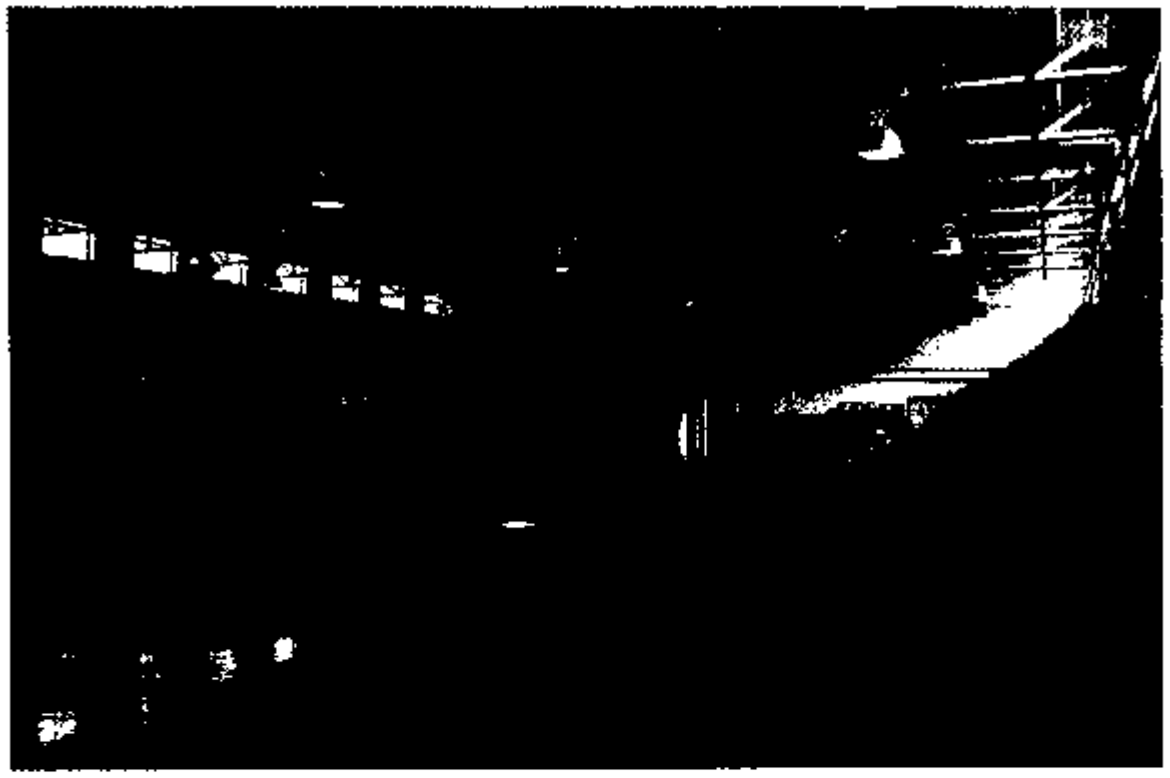


Photo #7: Drill hall facing north.

Photo #8: Armory's kitchen.

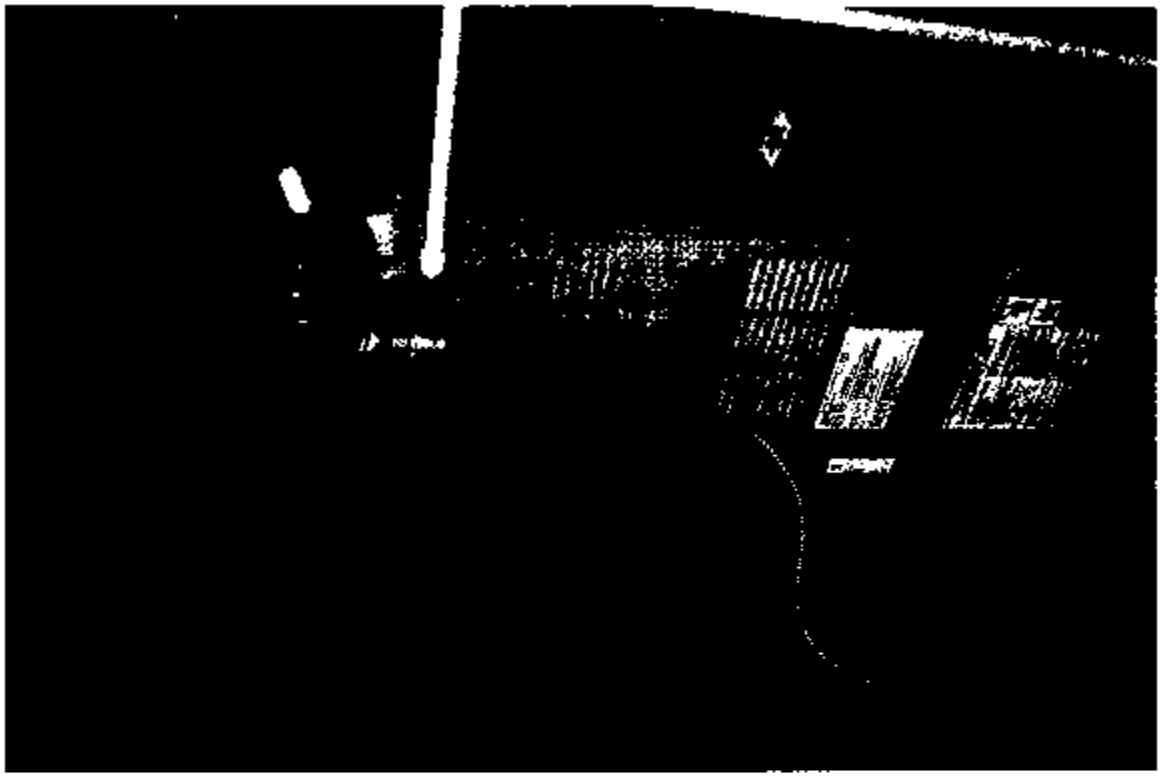


Photo #9: Furnace unit.

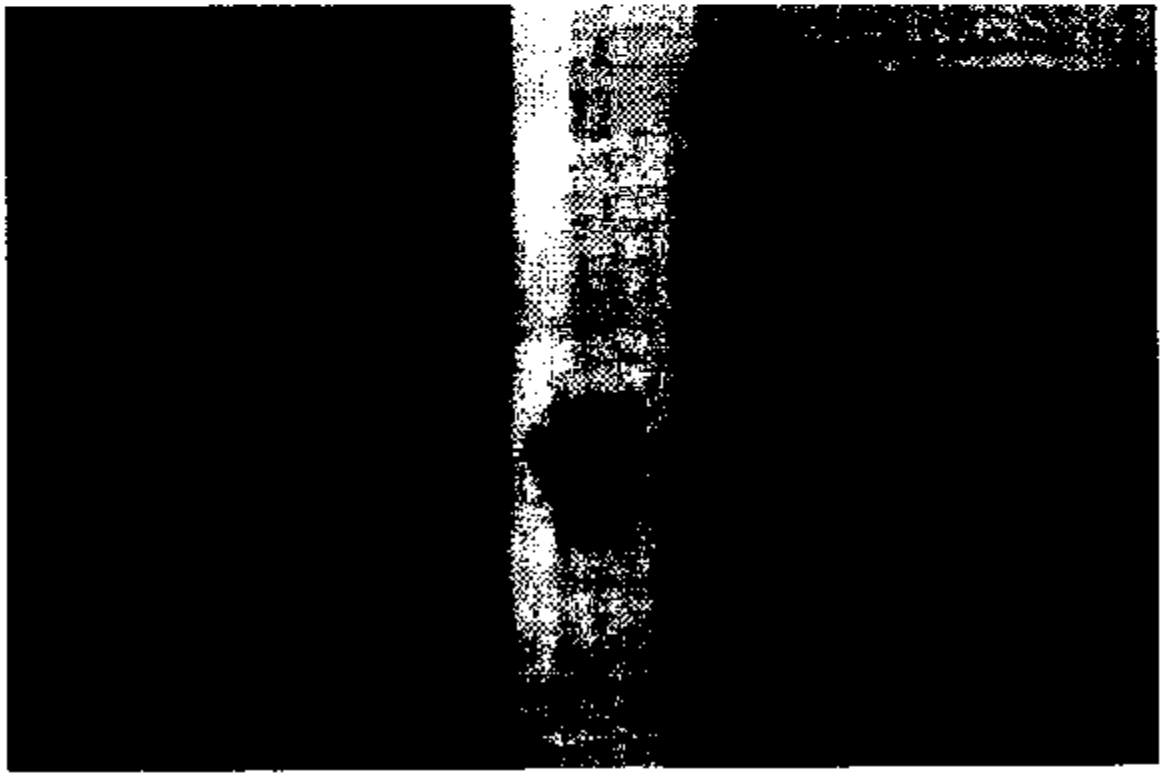


Photo #10: Pipe thermal insulation where bulk sample was collected.

DEPARTMENT OF THE ARMY AND THE AIR FORCE
NATIONAL GUARD BUREAU
REGIONAL INDUSTRIAL HYGIENE OFFICE
AIRPORT PLAZA SUITE 1530
510 PLAZA DRIVE
COLLEGE PARK, GA 30349

NGB-AVN-SI July 30, 2003

MEMORANDUM FOR: ADJUTANT GENERAL TX ARNG, ATTN.: State Occupational Health Office, P. O. BOX 5218, Austin, TX 78763-5218

SUBJECT: Transmittal of the Survey Reports for Dallas # 2 Armory, Dallas # 3 Armory, Dallas # 4, Dallas, TX.

1. References.

a. Department of Defense Instruction 6055.1, Department of Defense Occupational Safety and Health (OSH) Program, 26 October 1984.

b. Army Regulation (AR) 40-5, 30 August 1986, Medical Service, Preventive Medicine.

c. National Guard Regulation (NGR) 385-10, 1988, Army National Guard Safety and Occupational Health Program.

d. AR 11-34, The Army Respiratory Protection Program, 15 February 1990.

e. TB MED 502, Occupational and Environmental Health Respiratory Protection Program, February 1982.

f. DA PAM 40-503, 30 October 2000, The Army Industrial Hygiene Program.

g. DA PAM 40-501, 10 December 1998, Hearing Conservation.

h. Threshold Limit Values and Biological Exposure Indices (TLV's) for 2001, American Conference of Governmental Industrial Hygienists (ACGIH), Cincinnati, Ohio.

i. Industrial Ventilation, 23rd Edition, American Conference of Governmental Industrial Hygienist, Cincinnati, Ohio.

j. USAEHA TG-141, November 1997, Guidelines for Air Sampling and Bulk sample Collection.

NGB-AVN-SI
SUBJECT: Transmittal of the Survey Reports for Dallas # 2 Armory, Dallas # 3 Armory, Dallas # 4, Dallas, TX.

k. Title 29, Code of Federal Regulations (CFR), 2000 rev., part 1910, Occupational Safety and Health Standards.

l. Report dated 2 July 2003, Industrial Hygiene Survey, Tamar Sciences, Inc., Naperville, IL.

2. General.

a. At the request of the TXARNG Safety and Occupational Health Office, an Industrial Hygiene Service was put together to conduct Health Hazard Information module (HHIM) Field surveys and industrial hygiene sampling of the Dallas # 2 Armory, Dallas # 3 Armory, Dallas # 4, Dallas, TX.

b. The surveys were conducted by Non-Responsive of Tammer Sciences, Inc., Napervile, IL

3. Findings. All Health Hazard information are on the survey findings of the report. (See enclosure 1)

4. Recommendations.

a. Follow all recommendations made in reference 1.l., requesting industrial hygiene (IH) services where needed to complete the recommendations.

b. Conduct an air sampling survey in the areas in and around those identified with elevated lead dust levels in page 3 0f reference 1.l, to ensure that the lead dust present is not airborne and that employees in these areas are not exposed above the action level where applicable.

c. Control water infiltration in the armory and/or replace or repair damaged surfaces or components (ceiling and floor tiles). Building conditions that present IAQ concerns or problems not only exacerbates normally minor health issues but also tend to promote or accelerate building deterioration.

d. The recommendations given in the comment section and data collected will serve as a baseline for the Industrial Hygiene Implementation Plan (IHIP) for FY-03. A follow up operation and hazard specific air sampling survey based on the enclosed findings will be included in the FY-04 IHIP.

NGB-AVN-SI
SUBJECT: Transmittal of the Survey Reports for Dallas # 2 Armory, Dallas # 3 Armory, Dallas # 4, Dallas, TX.

e. Consider additional Industrial Hygiene services to monitor operations that were not looked at or surveyed during the present survey, especially if this will help eliminate health hazards and reduce medical surveillance cost.

f. To execute your responsibilities in correcting all deficiencies and meeting all standards coordinate with the Occupational Health Nurse and the Occupational Safety and Health Office for technical guidance.

f. Give special consideration to cleaning light fixtures, increasing the wattage and painting walls a lighter color when upgrading the lighting in the facility.

5. If additional information is needed about the industrial hygiene survey or air sample

Non-Responsive

Non-Responsive

CF:
NBG-AVN-SH
State Occupational Health Office, P. O. BOX 5218, Austin, TX 78763-5218.
State Safety Manager, P. O. BOX 5218, Austin, TX 78763-5218.

Encl
as

Industrial Hygiene Baseline Survey Report
For
Texas Army National Guard
(TXARNG)

At
Dallas #2
1400 Guard Drive
Dallas, Texas

Prepared for:

Department of the Army and the Air Force
National Guard Bureau
Regional Industrial Hygiene Office
Region South
Airport Plaza Suite 1530
510 Plaza Drive
College Park, GA 30349

P
Non-Responsive

July 2, 2003

Table of Contents

Executive Summary ..... Page 1

Subject ..... Page 2

Background ..... Page 2
- Introduction
- Site Description
- Scope of Work
- Methodology

Findings & Discussion

- Lead Wipe Samples ..... Page 3
- Asbestos Suspect Building Material ..... Page 3
- Noise Survey ..... Page 4
- Illumination Survey ..... Page 5
- Heating Ventilating and Air Conditioning (HVAC) ..... Page 5
- Recommendations ..... Page 6

Appendices

A. References.
B. Laboratory Analytical Results.
C. Lab Chain of Custody.
D. Floor Layout and Photographs.
E. Indoor Firing Range Cleaning Guidance.

Executive Summary

An initial baseline industrial hygiene survey was conducted at the Dallas #2 Armory on 7 May 2003 as part of the Texas Army National Guard Occupational Health Program to identify potential health hazards in the workplace. The survey consisted of collecting lead wipe samples and bulk asbestos samples, conducting an illumination survey, a noise survey, and an evaluation of the Heating Ventilation and Air Conditioning System (HVAC) as it relates to indoor air quality.

The following table summarizes the survey findings and recommendations for each topic surveyed.

Topic	Summary of Findings	Recommendations
Lead Wipe Samples	<10 to 48 microgram per square foot.	No action.
Asbestos Bulk Samples	Pipe thermal insulation contained 5% to 8 % chrysotile.	Update the facility asbestos management plan to include the pipe thermal insulation.
Noise Survey	Noise levels ranged from 40 to 62 dBA.	No action.
Illumination Survey	5 to 120 footcandles	Consider increasing the lighting levels in the supply room.
HVAC/IAQ	No issues observed or documented.	No action.

SUBJECT: Industrial Hygiene Initial Baseline Survey of the Dallas #2 Armory in Dallas, Texas on 7 May 2003

BACKGROUND:

Introduction. At the request of Non-Responsive of the National Guard Bureau Region South Industrial Hygiene Office, an initial baseline industrial hygiene survey was performed at the Dallas #2 Armory in Dallas, Texas. Non-Responsive Industrial Hygiene Technician for the Texas Army National Guard and Non-Responsive contract Industrial Hygienist, Tammer Sciences, Inc. conducted the survey on 7 May 2003. The purpose of the survey was to perform an initial baseline industrial hygiene survey to evaluate potential health hazards present at the armory.

Site Description. The armory building is a one-story structure that was constructed in 1960. The facility houses an administrative office areas, a kitchen, a mess hall, training or class rooms, a drill hall, and a supply room. No indoor firing range was included in the facility. Two full time employees work at this armory and approximately 60 part time individual attend drill weekends. A copy of the floor layout and photos are included in Appendix D.

Scope of Work. The work included collecting wipe samples for lead, bulk samples for suspect asbestos containing building material, illumination levels, noise readings, and an evaluation of the ventilation system as it pertains to indoor air quality.

Methodology Lead wipe samples were collected from surfaces that showed signs of lead contamination in Armories that have a renovated, inactive, or closed indoor firing range (IFR). The samples were collected accordance to instructions published by Region South National Guard Bureau, which required the use of unscented baby wipes to wipe one square foot of surface. Samples were then placed in a sealed plastic bag and sent for analysis to EMSL laboratory, which is an American Industrial Hygiene Association (AIHA) Accredited laboratory. Asbestos bulk samples were collected from suspect building materials that were grouped based on similarity of composition. Bulk sample collection was minimally destructive and samples were collected from inconspicuous areas. Bulk samples were also collected from suspect friable and damaged building material. Each bulk sample was placed in a sealed bag and sent to EMSL laboratory for analysis. A photograph of the sampled material and area were also taken. Noise readings were measured using a SPER Scientific Sound Level Meter Model; 840019 Serial Number 0174519, with a calibration date of July 2, 2002. All noise measurements were area readings. Illumination readings were collected using a Western Schlumberger light meter Serial 8384. Illumination readings were taken on work surfaces and approximately four feet from the floor.

FINDINGS and DISCUSSION:

The Point of Contact during the survey was Non-Responsive

Lead Wipe Samples: Seven wipe samples were collected from various areas of the armory as listed in the table below.

Sample Number	Sample Location	Micrograms of lead (ug) per square foot
DAL2001	Floor in drill hall northeast section.	<10
DAL2002	Floor in drill hall center of hall.	<10
DAL2003	Top of refrigerator in kitchen.	<10
DAL2004	Top of cabinet in Platoon Office	15
DAL2005	Floor in drill hall southwest section.	<10
DAL2006	Top of soda machine in drill hall.	48
DAL2007	Top of bookshelf in Sgt. Bleedlove Office.	15
DAL2008	Field blank.	<10

The US Environmental Protection Agency (EPA), under a new standard issued in 2000, considers lead dust as a hazard if levels are greater than 40 micrograms of lead in dust per square foot on floors; 250 micrograms of lead in dust per square foot on interior window sills and 400 parts per million (ppm) of lead in bare soil in children's play areas or 1200 ppm average for bare soil in the rest of the yard. This standard is a major effort by the EPA to identify dangerous levels of lead in paint, dust and soil in order to protect children from lead poisoning. The National Guard Bureau recommends a limit of 200 micrograms per square foot for surface contamination. The laboratory report and chain of custody forms are attached in Appendices B and C.

Asbestos Suspect Building Material: Pipe thermal insulation is the only type of building material that was identified as potentially containing asbestos. Three bulk samples were collected randomly from fittings and straight runs. The table below lists the samples collected and the results:

Sample #	Description	% Asbestos Type
DAL201A	Pipe fitting thermal insulation by water heater.	5% Chrysotile.
DAL202A	Pipe fitting thermal insulation in kitchen.	8% Chrysotile.
DAL203A	Pipe thermal insulation straight run in kitchen.	< 1% Chrysotile.

The laboratory report and chain of custody forms are attached in Appendices B and C.

Noise Survey Area noise readings were collected in the various surveyed areas within the armory and reported as a range. The Table below lists the noise reading ranges as recorded on the day of the survey:

Area	Reading in Decibels on the A-Scale (dBA)
Supply Room.	40 – 50
Platoon Room/Classroom.	45 – 48
Drill Hall.	45 – 50
Classroom.	45 – 50
Kitchen.	40 – 45
Platoon Leader's Office.	40 – 45
Recruiter's Office.	40 – 45
Supply Sergeant's Office	40 – 45
SSG Bleedlove's Office Window AC on	60 – 62

All readings are well below the Occupational Safety and Health Administration (OSHA) regulated limit of 90 dBA and the Army recommended limit of 85 dBA.

Illumination Survey Lighting levels throughout the Armory ranged between 5 foot-candles to 120 foot-candles. Specific readings were as follows:

Area	Reading in Foot-candles
Supply Room.	5 – 25
Platoon Room/Classroom.	20 – 40
Drill Hall.	15 – 25
Classroom.	30 – 40
Kitchen.	30 – 40
Platoon Leader's Office.	45 – 50
Recruiter's Office.	40 – 50
Supply Sergeant's Office	45 – 50
Non-Responsive	80 – 120

Except for the supply room, all readings are within the Army Design Guide (DG415-2) minimum illumination level of 50 foot-candle for office area and 20 foot-candles for parts storage/supply. The American National Standard Institute (ANSI) recommends a minimum illumination level of 50 to 100 foot-candles for office work, 20 to 50 for

general lighting. Luminance depends on various factors including the task to be performed, the age of the individual, and the surroundings. Luminance of 50 to 100 foot-candles is recommended for performance of visual tasks of medium contrast or small size such as reading pencil handwriting and poorly printed or reproduced material. Depending on the type of display, background luminance of 30 to 60 foot-candles is recommended for VDT work. Replacing light bulbs with higher wattage will increase lighting levels. Replacing burnt out light bulbs and cleaning the light fixture should improve the lighting levels.

Heating Ventilating and Air Conditioning (HVAC) The Heating Ventilating and Air-Conditioning (HVAC) System for the Armory consisted individual gas heated units and window air conditioners. No outside makeup air capability is available. However, all windows can be opened. No other complaints of indoor air quality issues were documented or communicated with the POC.

Recommendation:

Update the facility asbestos plan to include the pipe thermal insulation as containing asbestos.

Technical Assistance: For technical assistance regarding information found in this report

Non-Responsive

APPENDIX A

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

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

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

Army Regulation (AR) 11-34, The Army Respiratory Protection Program, 1990

Army Regulation (AR) 40-5, Preventative Medicine, 15 October 1990.

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

National Fire Protection Association (NFPA) No. 30, Standard for Flammable and Combustibles Liquid Code, 1996.

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

NGR 385-10, Army National Guard Safety and Occupational Health Program, 29 December 1989.

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

Title 29, Code Of Federal Regulations (CFR), 1999, revision, Part 1910, Occupational Safety and Health Standards.

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

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

APPENDIX B

EMSL Analytical
3 Cooper St., Westmont, NJ 08108
Phone: (856) 858-4800 Fax: (856) 858-[illegible] Email: gmilford@emsl.com

Attn: [redacted]

Fax:

Project: Dallas #2

Customer ID: TS80
Customer PO:
Received: 05/12/03 11:50 AM

EMSL Order: 200304963
EMSL Project ID:

Lead in Wipes by Flame AAS (SW 846, 7420)

Client Sample Description	*Lab ID*	*Analyzed*	*Area Sampled*	*Lead Concentration*
DAL 2001	0001	5/23/03	144 in²	<10.0 µg/ft²
DAL 2002	0002	5/23/03	144 in²	<10.0 µg/ft²
DAL 2003	0003	5/23/03	144 in²	<10.0 µg/ft²
DAL 2004	0004	5/23/03	144 in²	15.0 µg/ft²
DAL 2005	0005	5/23/03	144 in²	<10.0 µg/ft²
DAL 2006	0006	5/23/03	144 in²	18.0 µg/ft²
DAL 2007	0007	5/23/03	144 in²	15.0 µg/ft²
DAL 2008	0008	5/23/03	144 in²	<10.0 µg/ft²

[redacted]

The QC data associated with the sample results included in this report meet the recovery and precision requirements [redacted]
the comments section.
ACCREDITATIONS: AIHA Environmental Lead Laboratory Approval Program # 100194

Date Printed: 5/27/03 10:58:59 AM

Page 1 of 1

EMSL Analytical, Inc.
107 Haddon Ave., Westmont, NJ 08108
Phone: (856) 858-4800 Fax: (856) 858-4960 Email: [illegible]@EMSL.com

Attn. [redacted]
Fax:
Project:

Customer ID: TS80
Customer PO:
Received: 05/12/03 2:35 PM

EMSL Order: 040307501
EMSL Project ID:
Analysis Date: 5/21/2003

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Treatment	Non-Asbestos %	Fibrous	%	Non-Fibrous	Asbestos %	Type
DAL201A [illegible]	DALLAS #2	Tan Fibrous Homogeneous	Teased	15%	Min. Wool	80%	Non-fibrous (other)	5%	Chrysotile
DAL202A [illegible]	DALLAS #2	Tan Fibrous Homogeneous	Teased	15%	Min. Wool	77%	Non-fibrous (other)	8%	Chrysotile
DAL203A [illegible]	DALLAS #2	Brown/Tan Fibrous Heterogeneous	Teased POSSIBLE CONTAMINATION	100%	Min. Wool			<1%	Chrysotile

[redacted]

[redacted]

[illegible] This report may not be reproduced, except in full, without written approval by EMSL. [illegible] NVLAP [illegible] United States Government.
Analysis performed by EMSL Westmont (NVLAP #101048-0), NY [illegible]

PLM-

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THIS IS THE LAST PAGE OF THE REPORT.

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APPENDIX C

EMSL ANALYTICAL — CHAIN OF CUSTODY — 20036463 — LEAD

Revised 7/1/99

EMSL Rep:

DATE: 5/8/03

Third party billing requires written authorization from third party

Your Company Name:	Tanner Sciences, Inc.	EMSL-Bill to:	Same as previous
Street:	3744 Lawrence Dr	Street:	
Box #:		Box #:	
City/State:	Naperville, IL Zip: 60564	City/State:	Zip:

Phone Results to:
Name:
Telephone #:
Project Name/Number:

[redacted] Non-Responsive

MATRIX	METHOD	INSTRUMENT	mdls	TAT
Lead Chips*	SW846-7420 or AOAC 7.009 (974.02)	Flame Atomic Absorption	0.01% ++	144hrs
Lead Wastewater	SW846-7420	Flame Atomic Absorption	0.4 mg/l water 50 mg/kg (ppm) soil	
Lead Soil +	or SW846-6010	ICP	0.1 mg/l water 10 mg/kg (ppm) soil	
Lead in Air**	NIOSH 7082	Flame Atomic Absorption	5 ug/filter	
	or NIOSH 7300	ICP	3.0 ug/filter	
Lead in Wipe	SW846-7420	Flame Atomic Absorption	10 ug/Wipe Same 72 hr.	144 hrs
	or SW846-6010	ICP	3.0 ug/wipe	
TCLP Lead **	SW846-1311/7420	Flame Atomic Absorption	0.4 mg/l (ppm)	
	or SW846-6010	ICP	0.1 mg/l (ppm)	
Lead in Air***	NIOSH 7105	Graphite Furnace Atomic Absorption	0.03 ug/filter	
Lead Wastewater	SW846-7421	Graphite Furnace Atomic Absorption	0.003 mg/l (ppm) water	
Lead Soil +			0.3 mg/kg (ppm) soil	
Lead in Drinking Water (check state Certification Requirements)	EPA 239.2	Graphite Furnace Atomic Absorption	0.003 mg/l (ppm)	
Total Dust	NIOSH 0500-0600	Gravimetric Reduction	0.0001g	

TAT (Turnaround) - 3 hours, 6 hours, Please call ahead to schedule.
12 hours (must arrive by 11:00 a.m),
24 hours (1 day), 48 hours (2 days), 72 hours, 96 hours (3 days), 120 hours(4 days), 144 + hours (5-10 days)
* ** *** + ++ Please Refer to Price Quote

SAMPLE #	LOCATION	Air volume, L Area, In²	LAB #
DAL-5001	DALLAS 5	144 in²	
DAL-5002			
DAL-5003			
DAL-5004			
Relinquished By: (Person	[redacted] Non-Responsive		
Date: 5/8/03			

Page 1 of 4

EMSL ANALYTICAL | CHAIN OF CUSTODY | [illegible] | LEAD

Revised 7/1/09

SAMPLE #	LOCATION	Air volume, L Area, in^2	LAB #
DAL 5005	DALLAS#5	144 in2	
DAL 5006			
DAL 5007			
DAL 5008			
DAL 5009			
DAL 5010			
DAL 5011			
DAL 5012			
* SEPERATE REPORT *			
IRV001	IRVING/DALLAS	144 in2	
IRV002			
IRV003			
IRV004			
IRV 005			
IRV 006			
IRV 007			
IRV 008			
IRV 009			
IRV 010			
IRV 011			
IRV 012			
* SEPERATE REPORT *			
DAL 2001	DALLAS # 2	144 in2	644631
DAL 2002			2
DAL 2003			3
DAL 2004			4
DAL 2005			5
DAL 2006			6
DAL 2007			7
DAL 2008			8
* SEPERATE REPORT *			
DAL 4001	DALLAS # 4	144 in2	
DAL 4002			
DAL 4003			

Relinquished By: (Person) Non-Responsive [redacted]

Date 5/8/0[redacted] P Ha

Note: Please duplicate this form and use additional sheets if necessary.

Page 2 of 4

01030759

EMSL, Analytical, Inc.
Revised 07/07/99

CHAIN OF CUSTODY

Asbestos

EMSL Rep:

Third Party Billing requires written authorization from third party

Your Company Name:	Tommer Sciences, Inc.	EMSL-Bill to:	
Street:	3744 Lawrence Dr.	Street:	Same as Shipping
Box #:		Box #:	
City/State:	Naperville, IL Zip: 60564	City/State:	Zip:

Phone Results to:
Name:
Telephone #:
Project
Name/Number:

[redacted] Non-Responsive

MATRIX			TURNAROUND			
☐ Air	☐ Floor Tile	☐ Soil	☐ 3 hrs	☐ 6 Hours	☐ Same Day or 12 Hours*	☐ 24 Hours 1 day
☑ Bulk	☐ Drinking Water	☐ Dust	☐ 48 Hours 2 days	☐ 72 Hours 3 days	☐ 96 Hours 4 days	☐ 120 Hours 5 Days
☐ Wipe	☐ Wastewater	☐ Micro-Vac	☑ 144+ hours 6-10 Days			

TEM AIR, 3 hours, 6 hours. Please call ahead to schedule. There is a premium charge for 3 hour tat, please call 1-800-220-3675 for prices prior to sending samples. You will be asked to sign and authorization form for this service. 12 hours (must arrive by 11:00 a.m Mon - Fri.), Please Refer to Price Quote

PCM - Air
- ☐ NIOSH 7400
- ☐ OSHA
- ☐ Other:

TEM AIR
- ☐ AHERA
- ☐ NIOSH 7402
- ☐ EPA Level II

TEM WATER
- ☐ Wastewater
- ☐ Drinking Water EPA 100.1
- ☐ Water - NY Wastewater
- ☐ Water-NY Drinking Water

PLM - Bulk
- ☑ EPA 600/R-93/116
- ☐ EPA Point Count
- ☐ NY Stratified Point Count
- ☐ PLM NOB (Gravimetric) NY 198.1
- ☐ Other:

TEM BULK/misc
- ☐ Drop Mount (Qualitative)
- ☐ Chatfield
- ☐ TEM NOB (Gravimetric) NY 198.4

TEM MICROVAC / WIPE
- ☐ ASTM D 5755-95 quantitative method

XRD
- ☐ Asbestos
- ☐ Silica

SEM Air or Bulk
- ☐ Qualitative
- ☐ Quantitative

OTHER
- ☐

SAMPLE NUMBER	LOCATION	VOLUME (If Applicable)
DAL501A	DALLAS # 5	N/A
DAL502A		

Client Sample # (s)

Total Samples #:

Relinquished: [redacted] Non-Responsive Date: 5/8/03 Time: PM

Received: Date: Time:

Fedex

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J4030750/

EMSL Analytical, Inc.
Revised 07/01/99

CHAIN OF CUSTODY

SAMPLE NUMBER	LOCATION	VOLUME (If Applicable)
DAL 503A	DALLAS # 5	NA
DAL 504A		
DAL 505A		
→ SEPERATE REPORT ←		
IRV01A	IRVING/DALLAS	N/A
IRV02A		
IRV03A		
IRV04A		
→ SEPERATE REPORT ←		
DAL201A	DALLAS # 2	N/A
DAL202A		
DAL203A		
→ SEPERATE REPORT ←		
DAL401A	DALLAS # 4	N/A
DAL402A		
DAL403A		
DAL404A		
DAL405A		
DAL406A		
DAL407A		
DAL408A		
→ SEPERATE REPORT ←		
DAL301A	DALLAS # 3	N/A
DAL302A		
DAL303A		
←	SEPERATE REPORT →	

Page 2 of 3

040330591

EMSL Analytical, Inc.
Revised 07/07/99

CHAIN OF CUSTODY

Asbestos

SAMPLE NUMBER	LOCATION	VOLUME (If Applicable)
FW01A	FORT WORTH # 2	N/A
FW02A	↓	↓
FW03A	↓	↓
FW04A	↓	↓
→ SEPERATE	REPORTS	←

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APPENDIX D

Photo 1: Dallas #2 Armory Front Entrance.

Photo 2: Dallas #2 Armory North Side.

Photo 3: Armory South Side.

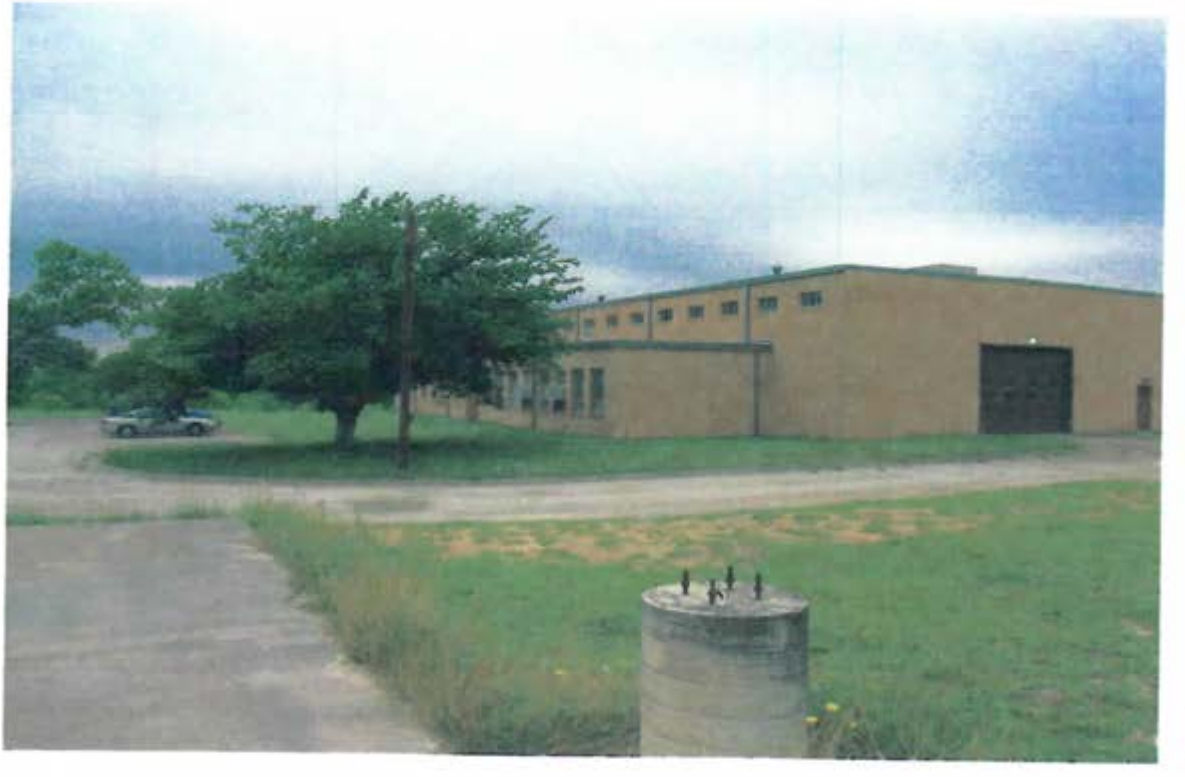


Photo 4: Armory West Side.

Photo 5: Armory's east and rear side.

Photo 6: Armory Drill Hall.

Photo 7: Armory drill or assembly hall facing east.

Photo 8: Thermal insulation on pipes found in the drill hall.

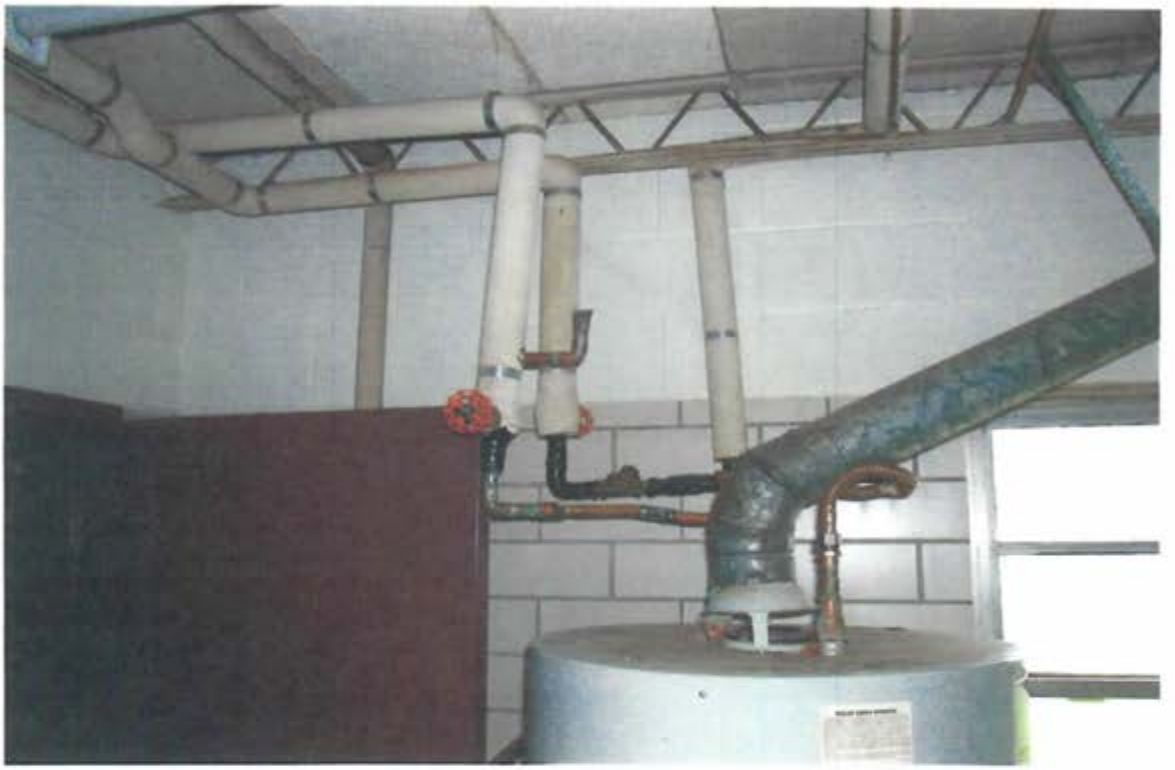


Photo 9: Hot water heater and the insulated hot water pipes.

Photo 10: Fridge in the kitchen.

Photo 11: Insulated hot water pipes in the men's bathroom.

Photo 12: Sampled thermal pipe insulation found on the hot water system.

Photo 13: Sampled thermal pipe insulation found in the drill hall.

Photo 14: Thermal pipe insulation found in the drill hall.

DALLAS ARMORY NUMBER [illegible]
[illegible] Texas
Dallas, Texas [illegible]

FIRE [illegible], DALLAS ARMORY #1

1. GENERAL: This plan is published for the information and compliance of all personnel stationed at Dallas Armory #1. This includes the [illegible] of the Texas State Guard, and any other persons or organizations using this facility. This regulation includes the Armory Building, Vehicle Storage Compound and any other storage area located on this premises.

2. FIRE PREVENTION:

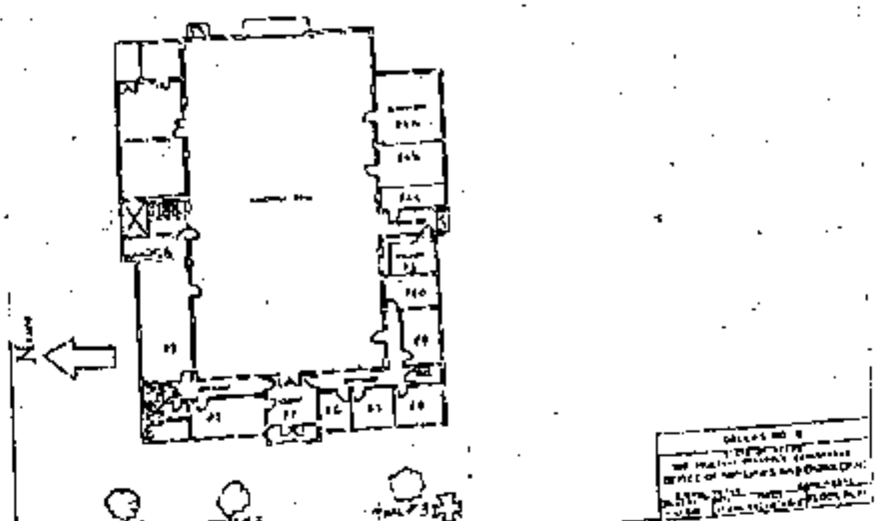
a. Fire marshall will be appointed by the Armory Commander.
b. All halls and passageways will be kept free from obstructions at all times.
c. Waste and trash containers will be emptied daily.
d. Gasoline, paint, compressed products and similar inflammable materials will be stored in [illegible] [illegible] will [illegible], or other inflammable materials be stored within the Armory Building.
e. Cigars, cigarettes and pipes will NOT be [illegible] in waste containers.
f. NO SMOKING signs will be strictly enforced. Smoking is specifically prohibited in the [illegible], Supply Room, Computer Room, [illegible], [illegible] Cage Room, and Offices.
g. A CO2 fire extinguisher will be available when refuelling vehicles or equipment.
h. Trash and rubbish will not be burned anywhere on Armory Grounds.
i. [illegible], leaves, or undergrowth will not be burned anywhere on Armory Grounds.
j. Privately Owned Vehicles will not be stored in the Armory Building or [illegible] Pool.
k. [illegible], or mechanical repairs to Privately Owned Vehicles on this premises is unauthorized.

3. FIRE PREVENTION: The Fire Marshall will perform the following periodic checks:

a. Fire extinguishers will be inspected monthly, beginning with the last time it was checked [illegible] [illegible] of discharged, whichever applies.
b. Check wiring, circuit breakers, and appliances quarterly. Extension cords will have grounded plugs.
c. Make sure, closets and [illegible] are free of trash, and fire hazards.
d. See that fire [illegible], and emergency numbers are posted near each telephone.
e. See that inflammable materials are not in store rooms.
f. See that copies of this Fire Plan is posted in all rooms of Armory.

4. FIRE FIGHTING: The person discovering the fire will:

a. Give the alarm, and call the fire department, from nearest phone. (911). Address is at top of page.
b. Each person not required to use extinguishers will evacuate the building in accordance with the plan diagram below, and assemble at tree #3 on the West Side of this Armory Building.
c. Each person will be responsible to use the correct extinguisher. Use CO2 extinguishers for oil/gas and electrical fires. Do not use a water extinguisher on electrical or gas fires.
d. In the event of evacuation, the senior person present will account for all personnel.
e. When fighting a fire, work on the base of the fire first. The single largest hazard is not the fire but in smoke inhalation. Use caution, and evacuate all personnel not directly fighting the fire.



IN CASE OF FIRE OR EMERGENCY CALL 911
IF EVACUATION MEET AT TREE #3

APPENDIX E

Indoor Firing Range Cleaning Guidance

1. Introduction - This document describes procedures to be employed in cleaning a range for non-lead use. All lead hazard control activities can produce dangerous quantities of leaded dust. Unless this dust is properly removed, a facility will be more hazardous after the work is completed than it was originally. Once deposited, leaded dust is difficult to remove effectively. Whenever possible, ongoing and daily cleaning of leaded dust during lead hazard control projects is recommended. Ongoing and daily cleaning is also necessary to minimize worker exposures. Cleaning is the process of removing visible debris and dust particles too small to be seen by the naked eye. Removal of lead hazards in a space will not make the space safe unless excessive levels of leaded dust are also removed. This is true regardless of whether the dust was present before or generated by the lead hazard control process itself. Improper cleaning can increase the cost of a project considerably because additional cleaning and clearance sampling will be necessary. A visibly clean surface may contain high and unacceptable levels of dust particles and require special cleaning procedures. However, cleaning and clearance can be achieved routinely if care and diligence are exercised.

2. Difficulties in Cleaning - While cleaning is an integral and essential component of any lead hazard control activity, it is also the most likely part of the activity to fail. Several common reasons for this failure include worker inexperience, high dust-producing methods, and deadlines.

3. Performance Standard - Although the cleaning methods described in this document are feasible and have been shown to be effective in meeting clearance standards, other methods may also be used if they are safe and effective. This performance-oriented approach should stimulate innovation, reduce cost, and ensure safe conditions for both occupants and workers.

4. Clearance Standard - 200 µg/ft 2 on interior floors and horizontal surfaces (NAVFAC Message 160647Z APR 98), 800 µg/ft 2 for exterior concrete (a HUD interim recommendation and serves as a useful guideline). These levels are based on wipe sampling. Clearance testing determines whether the premises or area are clean enough to be reoccupied as a non-lead work area after the completion of a lead hazard control project. A cleaned area may not be reoccupied until compliance with clearance standards has been established. To prevent delays, final testing and final cleaning activities should be coordinated.

5. Worker Inexperience - To understand the level of cleanliness required to meet the established clearance standards for hazard control cleanup, new hazard control personnel often require a significant reorientation to cleaning. Many construction workers are used to cleaning up only dust that they can see, not the invisible dust particles that are also important to remove.

6. Equipment Needed for Cleaning - The following equipment is needed to conduct cleaning: high-efficiency particulate air (HEPA) vacuums and attachments (crevice

tools), detergent, waterproof gloves, rags, sponges, mops, buckets, 6-mil plastic bags, debris containers, waste water containers, shovels, rakes, water-misting sprayers, and 6-mil polyethylene plastic sheeting (or equivalent).

7. Waste Disposal - Regulations governing hazardous and non-hazardous waste storage, transportation, and disposal affect both the daily and final cleaning procedures. The hazard control contractor and the disposal contractor should work together to establish formal written procedures, specifying selected containers, storage areas, and debris pickups, to ensure that all relevant regulations are met.

8. Containment - Because of the difficulty involved in the removal of fine dust, dust generated by hazard control work should be contained to the extent possible to the inside of work areas. Inadequately constructed or maintained containments or poor work practices will result in additional cleaning efforts, due to dust that has leaked out or been tracked out of the work area.

9. Pre-cleaning Procedures – Pre cleaning (i.e., cleaning conducted before lead hazard control is begun) is necessary only in facilities that are heavily contaminated with debris/paint chips, etc. Pre cleaning involves removing large debris and paint chips, followed by HEPA vacuuming. These steps may be followed by removal of occupant furniture or carpeting (rugs or carpets or any porous item in the firing range is not recommended due to the difficulty in cleaning these items effectively), depending on the worksite preparation. Carpeting (if present) should always be misted before its removal to control the generation of hazardous dust. However, if necessary, owners or project management should be prepared to remove furniture before lead hazard control work begins.

10. Basic Cleaning Methods: Wet Wash and Vacuum Cleaning Techniques – Because leaded dust adheres tenaciously, especially to rough or porous materials like weathered or worn wood surfaces and masonry surfaces (particularly concrete), workers should be trained in cleaning methods. As a motivator, some contractors have awarded bonuses to workers who pass clearance the first time. The typical cleaning method uses a special vacuum cleaner equipped with a HEPA filter, followed by wet washing with special cleaning agents and rinsing, followed by a final pass with the HEPA vacuum. Although HEPA filtered vacuums and trisodium phosphate (TSP) cleaners have been considered the standard cleaning tools for lead hazard control projects, new research, discussed under the Alternatives Methods section in this document, suggests that other tools and products may also be effective in efficiently cleaning dust while providing adequate worker protection from airborne exposure risks. Some of these innovations may even be superior.

a. HEPA Vacuuming - HEPA vacuums differ from conventional vacuums in that they contain high-efficiency filters that are capable of trapping extremely small particles. These filters can remove particles of 0.3 microns or greater from air with 99.97 percent efficiency or greater. (A micron is 1 millionth of a meter, or about 0.00004 inches.) Some vacuums are equipped with an ultra-low penetration air (ULPA) filter that is

capable of filtering out particles of 0.13microns or greater at 99.9995 percent efficiency. However, ULPA filters are slightly more expensive and may be less available than HEPA filters. Vacuuming with conventional vacuum machines is unlikely to be effective because much of the fine dust will be exhausted back into the environment where it can settle on surfaces. Considerations for the proper use of a HEPA vacuum are listed below.

(1) Operating Instructions - There are a several manufacturers of HEPA vacuums. Although all HEPA vacuums operate on the same general principle, they may vary considerably with respect to specific procedures, such as how to change the filters. To ensure the proper use of equipment, carefully follow the manufacturer's operating instructions and, if possible, arrange training sessions with the manufacturer's representative. Although HEPA vacuums have the same suction capacity as ordinary vacuums that are comparably sized, their filters are more efficient. Improper cleaning or changing of HEPA filters may reduce the vacuum's suction capability.

(2) Special Attachments - Because the HEPA vacuum will be used to vacuum surfaces other than floors, operators should buy attachments and appropriate tool kits for use on different surfaces such as brushes of various sizes, crevice tools, and angular tools.

(3) Selecting Appropriate Size(s) - HEPA vacuums are available in several sizes, ranging from a small lunch bucket-sized unit to track-mounted systems. Two criteria for size selection are the size of the job and the type of electrical power available. Manufacturer recommendations should be followed.

(4) Wet-Dry HEPA Vacuums - Some hazard control contractors have found the wet-dry HEPA vacuums to be particularly effective in meeting clearance standards. These vacuums are equipped with a special shut-off float switch to protect the electrical motor from water contact.

(5) Pre-filters - HEPA filters are usually used in conjunction with a pre filter or series of pre filters that trap the bulk of the dust in the exhaust air stream, particularly the larger particles. The HEPA filter traps most of the remaining small particles that have passed through the pre filter(s). All filters must be maintained and replaced or cleaned as specified in the manufacturer's instructions. Failure to do so may cause a reduction in suction power (thus reducing the vacuum's efficiency and effectiveness). Failure to change pre filters may damage the vacuum motor and will also shorten the service life of the HEPA filter, which is far more expensive than the pre-filters.

(6) HEPA Vacuuming Procedures - Surfaces to be vacuumed include ceilings, walls, floors, doors, heating, ventilation, and air conditioning (HVAC) equipment (heating diffusers, radiators, pipes, and vents), fixtures of any kind (light), built-in cabinets, and appliances. All rooms and surfaces should be included in the HEPA vacuum process, except for those that (1) were found not to have lead hazards and were properly separated from work areas before the process began, or (2) were never entered during the process. Sidewalks, driveways, and other exterior surfaces should be vacuumed if exterior hazard control work was conducted, or if debris was stored or dropped outside. Vacuuming

should begin on the ceilings and end on the floors, sequenced to avoid passing through rooms already cleaned, with the entryway cleaned last.

(7) Emptying the HEPA Vacuum - Used filters and vacuumed debris are potentially hazardous waste and should be treated accordingly. Therefore, operators should use extreme caution when opening the HEPA vacuum for filter replacement or debris removal to avoid accidental release of accumulated dust into the environment. This may occur, for example, if the vacuum's seal has been broken and the vacuum's bag is disturbed. Operators should also wear a full set of protective clothing and equipment, including appropriate respirators, when performing this maintenance function, which should be done in the containment area or off-site.

b. Wet Detergent Wash - Several types of detergents have been used to remove leaded dust. Those with a high phosphate content (containing at least 5 percent presidium phosphate also known as TSP) have been found to be effective when used as part of the final cleaning process. TSP detergents are thought to work by coating the surface of dusts with phosphate or polyphosphate groups, which reduces electrostatic interactions with other surfaces and thereby permits easier removal. Because of environmental concerns some states have restricted the use of TSP, and some manufacturers have eliminated phosphates from their household detergents. However, high TSP detergents can usually be found in hardware stores and may be permitted for limited use, such as lead hazard control. Other non-TSP cleaning agents developed specifically for removing leaded dust have also been found to be effective (possibly more effective than TSP) in limited trials by several investigators and may also be safer, since TSP is a skin and eye irritant.* Manufacturer's Dilution Instructions - Users of cleaning agents for leaded dust removal should follow manufacturer's instructions for the proper use of a product, especially the recommended dilution ratio. Even diluted, trisodium phosphate is a skin irritant and users should wear waterproof gloves. Eye protection should also be worn, and portable eyewash facilities manufacturer's instructions. Failure to do so may cause a reduction in suction power (thus reducing the vacuum's efficiency and effectiveness). Failure to change pre-filters may damage the vacuum motor and will also shorten the service life of the HEPA filter, which is far more expensive than the pre-filters.

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(1) Proper Wet-Cleaning Procedures - At the conclusion of the active lead hazard control process and after the initial HEPA vacuuming, all vacuumed surfaces should be thoroughly and completely washed with a high-phosphate solution or other lead-specific cleaning agent (or equivalent) and rinsed. Select a detergent that does not damage existing surface finishes (TSP may damage some finishes). Work should proceed from ceilings to floors and be sequenced to avoid passing through rooms already cleaned.

(2) Changing Cleaning Mixture - Many manufacturers of cleaners will indicate the surface area that their cleaning mixture will cover. To avoid recontaminating an area by cleaning it with dirty water, users should follow manufacturer-specified surface area limits. However, regardless of manufacturers' recommendations, the cleaning mixture should be changed after its use for each room. As a rule of thumb, 5 gallons should be used to clean no more than 1,000 square feet. Used cleaning mixture is potentially hazardous waste; consult with your local water and sewage utility for directions on its

proper disposal. Wash water should never be poured onto the ground. The wash water is usually filtered and then poured down toilet (if the local water authority approves).

11. The HEPA/Wet Wash/HEPA Cycle Typical Procedures - The usual cleaning cycle that follows lead hazard control activities is called the HEPA vacuum/wet wash/HEPA cycle and is applied to an entire affected area as follows: First, the area is HEPA vacuumed. Next, the area is washed down. After drying, the area is again HEPA vacuumed. The rationale for this three-pass system is as follows: The first HEPA vacuum removes as much dust and remaining debris as possible. The wet wash further dislodges dust from surfaces. The final HEPA cycle removes any remaining particles dislodged but not removed by the wet wash.

12. Single-Pass Wet Wash/HEPA Vacuum - Some lead hazard control contractors have roundhead spray cleaner vacuums to be a cost-effective alternative to the three-pass system. Similar to home carpet-cleaning machines, these vacuums simultaneously deliver a solution to the surface and recover the dirty solution. Theoretically, this process combines two of the steps in the HEPA vacuum/wet wash/HEPA cycle into one step. While anecdotal evidence indicates that the spray cleaner wet wash/HEPA is effective for some uses, limitations have been noted in its use for ceilings, vertical surfaces, and hard to reach areas. This device may be used as long as clearance standards are met.

13. Sealing Floors - Before clearance, all floors without an intact, nonporous coating should be coated. Sealed surfaces are easier to clean and maintain over time than those that are not sealed. Wooden floors should be sealed with a clear polyurethane or epoxy coating. Concrete floors should be sealed with a concrete sealer or other type of epoxy coating. If these floors are already covered by an effective coat of sealant, it may be possible to skip this step. New surfaces should be cleaned with a cleaning solution that is appropriate for that type of surface.

14. Surface Painting or Sealing of Non-floor Surfaces - Surfaces, including walls, ceilings, and wood-work, should be coated with an appropriate primer and repainted. Surfaces enclosed with vinyl, aluminum coil stock, and other materials traditionally not repainted are exempt from the painting provision. Coating of walls may not be appropriate if lined with acoustic material to control noise.

15. Exterior Cleaning - Areas potentially affected by exterior lead hazard control should be protected via a containment system. Because weather can adversely affect the efficacy of exterior containment, the surface plastic of the containment system should be removed at the end of each workday. On a daily basis, as well as during final cleaning, the immediate area should be examined visually to ensure that no debris has escaped containment. Any such debris should be raked or vacuumed and placed in single 6- mil or double 4- mil plastic bags, which should then be sealed and stored along with other contaminated debris. HEPA vacuuming inappropriate for hard exterior surfaces, not for soil.

16. Worker Protection Measures - Studies indicate that during daily cleaning activities, especially while wet sweeping, workers may be exposed to high levels of airborne dust. Therefore, workers should wear protective clothing and equipment and appropriate respirators if required.

17. Maintaining Containment - The integrity of the plastic sheeting used in a lead hazard control project must be maintained. During their daily cleaning activities, workers should monitor the sheeting and immediately repair any holes or rips with 6-mil plastic and duct tape.

18. Decontamination of Workers, Supplies, and Equipment - Decontamination is necessary to ensure that worker's families, other workers, and subsequent properties do not become contaminated. Specific procedures for proper decontamination of equipment, tools, and materials prior to their removal from lead hazard control containment areas should be implemented. Work clothing, work shoes, and tools should not be placed in a worker's automobile unless they have been laundered or placed in sealed bags. All vacuums and tools that were used should be wiped down using sponges or rags and detergent solutions. Consumable/disposable supplies, such as mop heads, sponges, and rags, should be discarded after each space is completed. Soiled items should be treated as contaminated debris. Durable equipment, such as power and hand tools, generators, and vehicles should be cleaned prior to their removal from the site. The cleaning should consist of a thorough HEPA vacuuming followed by washing.

19. Preliminary Visual Examination - After the cleaning work is completed, the certified supervisor should visually evaluate the entire work area to ensure that all work has been completed and all visible dust and debris have been removed. While the preliminary examination may be performed by the lead hazard control supervisor, contractor, or owner as a preparatory step before the final clearance examination, it does not replace the independent visual assessment conducted during clearance. If the visual examination results are unsatisfactory, affected surfaces must be retreated and/or reclined. Therefore, it is more cost-effective to have the supervisor rather than the clearance examiner perform this initial examination.

20. Final Inspection - The final clearance evaluation should take place at least 1 hour after the final cleaning. Clearance has three purposes: 1) to ensure that the lead hazard control work incomplete; 2) to detect the presence of leaded dust; and 3) to make sure that all treated surfaces have been repainted or otherwise sealed. Clearance is usually performed after the sealant is applied to the floor.

21. Advanced Screening - Advanced screening for clearance may be considered. Immediate on-site analysis of dust wipes may alert the contractor to continue cleaning prior to final clearance sampling.

22. Recleaning After Clearance Failure - If after passing the final visual examination, the space fails the clearance wipe dust tests, the HEPA/wet wash/HEPA cleaning cycle should be carefully and methodically repeated. Failure is an indication that the cleaning

has not been successful. Recleaning should be conducted under the direct supervision of a certified supervisor. Care should be exercised during the recleaning of "failed" surfaces or components to avoid recontaminating "cleared" surfaces or components.

23. Cleaning Cost Considerations - An important consideration in determining lead hazard control strategies and methods is the cost and difficulty of required daily and final cleanup operations and the likelihood that one can meet dust-clearance standards. A general rule of thumb is that lead hazard control strategies that generate the most dust will have higher cleanup costs and higher initial clearance test-failure rates.

24. Initial Clearance Test Failure Rates - The likelihood of passing final dust-clearance tests is highly correlated with the chosen intervention strategy, methods, and care exercised by the contractor. Chemical removal and hand-scraping strategies generally experience higher failure rates than replacement and encapsulation/ enclosure strategies. However, clearance failure is not solely related to abatement method. The diligence and effectiveness of an abatement contractor's cleaning process has a major impact on the likelihood of the space to pass the final wipe test clearance.

25. Key Factors In Effective Cleaning - Effective cleaning will be aided by adequate sealing of surfaces with polyethylene sheeting prior to lead hazard control, proper daily cleaning practices, good worker training, and attention to detail. Where poor worksite preparation is employed, additional cleaning may be required to meet clearance.

26. Special Problems - Surfaces such as porous concrete, old porous hardwood floors, and areas such as corners of rooms and window troughs pose especially difficult cleaning challenges. Porous concrete and corners of rooms normally require additional vacuuming to achieve unacceptable level of cleanliness.

27. Alternative Methods - Alternatives to the recommended cleaning tools and practices discussed in this document are available, some with significant potential for increasing effectiveness and lowering costs. Other vacuums may be used if worker exposures do not increase, if compliance with clearance standards is achieved, and if a variance from OSHA regulation is obtained by the contractor or employer (if required). The OSHA lead standard requires the use of HEPA vacuum equipment (see 29 CFR 1926.62 (h)(4), which states, "where vacuuming methods are selected, the vacuums shall be equipped with HEPA filters.").Agitator heads on vacuums have been shown to significantly enhance vacuum effectiveness on carpets in cleaning fine dust without increasing airborne dust levels. Vacuums without agitator heads appear to perform relatively poorly on carpets

DEPARTMENT OF THE ARMY AND THE AIR FORCE
NATIONAL GUARD BUREAU
REGIONAL INDUSTRIAL HYGIENE OFFICE
AIRPORT PLAZA SUITE 1530
510 PLAZA DRIVE
COLLEGE PARK, GA 30349

NGB-AVN-SI July 30, 2003

MEMORANDUM FOR: ADJUTANT GENERAL TX ARNG, ATTN.: State Occupational Health Office, P. O. BOX 5218, Austin, TX 78763-5218

SUBJECT: Transmittal of the Survey Reports for Dallas # 2 Armory, Dallas # 3 Armory, Dallas # 4, Dallas, TX.

1. References.

a. Department of Defense Instruction 6055.1, Department of Defense Occupational Safety and Health (OSH) Program, 26 October 1984.

b. Army Regulation (AR) 40-5, 30 August 1986, Medical Service, Preventive Medicine.

c. National Guard Regulation (NGR) 385-10, 1988, Army National Guard Safety and Occupational Health Program.

d. AR 11-34, The Army Respiratory Protection Program, 15 February 1990.

e. TB MED 502, Occupational and Environmental Health Respiratory Protection Program, February 1982.

f. DA PAM 40-503, 30 October 2000, The Army Industrial Hygiene Program.

g. DA PAM 40-501, 10 December 1998, Hearing Conservation.

h. Threshold Limit Values and Biological Exposure Indices (TLV's) for 2001, American Conference of Governmental Industrial Hygienists (ACGIH), Cincinnati, Ohio.

i. Industrial Ventilation, 23rd Edition, American Conference of Governmental Industrial Hygienist, Cincinnati, Ohio.

j. USAEHA TG-141, November 1997, Guidelines for Air Sampling and Bulk sample Collection.

k. Title 29, Code of Federal Regulations (CFR), 2000 rev., part 1910, Occupational Safety and Health Standards.

l. Report dated 2 July 2003, Industrial Hygiene Survey, Tamar Sciences, Inc., Naperville, IL.

2. General.

a. At the request of the TXARNG Safety and Occupational Health Office, an Industrial Hygiene Service was put together to conduct Health Hazard Information module (HHIM) Field surveys and industrial hygiene sampling of the Dallas # 2 Armory, Dallas # 3 Armory, Dallas # 4, Dallas, TX.

b. The surveys were conducted by Non-Responsive of Tammer Sciences, Inc., Napervile, IL

3. Findings. All Health Hazard information are on the survey findings of the report. (See enclosure 1)

4. Recommendations.

a. Follow all recommendations made in reference 1.l., requesting industrial hygiene (IH) services where needed to complete the recommendations.

b. Conduct an air sampling survey in the areas in and around those identified with elevated lead dust levels in page 3 0f reference 1.l, to ensure that the lead dust present is not airborne and that employees in these areas are not exposed above the action level where applicable.

c. Control water infiltration in the armory and/or replace or repair damaged surfaces or components (ceiling and floor tiles). Building conditions that present IAQ concerns or problems not only exacerbates normally minor health issues but also tend to promote or accelerate building deterioration.

d. The recommendations given in the comment section and data collected will serve as a baseline for the Industrial Hygiene Implementation Plan (IHIP) for FY-03. A follow up operation and hazard specific air sampling survey based on the enclosed findings will be included in the FY-04 IHIP.

NGB-AVN-SI
SUBJECT: Transmittal of the Survey Reports for Dallas # 2 Armory, Dallas # 3 Armory, Dallas # 4, Dallas, TX.

e. Consider additional Industrial Hygiene services to monitor operations that were not looked at or surveyed during the present survey, especially if this will help eliminate health hazards and reduce medical surveillance cost.

f. To execute your responsibilities in correcting all deficiencies and meeting all standards coordinate with the Occupational Health Nurse and the Occupational Safety and Health Office for technical guidance.

f. Give special consideration to cleaning light fixtures, increasing the wattage and painting walls a lighter color when upgrading the lighting in the facility.

5. If additional information is needed about the industrial hygiene survey or air sample

Non-Responsive

Non-Responsive

CF:
NBG-AVN-SH
State Occupational Health Office, P. O. BOX 5218, Austin, TX 78763-5218.
State Safety Manager, P. O. BOX 5218, Austin, TX 78763-5218.

Encl
as

Industrial Hygiene Baseline Survey Report
For
Texas Army National Guard
(TXARNG)

At
Dallas #3
3130 West Redbird Lane
Dallas, Texas

Prepared for:

Department of the Army and the Air Force
National Guard Bureau
Regional Industrial Hygiene Office
Region South
Airport Plaza Suite 1530
510 Plaza Drive
College Park, GA 30349

By
Non-Responsive

July 2, 2003

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Appendices

A. References.
B. Laboratory Analytical Results.
C. Lab Chain of Custody.
D. Floor Layout and Photographs.
E. Indoor Firing Range Cleaning Guidance.

Executive Summary

An initial baseline industrial hygiene survey was conducted at the Dallas #3 Armory on 7 May 2003 as part of the Texas Army National Guard Occupational Health Program to identify potential health hazards in the workplace. The survey consisted of collecting lead wipe samples and bulk asbestos samples, conducting an illumination survey, a noise survey, and an evaluation of the Heating Ventilation and Air Conditioning System (HVAC) as it relates to indoor air quality.

The following table summarizes the survey findings and recommendations for each topic surveyed.

Topic	Summary of Findings	Recommendations
Lead Wipe Samples	<10 to 14000 microgram per square foot.	Do not use the firing range space until it is cleaned and decontaminated properly.
Asbestos Bulk Samples	No Suspect asbestos containing material found.	No action.
Noise Survey	Noise levels ranged from 45 to 60 dBA.	No action.
Illumination Survey	30 to 100 footcandles	No action.
HVAC/IAQ	Wooden common air plenum in mechanical room.	Consider replacing the wood with metal.

SUBJECT: Industrial Hygiene Initial Baseline Survey of the Dallas #3 Armory in Dallas, Texas on 7 May 2003

BACKGROUND:

Introduction. At the request of Non-Responsive [redacted] of the National Guard Bureau Region South Industrial Hygiene Office, an initial baseline industrial hygiene survey was performed at the Dallas #3 Armory in Dallas, Texas. Non-Responsive [redacted] Industrial Hygiene Technician for the Texas Army National Guard and Non-Responsive [redacted] contract Industrial Hygienist, Tammer Sciences, Inc. conducted the survey on 7 May 2003. The purpose of the survey was to perform an initial baseline industrial hygiene survey to evaluate potential health hazards present at the armory.

Site Description. The facility houses 372nd Support Battalion and the HHD for Co A, Co B, and Co C. The armory building is a one-story structure that was constructed in 1956. A new addition was constructed within the past seven years to the original armory building. The facility houses several administrative office areas, a kitchen, a mess hall, training or class rooms, a drill hall, several supply rooms, and a converted indoor firing range area used for storage. Approximately 20 full time employees work at this armory. A copy of the floor layout and photos are included in Appendix D.

Scope of Work. The work included collecting wipe samples for lead, bulk samples for suspect asbestos containing building material, illumination levels, noise readings, and an evaluation of the ventilation system as it pertains to indoor air quality.

Methodology Lead wipe samples were collected from surfaces that showed signs of lead contamination in Armories that have a renovated, inactive, or closed indoor firing range (IFR). The samples were collected accordance to instructions published by Region South National Guard Bureau, which required the use of unscented baby wipes to wipe one square foot of surface. Samples were then placed in a sealed plastic bag and sent for analysis to EMSL laboratory, which is an American Industrial Hygiene Association (AIHA) Accredited laboratory. Asbestos bulk samples were collected from suspect building materials that were grouped based on similarity of composition. Bulk sample collection was minimally destructive and samples were collected from inconspicuous areas. Bulk samples were also collected from suspect friable and damaged building material. Each bulk sample was placed in a sealed bag and sent to EMSL laboratory for analysis. A photograph of the sampled material and area were also taken. Noise readings were measured using a SPER Scientific Sound Level Meter Model; 840019 Serial Number 0174519, with a calibration date of July 2, 2002. All noise measurement were area readings. Illumination readings were collected using a Western Schlumberger light meter Serial 8384. Illumination readings were taken on work surfaces and approximately four feet from the floor.

FINDINGS and DISCUSSION:

The Point of Contact during the survey was Non-Responsive

Lead Wipe Samples: Fourteen wipe samples were collected from the converted indoor firing range area and other administrative areas as listed in the table below.

Sample Number	Sample Location	Micrograms of lead (ug) per square foot
DAL3001	Top of Exit Sign in Drill Hall	16
DAL3002	Floor area in Drill Hall by Overhead door.	<10
DAL3003	Floor area in center of Drill hall	14
DAL3004	Floor area in Drill Hall by entrance to the administrative area.	<10
DAL3005	Floor area in Drill Hall in front of garage door.	<10
DAL3006	Floor area in Drill Hall in front of entrance to supply rooms.	<10
DAL3007	Floor in front of backstop/trap in the converted firing range.	400
DAL3008	Surface of Bullet backstop.	14000
DAL3009	Top of toolbox stored in the converted IFR near the trap area.	79
DAL3010	Top of partition at the firing line.	810
DAL3011	Top of a garment bag stored in the firing range.	76
DAL3012	Top of a cabinet in the kitchen.	10
DAL3013	Supply air diffuser in HQ Office Area (Sgt. Small.)	<10
DAL3014	Supply air diffuser in Non-Responsive	<10
DAL3015	Field blank	<10

The US Environmental Protection Agency (EPA), under a new standard issued in 2000, considers lead dust as a hazard if levels are greater than 40 micrograms of lead in dust per square foot on floors; 250 micrograms of lead in dust per square foot on interior window sills and 400 parts per million (ppm) of lead in bare soil in children's play areas or 1200 ppm average for bare soil in the rest of the yard. This standard is a major effort by the EPA to identify dangerous levels of lead in paint, dust and soil in order to protect children from lead poisoning. The National Guard Bureau recommends a limit of 200 micrograms per square foot for surface contamination. The laboratory report and chain of custody forms are attached in Appendices B and C.

The indoor firing range and other contaminated area as indicated by the wipe sampling results should be properly cleaned and decontaminated in accordance to the instructions found in NG PAM 385-18. Appendix E contains recommended guidelines for cleaning and decontaminating indoor firing range. The firing range should not be used as a storage area until it is properly cleaned and decontaminated.

Asbestos Suspect Building Material: Three types of building materials were identified as potentially containing asbestos. The identified types included 12 by 12 inches floor tiles, 2x4 feet ceiling tiles, and Baseboard. A total of three bulk samples were collected randomly from the identified materials. The table below lists the samples collected and the results:

Sample #	Description	% Asbestos Type
DAL301A	12x12 inch floor tile.	None.
DAL301A	12x12 inch floor tile mastic	None.
DAL302A	Baseboard from office area.	None.
DAL302A	Baseboard mastic from office area.	None.
DAL303A	2x4 Ceiling tiles form the office areas	None.

The laboratory report and chain of custody forms are attached in Appendices B and C.

Noise Survey Area noise readings were collected in the various surveyed areas within the armory and reported as a range. The Table below lists the noise reading ranges as recorded on the day of the survey:

Area	Reading in Decibels on the A-Scale (dBA)
Converted Firing Range	45 – 50
Drill or Assembly Hall	58 – 60
Classroom #1	45 – 47
Classroom #2	46 – 48
Kitchen	50 – 55
Administrative Office Areas	45 – 50
Hallways to Admin. Areas	50 – 60
Supply Room Area	43 – 45

All readings are well below the Occupational Safety and Health Administration (OSHA) regulated limit of 90 dBA and the Army recommended limit of 85 dBA.

Illumination Survey Lighting levels throughout the Armory ranged between 9 foot-candles to 95 foot-candles. Specific readings were as follows:

Area	Reading in Foot-candles
Converted Firing Range	50 – 60
Drill or Assembly Hall	40 – 60
Classroom #1	60 – 80
Classroom #2	60 – 80
Kitchen	60 – 80
Administrative Office Areas	60 – 100
Hallways to Admin. Areas	30 – 40
Supply Room Area	40 – 45

All readings are within the Army Design Guide (DG415-2) minimum illumination level of 50 foot-candle for office area and 20 foot-candles for parts storage/supply. The American National Standard Institute (ANSI) recommends a minimum illumination level of 50 to 00 foot-candles for office work, 20 to 50 for general lighting. Luminance depends on various factors including the task to be performed, the age of the individual, and the surroundings. Luminance of 50 to 100 foot-candles is recommended for performance of visual tasks of medium contrast or small size such as reading pencil handwriting and poorly printed or reproduced material. Depending on the type of display, background luminance of 30 to 60 foot-candles is recommended for VDT work. Replacing light bulbs with higher wattage will increase lighting levels. Replacing burnt out light bulbs and cleaning the light fixture should improve the lighting levels.

Heating Ventilating and Air Conditioning (HVAC) The Heating Ventilating and Air-Conditioning (HVAC) System for the Armory consisted of 9 forced air units located in a mechanical room. The system is capable to deliver outside makeup air to the occupied space. The return air plenum is common to all units and it is located under the units. Plywood was used to construct this return plenum. Condensation water was observed near and under the common plenum. The presence of water and wood will provide an opportunity for a microbiological growth source within this common plenum. Given the right conditions these sources can contribute negatively to the quality of the indoor air All condensate water should be isolated from the wood on the return air plenum. Consideration should be given to replace the wood with a metal structure. No complaints of indoor air quality issues were documented or communicated with the POC.

Recommendations:

1. Clean and decontaminate the converted firing range and other contaminated surfaces and areas by wet wiping and vacuuming using a High Efficiency Particulate Air (HEPA) filter.

2. Isolate condensate water from the wooden common plenum in the mechanical room.

Technical Assistance: For technical assistance regarding information found in this report

Non-Responsive

APPENDIX A

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

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

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

Army Regulation (AR) 11-34, The Army Respiratory Protection Program, 1990

Army Regulation (AR) 40-5, Preventative Medicine, 15 October 1990.

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

National Fire Protection Association (NFPA) No. 30, Standard for Flammable and Combustibles Liquid Code, 1996.

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

NGR 385-10, Army National Guard Safety and Occupational Health Program, 29 December 1989.

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

Title 29, Code Of Federal Regulations (CFR), 1999, revision, Part 1910, Occupational Safety and Health Standards.

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

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

APPENDIX B

EMSL Analytical
3 Cooper St., Westmont, NJ 08108
Phone: (856) 853-4800 Fax: (866) 858-6551 Email: gmiller1@emsl.com

Attn: Non-Responsive [redacted]

Fax:
Project: Dallas #3

Customer ID: TS80
Customer PO:
Received: 05/12/03 11:50 AM

EMSL Order: 200304066
EMSL Project ID:

Lead in Wipes by Flame AAS (SW 846, 7420)

Client Sample Description	*Lab ID*	*Analyzed*	*Area Sampled*	*Lead Concentration*
DAL 3001	0001	5/23/03	144 in²	16.0 µg/ft²
DAL 3002	0002	5/23/03	144 in²	<10.0 µg/ft²
DAL 3003	0003	5/23/03	144 in²	14.0 µg/ft²
DAL 3004	0004	5/23/03	144 in²	<10.0 µg/ft²
DAL 3005	0005	5/23/03	144 in²	<10.0 µg/ft²
DAL 3006	0006	5/23/03	144 in²	<10.0 µg/ft²
DAL 3007	0007	5/23/03	144 in²	400.0 µg/ft²
DAL 3008	0008	5/23/03	144 in²	14000.0 µg/ft²
DAL 3009	0009	5/23/03	144 in²	79.0 µg/ft²
DAL 3010	0010	5/23/03	144 in²	810.0 µg/ft²
DAL 3011	0011	5/23/03	144 in²	76.0 µg/ft²
DAL 3012	0012	5/23/03	144 in²	10.0 µg/ft²
DAL 3013	0013	5/23/03	144 in²	<10.0 µg/ft²
DAL 3014	0014	5/23/03	144 in²	<10.0 µg/ft²
DAL 3015	0015	5/23/03	144 in²	<10.0 µg/ft²

Non-Responsive [redacted]

The QC data associated with the sample results included in this report meet the recovery and precision requirements established by the AIHA, unless specifically indicated otherwise in the comment section.
ACCREDITATIONS: AIHA Environmental Lead Laboratory Approval Program # 100194

Date Printed: 5/27/03 10:11:32 AM

Page 1 of 1

EMSL Analytical, Inc.
107 Haddon Ave., Westmont, NJ 08108
Phone: (856) 858-4800 Fax: (856) 858-4571 Email: asbestos@emsl.com

Attn: Non-Responsive

Fax:

Project:

Customer ID: TS60
Customer PO:
Received: 05/12/03 2:35 PM

EMSL Order: 040307592
EMSL Project ID:
Analysis Date: 5/21/2003

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Treatment	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
DAL301A FLOOR TILE	DALLAS #3	White Non-Fibrous Homogeneous	Dissolved		100% Non-fibrous (other)	None Detected
DAL301A GLUE	DALLAS #3	Brown Non-Fibrous Homogeneous	Dissolved		100% Non-fibrous (other)	None Detected
DAL302A COVEBASE	DALLAS #3	Brown Non-Fibrous Homogeneous	Dissolved		100% Non-fibrous (other)	None Detected
DAL302A GLUE	DALLAS #3	Tan Non-Fibrous Homogeneous	Dissolved		100% Non-fibrous (other)	None Detected
DAL300A	DALLAS #3	White/Grey Fibrous Heterogeneous	Dissolved Teased	45% Cellulose 35% Min. Wool	20% Non-fibrous (other)	None Detected

Non-Responsive

Non-Responsive

PLM-1

THIS IS THE LAST PAGE OF THE REPORT.

APPENDIX C

EMSL ANALYTICAL — CHAIN OF CUSTODY — LEAD

Revised 7/1/99

20304CC

DATE: 5/8/03

Third party billing requires written authorization from third party

EMSL Rep:

Your Company Name: Tommer Sciences, Inc.

Street: 3744 Lawrence Dr

Box #:

City/State: Naperville, IL Zip: 60564

EMSL-Bill to: Same as previous

Street:

Box #:

City/State: Zip:

Phone Results to:

Name:

Telephone #:

Project Name/Number:

Fax Results to:

Order #:

[redacted]

MATRIX	METHOD	INSTRUMENT	mdls	TAT
Lead Chips	SW846-7420 or AOAC 5.009-(974.02)	Flame Atomic Absorption	0.01% ++	144hrs
Lead Waste water	SW846-7420	Flame Atomic Absorption	0.4 mg/l water 50 mg/kg (ppm) soil	
Lead Soil +	or SW846-6010	ICP	0.1 mg/l water 10 mg/kg (ppm) soil	
Lead in Air *	NIOSH 7082	Flame Atomic Absorption	5 ug/filter	
	or NIOSH 7300	ICP	3.0 ug/filter	
Lead in Wipe	SW846-7420	Flame Atomic Absorption	10 ug/wipe Same 72 hrs	144 hrs
	or SW846-6010	ICP	3.0 ug/wipe	
TCLP Lead **	SW846-1311/7420	Flame Atomic Absorption	0.4 mg/l (ppm)	
	or SW846-6010	ICP	0.1 mg/l (ppm)	
Lead in Air ***	NIOSH 7105	Graphite Furnace Atomic Absorption	0.03 ug/filter	
Lead Waste water	SW846-7421	Graphite Furnace Atomic Absorption	0.003 mg/l (ppm) water	
Lead Soil +			0.3 mg/kg (ppm) soil	
Lead in Drinking Water (check state Certification Requirements)	EPA 239.2	Graphite Furnace Atomic Absorption	0.003 mg/l (ppm)	
Total Dust	NIOSH 0500-0600	Gravimetric Reduction	0.0001g	

TAT (Turnaround) - 3 hours, 6 hours. Please call ahead to schedule.
12 hours (must arrive by 11:00 a.m).
24 hours (1 day), 48 hours (2 days), 72 hours, 96 hours (3 days), 120 hours(4 days), 144 + hours (5-10 days)
*, **, ***, +, ++ Please Refer to Price Guide

SAMPLE #	LOCATION	Air volume, L Area, in²	LAB #
DAL-5001	DALLAS 5	144 in²	
DAL-5002			
DAL-5003			
DAL-5004			

Relinquished By: (Person)

Date: 5/8/03

[redacted]

EMSL ANALYTICAL
Revised 7 1999

CHAIN OF CUSTODY

LEAD

SAMPLE #	LOCATION	Air volume, L Area, in²	LAB #
DAL 4004	DALLAS # 4	144 in²	
DAL 4005			
DAL 4006			
→ # SEPERATE REPORT #		#	
DAL 3001	DALLAS # 3	144 in²	
DAL 3002			
DAL 3003			
DAL 3004			
DAL 3005			
DAL 3006			
DAL 3007			
DAL 3008			
DAL 3009			
DAL 3010			
DAL 3011			
DAL 3012			
DAL 3013			
DAL 3014			
DAL 3015			
→	SEPERATE REPORT #	#	
DAL 401P	DALLAS # 4	Paint Chips	
DAL 402P		"	
→ # SEPERATE REPORT #			

Relinquished By: (Person) Non-Responsive
Date 1/18/03

Received at EMSL By: Non-Responsive
Date 1/19/03

Note: Please duplicate this form and use additional sheets if necessary.

Page 3 of 4

041030759 2

EMSL Analytical, Inc.
Revised 01/07/99

CHAIN OF CUSTODY

Asbestos

Third Party Billing requires written authorization from third party

EMSL Rep:

Your Company Name: Tanner Sciences, Inc.
Street: 3744 Lawrence Dr.
Box #:
City/State: Naperville, IL Zip: 60564

EMSL-Bill to:
Street: Same as Shipping
Box #:
City/State: Zip:

Phone Results to:
Name: [redacted]
Telephone #:
Project
Name/Number:

Fax Results to: [redacted]
Order #:

MATRIX

- ☐ Air
- ☐ Floor Tile
- ☐ Soil
- ☑ Bulk
- ☐ Drinking Water
- ☐ Dust
- ☐ Wipe
- ☐ Wastewater
- ☐ Micro-Vac

TURNAROUND

- ☐ 3 hrs
- ☐ 6 Hours
- ☐ Same Day or 12 Hours*
- ☐ 24 Hours 1 day
- ☐ 48 Hours 2 days
- ☐ 72 Hours 3 days
- ☐ 96 Hours 4 days
- ☐ 120 Hours 5 Days
- ☑ 144+ hours 6-10 Days

TEM AIR, 3 hours, 6 hours, Please call ahead to schedule. There is a premium charge for 3 hour tat, please call 1-800-220-3675 for price prior to sending samples. You will be asked to sign and authorization form for this service. 12 hours (must arrive by 11:00 a.m Mon - Fri.), Please Refer to Price Quote

PCM - Air
- ☐ NIOSH 7400
- ☐ OSHA
- ☐ Other:

PLM - Bulk
- ☑ EPA 600/R-93/116
- ☐ EPA Point Count
- ☐ NY Stratified Point Count
- ☐ PLM NOB (Gravimetric) NY 198.1
- ☐ Other:

SEM Air or Bulk
- ☐ Qualitative
- ☐ Quantitative

TEM AIR
- ☐ AHERA
- ☐ NIOSH 7402
- ☐ EPA Level II

TEM BULK/misc
- ☐ Drop Mount (Qualitative)
- ☐ Chatfield
- ☐ TEM NOB (Gravimetric) NY 198.4

TEM WATER
- ☐ Wastewater
- ☐ Drinking Water EPA 100.1
- ☐ Water - NY Wastewater
- ☐ Water-NY Drinking Water

TEM MICROVAC / WIPE
- ☐ ASTM D 5755-95 quantitative method

XRD
- ☐ Asbestos
- ☐ Silica

OTHER
- ☐

SAMPLE NUMBER	LOCATION	VOLUME (If Applicable)
DAL501A	DALLAS # 5	N/A
DAL502A		

Total Samples #:

Client Sample # (s): [redacted]

Relinquished: Date: 5/8/03 Time: PM

Received: Date: Time:

Fedex

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1

0110307592

EMSL Analytical, Inc.
Revised 0M07/99

CHAIN OF CUSTODY

Asbestos

SAMPLE NUMBER	LOCATION	VOLUME (If Applicable)
DAL 503A	DALLAS # 5	N/A
DAL 504A		
DAL 505A		
→	SEPERATE REPORT	
IRV01A	IRVING/DALLAS	N/A
IRV02A		
IRV03A		
IRV04A		
→	SEPERATE REPORT	
DAL201A	DALLAS # 2	N/A
DAL202A		
DAL203A		
→	SEPERATE REPORT	
DAL401A	DALLAS # 4	N/A
DAL402A		
DAL403A		
DAL404A		
DAL405A		
DAL406A		
DAL407A		
DAL408A		
→	SEPERATE REPORT	
DAL 301A	DALLAS # 3	N/A
DAL 302A		
DAL 303A		
	SEPERATE REPORT	

Page 2 of 3

2

0433075912

EMSL Analytical, Inc.
Revised 07/02/99

CHAIN OF CUSTODY

Asbestos

SAMPLE NUMBER	LOCATION	VOLUME (If Applicable)
FW01A	FORT WORTH #2	N/A
FW02A		
FW03A		
FW04A		
→ SEPERATE REPORTS		←

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APPENDIX D

Photo 1: Dallas #3 Armory Front Entrance.

Photo 2: Dallas #3 Armory East of the Front Entrance.

Photo 3: Armory north side

Photo 4: Outside showing the rear of the armory.

Photo 5: North Side of the Armory.

Photo 6: Bullet trap.

Photo 7: Bullet stop, target sheets and storage boxes.

Photo 8: Firing line inside the range.

Photo 9: Kitchen.

Photo 10: Another photo of the kitchen.

Photo 11: Armory Drill Hall.

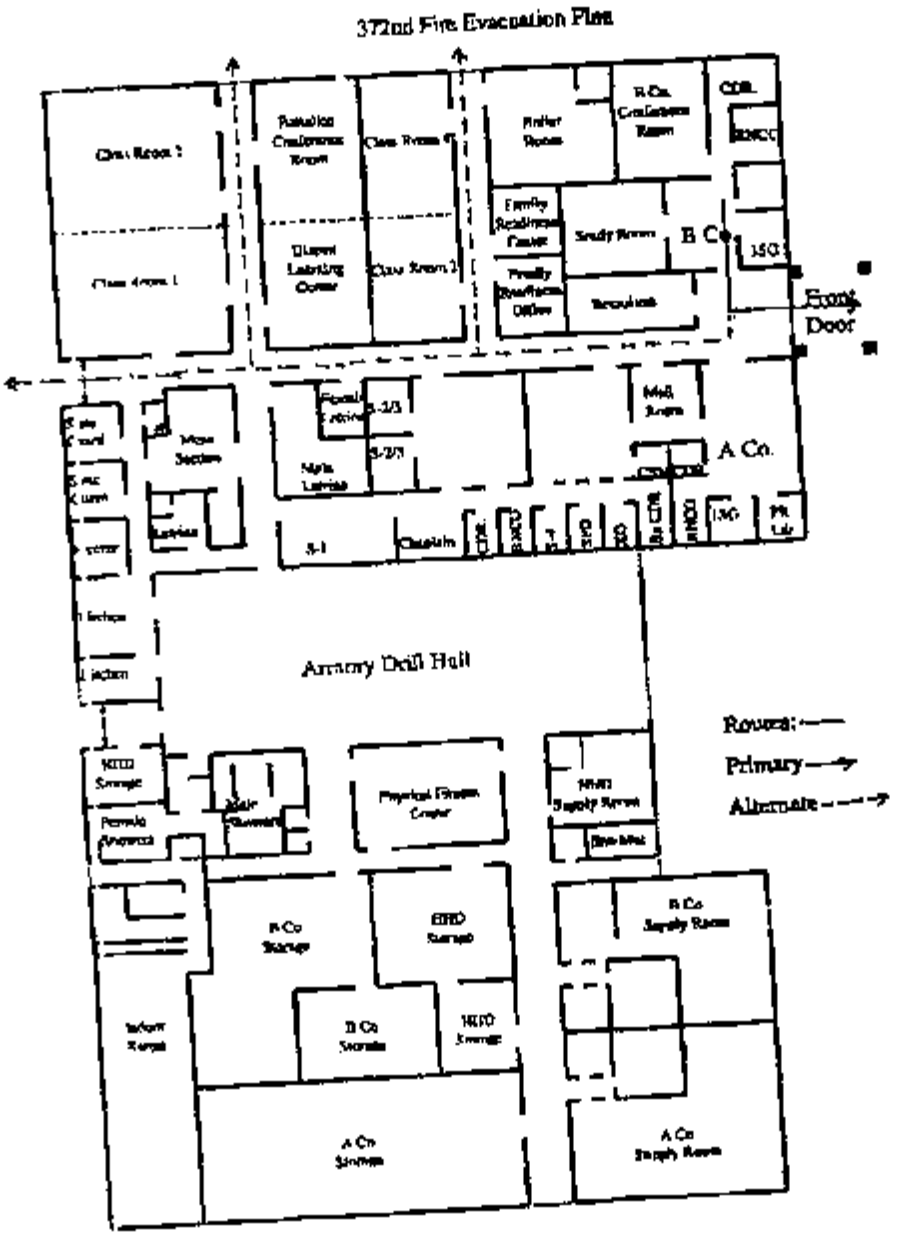
Photo 12: Drill Hall showing the overhead garage door.

Photo 13: Drill or Assembly Hall.

Photo 14: Air handlers in the mechanical room showing the wooden common plenum under the units.

Photo 15: Photo of the floor tiles and baseboard found throughout the administrative office areas.

Photo 16: Photo of the ceiling tiles found throughout the administrative office areas.



APPENDIX E

Indoor Firing Range Cleaning Guidance

1. Introduction - This document describes procedures to be employed in cleaning a range for non-lead use. All lead hazard control activities can produce dangerous quantities of leaded dust. Unless this dust is properly removed, a facility will be more hazardous after the work is completed than it was originally. Once deposited, leaded dust is difficult to remove effectively. Whenever possible, ongoing and daily cleaning of leaded dust during lead hazard control projects is recommended. Ongoing and daily cleaning is also necessary to minimize worker exposures. Cleaning is the process of removing visible debris and dust particles too small to be seen by the naked eye. Removal of lead hazards in a space will not make the space safe unless excessive levels of leaded dust are also removed. This is true regardless of whether the dust was present before or generated by the lead hazard control process itself. Improper cleaning can increase the cost of a project considerably because additional cleaning and clearance sampling will be necessary. A visibly clean surface may contain high and unacceptable levels of dust particles and require special cleaning procedures. However, cleaning and clearance can be achieved routinely if care and diligence are exercised.

2. Difficulties in Cleaning - While cleaning is an integral and essential component of any lead hazard control activity, it is also the most likely part of the activity to fail. Several common reasons for this failure include worker inexperience, high dust-producing methods, and deadlines.

3. Performance Standard - Although the cleaning methods described in this document are feasible and have been shown to be effective in meeting clearance standards, other methods may also be used if they are safe and effective. This performance-oriented approach should stimulate innovation, reduce cost, and ensure safe conditions for both occupants and workers.

4. Clearance Standard - 200 µg/ft 2 on interior floors and horizontal surfaces (NAVFAC Message 160647Z APR 98), 800 µg/ft 2 for exterior concrete (a HUD interim recommendation and serves as a useful guideline). These levels are based on wipe sampling. Clearance testing determines whether the premises or area are clean enough to be reoccupied as a non-lead work area after the completion of a lead hazard control project. A cleaned area may not be reoccupied until compliance with clearance standards has been established. To prevent delays, final testing and final cleaning activities should be coordinated.

5. Worker Inexperience - To understand the level of cleanliness required to meet the established clearance standards for hazard control cleanup, new hazard control personnel often require a significant reorientation to cleaning. Many construction workers are used to cleaning up only dust that they can see, not the invisible dust particles that are also important to remove.

6. Equipment Needed for Cleaning - The following equipment is needed to conduct cleaning: high-efficiency particulate air (HEPA) vacuums and attachments (crevice

tools), detergent, waterproof gloves, rags, sponges, mops, buckets, 6-mil plastic bags, debris containers, waste water containers, shovels, rakes, water-misting sprayers, and 6-mil polyethylene plastic sheeting (or equivalent).

7. Waste Disposal - Regulations governing hazardous and non-hazardous waste storage, transportation, and disposal affect both the daily and final cleaning procedures. The hazard control contractor and the disposal contractor should work together to establish formal written procedures, specifying selected containers, storage areas, and debris pickups, to ensure that all relevant regulations are met.

8. Containment - Because of the difficulty involved in the removal of fine dust, dust generated by hazard control work should be contained to the extent possible to the inside of work areas. Inadequately constructed or maintained containments or poor work practices will result in additional cleaning efforts, due to dust that has leaked out or been tracked out of the work area.

9. Pre-cleaning Procedures – Pre cleaning (i.e., cleaning conducted before lead hazard control is begun) is necessary only in facilities that are heavily contaminated with debris/paint chips, etc. Pre cleaning involves removing large debris and paint chips, followed by HEPA vacuuming. These steps may be followed by removal of occupant furniture or carpeting (rugs or carpets or any porous item in the firing range is not recommended due to the difficulty in cleaning these items effectively), depending on the worksite preparation. Carpeting (if present) should always be misted before its removal to control the generation of hazardous dust. However, if necessary, owners or project management should be prepared to remove furniture before lead hazard control work begins.

10. Basic Cleaning Methods: Wet Wash and Vacuum Cleaning Techniques – Because leaded dust adheres tenaciously, especially to rough or porous materials like weathered or worn wood surfaces and masonry surfaces (particularly concrete), workers should be trained in cleaning methods. As a motivator, some contractors have awarded bonuses to workers who pass clearance the first time. The typical cleaning method uses a special vacuum cleaner equipped with a HEPA filter, followed by wet washing with special cleaning agents and rinsing, followed by a final pass with the HEPA vacuum. Although HEPA filtered vacuums and trisodium phosphate (TSP) cleaners have been considered the standard cleaning tools for lead hazard control projects, new research, discussed under the Alternatives Methods section in this document, suggests that other tools and products may also be effective in efficiently cleaning dust while providing adequate worker protection from airborne exposure risks. Some of these innovations may even be superior.

a. HEPA Vacuuming - HEPA vacuums differ from conventional vacuums in that they contain high-efficiency filters that are capable of trapping extremely small particles. These filters can remove particles of 0.3 microns or greater from air with 99.97 percent efficiency or greater. (A micron is 1 millionth of a meter, or about 0.00004 inches.) Some vacuums are equipped with an ultra-low penetration air (ULPA) filter that is

capable of filtering out particles of 0.13microns or greater at 99.9995 percent efficiency. However, ULPA filters are slightly more expensive and may be less available than HEPA filters. Vacuuming with conventional vacuum machines is unlikely to be effective because much of the fine dust will be exhausted back into the environment where it can settle on surfaces. Considerations for the proper use of a HEPA vacuum are listed below.

(1) Operating Instructions - There are a several manufacturers of HEPA vacuums. Although all HEPA vacuums operate on the same general principle, they may vary considerably with respect to specific procedures, such as how to change the filters. To ensure the proper use of equipment, carefully follow the manufacturer's operating instructions and, if possible, arrange training sessions with the manufacturer's representative. Although HEPA vacuums have the same suction capacity as ordinary vacuums that are comparably sized, their filters are more efficient. Improper cleaning or changing of HEPA filters may reduce the vacuum's suction capability.

(2) Special Attachments - Because the HEPA vacuum will be used to vacuum surfaces other than floors, operators should buy attachments and appropriate tool kits for use on different surfaces such as brushes of various sizes, crevice tools, and angular tools.

(3) Selecting Appropriate Size(s) - HEPA vacuums are available in several sizes, ranging from a small lunch bucket-sized unit to rack-mounted systems. Two criteria for size selection are the size of the job and the type of electrical power available. Manufacturer recommendations should be followed.

(4) Wet-Dry HEPA Vacuums - Some hazard control contractors have found the wet-dry HEPA vacuums to be particularly effective in meeting clearance standards. These vacuums are equipped with a special shut-off float switch to protect the electrical motor from water contact.

(5) Pre-filters - HEPA filters are usually used in conjunction with a pre filter or series of pre filters that trap the bulk of the dust in the exhaust air stream, particularly the larger particles. The HEPA filter traps most of the remaining small particles that have passed through the pre filter(s). All filters must be maintained and replaced or cleaned as specified in the manufacturer's instructions. Failure to do so may cause a reduction in suction power (thus reducing the vacuum's efficiency and effectiveness). Failure to change pre filters may damage the vacuum motor and will also shorten the service life of the HEPA filter, which is far more expensive than the pre-filters.

(6) HEPA Vacuuming Procedures - Surfaces to be vacuumed include ceilings, walls, floors, doors, heating, ventilation, and air conditioning (HVAC) equipment (heating diffusers, radiators, pipes, and vents), fixtures of any kind (light), built-in cabinets, and appliances. All rooms and surfaces should be included in the HEPA vacuum process, except for those that (1) were found not to have lead hazards and were properly separated from work areas before the process began, or (2) were never entered during the process. Sidewalks, driveways, and other exterior surfaces should be vacuumed if exterior hazard control work was conducted, or if debris was stored or dropped outside. Vacuuming

should begin on the ceilings and end on the floors, sequenced to avoid passing through rooms already cleaned, with the entryway cleaned last.

(7) Emptying the HEPA Vacuum - Used filters and vacuumed debris are potentially hazardous waste and should be treated accordingly. Therefore, operators should use extreme caution when opening the HEPA vacuum for filter replacement or debris removal to avoid accidental release of accumulated dust into the environment. This may occur, for example, if the vacuum's seal has been broken and the vacuum's bag is disturbed. Operators should also wear a full set of protective clothing and equipment, including appropriate respirators, when performing this maintenance function, which should be done in the containment area or off-site.

b. Wet Detergent Wash - Several types of detergents have been used to remove leaded dust. Those with a high phosphate content (containing at least 5 percent presidium phosphate, also known as TSP) have been found to be effective when used as part of the final cleaning process. TSP detergents are thought to work by coating the surface of dusts with phosphate or polyphosphate groups, which reduces electrostatic interactions with other surfaces and thereby permits easier removal. Because of environmental concerns some states have restricted the use of TSP, and some manufacturers have eliminated phosphates from their household detergents. However, high TSP detergents can usually be found in hardware stores and may be permitted for limited use, such as lead hazard control. Other non-TSP cleaning agents developed specifically for removing leaded dust have also been found to be effective (possibly more effective than TSP) in limited trials by several investigators and may also be safer, since TSP is a skin and eye irritant.* Manufacturer's Dilution Instructions - Users of cleaning agents for leaded dust removal should follow manufacturer's instructions for the proper use of a product, especially the recommended dilution ratio. Even diluted, trisodium phosphate is a skin irritant and users should wear waterproof gloves. Eye protection should also be worn, and portable eyewash facilities manufacturer's instructions. Failure to do so may cause a reduction in suction power (thus reducing the vacuum's efficiency and effectiveness). Failure to change pre-filters may damage the vacuum motor and will also shorten the service life of the HEPA filter, which is far more expensive than the pre-filters.

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(1) Proper Wet-Cleaning Procedures - At the conclusion of the active lead hazard control process and after the initial HEPA vacuuming, all vacuumed surfaces should be thoroughly and completely washed with a high-phosphate solution or other lead-specific cleaning agent (or equivalent) and rinsed. Select a detergent that does not damage existing surface finishes (TSP may damage some finishes). Work should proceed from ceilings to floors and be sequenced to avoid passing through rooms already cleaned.

(2) Changing Cleaning Mixture - Many manufacturers of cleaners will indicate the surface area that their cleaning mixture will cover. To avoid recontaminating an area by cleaning it with dirty water, users should follow manufacturer-specified surface area limits. However, regardless of manufacturers' recommendations, the cleaning mixture should be changed after its use for each room. As a rule of thumb, 5 gallons should be used to clean no more than 1,000 square feet. Used cleaning mixture is potentially hazardous waste; consult with your local water and sewage utility for directions on its

proper disposal. Wash water should never be poured onto the ground. The wash water is usually filtered and then poured down toilet (if the local water authority approves).

11. The HEPA/Wet Wash/HEPA Cycle Typical Procedures - The usual cleaning cycle that follows lead hazard control activities is called the HEPA vacuum/wet wash/HEPA cycle and is applied to an entire affected area as follows: First, the area is HEPA vacuumed. Next, the area is washed down. After drying, the area is again HEPA vacuumed. The rationale for this three-pass system is as follows: The first HEPA vacuum removes as much dust and remaining debris as possible. The wet wash further dislodges dust from surfaces. The final HEPA cycle removes any remaining particles dislodged but not removed by the wet wash.

12. Single-Pass Wet Wash/HEPA Vacuum - Some lead hazard control contractors have roundhead spray cleaner vacuums to be a cost-effective alternative to the three-pass system. Similar to home carpet-cleaning machines, these vacuums simultaneously deliver a solution to the surface and recover the dirty solution. Theoretically, this process combines two of the steps in the HEPA vacuum/wet wash/HEPA cycle into one step. While anecdotal evidence indicates that the spray cleaner wet wash/HEPA is effective for some uses, limitations have been noted in its use for ceilings, vertical surfaces, and hard to reach areas. This device may be used as long as clearance standards are met.

13. Sealing Floors - Before clearance, all floors without an intact, nonporous coating should be coated. Sealed surfaces are easier to clean and maintain over time than those that are not sealed. Wooden floors should be sealed with a clear polyurethane or epoxy coating. Concrete floors should be sealed with a concrete sealer or other type of epoxy coating. If these floors are already covered by an effective coat of sealant, it may be possible to skip this step. New surfaces should be cleaned with a cleaning solution that is appropriate for that type of surface.

14. Surface Painting or Sealing of Non-floor Surfaces - Surfaces, including walls, ceilings, and wood-work, should be coated with an appropriate primer and repainted. Surfaces enclosed with vinyl, aluminum coil stock, and other materials traditionally not repainted are exempt from the painting provision. Coating of walls may not be appropriate if lined with acoustic material to control noise.

15. Exterior Cleaning - Areas potentially affected by exterior lead hazard control should be protected via a containment system. Because weather can adversely affect the efficacy of exterior containment, the surface plastic of the containment system should be removed at the endow each workday. On a daily basis, as well as during final cleaning, the immediate area should be examined visually to ensure that no debris has escaped containment. Any such debris should be raked or vacuumed and placed in single 6- mil or double 4- mil plastic bags, which should then be sealed and stored along with other contaminated debris. HEPA vacuuming inappropriate for hard exterior surfaces, not for soil.

16. Worker Protection Measures - Studies indicate that during daily cleaning activities, especially while wet sweeping, workers may be exposed to high levels of airborne dust. Therefore, workers should wear protective clothing and equipment and appropriate respirators if required.

17. Maintaining Containment - The integrity of the plastic sheeting used in a lead hazard control project must be maintained. During their daily cleaning activities, workers should monitor the sheeting and immediately repair any holes or rips with 6-mil plastic and duct tape.

18. Decontamination of Workers, Supplies, and Equipment - Decontamination is necessary to ensure that worker's families, other workers, and subsequent properties do not become contaminated. Specific procedures for proper decontamination of equipment, tools, and materials prior to their removal from lead hazard control containment areas should be implemented. Work clothing, work shoes, and tools should not be placed in a worker's automobile unless they have been laundered or placed in sealed bags. All vacuums and tools that were used should be wiped down using sponges or rags and detergent solutions. Consumable/disposable supplies, such as mop heads, sponges, and rags, should be discarded after each space is completed. Soiled items should be treated as contaminated debris. Durable equipment, such as power and hand tools, generators, and vehicles should be cleaned prior to their removal from the site. The cleaning should consist of a thorough HEPA vacuuming followed by washing.

19. Preliminary Visual Examination - After the cleaning work is completed, the certified supervisor should visually evaluate the entire work area to ensure that all work has been completed and all visible dust and debris have been removed. While the preliminary examination may be performed by the lead hazard control supervisor, contractor or owner as a preparatory step before the final clearance examination, it does not replace the independent visual assessment conducted during clearance. If the visual examination results are unsatisfactory, affected surfaces must be retreated and/or reclined. Therefore, it is more cost-effective to have the supervisor rather than the clearance examiner perform this initial examination.

20. Final Inspection - The final clearance evaluation should take place at least 1 hour after the final cleaning. Clearance has three purposes: 1) to ensure that the lead hazard control work incomplete; 2) to detect the presence of leaded dust; and 3) to make sure that all treated surfaces have been repainted or otherwise sealed. Clearance is usually performed after the sealant is applied to the floor.

21. Advanced Screening - Advanced screening for clearance may be considered. Immediate on-site analysis of dust wipes may alert the contractor to continue cleaning prior to final clearance sampling.

22. Recleaning After Clearance Failure - If after passing the final visual examination, the space fails the clearance wipe dust tests, the HEPA/wet wash/HEPA cleaning cycle should be carefully and methodically repeated. Failure is an indication that the cleaning

has not been successful. Recleaning should be conducted under the direct supervision of a certified supervisor. Care should be exercised during the recleaning of "failed" surfaces or components to avoid recontaminating "cleared" surfaces or components.

23. Cleaning Cost Considerations - An important consideration in determining lead hazard control strategies and methods is the cost and difficulty of required daily and final cleanup operations and the likelihood that one can meet dust-clearance standards. A general rule of thumb is that lead hazard control strategies that generate the most dust will have higher cleanup costs and higher initial clearance test-failure rates.

24. Initial Clearance Test Failure Rates - The likelihood of passing final dust-clearance tests is highly correlated with the chosen intervention strategy, methods, and care exercised by the contractor. Chemical removal and hand-scraping strategies generally experience higher failure rates than replacement and encapsulation/ enclosure strategies. However, clearance failure is not solely related to abatement method. The diligence and effectiveness of an abatement contractor's cleaning process has a major impact on the likelihood of the space to pass the final wipe test clearance.

25. Key Factors In Effective Cleaning - Effective cleaning will be aided by adequate sealing of surfaces with polyethylene sheeting prior to lead hazard control. proper daily cleaning practices, good worker training, and attention to detail. Where poor worksite preparation is employed, additional cleaning may be required to meet clearance.

26. Special Problems - Surfaces such as porous concrete, old porous hardwood floors, and areas such as corners of rooms and window troughs pose especially difficult cleaning challenges. Porous concrete and corners of rooms normally require additional vacuuming to achieve unacceptable level of cleanliness.

27. Alternative Methods - Alternatives to the recommended cleaning tools and practices discussed in this document are available, some with significant potential for increasing effectiveness and lowering costs. Other vacuums may be used if worker exposures do not increase, if compliance with clearance standards is achieved, and if a variance from OSHA regulation is obtained by the contractor or employer (if required). The OSHA lead standard requires the use of HEPA vacuum equipment (see 29 CFR 1926.62 (h)(4), which states, "where vacuuming methods are selected, the vacuums shall be equipped with HEPA filters.").Agitator heads on vacuums have been shown to significantly enhance vacuum effectiveness on carpets in cleaning fine dust without increasing airborne dust levels. Vacuums without agitator heads appear to perform relatively poorly on carpets

DEPARTMENT OF THE ARMY AND THE AIR FORCE
NATIONAL GUARD BUREAU
REGIONAL INDUSTRIAL HYGIENE OFFICE
AIRPORT PLAZA SUITE 1530
510 PLAZA DRIVE
COLLEGE PARK, GA 30349

NGB-AVN-SI July 30, 2003

MEMORANDUM FOR: ADJUTANT GENERAL TX ARNG, ATTN.: State Occupational Health Office, P. O. BOX 5218, Austin, TX 78763-5218

SUBJECT: Transmittal of the Survey Reports for Dallas # 2 Armory, Dallas # 3 Armory, Dallas # 4, Dallas, TX.

1. References.

a. Department of Defense Instruction 6055.1, Department of Defense Occupational Safety and Health (OSH) Program, 26 October 1984.

b. Army Regulation (AR) 40-5, 30 August 1986, Medical Service, Preventive Medicine.

c. National Guard Regulation (NGR) 385-10, 1988, Army National Guard Safety and Occupational Health Program.

d. AR 11-34, The Army Respiratory Protection Program, 15 February 1990.

e. TB MED 502, Occupational and Environmental Health Respiratory Protection Program, February 1982.

f. DA PAM 40-503, 30 October 2000, The Army Industrial Hygiene Program.

g. DA PAM 40-501, 10 December 1998, Hearing Conservation.

h. Threshold Limit Values and Biological Exposure Indices (TLV's) for 2001, American Conference of Governmental Industrial Hygienists (ACGIH), Cincinnati, Ohio.

i. Industrial Ventilation, 23rd Edition, American Conference of Governmental Industrial Hygienist, Cincinnati, Ohio.

j. USAEHA TG-141, November 1997, Guidelines for Air Sampling and Bulk sample Collection.

NGB-AVN-SI
SUBJECT: Transmittal of the Survey Reports for Dallas # 2 Armory, Dallas # 3 Armory, Dallas # 4, Dallas, TX.

k. Title 29, Code of Federal Regulations (CFR), 2000 rev., part 1910, Occupational Safety and Health Standards.

l. Report dated 2 July 2003, Industrial Hygiene Survey, Tamar Sciences, Inc., Naperville, IL.

2. General.

a. At the request of the TXARNG Safety and Occupational Health Office, an Industrial Hygiene Service was put together to conduct Health Hazard Information module (HHIM) Field surveys and industrial hygiene sampling of the Dallas # 2 Armory, Dallas # 3 Armory, Dallas # 4, Dallas, TX.

b. The surveys were conducted by Non-Responsive of Tammer Sciences, Inc., Napervile, IL

3. Findings. All Health Hazard information are on the survey findings of the report. (See enclosure 1)

4. Recommendations.

a. Follow all recommendations made in reference 1.l., requesting industrial hygiene (IH) services where needed to complete the recommendations.

b. Conduct an air sampling survey in the areas in and around those identified with elevated lead dust levels in page 3 0f reference 1.l, to ensure that the lead dust present is not airborne and that employees in these areas are not exposed above the action level where applicable.

c. Control water infiltration in the armory and/or replace or repair damaged surfaces or components (ceiling and floor tiles). Building conditions that present IAQ concerns or problems not only exacerbates normally minor health issues but also tend to promote or accelerate building deterioration.

d. The recommendations given in the comment section and data collected will serve as a baseline for the Industrial Hygiene Implementation Plan (IHIP) for FY-03. A follow up operation and hazard specific air sampling survey based on the enclosed findings will be included in the FY-04 IHIP.

NGB-AVN-SI
SUBJECT: Transmittal of the Survey Reports for Dallas # 2 Armory, Dallas # 3 Armory, Dallas # 4, Dallas, TX.

e. Consider additional Industrial Hygiene services to monitor operations that were not looked at or surveyed during the present survey, especially if this will help eliminate health hazards and reduce medical surveillance cost.

f. To execute your responsibilities in correcting all deficiencies and meeting all standards coordinate with the Occupational Health Nurse and the Occupational Safety and Health Office for technical guidance.

f. Give special consideration to cleaning light fixtures, increasing the wattage and painting walls a lighter color when upgrading the lighting in the facility.

5. If additional information is needed about the industrial hygiene survey or air sample [redacted] al Hygienist, NGB-

Non-Responsive

Non-Responsive

CF:
NBG-AVN-SH
State Occupational Health Office, P. O. BOX 5218, Austin, TX 78763-5218.
State Safety Manager, P. O. BOX 5218, Austin, TX 78763-5218.

Encl
as

Industrial Hygiene Baseline Survey Report
For
Texas Army National Guard
(TXARNG)

At
Dallas #4
7901 Goforth Road
Dallas, Texas

Prepared for:

Department of the Army and the Air Force
National Guard Bureau
Regional Industrial Hygiene Office
Region South
Airport Plaza Suite 1530
510 Plaza Drive
College Park, GA 30349

By
Non-Responsive

July 2, 2003

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B. Laboratory Analytical Results.
C. Lab Chain of Custody.
D. Floor Layout and Photographs.

Executive Summary

An initial baseline industrial hygiene survey was conducted at the Dallas #4 Armory on 7 May 2003 as part of the Texas Army National Guard Occupational Health Program to identify potential health hazards in the workplace. The survey consisted of collecting lead wipe samples and bulk asbestos samples. At the time of the survey, the armory was evacuated and all employees were moved to a newer location. The building was to be turned over to the State. No noise or illumination measurements were collected. Suspect lead based paint chip samples were collected from the kitchen area.

The following table summarizes the survey findings and recommendations for each topic surveyed.

Topic	Summary of Findings	Recommendations
Lead Wipe Samples	<10 to 150 microgram per square foot.	None.
Asbestos Bulk Samples	No asbestos containing building material.	None.
Paint Chip samples.	0.06% Lead in door and wall paint in Kitchen.	None.

SUBJECT: Industrial Hygiene Initial Baseline Survey of the Dallas #4 Armory in Dallas, Texas on 7 May 2003

BACKGROUND:

Introduction. At the request of Non-Responsive of the National Guard Bureau Region South Industrial Hygiene Office, an initial baseline industrial hygiene survey was performed at the Dallas #4 Armory in Dallas, Texas. Non-Responsive Industrial Hygiene Technician for the Texas Army National Guard and Non-Responsive contract Industrial Hygienist, Tammer Sciences, Inc. conducted the survey on 7 May 2003. The purpose of the survey was to perform an initial baseline industrial hygiene survey to evaluate potential health hazards present at the armory.

Site Description. The armory building is a two-story structure that was constructed in 1959. The facility is empty and the building is to be turned over to the State. No employees currently worked at this facility. All furniture and equipment were removed from the facility. A copy of the floor layout and photos are included in Appendix D.

Scope of Work. The work included collecting wipe samples for lead, bulk samples for suspect asbestos containing building material, illumination levels, noise readings, and an evaluation of the ventilation system as it pertains to indoor air quality. Because the building was evacuated no illumination or noise readings were collected. Paint chip samples were collected from suspect lead based paint in the kitchen.

Methodology Lead wipe samples were collected from surfaces that showed signs of lead contamination in Armories that have a renovated, inactive, or closed indoor firing range (IFR). The samples were collected accordance to instructions published by Region South National Guard Bureau, which required the use of unscented baby wipes to wipe one square foot of surface. Samples were then placed in a sealed plastic bag and sent for analysis to EMSL laboratory, which is an American Industrial Hygiene Association (AIHA) Accredited laboratory. Asbestos bulk samples were collected from suspect building materials that were grouped based on similarity of composition. Bulk sample collection was minimally destructive and samples were collected from inconspicuous areas. Bulk samples were also collected from suspect friable and damaged building material. Each bulk sample was placed in a sealed bag and sent to EMSL laboratory for analysis. A photograph of the sampled material and area were also taken.

FINDINGS and DISCUSSION:

The Point of Contact during the survey was Non-Responsive

Lead Wipe Samples: Five wipe samples were collected from the evacuated armory as listed in the table below.

Sample Number	Sample Location	Micrograms of lead (ug) per square foot
DAL4001	Top of beam in drill hall by staircase to the classrooms.	150
DAL4002	Top of refrigerator in kitchen.	<10
DAL4003	Floor area in drill hall in front of supply room #1.	72
DAL4004	Floor area in drill hall in front of supply room #2.	32
DAL4005	Floor area in drill hall in front of overhead roll door.	48
DAL4006	Field blank.	<10

The US Environmental Protection Agency (EPA), under a new standard issued in 2000, considers lead dust as a hazard if levels are greater than 40 micrograms of lead in dust per square foot on floors; 250 micrograms of lead in dust per square foot on interior window sills and 400 parts per million (ppm) of lead in bare soil in children's play areas or 1200 ppm average for bare soil in the rest of the yard. This standard is a major effort by the EPA to identify dangerous levels of lead in paint, dust and soil in order to protect children from lead poisoning. The National Guard Bureau recommends a limit of 200 micrograms per square foot for surface contamination. The laboratory report and chain of custody forms are attached in Appendices B and C.

Asbestos Suspect Building Material: Eight types of building materials were identified as potentially containing asbestos. The identified types included three types of 2x4 feet ceiling tiles and baseboards, and pipe thermal insulation. A total of eight bulk samples were collected randomly from the identified materials. The table below lists the samples collected and the results:

Sample #	Description	% Asbestos Type
DAL401A	Baseboard from classroom area.	None.
DAL402A	Baseboard from classroom area.	None.
DAL403A	Baseboard from office area on the second floor.	None.
DAL404A	Ceiling tile from Orderly Room.	None.

DAL405A	Ceiling tile from CDR Orderly Room.	None.
DAL406A	Fitting thermal insulation from the fire water supply pipe.	None.
DAL407A	Pipe thermal insulation from the fire water supply pipe.	None.
DAL408A	Ceiling tile from Supply Room.	None.

The laboratory report and chain of custody forms are attached in Appendices B and C.

Paint Chips Samples: Two suspect lead based paint samples were collected from the wall and door in the kitchen. Both samples contained less than 0.06% by weight lead.

Recommendations: None.

Technical Assistance: For technical assistance regarding information found in this report

Non-Responsive

APPENDIX A

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

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

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

Army Regulation (AR) 11-34, The Army Respiratory Protection Program, 1990

Army Regulation (AR) 40-5, Preventative Medicine, 15 October 1990.

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

National Fire Protection Association (NFPA) No. 30, Standard for Flammable and Combustibles Liquid Code, 1996.

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

NGR 385-10, Army National Guard Safety and Occupational Health Program, 29 December 1989.

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

Title 29, Code Of Federal Regulations (CFR), 1999, revision, Part 1910, Occupational Safety and Health Standards.

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

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

APPENDIX B

EMSL Analytical
3 Cooper Ct, Westmont, NJ 08108
Phone: (856) 858-4800 Fax: (856) 858-0851 Email: gmiller1@emsl.com

EMSL

Attn: Non-Responsive
Fax:
Project: Dallas #4

Customer ID: TS80
Customer PO:
Received: 05/12/03 11:50 AM

EMSL Order: 200304864
EMSL Project ID:

Lead in Wipes by Flame AAS (SW 846, 7420)

Client Sample Description	Lab ID	Analyzed	Area Sampled	Lead Concentration
DAL 4001	0001	5/23/03	144 in²	50.0 µg/ft²
DAL 4002	0002	5/23/03	144 in²	<10.0 µg/ft²
DAL 4003	0003	5/23/03	144 in²	72.0 µg/ft²
DAL 4004	0004	5/23/03	144 in²	32.0 µg/ft²
DAL 4005	0005	5/23/03	144 in²	48.0 µg/ft²
DAL 4006	0006	5/23/03	144 in²	<10.0 µg/ft²

Non-Responsive

The QC data associated with the sample results included in this report meet the recovery and precision requirements established by the AIHA, unless specifically indicated otherwise in the comment section.
ACCREDITATIONS: AIHA Environmental Lead Laboratory Approval Program # 100194

Date Printed: 5/27/03 10:13:08 AM

Page 1 of 1

EMSL Analytical
3 Cooper St., Westmont, NJ 08108
Phone: (8[illegible] Fax: (856) 858-8551 Email: gmiller1@emsl.com

Attn: Non-Responsive
Fax:
Project: Testing #4

Customer ID: TS80
Customer PO:
Received: 05/12/03 11:50 AM

EMSL Order: 200304967
EMSL Project ID:

Lead in Paint Chips by Flame AAS (SW 846, 7420)

Client Sample Description	Lab ID	Analyzed	Lead Concentration
DAL 401P	0001	5/23/03	0.06 % wt
DAL 402P	0002	5/23/03	0.08 % wt

Non-Responsive

Reporting limit is 0.01 % wt. The QC data associated with the sample results included in this report meet the recovery and precision requirements established by the AIHA, unless specifically indicated otherwise in the comment section.
ACCREDITATIONS: AIHA Environmental Lead Laboratory Accredited Program # 100194

Date Printed: 5/23/03 2:23:57 PM

EMSL Analytical, Inc.
107 Haddon Ave., Westmont, NJ 08108
Phone: (856) 858-4800 Fax: (856) 858-4960 Email: salesgel@EMSL.com

EMSL

Attn: Non-Responsive
Fax:
Project:

Customer ID: TS80
Customer PO:
Received: 05/12/03 2:35 PM

EMSL Order: 040307590
EMSL Project ID:
Analysis Date: 5/19/03

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

				Non-Asbestos			Asbestos
Sample	Location	Appearance	Treatment	% Fibrous		% Non-Fibrous	% Type
DAL401A 040307590-0001	DALLAS #4	Tan Fibrous Heterogeneous	Dissolved	30%	Cellulose	70% Non-fibrous (other)	None Detected
DAL402A 040307590-0002	DALLAS #4	Brown Non-Fibrous Heterogeneous	Dissolved	2%	Cellulose	98% Non-fibrous (other)	None Detected
DAL403A 040307590-0003	DALLAS #4	Black Non-Fibrous Heterogeneous	Dissolved	<1%	Cellulose	100% Non-fibrous (other)	None Detected
DAL404A 040307590-0004	DALLAS #4	Brown Fibrous Heterogeneous	Teased	60% 15%	Cellulose Glass	25% Non-fibrous (other)	None Detected
DAL405A 040307590-0005	DALLAS #4	Brown Fibrous Heterogeneous	Teased	90%	Cellulose	10% Non-fibrous (other)	None Detected
DAL406A 040307590-0006	DALLAS #4	Gray Fibrous Heterogeneous	Teased	2% 50%	Cellulose Min. Wool	48% Non-fibrous (other)	None Detected
DAL407A 040307590-0007	DALLAS #4	Yellow Fibrous Heterogeneous	Teased	<1% 90%	Cellulose Min. Wool	10% Non-fibrous (other)	None Detected
DAL408A 040307590-0008	DALLAS #4	Yellow Fibrous Heterogeneous	Teased	90%	Min. Wool	10% Non-fibrous (other)	None Detected

Non-Responsive

Non-Responsive

PLM has been known to miss asbestos in a small percentage of samples which contain asbestos. Negative PLM results cannot be guaranteed. Samples reported as <1% or none detected should be tested with TEM. The above test report relates only to the items tested. This report may not be reproduced, except in full, without written approval by EMSL Analytical, Inc. The above test must not be used by the client to claim product endorsement by NVLAP nor any agency of the United States Government.
Analysis performed by EMSL Westmont (NVLAP #101046-0, NY ELAP 10872

PLM-1

1

THIS IS THE LAST PAGE OF THE REPORT.

APPENDIX C

EMSL ANALYTICAL | CHAIN OF CUSTODY | 2413449LY | LEAD

Revise 1 7/1/99

EMSL Rep:

DATE: 5/8/03

Third party billing requires written authorization from third party

Your Company Name: Tammer Sciences, Inc.

EMSL-Bill to: Same as previous

Street: 3744 Lawrence Dr

Street:

Box #:

Box #:

City/State: Naperville, IL Zip: 60564

City/State: Zip:

Phone Results to: [redacted]

Name:

Telephone #:

Project Name/Number:

Order #:

MATRIX	METHOD	INSTRUMENT	mdls	TAT
Lead Chips*	SW846-7420 or AOAC 5.009 (974.02)	Flame Atomic Absorption	0.01% ++	144hrs
Lead Wastewater	SW846-7420	Flame Atomic Absorption	0.4 mg/l water 50 mg/kg (ppm) soil	
Lead Soil +	or SW846-6010	ICP	0.1 mg/l water 10 mg/kg (ppm) soil	
Lead in Air***	NIOSH 7082	Flame Atomic Absorption	5 ug/filter	
	or NIOSH 7300	ICP	3.0 ug/filter	
Lead in Wipe	SW846-7420	Flame Atomic Absorption	10 ug/wipe Samp. 72 hrs noted	144 hrs A
	or SW846-6010	ICP	3.0 ug/wipe	
TCLP Lead **	SW846-1311/7420	Flame Atomic Absorption	0.4 mg/l (ppm)	
	or SW846-6010	ICP	0.1 mg/l (ppm)	
Lead in Air ****	NIOSH 7105	Graphite Furnace Atomic Absorption	0.03 ug/filter	
Lead Wastewater	SW846-7421	Graphite Furnace Atomic Absorption	0.003 mg/l (ppm) water	
Lead Soil +			0.3 mg/kg (ppm) soil	
Lead in Drinking Water (check state Certification Requirements)	EPA 239.2	Graphite Furnace Atomic Absorption	0.003 mg/l (ppm)	
Total Dust	NIOSH 0500-0600	Gravimetric Reduction	0.0001g	

TAT (Turnaround) - 3 hours, 6 hours, Please call ahead to schedule.
12 hours (must arrive by 11:00 a.m).
24 hours (1day), 48 hours (2 days), 72 hours, 96 hours (3 days), 120 hours(4 days), 144 + hours (6-10 days)
*, **, ***, ****, +, ++ Please Refer to Price Quote

SAMPLE #	LOCATION	Air volume, L Area, in²	LAB #
DAL 5001	DALLAS 5	144 in²	6
DAL 5002			
DAL 5003			
DAL 5004			
Relinquished By: (Person) [redacted]			
Date: 5/8/03			LG

Note: Please duplicate this form and use additional sheets if necessary.

Page 1 of 4

EMSL ANALYTICAL CHAIN OF CUSTODY 200704964 LEAD

Revise 1 7/1/00

SAMPLE #	LOCATION	Air volume, L Area, in²	LAB #
DAL 5005	DALLAS#5	144 in2	
DAL 5006			
DAL 5007			
DAL 5008			
DAL 5009			
DAL 5010			
DAL 5011			
DAL 5012			
⇒ ** SEPERATE REPORT **			⇐
IRV 001	IRVING / DALLAS	144 in2	
IRV 002			
IRV 003			
IRV 004			
IRV 005			
IRV 006			
IRV 007			
IRV 008			
IRV 009			
IRV 010			
IRV 011			
IRV 012			
⇒ ** SEPERATE REPORT **			⇐
DAL 2001	DALLAS # 2	144 in2	
DAL 2002			
DAL 2003			
DAL 2004			
DAL 2005			
DAL 2006			
DAL 2007			
DAL 2008			
⇒ ** SEPERATE REPORT **			⇐
DAL 4001	DALLAS # 4	144 in2	
DAL 4002			
DAL 4003			

Relinquished By: (Person) Non-Responsive

Date 5/8/03

Note: Please duplicate this form and use additional sheets if necessary.

Page 2 of 4

EMSL ANALYTICAL
Revised 7/1/99

CHAIN OF CUSTODY 260304[illegible]

LEAD

SAMPLE #	LOCATION	Air volume, L Area, in²	LAB #
DAL #004	DALLAS # 4	144 in²	[illegible]
DAL 4005	"	"	"
DAL 4006	"	"	"
# SEPERATE REPORT		#	
DAL 3001	DALLAS # 3	144 in²	
DAL 3002			
DAL 3003			
DAL 3004			
DAL 3005			
DAL 3006			
DAL 3007			
DAL 3008			
DAL 3009			
DAL 3010			
DAL 3011			
DAL 3012			
DAL 3013			
DAL 3014			
DAL 3015			
SEPERATE REPORT #		#	
DAL 401P	DALLAS # 4	Paint Chip	
DAL 402P	"	"	
# SEPERATE REPORT #			

Relinquished By: (Perso[illegible] Non-Responsive

Date 5/8/03

Note: Please duplicate this form and use additional sheets if necessary.

Page 3 of 4

04030790

EMSL Analytical, Inc.
Revised 07/07/99

CHAIN OF CUSTODY

Asbestos

EMSL Rep:

Third Party Billing requires written authorization from third party

Your Company Name: Hammer Sciences, Inc.
Street: 3944 Lawrence Dr.
Box #:
City/State: Naperville, IL Zip: 60564

EMSL-Bill to:
Street: Same as Shipping
Box #:
City/State: Zip:

Phone Results to:
Name:
Telephone #:
Project Name/Number:

MATRIX

- ☐ Air
- ☐ Floor Tile
- ☐ Soil
- ☑ Bulk
- ☐ Drinking Water
- ☐ Dust
- ☐ Wipe
- ☐ Wastewater
- ☐ Micro-Vac

TURNAROUND

- ☐ 3 hrs
- ☐ 6 Hours
- ☐ Same Day or 12 Hours*
- ☐ 24 Hours 1 day
- ☐ 48 Hours 2 days
- ☐ 72 Hours 3 days
- ☐ 96 Hours 4 days
- ☐ 120 Hours 5 Days
- ☑ 144+ hours 6-10 Days

TEM AHERA, 3 hours, 6 hours. Please call ahead to schedule. There is a premium charge for 3 hour TAT, please call 1-800-220-3675 for price prior to sending samples. You will be asked to sign and authorization form for this service. 12 hours (must arrive by 11:00 a.m. 8am - Fri.). Please Refer to Price Quote

PCM - Air
- ☐ NIOSH 7400
- ☐ OSHA
- ☐ Other:

TEM AIR
- ☐ AHERA
- ☐ NIOSH 7402
- ☐ EPA Level II

TEM WATER
- ☐ Wastewater
- ☐ Drinking Water EPA 100.1
- ☐ Water - NY Wastewater
- ☐ Water-NY Drinking Water

PLM - Bulk
- ☑ EPA 600/R-93/116
- ☐ EPA Point Count
- ☐ NY Stratified Point Count
- ☐ PLM NOB (Gravimetric) NY 198.1
- ☐ Other:

TEM BULK/misc
- ☐ Drop Mount (Qualitative)
- ☐ Chatfield
- ☐ TEM NOB (Gravimetric) NY 198.4

TEM MICROVAC / WIPE
- ☐ ASTM D 5755-95 quantitative method

XRD
- ☐ Asbestos
- ☐ Silica

SEM - Air or Bulk
- ☐ Qualitative
- ☐ Quantitative

OTHER
- ☐

SAMPLE NUMBER	LOCATION	VOLUME (If Applicable)
DAL-501A	DALLAS # 5	N/A
DAL502.A		

Client Sample # (s):
Total Samples #:

Relinquished: Time: PM
Received: Time:

040307590

EMSL Analytical, Inc.
Revised 07/03/99

CHAIN OF CUSTODY

Asbestos

SAMPLE NUMBER	LOCATION	VOLUME (If Applicable)
DAL 503A	DALLAS # 5	NA
DAL 504A		
DAL 505A		
--->	* SEPERATE REPORT *	<---
IRV01A	IRVING/DALLAS	N/A
IRV02A		
IRV03A		
IRV04A		
---> *	SEPERATE REPORT *	<---
DAL201A	DALLAS # 2	N/A
DAL202A		
DAL203A		
---> * SEPE	RATE REPORT *	<---
DAL401A	DALLAS # 4	N/A
DAL402A		
DAL403A		
DAL404A		
DAL405A		
DAL406A		
DAL407A		
DAL408A		
---> *	SEPERATE REPORT *	<---
DAL301A	DALLAS # 3	N/A
DAL302A		
DAL303A		
*	SEPERATE REPORT *	<---

Page 2 of 3

2

BEST AVAILABLE COPY

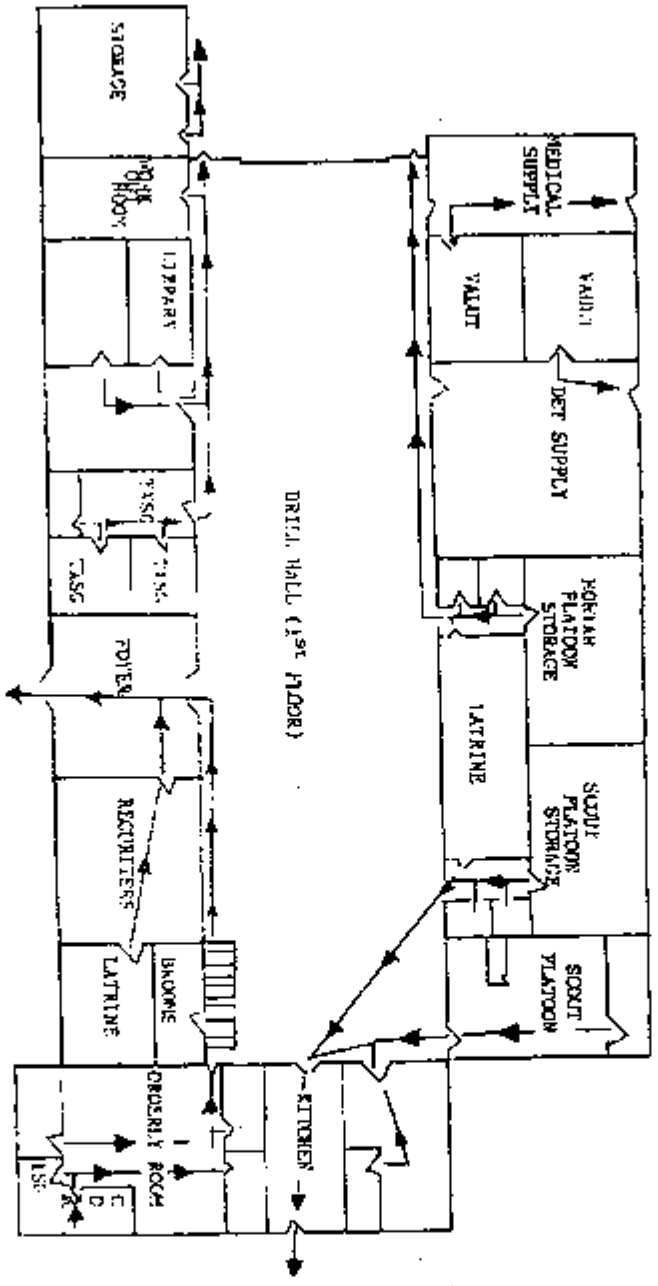
040357590

EMSL Analytical, Inc.
Revised 07/07/99

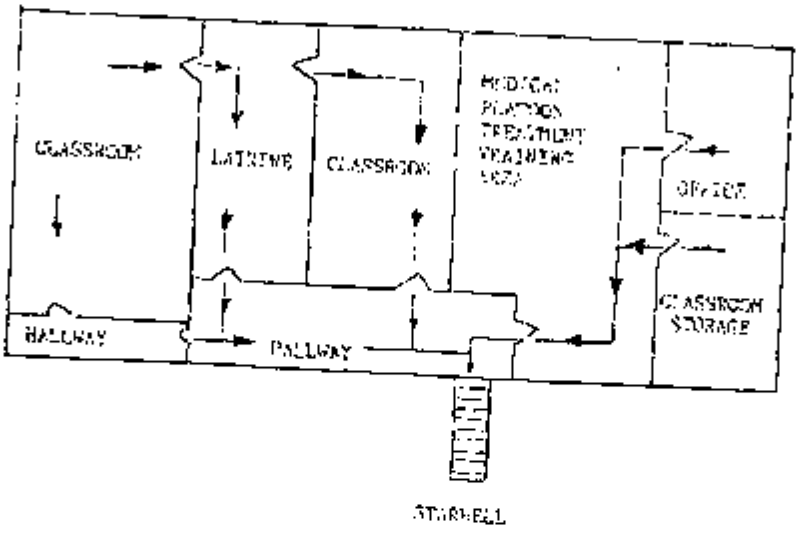
CHAIN OF CUSTODY

SAMPLE NUMBER	LOCATION	VOLUME (If Applicable)
FWO1A	FORT WORTH # 2	N/A
FWO2A	↓	↓
FWO3A		
FWO4A		
→ SEPERATE	REPORTS →	←

APPENDIX D



FIRE EVACUATION PLAN
FIRST FLOOR



FIRE EVACUATION PLAN
SECOND FLOOR

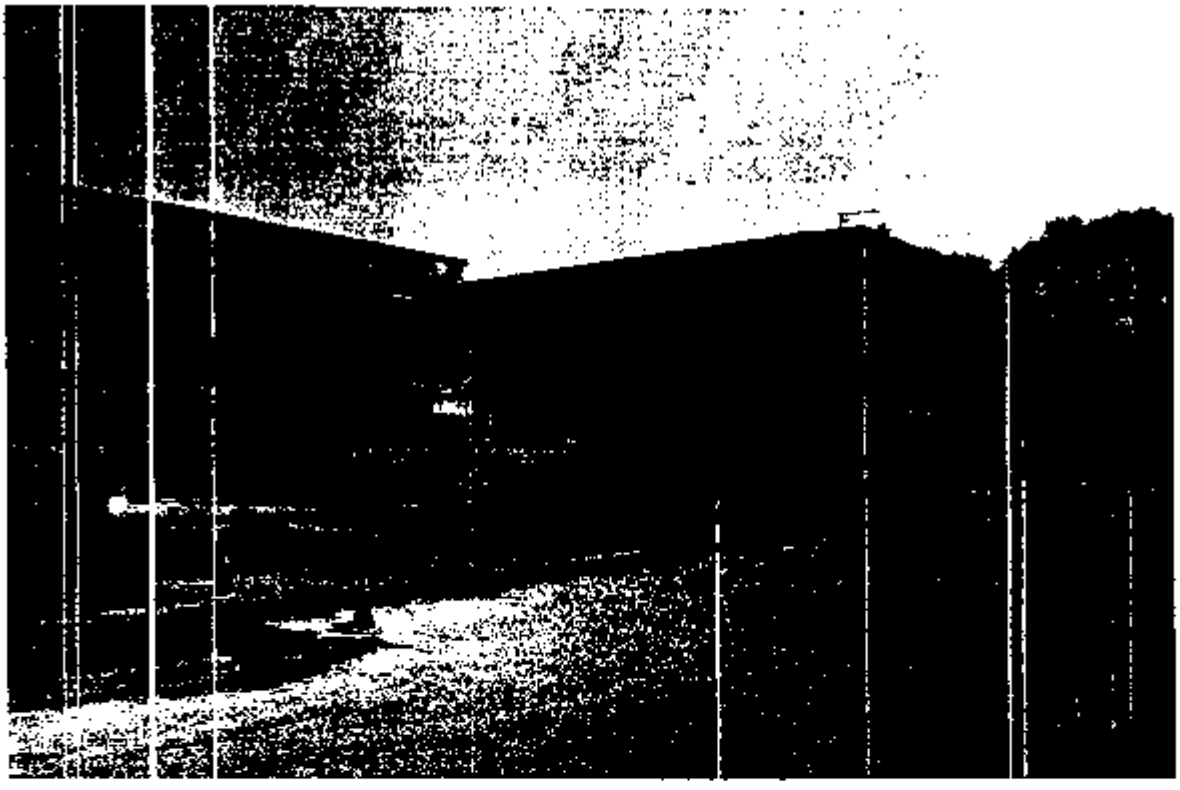


Photo 1: Dallas #4 Armory Front Entrance.

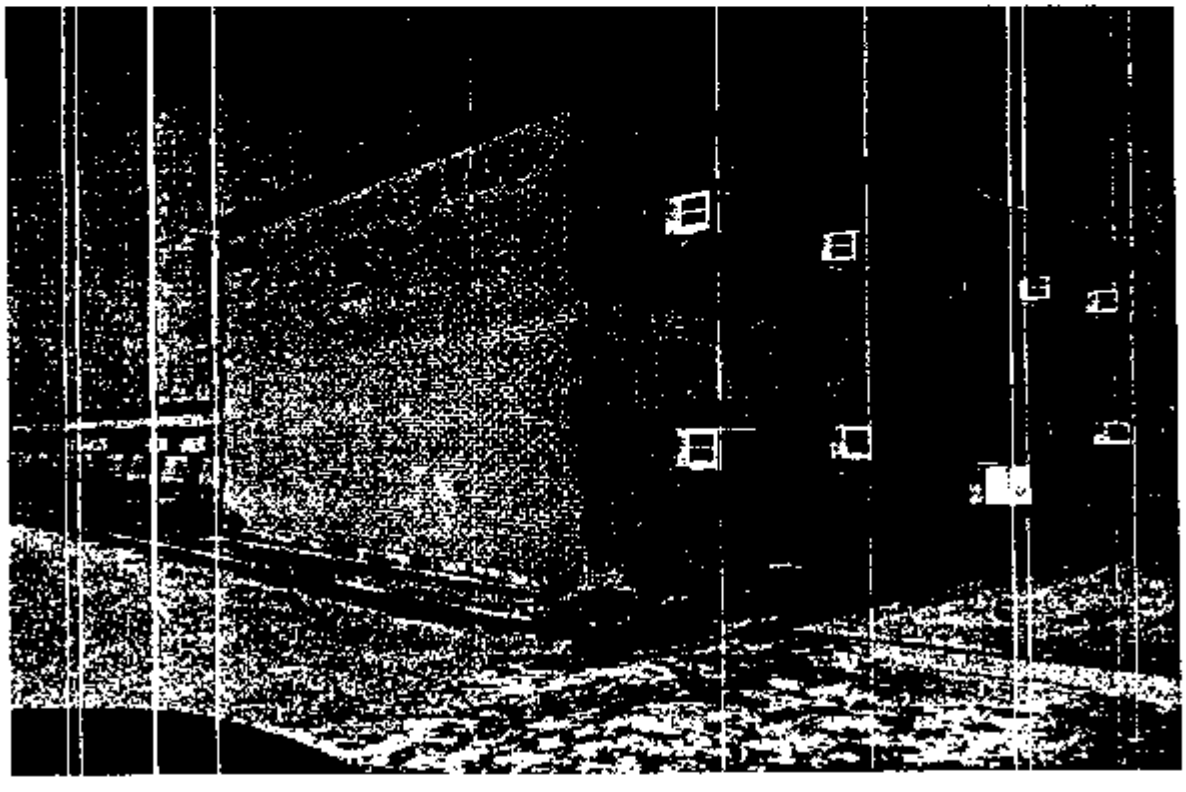


Photo 2: Dallas #2 Armory East Side.

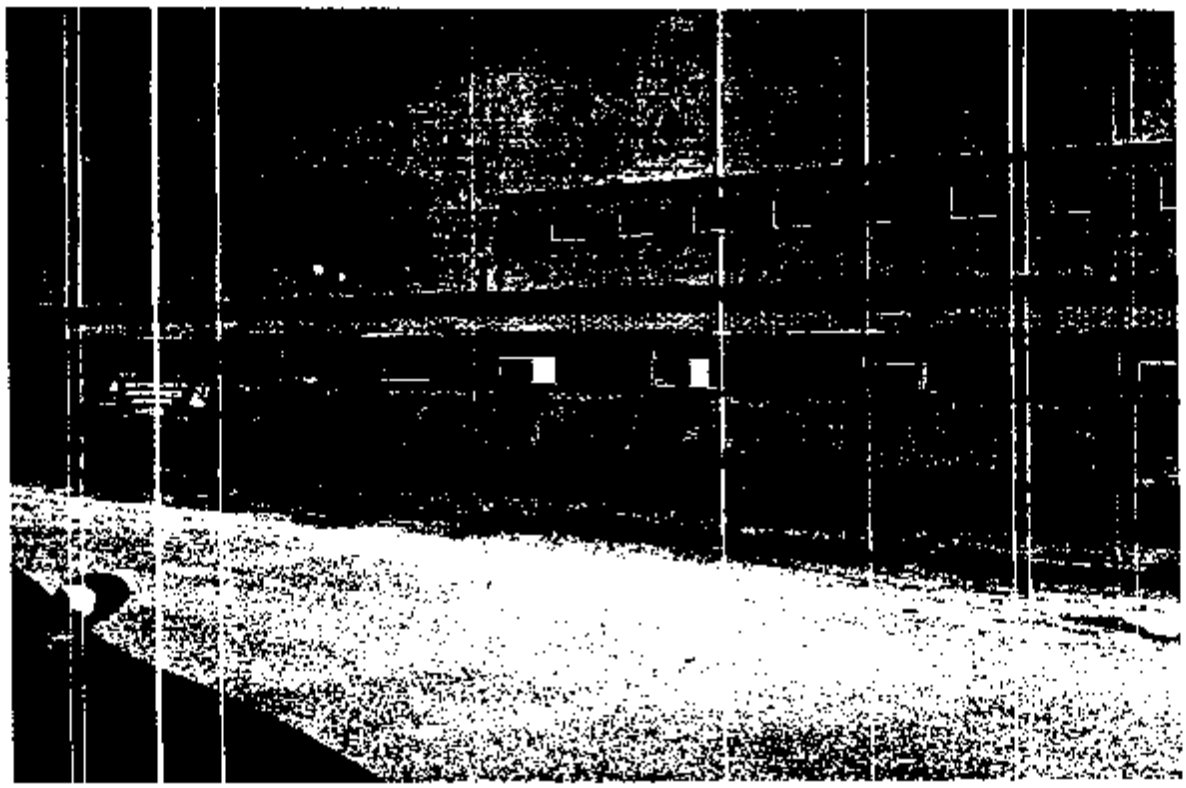


Photo 3: Armory West Side.

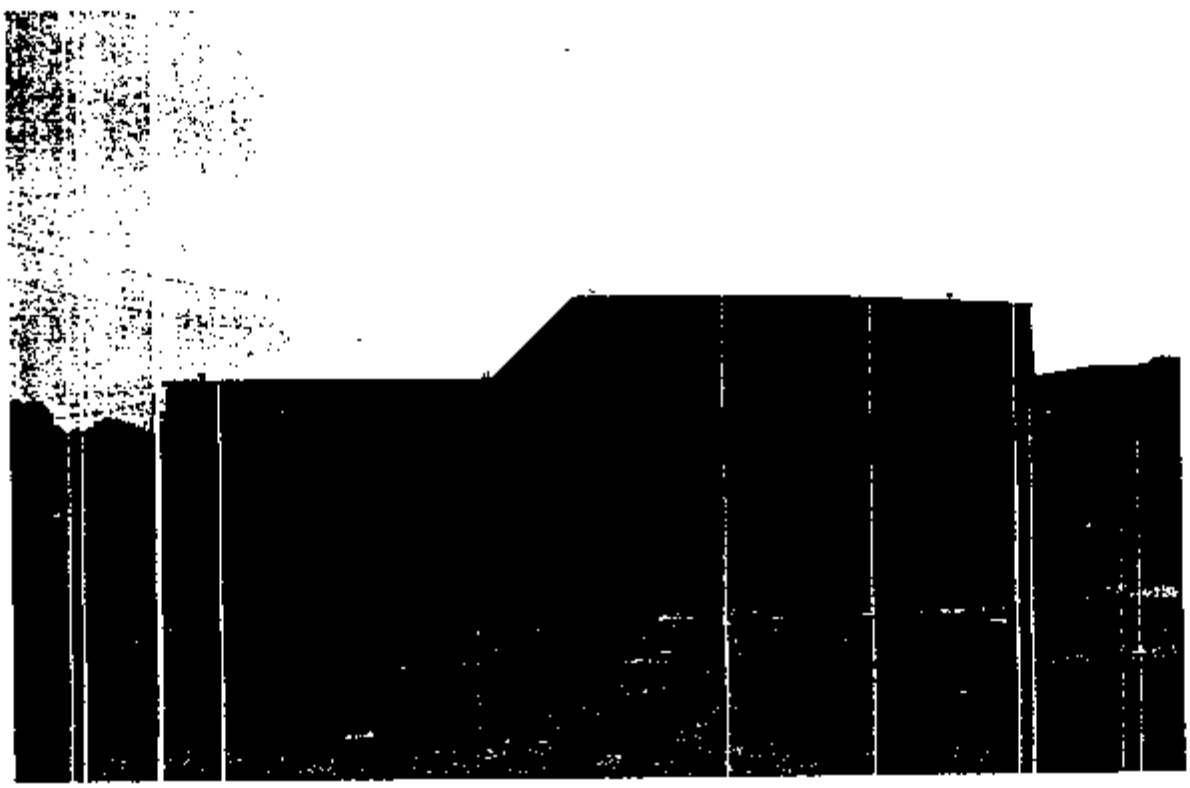


Photo 4: Armory North Side.

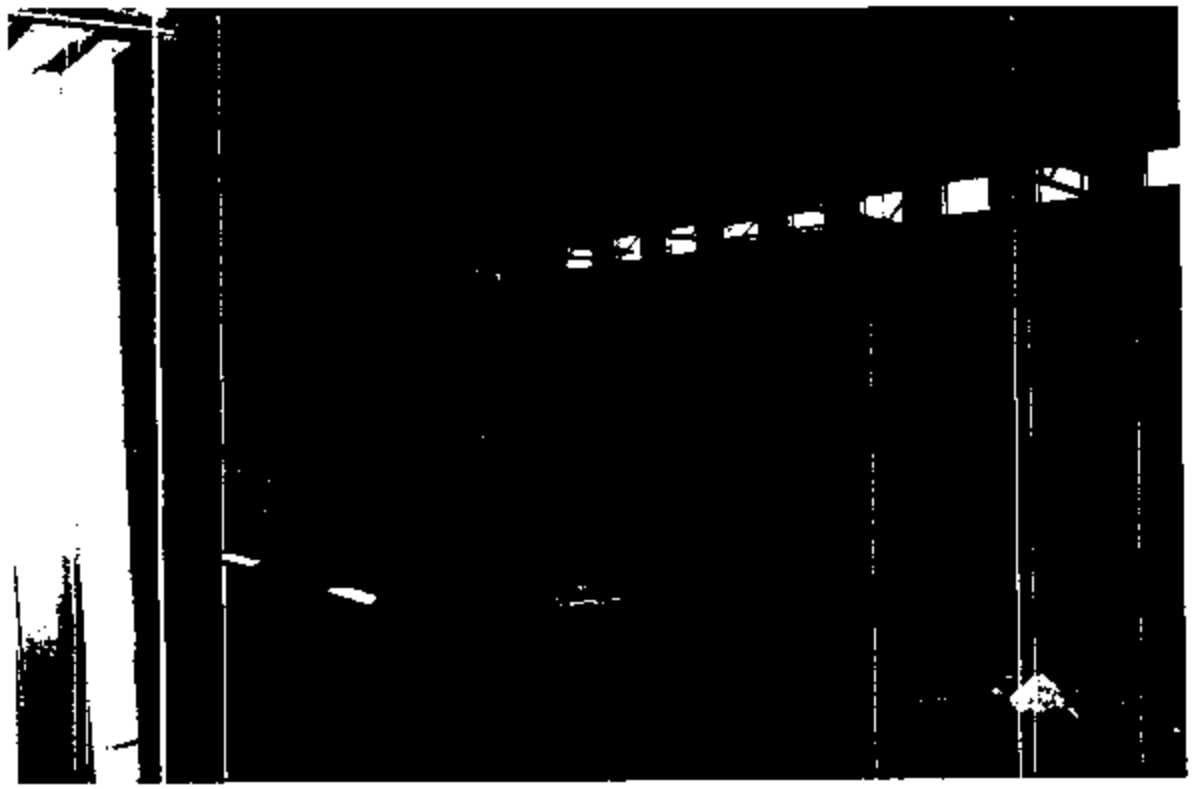


Photo 5: Armory's Drill or Assembly Hall.

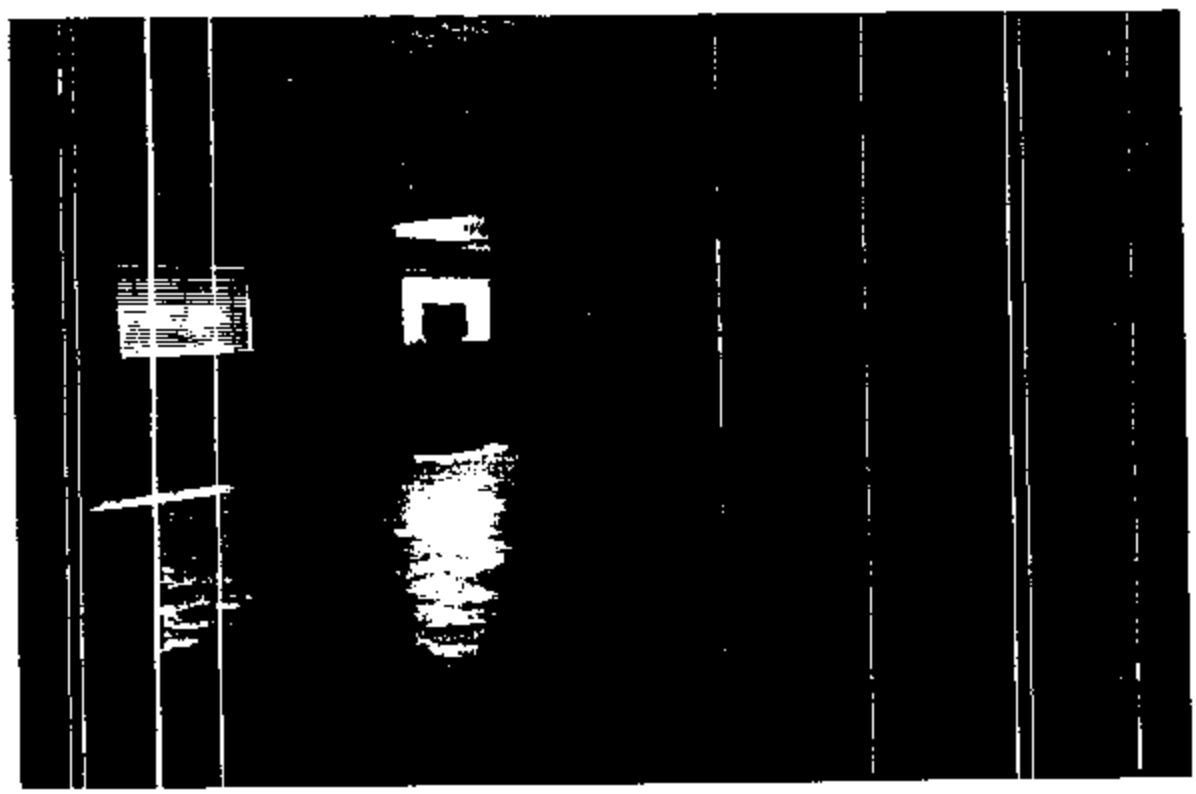


Photo 6: Second floor classroom showing baseboard.

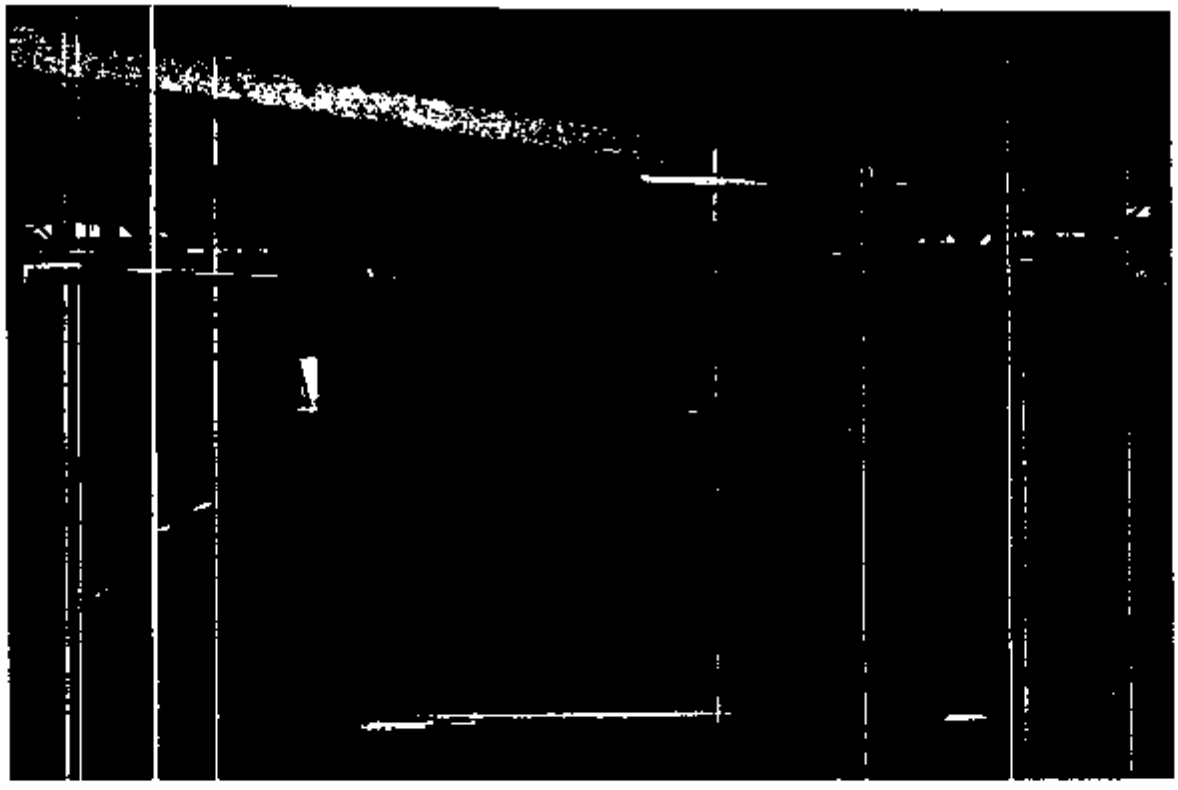


Photo 7: Armory drill or assembly hall facing west.

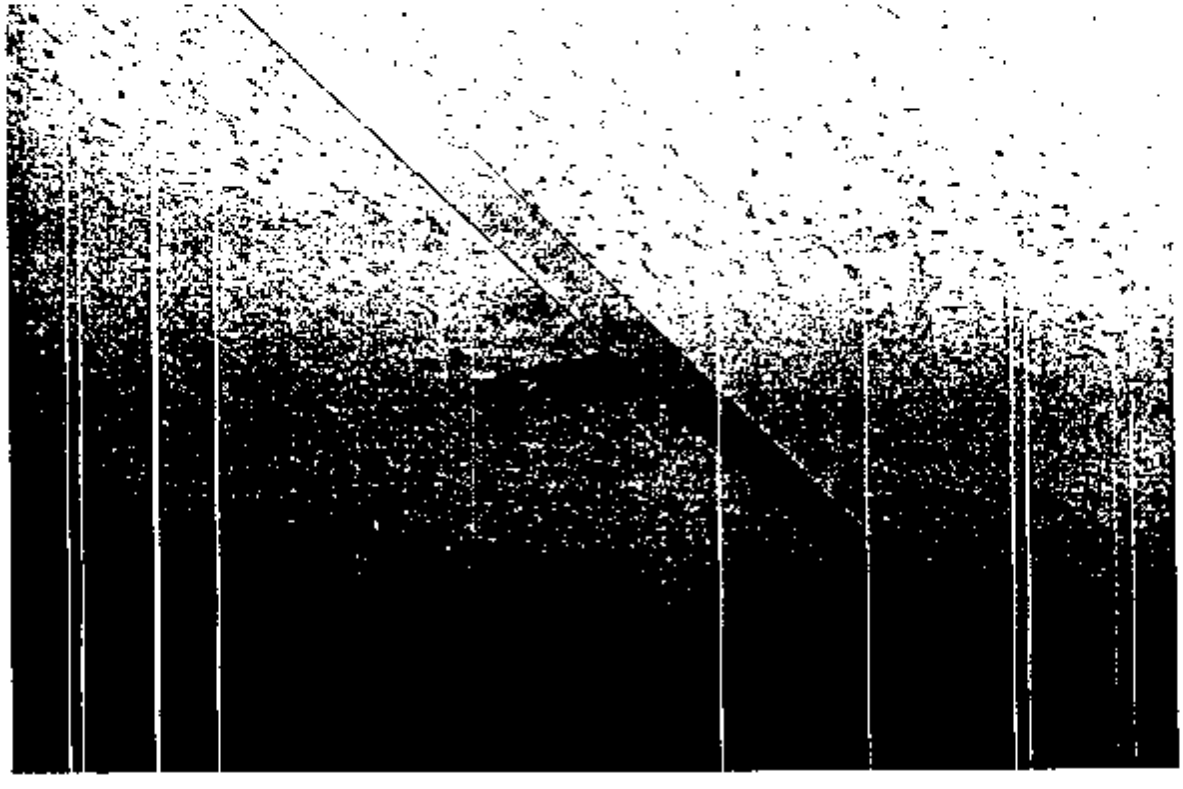


Photo 8: Ceiling tile in Orderly Room.

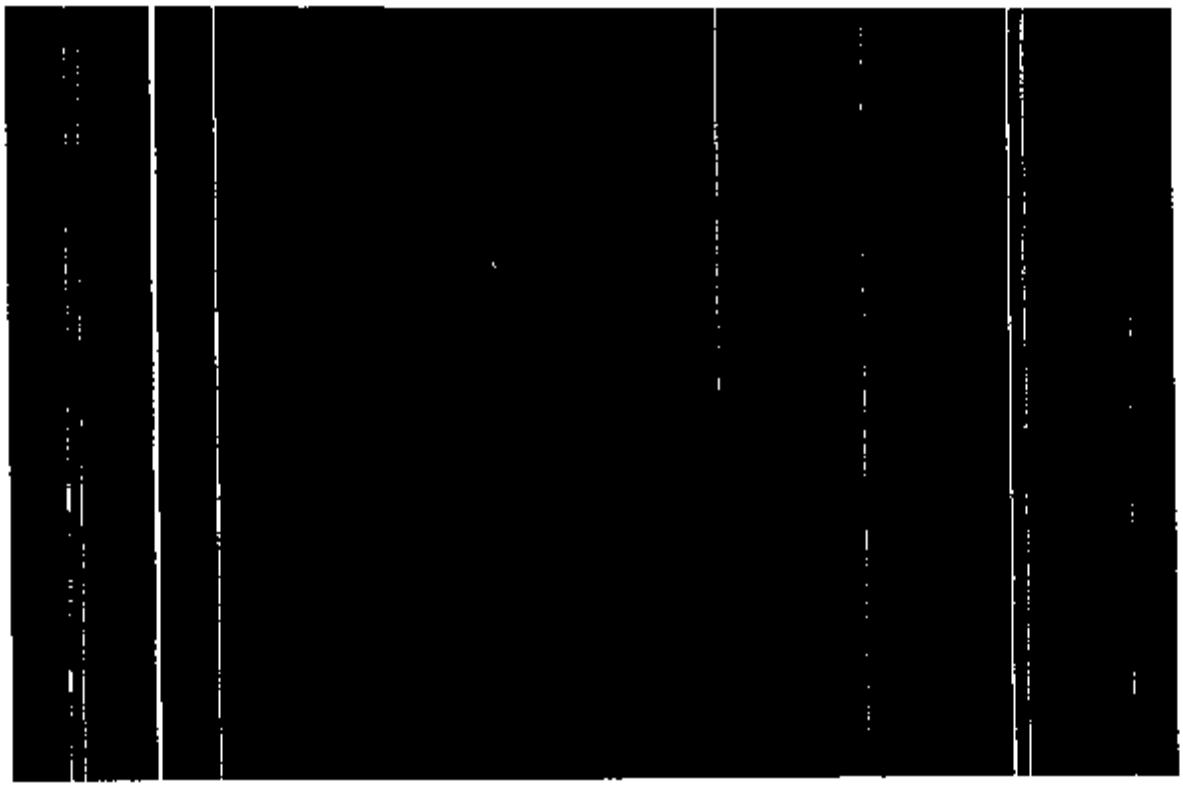


Photo 9: Baseboard and masking in classroom area.

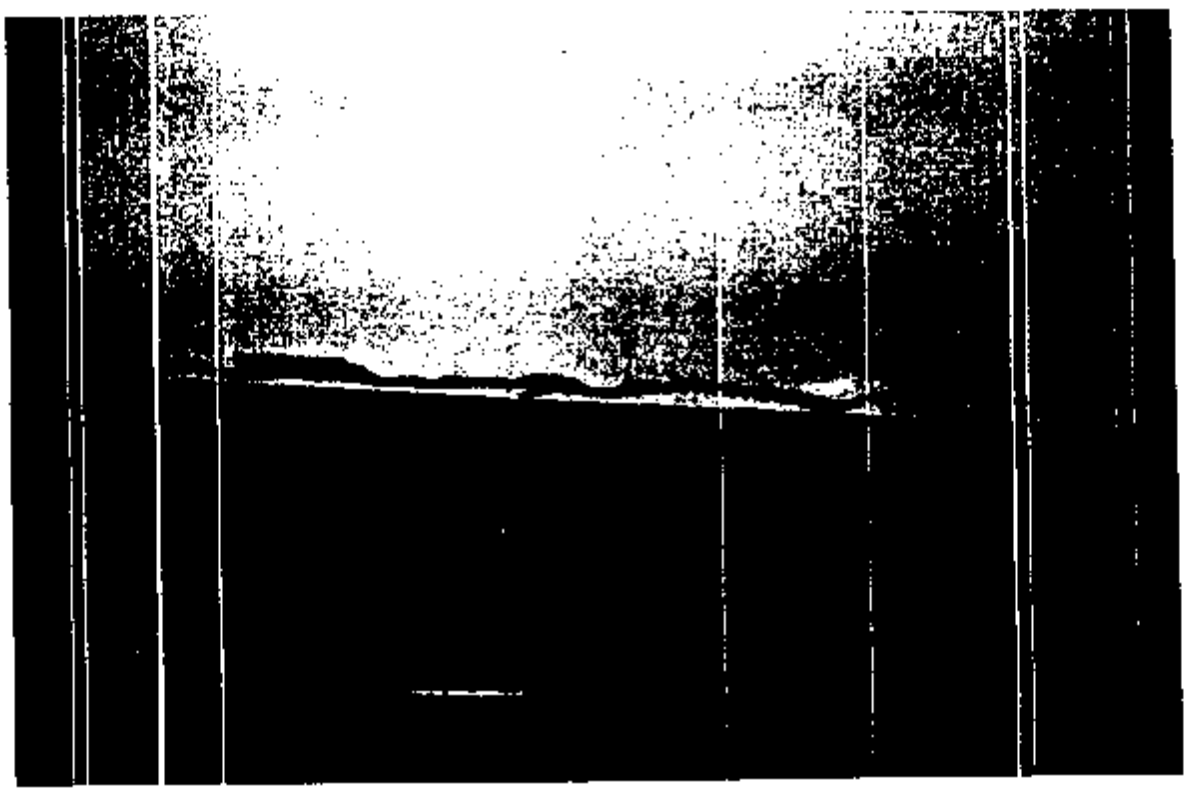


Photo 10: Ceiling tile in CDR Orderly Room.

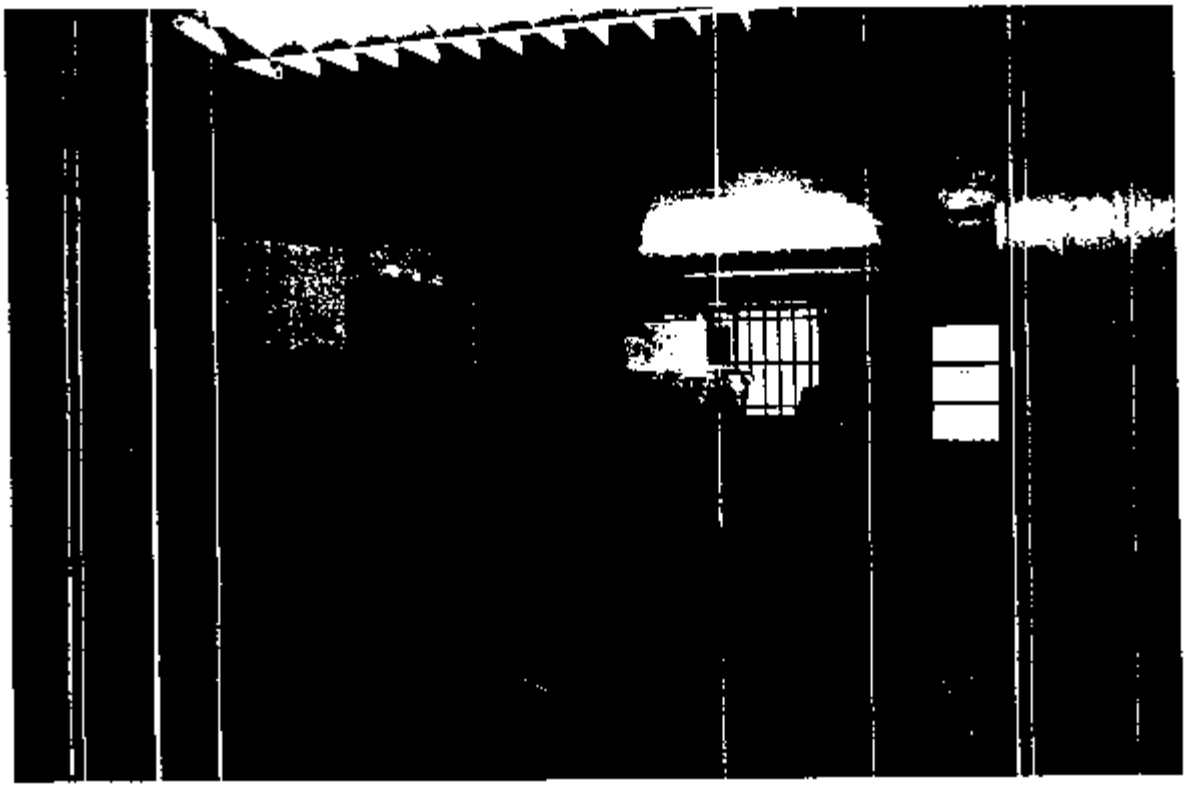


Photo 11: Kitchen.

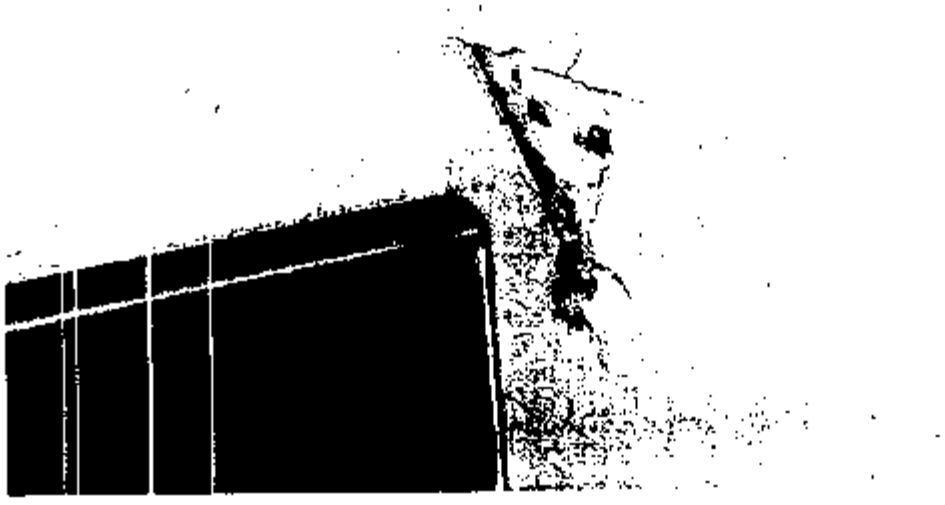


Photo 12: Suspect lead based paint on the kitchen's walls.

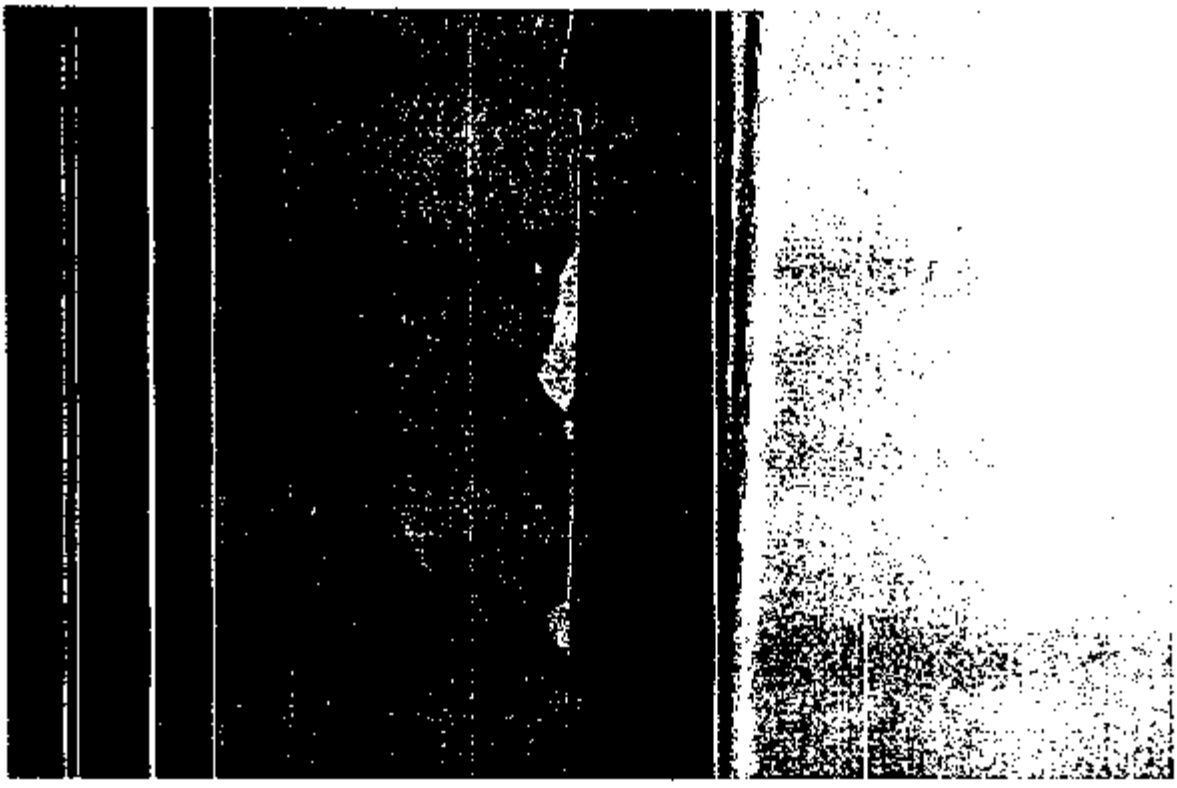


Photo 13: Suspect lead based paint on the kitchen's doors.

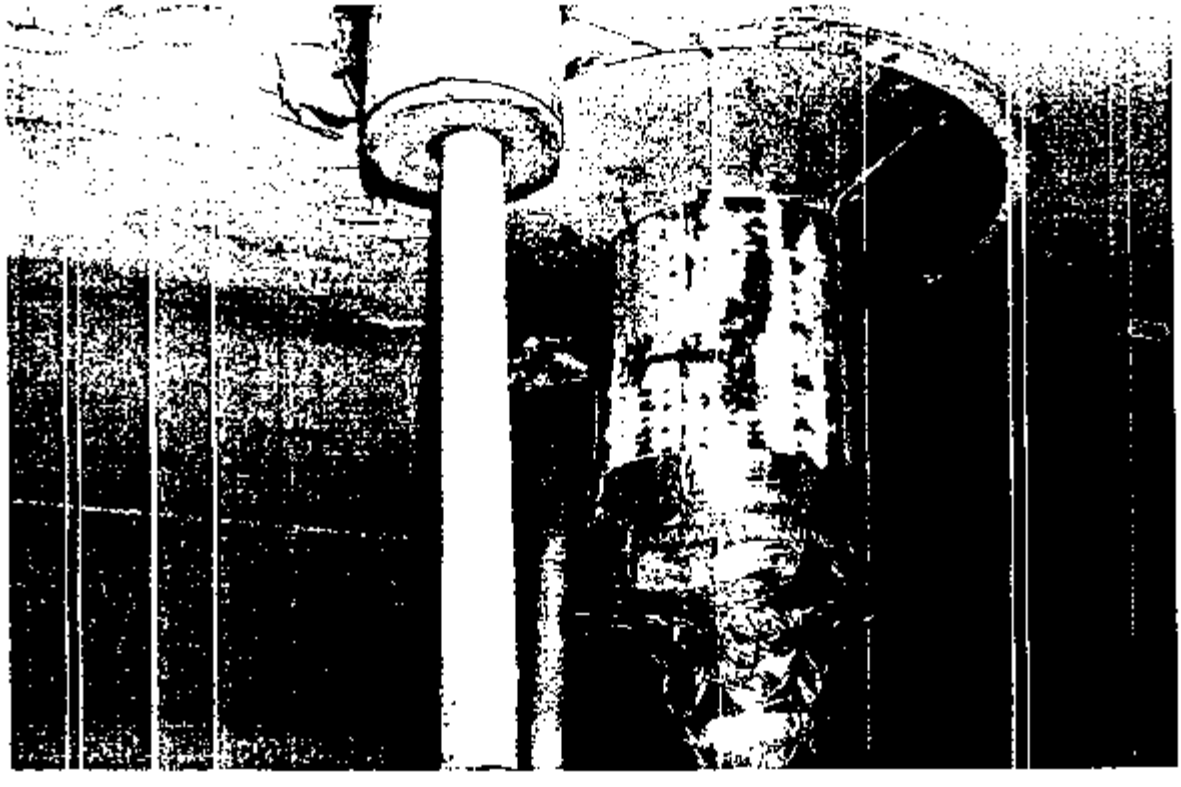


Photo 14: Thermal insulation found on the hot water system pipes.

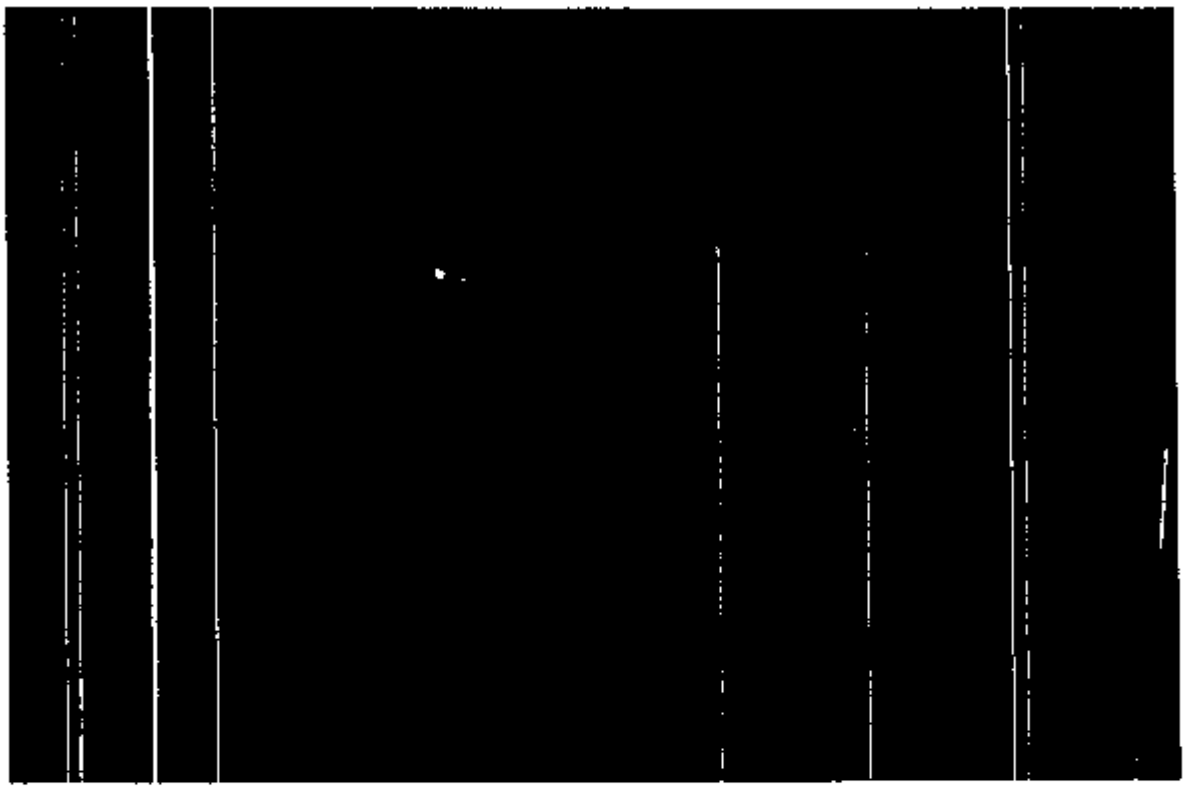


Photo 15: Thermal insulation found on the fire water supply pipe

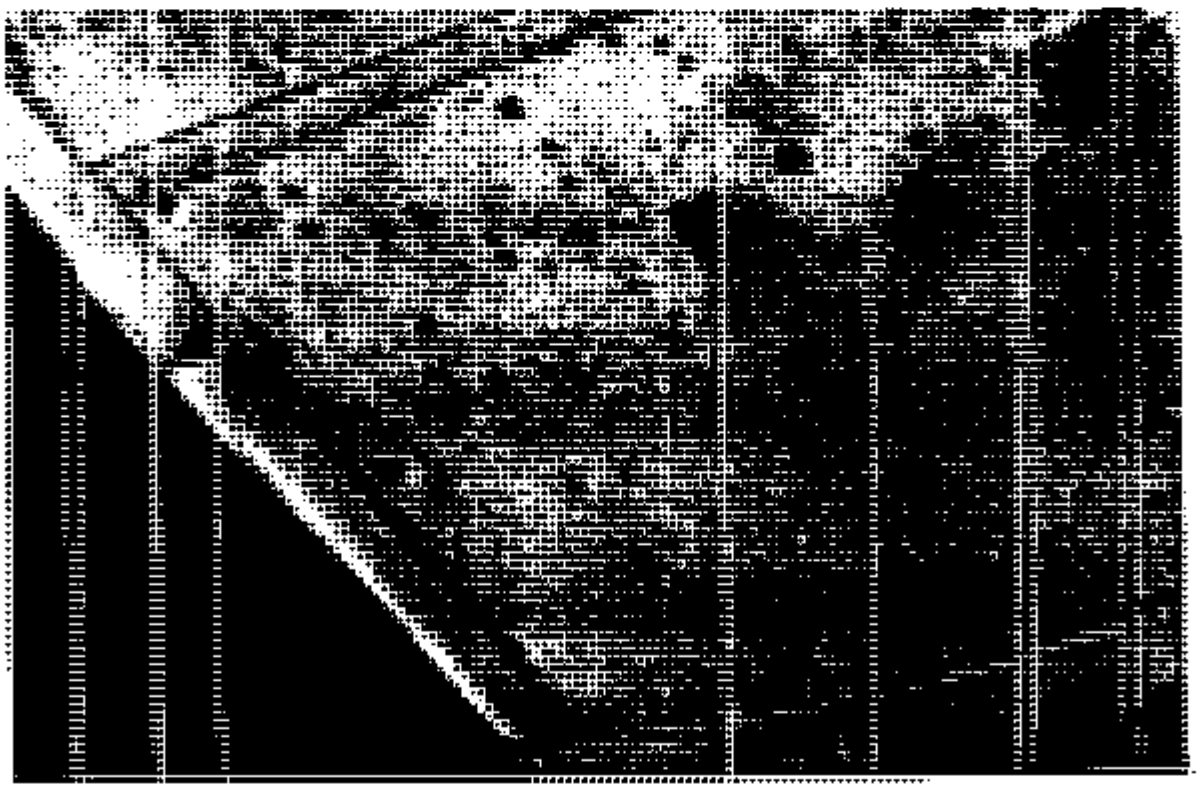


Photo 16: Ceiling tile found in the supply room

DEPARTMENT OF THE ARMY AND THE AIR FORCE
NATIONAL GUARD BUREAU
REGIONAL INDUSTRIAL HYGIENE OFFICE
AIRPORT PLAZA SUITE 1530
510 PLAZA DRIVE
COLLEGE PARK, GA 30349

NGB-ARS-IHSE (40-5f) 04 September 2009

MEMORANDUM FOR: ADJUTANT GENERAL TX ARNG, ATTN.: 132nd FSC Decatur Armory 2400 N Trinity Decatur, TX 76234

Thru: Non-Responsive Deputy State Army Surgeon, JFTX-ARM-SS, 3500 West 35th Street, Building 10, Austin, TX 78763-5218.

SUBJECT: Transmittal of IH Survey, 132nd FSC Decatur Armory 2400 N Trinity Decatur, TX 76234

1. References.

a. OSHA Standards 29 CFR (Code of Federal Regulations), General Industry, revised 1996 rev.

b. AR 40-5, Preventive Medicine, 22 July 2005.

c. AR 11-34, 15 February 1990, The Army Respiratory Protection Program.

d. AR 385-10, 29 February 2000, Army Safety Program.

f. TB MED 503, The Army Industrial Hygiene Program, 30 October 2000.

g. Title 29 Code of Federal regulation (CFR), 1989 rev, Part 1910.94 (c) (6) Table G-10, Ventilation.

h. Industrial Ventilation, 25th, 2004, American Conference of Governmental Industrial Hygienist, Cincinnati, Ohio.

i. Title 29 Code of Federal Regulation (CFR), Part 1910.1025 Lead.

k. Title 40 Code of Federal Regulation (CFR), Part 745.227.

2. General.

a. In accordance to the JFTX-H-OH Industrial Hygiene Implementation Plan of 2007, a follow-up industrial hygiene survey was performed at the Decatur Armory 2400 N Trinity Decatur, TX 76234,. The purpose of the survey was to evaluate potential health hazards present in the building

b. The Point of Contact during the survey was Non-Responsive

c. Non-Responsive Industrial Hygiene Technician for the Texas Army National Guard conducted the sampling on 28 August 2009.

3. General.

a. **Site Description.** The facility houses the 132nd FSC. The armory building is a one-story structure that was constructed in 1959 and renovated in 1988. The facility houses several administrative office areas, a kitchen, a mess hall, training or class rooms, a drill hall, several supply rooms, and a indoor firing range. Two full time AGR employees support approximately 66 M-day members that drill at this facility on drill weekends. A copy of the floor layout and photos are included in Appendix C.

b. **Scope of Work.** The work included collecting wipe samples for lead, bulk samples for suspect asbestos containing building material, illumination levels, noise readings, and an evaluation of the ventilation system as it pertains to indoor air quality.

c. **Methodology** Lead wipe samples were collected from various surfaces throughout the building. The samples were collected accordance to instructions published by Region South National Guard Bureau, which required the use of Ghost wipes or unscented baby wipes to wipe one square foot of surface. Samples were then placed in a sealed plastic bag and sent for analysis to an American Industrial Hygiene Association (AIHA) Accredited laboratory. Asbestos bulk samples were collected from suspect building materials that were grouped based on similarity of composition. Bulk sample collection was minimally destructive and samples were collected from inconspicuous areas. Bulk samples were also collected from suspect friable and damaged building material. Each bulk sample was placed in a sealed bag and sent to the laboratory for analysis. Area Illumination readings were collected using an EXTECH 401025 light meter Serial Number Q168802. Illumination readings were taken on work surfaces and approximately four feet from the floor.

4. Findings.

No remediation of the Indoor Firing Range were noted during current survey 2009. Site is scheduled for renovation during FY 2010.

a. **Lead Wipe Samples:** Lead wipe samples in 2007 were collected from various areas as listed in the table below.

Sample Number	Sample Location	Micrograms of lead (ug) per square foot
DCTR01	Admin Blank	Below Recordable Limits
DCTR 02	Kitchen, Top of serving counter	Below Recordable Limits
DCTR 03	Drill Hall, Top of Coke Machine	Below Recordable Limits
DCTR 04	Administrative # 2 area, Return Duct	Below Recordable Limits
DCTR 05	Administrative # 2 area, Supply Duct.	Below Recordable Limits
DCTR 06	Administrative # 2 area, Return Duct	Below Recordable Limits
DCTR 07	Administrative # 2 area, Supply Duct.	Below Recordable Limits
DCTR 08	Storage Floor (Supply).	43
DCTR 09	Vault Floor	120
DCTR 10	Drill Hall Floor, Kitchen	Below Recordable Limits

The US Environmental Protection Agency (EPA), under a new standard issued in 2000, considers lead dust as a hazard if levels are greater than 40 micrograms of lead in dust per square foot on floors; 250 micrograms of lead in dust per square foot on interior window sills and 400 parts per million (ppm) of lead in bare soil in children's play areas or 1200 ppm average for bare soil in the rest of the yard. This standard is a major effort by the EPA to identify dangerous levels of lead in paint, dust and soil in order to protect children from lead poisoning. The National Guard Bureau recommends a limit of 200 micrograms per square foot for surface contamination. The laboratory report and chain of custody forms are attached in Appendices A and B.

b. **Asbestos Suspect Building Material:** Due to scheduled 2010 renovation ACBM was tested or noted during current survey. The window caulk tested during the current survey and all suspect ACBM tested during the 2004 survey were non-containing: A bulk sample was collected randomly from the identified material. The table below lists the sample collected and the results:

Sample #	Description	% Asbestos Type
DCA 19	Window Caulk	None Detected

c. **Noise Survey:** No noise Hazardous areas were identified or recorded on the day of the survey.

d. **Illumination Survey** Lighting levels throughout the Armory ranged between 06 foot-candles to 60 foot-candles. Specific readings were as follows:

Area	Reading in Foot-candles
Drill or Assembly Hall	06 – 45
Classrooms	13 – 44
Kitchen	26 – 39
Administrative Office Areas	38 - 54
Supply Room Area	35 – 60
Supply Storage Area	06 - 13

The Army Design Guide (DG415-2) recommends a minimum illumination level of 50 foot-candle for office area and 20 foot-candles for parts storage/supply. The American National Standard Institute (ANSI) recommends a minimum illumination level of 50 to 100 foot-candles for office work, 20 to 50 for general lighting. Luminance depends on various factors including the task to be performed, the age of the individual, and the surroundings. Luminance of 50 to 100 foot-candles is recommended for performance of visual tasks of medium contrast or small size such as reading pencil handwriting and poorly printed or reproduced material. Depending on the type of display, background luminance of 30 to 60 foot-candles is recommended for VDT work. Replacing light bulbs with higher wattage will increase lighting levels. Replacing burnt out light bulbs and cleaning the light fixture should improve the lighting levels.

e. **Heating Ventilating and Air Conditioning (HVAC)** The Heating Ventilating and Air-Conditioning (HVAC) System for the Armory consisted of individual rooftop units. The system is capable to deliver outside makeup air to the occupied space. At the time of the 2004 survey HVAC unit in admin areas were not working. It was noted during the current survey all HVAC units on the right side of the armory were in operable. No complaints of indoor air quality issues were documented or communicated with the POC.

Recommendations:

a. Evidence of Lead contaminated surfaces was found as listed in the 2004 survey. The contaminated areas as indicated by the wipe sampling results should be properly cleaned and decontaminated during renovation in accordance to the instructions found in NG PAM 385-18. Monitor contaminated surfaces areas and contact your local facilities commission for cleaning of areas. DO NOT DISTURB or HAVE SOLDIERS ATTEMPT TO CLEAN THE CONTAMINATED AREAS. (RAC 2)

b. Evidence of roof leaks were found in Admin and Supply room offices, the classrooms and all prior heating exhaust roof vents in the drill hall. To reduce further damage and improve overall indoor air quality; contact your state facilities commission for roof repair and ceiling tile replacement. Repair roof during renovation (RAC 3)

c. Evidence of prior and needed masonry repair was noted in sidewalls of the drill hall over the class and supply rooms. Repair cracks during renovation. (RAC 2)

d. During renovation provide HVAC to latrines, lockers, supply, admin areas and areas that are used as workable space and or where HVAC Systems are not working. (RAC 2)

e. Repair and or replace broken light fixtures to improve luminescence in areas with low light readings, repair down line and add additional exterior lighting per POC request. (RAC 3)

Non-Responsive

CF: NGB-ARS-IHSE
State Occupational Health Office, 3500 West 35th Street, Building 86, Austin, TX 78763.
State Safety Manager, P. O. BOX 5218, Austin, TX 78763-5218.
ENCL.
as

Appendix A:

Laboratory Analytical Results.

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

Bulk Sample Summary Report

Client Name: National Guard Bureau Region-South IH
Project Name: Decatur, TX Armory
Project Number: DCA-809

NVLAP Lab ID# 102082-0
AES Job Number: 0909208

Client ID	AES ID	Location	Asbestos Mineral Percentage						Comments
			CH	AM	CR	AN	TR	AC	
DCA-19 Layer: 1	0909208-001A	Window Caulk	ND	ND	ND	ND	ND	ND	Paint included as binder

Note: CH=chrysotile, AM=amosite, CR=crocidolite, AC=actinolite, TR=tremolite, AN=anthophyllite
For comments on the samples, see the individual analysis sheets.
ND = None Detected
PLM is not consistently reliable in detecting small concentrations of asbestos in floor tiles and similar nonfriable materials. Quantitative TEM is currently the only method that can be used to determine the conclusive asbestos content.

It is certified by the signatures below that the laboratory identified is accredited by the National Institute of Standards and Technology for Polarized Light Microscopy (PLM) analysis under the EPA Interim Asbestos Bulk Sample Quality Assurance Program, Laboratory ID 102082-0. All percentages given are by visually estimated volume. All analyses are performed in accordance with the EPA "Method for the Determination of Asbestos in Bulk Building Materials, EPA/600/R-93/116, July 1993." This report must not be reproduced except in full without the approval of Analytical Environmental Service, Inc. These test results apply only to the samples actually tested.

Microanalyst: Non-Responsive

Appendix B:
Lab Chain of Custody

BULK SAMPLE DATA

0909208

For use of this form see USAEHA TG 141; the proponent is HSHB-CO.

Return Address *(complete address including Zip Code)*

NATIONAL GUARD BUREAU REGION SOUTH IH OFFICE
510 PLAZA DRIVE, SUITE 1530
COLLEGE PARK, GA 30349

Non-Responsive

Sampled Installation
DECATUR, TX ARMORY

Project Number
DCA-809

Non-Responsive

Date Collected
28 Aug 09

Date Shipped
2 SEP 09

Description of Operation
ARMORY W IFR

Location *(BLDG/AREA)*
DECATUR, ARMORY

Associated Complaints *(be specific)*

Associated Air Samples ☐ Yes ☒ No — If yes, list sample numbers

Label Information

Trade Name	NSN	Manufacturer

Address

MSDS Attached ☐ Yes ☐ No

Analysis Desired
ASBESTOS - PLM

Lab Use Only	Sample No.	Constituents	Results	Remarks
	DCA-19	window CAULK		

Comments to Lab:

Lab Use Only

Analyst (Initials)	Reviewed By (Initials)	Date Received	Date Reported

Procedures Performed	Comments:
	Non-Responsive 09 :55 UPS

AEHA Form 6-R, Oct 84

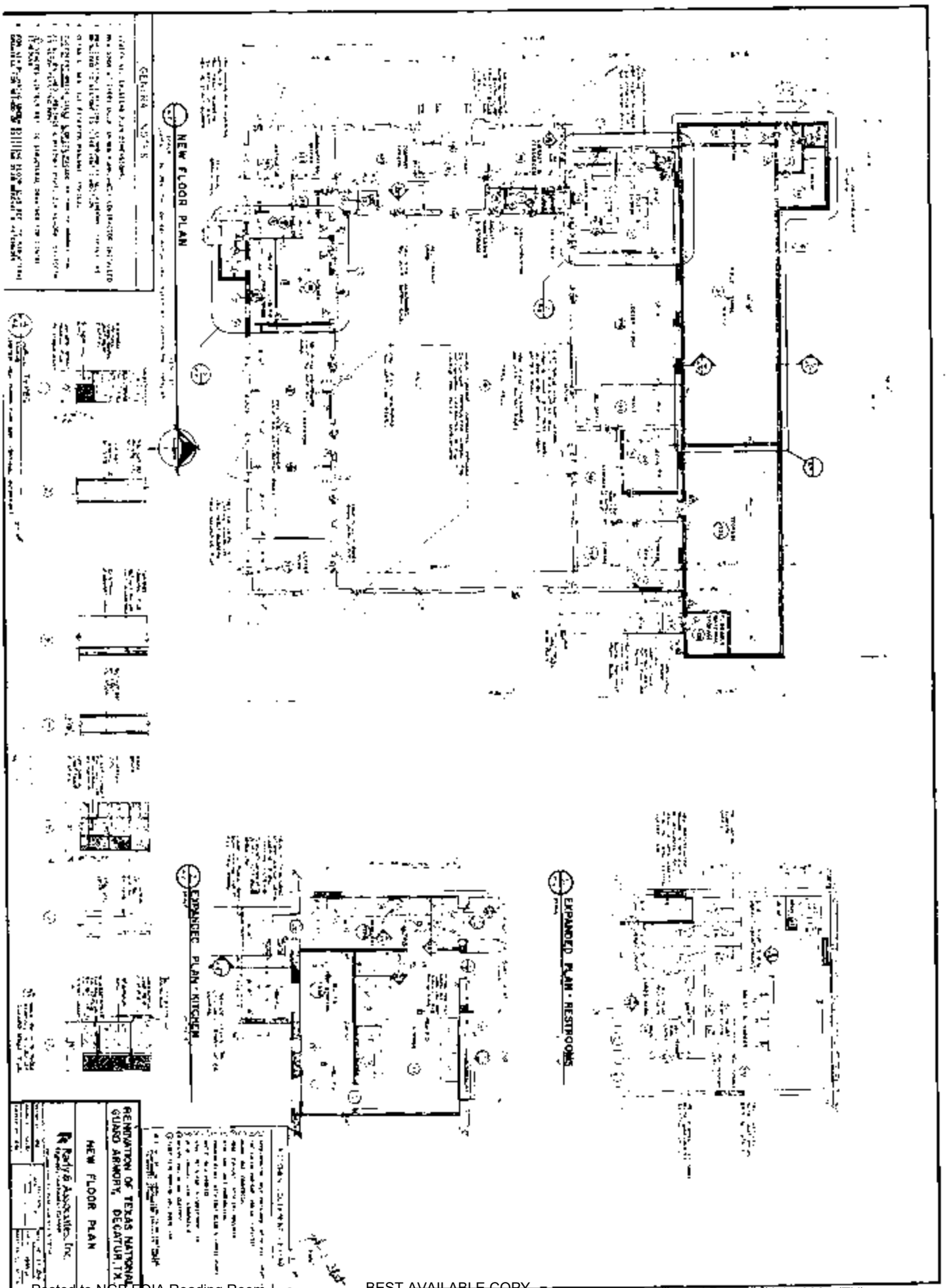
Replaces AEHA Form 6, 1 Oct 80 which is obsolete.

Appendix C

Photographs and Floor Layout.

Decatur Armory

			
Decatur Armory (Front View)	**Admin Area**	**Drill Hall**	**Class Room**
			
Kitchen	**Supply Rooms**	**Supply Rooms**	**Indoor Range**



DEPARTMENT OF THE ARMY AND THE AIR FORCE
NATIONAL GUARD BUREAU
REGIONAL INDUSTRIAL HYGIENE OFFICE
AIRPORT PLAZA SUITE 1530
510 PLAZA DRIVE
COLLEGE PARK, GA 30349

NGB-AVN-SI June 25, 2004

MEMORANDUM FOR: ADJUTANT GENERAL TX ARNG, ATTN.: State Occupational Health Office, P. O. BOX 5218, Austin, TX 78763-5218

SUBJECT: Transmittal of the Survey Reports for Victoria Armory, Corpus Christi Armory, Eagle Pass Armory, Laredo Armory, Columbus Armory and El Campo Armory, TX.

1. References.

a. Department of Defense Instruction 6055.1, Department of Defense Occupational Safety and Health (OSH) Program, 26 October 1984.

b. Army Regulation (AR) 40-5, 30 August 1986, Medical Service, Preventive Medicine.

c. National Guard Regulation (NGR) 385-10, 1988, Army National Guard Safety and Occupational Health Program.

d. AR 11-34, The Army Respiratory Protection Program, 15 February 1990.

e. TB MED 502, Occupational and Environmental Health Respiratory Protection Program, February 1982.

f. DA PAM 40-503, 30 October 2000, The Army Industrial Hygiene Program.

g. DA PAM 40-501, 10 December 1998, Hearing Conservation.

h. Threshold Limit Values and Biological Exposure Indices (TLV's) for 2001, American Conference of Governmental Industrial Hygienists (ACGIH), Cincinnati, Ohio.

i. Industrial Ventilation, 23rd Edition, American Conference of Governmental Industrial Hygienist, Cincinnati, Ohio.

j. USAEHA TG-141, November 1997, Guidelines for Air Sampling and Bulk sample Collection.

NGB-AVN-SI
SUBJECT: Transmittal of the Survey Reports for Victoria Armory, Corpus Christi Armory, Eagle Pass Armory, Laredo Armory, Columbus Armory and El Campo Armory, TX.

k. Title 29, Code of Federal Regulations (CFR), 2000 rev., part 1910, Occupational Safety and Health Standards.

l. Report of June 15, 2004, Industrial Hygiene Survey, Tammer Sciences INC, 3744 Lawrence Dr., Naperville, IL.

2. General.

a. At the request of the TX ARNG Safety and Occupational Health Office, an Industrial Hygiene Service was put together to conduct Health Hazard Information module (HHIM) Field surveys and industrial hygiene sampling of the Victoria Armory, Corpus Christi Armory, Eagle Pass Armory, Laredo Armory, Columbus Armory and El Campo Armory, TX

b. Non-Responsive, Tammer Sciences INC, 3744 Lawrence Dr., Naperville, IL 60564, conducted the survey.

3. Findings. All Health Hazard information are on the survey findings of the report. (See enclosure 1)

4. Recommendations.

a. Follow all recommendations made in reference 1.l., requesting industrial hygiene (IH) services where needed to complete the recommendations.

b. Conduct an air sampling survey in the areas in and around those identified with elevated lead dust levels in page 3 0f reference 1.l, to ensure that the lead dust present is not airborne and that employees in these areas are not exposed above the action level where applicable.

c. Control water infiltration in the armory and/or replace or repair damaged surfaces or components (ceiling and floor tiles). Building conditions that present IAQ concerns or problems not only exacerbates normally minor health issues but also tend to promote or accelerate building deterioration.

d. The recommendations given in the comment section and data collected will serve as a baseline for the Industrial Hygiene Implementation Plan (IHIP) for FY-03. A follow up operation and hazard specific air sampling survey based on the enclosed findings will be included in the FY-04 IHIP.

NGB-AVN-SI
SUBJECT: Transmittal of the Survey Reports for Victoria Armory, Corpus Christi Armory, Eagle Pass Armory, Laredo Armory, Columbus Armory and El Campo Armory, TX.

e. Consider additional Industrial Hygiene services to monitor operations that were not looked at or surveyed during the present survey, especially if this will help eliminate health hazards and reduce medical surveillance cost.

f. To execute your responsibilities in correcting all deficiencies and meeting all standards coordinate with the Occupational Health Nurse and the Occupational Safety and Health Office for technical guidance.

f. Give special consideration to cleaning light fixtures, increasing the wattage and painting walls a lighter color when upgrading the lighting in the facility.

[redacted] Non-Responsive

CF:
NBG-AVN-SH
State Occupational Health Office, P. O. BOX 5218, Austin, TX 78763-5218.
State Safety Manager, P. O. BOX 5218, Austin, TX 78763-5218.

Encl
as

Industrial Hygiene Baseline Survey Report
For
Texas Army National Guard
(TXARNG)

At
Eagle Pass Armory
489 South Monroe
Eagle Pass, Texas

Prepared for:

Department of the Army and the Air Force
National Guard Bureau
Regional Industrial Hygiene Office
Region South
Airport Plaza Suite 1530
510 Plaza Drive
College Park, GA 30349

By

June 14, 2004

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Appendices

A. Floor Layout and illumination levels.
B. Laboratory Analytical Results.
C. Lab Chain of Custody.
D. Photographs.

Executive Summary

An initial baseline industrial hygiene survey was conducted at the Eagle Pass Armory on 23 March 2004 as part of the Texas Army National Guard Occupational Health Program to identify potential health hazards in the workplace. The survey consisted of collecting lead wipe samples and bulk asbestos samples, conducting an illumination survey, a noise survey, and an evaluation of the Heating Ventilation and Air Conditioning System (HVAC) as it relates to indoor air quality.

The following table summarizes the survey findings and recommendations for each topic surveyed.

Topic	Summary of Findings	Recommendations
IFR Lead Wipe Sample Results	<10 to 23,000 microgram per square foot.	Do not use the firing range space until it is cleaned and decontaminated properly.
Armory Lead Wipe Samples	<10 to 180 microgram per square foot.	No action.
Asbestos Bulk Samples	No Suspect asbestos containing material identified.	No action.
Noise Survey	No excessive noise source was identified.	No action.
Illumination Survey	15 to 96 footcandles	No action.
HVAC/IAQ	No issues observed or documented.	No action.

SUBJECT: Industrial Hygiene Initial Baseline Survey of the Eagle Pass Armory in Eagle Pass, Texas on 23 March 2004

BACKGROUND:

Introduction. At the request of Non-Responsive of the National Guard Bureau Region South Industrial Hygiene Office, an initial baseline industrial hygiene survey was performed at the Eagle Pass Armory in Eagle Pass, Texas. Non-Responsive Industrial Hygiene Technician for the Texas Army National Guard and Non-Responsive, contract Industrial Hygienist, Tammer Sciences, Inc. conducted the survey on 23 March 2004. The purpose of the survey was to perform an initial baseline industrial hygiene survey to identify potential health hazards present at the armory, specifically lead contamination from the indoor firing range.

Site Description. The armory, which was constructed in 1985, houses Company C and the first of the 141st Infantry. The building is a one-story structure and consists of administrative office areas, a kitchen, an orderly office, a library, a drill hall, a supply room, and an indoor firing range. Two full time employees work at this armory. A copy of the floor layout and photos are included in Appendix A and D, respectively.

Scope of Work. The work included collecting wipe samples for lead, bulk samples for suspect asbestos containing building material, illumination levels, noise readings where necessary, and an evaluation of the ventilation system as it pertains to indoor air quality.

Methodology Lead wipe samples were collected from surfaces in the firing range and in the Armory in accordance to instructions published by Region South National Guard Bureau, which required the use of unscented baby wipes to wipe one square foot of surface. Samples were then placed in a sealed plastic bag and sent for analysis to EMSL laboratory, which is an American Industrial Hygiene Association (AIHA) Accredited laboratory. Asbestos bulk samples were collected from suspect building materials that were grouped based on similarity of composition. Bulk sample collection was minimally destructive and samples were collected from inconspicuous areas. Bulk samples were also collected from suspect friable and damaged building material. Each bulk sample was placed in a sealed bag and sent to EMSL laboratory for analysis. Noise readings were collected using a noise level meter in areas where a noise source was identified. All noise measurements were area readings. Illumination readings were collected using a Western Schlumberger light meter Serial 8384. Illumination readings were taken on work surfaces such as desks or approximately four feet from the floor.

FINDINGS and DISCUSSION:

The Point of Contact during the survey was Non-Responsive

Lead Wipe Samples: Thirty wipe samples were collected from the indoor firing range and various areas of the armory as listed in the table below. Two bulk samples were collected from the ceiling of the firing range to evaluate the extent of contamination.

Sample Number	Sample Location	Micrograms of lead (ug) per square foot
EP01	Top of refrigerator in kitchen.	33.0
EP02	Top of serving line between kitchen and drill hall	<10.0
EP03	Drill hall floor by supply room	12.0
EP04	Drill hall floor in center.	17.0
EP05	Drill hall floor by kitchen	19.0
EP06	IFR bullet Stop lower left	23,000.0
EP07	IFR bullet Stop middle	15,000.0
EP08	IFR bullet Stop upper right	8,400.0
EP09	IFR left wall (facing trap) bottom right	5,400.0
EP10	IFR left wall (facing trap) middle	130.0
EP11	IFR left wall (facing trap) upper left	22.0
EP12	IFR right wall (facing trap) upper right	<10.0
EP13	IFR right wall (facing trap) middle	37.0
EP14	IFR right wall (facing trap) lower left	10,000.0
EP15	IFR floor to the left of the bullet trap	5,100.0
EP16	IFR floor middle of range	980.0
EP17	IFR floor to the right of the observation area	1,200.0
EP18	IFR back wall (facing wall) lower right	350.0
EP19	IFR back wall (facing wall) middle	280.0
EP20	IFR back wall (facing wall) upper left	530.0
EP21	IFR top of shelf in the firing line position number 2 from left	5,400.0
EP22	IFR observation wall ledge	5,900.0
EP23	IFR top of heat shield between firing line and observation deck	11,000.0
EP24	IFR top of target track in the middle of the range	9,600.0
EP25	IFR Ceiling tile surface by the bullet trap left side	28.0
EP26	Supply diffuser in administrative office	21.0
EP27	Return air grill in the administrator office	34.0
EP28	Top of mail cabinet in the administrative office	52.0
EP29	Top of the soda machine in the drill hall	180.0
EP30	Field Blank	<10.0
EP31	IFR bulk ceiling insulation by bullet trap	13,000.0
EP32	IFR bulk ceiling insulation by the firing line	110.0

The US Environmental Protection Agency (EPA), under a new standard issued in 2000, considers lead dust as a hazard if levels are greater than 40 micrograms of lead in dust per square foot on floors; 250 micrograms of lead in dust per square foot on interior window sills and 400 parts per million (ppm) of lead in bare soil in children's play areas or 1200 ppm average for bare soil in the rest of the yard. This standard is a major effort by the EPA to identify dangerous levels of lead in paint, dust and soil in order to protect

children from lead poisoning. The National Guard Bureau recommends a limit of 200 micrograms per square foot for surface contamination. The laboratory report and chain of custody forms are attached in Appendices B and C.

The indoor firing range as indicated by the wipe sampling results should be properly cleaned and decontaminated in accordance to the instructions found in NG PAM 385-15.

Asbestos Suspect Building Material: Typical building materials identified in the Armory consisted of 12 by 12 inches floor tiles, 2x4 feet ceiling tiles, and Baseboard in the administrative office areas. Cement floors, cinder block walls, and corrugated steel deck in the drill hall, supply, storage, and other areas. Bulk samples were not collected because the Armory was built on 1985 and the presence of asbestos containing material is less likely.

Noise Survey: Based on observations during the walkthrough baseline survey, no sources of excessive noise were identified and therefore no area noise readings were collected. Noise levels are likely to be well below the Occupational Safety and Health Administration (OSHA) regulated limit of 90 dBA and the Army recommended limit of 85 dBA.

Illumination Survey Lighting levels throughout the Armory ranged between 15 foot-candles to 96 foot-candles. Illumination levels are noted on the floor layout in Appendix A. Illumination ranges for each area are listed in the Table below:

Area	Reading in Foot-candles
Administrative Offices.	30 – 76
Storage Areas.	25 – 36
Supply Rooms.	25 – 45
Drill Hall.	63 – 90
Hallway.	15 – 30
Kitchen.	35 – 96

The Army Design Guide (DG415-2) minimum illumination level of 50 foot-candle for office area and 20 foot-candles for parts storage/supply. The American National Standard Institute (ANSI) recommends a minimum illumination level of 50 to 100 foot-candles for office work, 20 to 50 for general lighting. Luminance depends on various factors including the task to be performed, the age of the individual, and the surroundings. Luminance of 50 to 100 foot-candles is recommended for performance of visual tasks of medium contrast or small size such as reading pencil handwriting and poorly printed or reproduced material. Depending on the type of display, background luminance of 30 to 60 foot-candles is recommended for VDT work. Replacing light bulbs with higher wattage will increase lighting levels. Replacing burnt out light bulbs and cleaning the light fixture should improve the lighting levels.

Heating Ventilating and Air Conditioning (HVAC) The Heating Ventilating and Air-Conditioning (HVAC) System for the Armory consisted of individual rooftop units. No other complaints of indoor air quality issues were documented or communicated with the POC.

Recommendation:

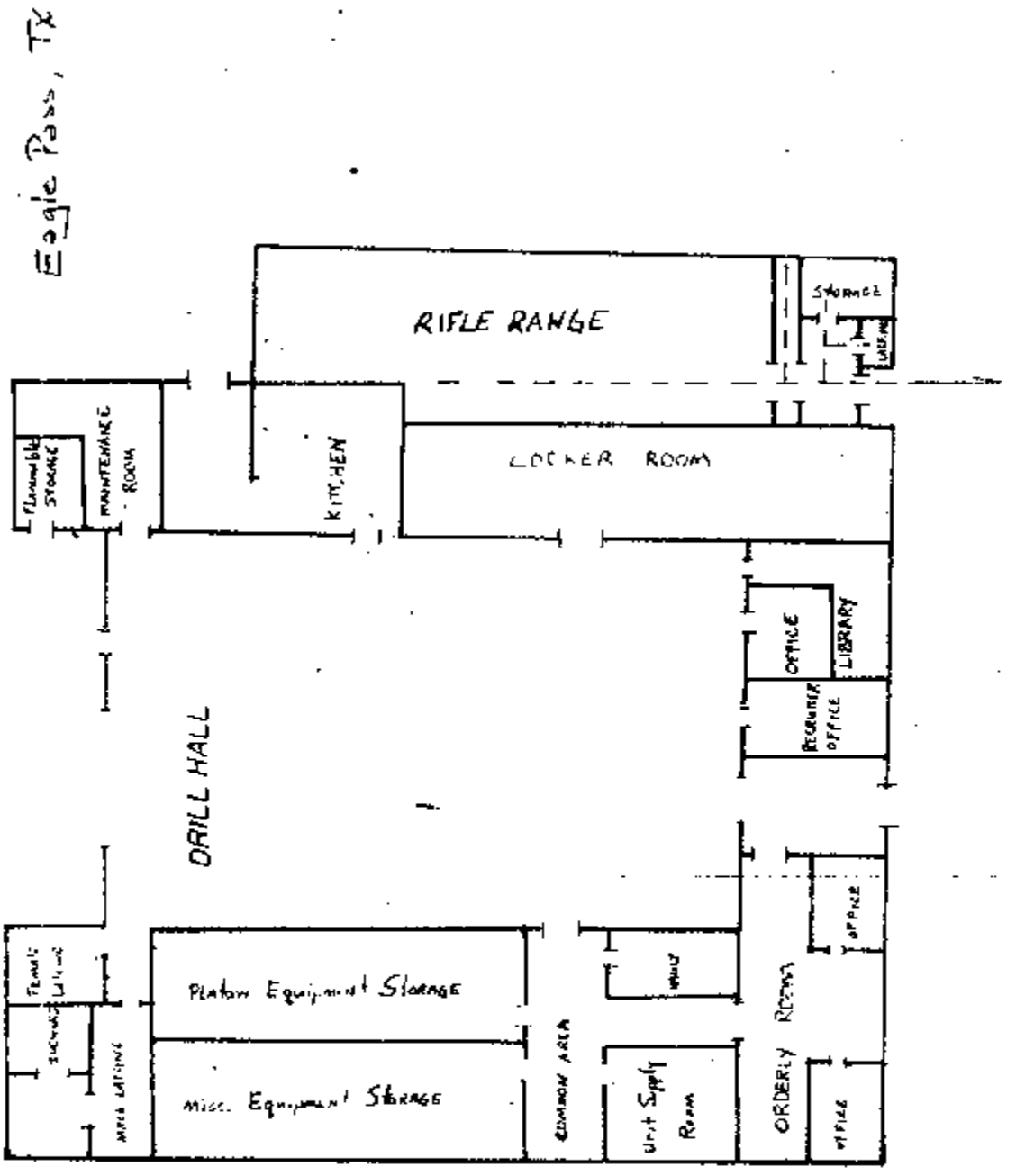
Clean and decontaminate the firing range in accordance to NG PAM 385-15 specifications.

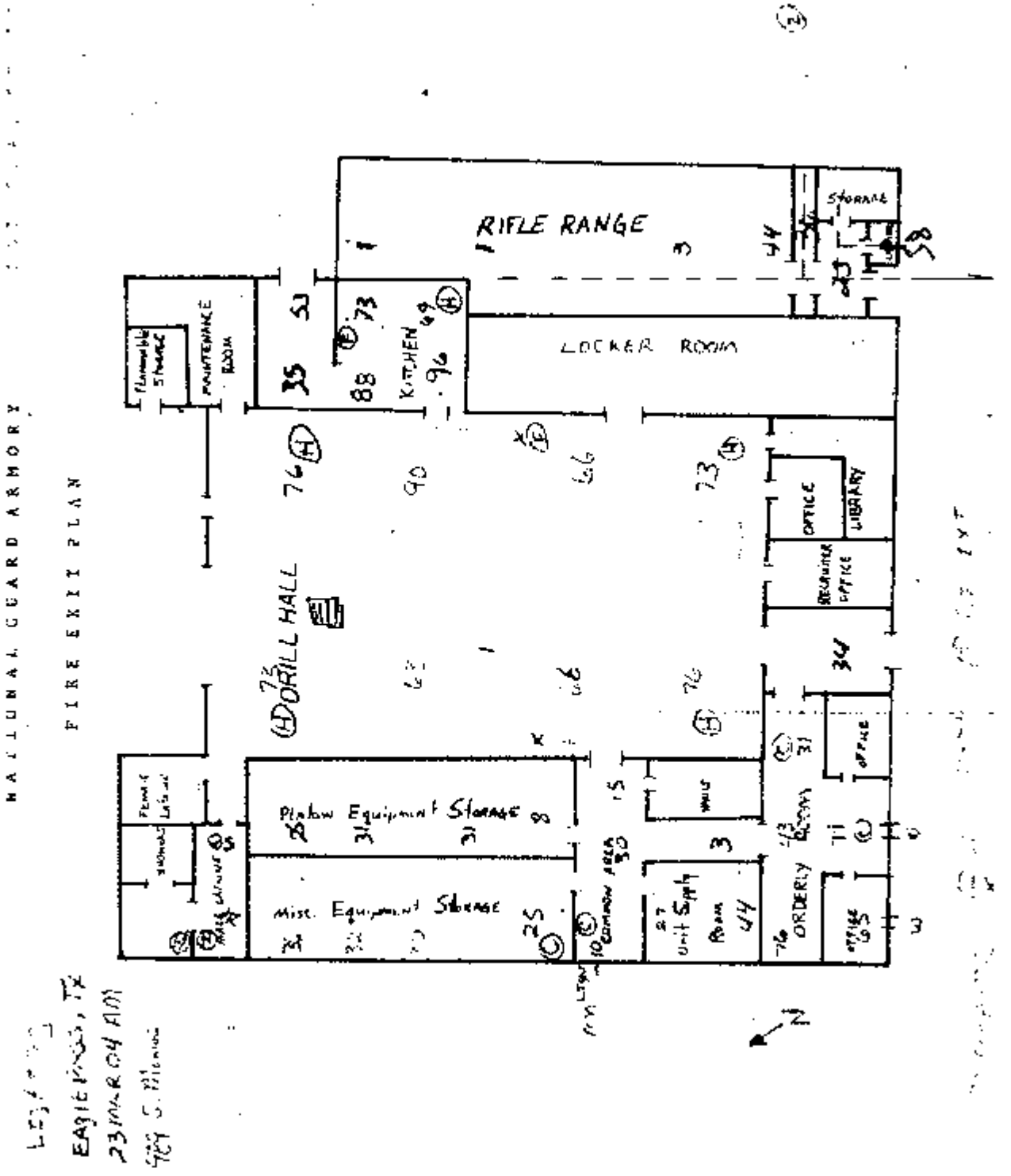
Technical Assistance: For technical assistance regarding information found in this report

Non-Responsive

APPENDIX A

NATIONAL GUARD ARMORY
Eagle Pass, TX
FIRE EXIT PLAN





APPENDIX B

BEST AVAILABLE COPY

EMSL Analytical

3 Cooper St., Westmont, NJ 08108
Phone: (856) 858-4800 Fax: (856) 858-0851 Email: akauffman@emsl.com

Attn: Non-Responsive

Fax:

Project: Eagle Pass, TX

Customer ID: TS80
Customer PO:
Received: 03/30/04 10:13 AM

EMSL Order: 200403345
EMSL Proj:

Lead in Wipes by Flame AAS (SW 846, 7420)

Client Sample Description		Lab ID	Analyzed	Area Sampled	Lead Concentration
EP01	Results for these wipe samples do not meet the EPA standards for sample matrix and are not recognized under the NLLAP accreditation program	0001	4/14/04	n/a	33.0 µg/wipe
EP02		0002	4/14/04	n/a	<10.0 µg/wipe
EP03		0003	4/14/04	n/a	12.0 µg/wipe
EP04		0004	4/14/04	n/a	17.0 µg/wipe
EP05		0005	4/14/04	n/a	19.0 µg/wipe
EP06		0006	4/14/04	n/a	23000.0 µg/wipe
EP07		0007	4/14/04	n/a	15000.0 µg/wipe
EP08		0008	4/14/04	n/a	8400.0 µg/wipe
EP09		0009	4/14/04	n/a	5400.0 µg/wipe
EP10		0010	4/14/04	n/a	130.0 µg/wipe
EP11		0011	4/14/04	n/a	22.0 µg/wipe
EP12		0012	4/14/04	n/a	<10.0 µg/wipe
EP13		0013	4/14/04	n/a	37.0 µg/wipe
EP14		0014	4/14/04	n/a	10000.0 µg/wipe
EP15		0015	4/14/04	n/a	5100.0 µg/wipe
EP16		0016	4/14/04	n/a	980.0 µg/wipe
EP17		0017	4/14/04	n/a	1200.0 µg/wipe
EP18		0018	4/14/04	n/a	350.0 µg/wipe
EP19		0019	4/14/04	n/a	280.0 µg/wipe
EP20		0020	4/14/04	n/a	530.0 µg/wipe
EP21		0021	4/14/04	n/a	[illegible] µg/wipe

Non-Responsive

The QC data associated with the sample results included in this report meet the recovery and precision requirements established by the AIHA, unless specifically indicated otherwise in the comment section. The test results contained within this report meet the requirements of NELAC unless otherwise noted.

ACCREDITATIONS: NJ-NELAP: 04583, AIHA Environmental Lead Laboratory Approval Program: 100194

Date Printed: 4/14/04 9:15:11 AM

EMSL Analytical
3 Cooper St., Westmont, NJ 08108
Phone: (856) 858-4800 Fax: (856) 858-4851 Email: [redacted]

Attn: Non-Responsive
Fax:
Project: Eagle Pass, TX

Customer ID: TS80
Customer PO:
Received: 03/30/04 10:13 AM

EMSL Order: 200403345
EMSL Proj:

Lead in Wipes by Flame AAS (SW 846, 7420)

Client Sample Description	Lab ID	Analyzed	Area Sampled	Lead Concentration
EP22	0022	4/14/04	n/a	5900.0 µg/wipe
EP23	0023	4/14/04	n/a	11000.0 µg/wipe
EP24	0024	4/14/04	n/a	9600.0 µg/wipe
EP25	0025	4/14/04	n/a	28.0 µg/wipe
EP26	0026	4/14/04	n/a	21.0 µg/wipe
EP27	0027	4/14/04	n/a	34.0 µg/wipe
EP28	0028	4/14/04	n/a	52.0 µg/wipe
EP29	0029	4/14/04	n/a	180.0 µg/wipe
EP30	0030	4/14/04	n/a	<10.0 µg/wipe

Non-Responsive

The QC data associated with the sample results included in this report meet the recovery and precision requirements established by the AIHA, unless specifically indicated otherwise in the comment section. The test results contained within this report meet the requirements of NELAC unless otherwise noted.
ACCREDITATIONS: NJ-NELAP: 04653, AIHA Environmental Lead Laboratory Approval Program: 100194

Date Printed: 4/14/04 9:15:20 AM

EMSL Analytical
3 Cooper St., Westmont, NJ 08108
Phone: (856) 858-4300 Fax: (856) 858-9551 Email: skauffman@emsl.com

Attn: Non-Responsive
Fax:
Project: Eagle Pass, TX

Customer ID: TS80
Customer PO:
Received: 03/30/04 10:13 AM

EMSL Order: 200403345
EMSL Proj:

Pb by Flame Atomic Absorption

Client Sample Description	Lab ID	Analyzed	Lead Concentration
	0031	4/14/04	13000.0 mg/Kg
	0032	4/14/04	110.0 mg/Kg

Non-Responsive

Detection limit is 10 mg/kg. The test results contained within this report meet the requirements of NELAC unless otherwise noted.
ACCREDITATIONS: NJ-NELAP: 04452, AIHA Environmental Lead Laboratory Approval Program: 100154

Date Printed: 4/14/04 9:15:01 AM

APPENDIX C

EMSL ANALYTICAL CHAIN OF CUSTODY

266403345 LEAD

Date: 3/26/07 EMSL Representative: _____ Project Name/No.: _____ P.O #: _____

Company Name: Tanner Sciences Inc. EMSL Bill to: _____

Street: 3744 Lawrence Drive Street: Same

Box #: _____ Box #: _____

City/State: Naperville IL Zip: 60564 City/State: _____ Zip: _____

Phone Results to: Name [redacted] Telephone: [redacted]

Fax Results to: (Name) _____ Fax #: _____

MATRIX		INSTRUMENT	Limit)	TAT
Lead Chips*	SW846-7420, 3050B Mod. / AOAC (974.02)	Flame Atomic Absorption	0.01%	
Lead Wastewater	SW846-7420	Flame Atomic Absorption	0.4 mg/l water 40 mg/kg (ppm) soil	
Lead Soil **	or SW846-6010B	ICP	0.1 mg/l water 10 mg/kg (ppm) soil	
Lead in Air***	NIOSH 7082 Mod.	Flame Atomic Absorption	4 ug/filter	
	or NIOSH 7300 Mod.	ICP	3.0 ug/filter	
Lead in Wipe* ☑-ASTM Wipe Type ☐-non ASTM	SW846-7420 / HUD Appendix 14.2 Digest.	Flame Atomic Absorption	10 ug/wipe	1 Day 2 Days
	or SW846-6010B	ICP	3.0 ug/wipe	
TCLP Lead **	SW846-1311/ 7420	Flame Atomic Absorption	0.4 mg/l (ppm)	
	or SW846-6010B	ICP	0.1 mg/l (ppm)	
STLC Lead (California) **	CA Title 22 modified SW846-7420	Flame Atomic Absorption	0.4 mg/l (ppm)	
	or SW846-6010B	ICP	0.1 mg/l (ppm)	
Lead in Air ***	NIOSH 7105 Mod.	Graphite Furnace Atomic Absorption	0.03 ug/filter	2 Days 3 Days
Lead Wastewater	SW846-7421	Graphite Furnace Atomic Absorption	0.003 mg/l (ppm) water	4 Days 5 Days
Lead Soil **			0.3 mg/kg (ppm) soil	6-10 Days
Lead in Drinking Water (check state Certification Requirements)	EPA 239.2 / 200.9	Graphite Furnace Atomic Absorption	0.003 mg/l (ppm)	
Lead Dust	NIOSH 0500-0600	Gravimetric Reduction	0.0001g	

T / T (Turnaround) - Same day, 24 hr - 1 Day, 2 Days, 3 Days, 4 Days, 5 Days, 6-10 Days

*, **, ***, ****, #, ## Please Refer to Price Quote

▲ If no box is checked, non-ASTM is assumed

SAMPLE #	LOCATION	Air volume L Area, in²	LAB #
EP01	Eagle Pass, TX	N/A	03345-1
EP02	"	1	2
EP03			3

Relinquished By: (Person) [redacted] Date: 3/26/07

Received at EMSL By: _____ Date: 3/27/07

Received at EMSL By: _____ Date: _____

Note: Please duplicate this form and use additional sheets if necessary.

The individual signing and relinquishing these samples to the laboratory attests to the accuracy of the information reported on this chain of custody.

Lead Chain Nov 2001 - STLC.doc

EMSL ANALYTICAL **CHAIN OF CUSTODY** LEAD

SAMPLE #	LOCATION	Air volume, L Area, in²	LAB #
EP04	Eagle Pass, TX	N/A	633455
EP05			
06			
07			
08			
09			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
31			
32			

@ Relinquished By: (Person) [redacted] Date: 3/26/04

Received at EMSL By: [redacted] Date: 3/30/04

Received at EMSL By: [redacted] Date: _____

Note: Please duplicate this form and use additional sheets if necessary.

@ The individual receiving and relinquishing these samples to the laboratory attests to the accuracy of the information reported on this chain of custody.

APPENDIX D

Photo #1: Armory front entrance.

Photo #2: East side of the armory showing the outside of the firing range.

Photo #3: North east corner of the armory.

Photo #4: North side of the armory.

Photo #5: Drill hall facing north east.

Photo #6: Drill hall facing south east.

Photo#7: Indoor firing range facing bullet stop.

Photo #8: Armory's kitchen showing the serving line and refrigerator.

Photo #9: Armory's kitchen showing the stove.

Photo #10: Armory's administrative office.

DEPARTMENT OF THE ARMY AND THE AIR FORCE
NATIONAL GUARD BUREAU
REGIONAL INDUSTRIAL HYGIENE OFFICE
AIRPORT PLAZA SUITE 1530
510 PLAZA DRIVE
COLLEGE PARK, GA 30349

NGB-AVN-SI June 25, 2004

MEMORANDUM FOR: ADJUTANT GENERAL TX ARNG, ATTN.: State Occupational Health Office, P. O. BOX 5218, Austin, TX 78763-5218

SUBJECT: Transmittal of the Survey Reports for Victoria Armory, Corpus Christi Armory, Eagle Pass Armory, Laredo Armory, Columbus Armory and El Campo Armory, TX.

1. References.

a. Department of Defense Instruction 6055.1, Department of Defense Occupational Safety and Health (OSH) Program, 26 October 1984.

b. Army Regulation (AR) 40-5, 30 August 1986, Medical Service, Preventive Medicine.

c. National Guard Regulation (NGR) 385-10, 1988, Army National Guard Safety and Occupational Health Program.

d. AR 11-34, The Army Respiratory Protection Program, 15 February 1990.

e. TB MED 502, Occupational and Environmental Health Respiratory Protection Program, February 1982.

f. DA PAM 40-503, 30 October 2000, The Army Industrial Hygiene Program.

g. DA PAM 40-501, 10 December 1998, Hearing Conservation.

h. Threshold Limit Values and Biological Exposure Indices (TLV's) for 2001, American Conference of Governmental Industrial Hygienists (ACGIH), Cincinnati, Ohio.

i. Industrial Ventilation, 23rd Edition, American Conference of Govemmental Industrial Hygienist, Cincinnati, Ohio.

j. USAEHA TG-141, November 1997, Guidelines for Air Sampling and Bulk sample Collection.

NGB-AVN-SI
SUBJECT: Transmittal of the Survey Reports for Victoria Armory, Corpus Christi Armory, Eagle Pass Armory, Laredo Armory, Columbus Armory and El Campo Armory, TX.

k. Title 29, Code of Federal Regulations (CFR), 2000 rev., part 1910, Occupational Safety and Health Standards.

l. Report of June 15, 2004, Industrial Hygiene Survey, Tammer Sciences INC, 3744 Lawrence Dr., Naperville, IL.

2. General.

a. At the request of the TX ARNG Safety and Occupational Health Office, an Industrial Hygiene Service was put together to conduct Health Hazard Information module (HHIM) Field surveys and industrial hygiene sampling of the Victoria Armory, Corpus Christi Armory, Eagle Pass Armory, Laredo Armory, Columbus Armory and El Campo Armory, TX

b. Non-Responsive Tammer Sciences INC, 3744 Lawrence Dr., Naperville, IL 60564, conducted the survey.

3. Findings. All Health Hazard information are on the survey findings of the report. (See enclosure 1)

4. Recommendations.

a. Follow all recommendations made in reference 1.l., requesting industrial hygiene (IH) services where needed to complete the recommendations.

b. Conduct an air sampling survey in the areas in and around those identified with elevated lead dust levels in page 3 0f reference 1.l, to ensure that the lead dust present is not airborne and that employees in these areas are not exposed above the action level where applicable.

c. Control water infiltration in the armory and/or replace or repair damaged surfaces or components (ceiling and floor tiles). Building conditions that present IAQ concerns or problems not only exacerbates normally minor health issues but also tend to promote or accelerate building deterioration.

d. The recommendations given in the comment section and data collected will serve as a baseline for the Industrial Hygiene Implementation Plan (IHIP) for FY-03. A follow up operation and hazard specific air sampling survey based on the enclosed findings will be included in the FY-04 IHIP.

e. Consider additional Industrial Hygiene services to monitor operations that were not looked at or surveyed during the present survey, especially if this will help eliminate health hazards and reduce medical surveillance cost.

f. To execute your responsibilities in correcting all deficiencies and meeting all standards coordinate with the Occupational Health Nurse and the Occupational Safety and Health Office for technical guidance.

f. Give special consideration to cleaning light fixtures, increasing the wattage and painting walls a lighter color when upgrading the lighting in the facility.

5. If additional information is needed about the industrial hygiene survey or air sample

Non-Responsive

CF:
NBG-AVN-SH
State Occupational Health Office, P. O. BOX 5218, Austin, TX 78763-5218.
State Safety Manager, P. O. BOX 5218, Austin, TX 78763-5218.

Encl
as

Industrial Hygiene Baseline Survey Report
For
Texas Army National Guard
(TXARNG)

At
El Campo Armory
801 E Armory Road
El Campo, Texas

Prepared for:

Department of the Army and the Air Force
National Guard Bureau
Regional Industrial Hygiene Office
Region South
Airport Plaza Suite 1530
510 Plaza Drive
College Park, GA 30349

By

Non-Responsive

June 16, 2004

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- Introduction
- Site Description
- Scope of Work
- Methodology

Findings & Discussion

- Lead Wipe Samples ..... Page 3
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- Noise Survey ..... Page 4
- Illumination Survey ..... Page 5
- Heating Ventilating and Air Conditioning (HVAC) ..... Page 5
- Recommendations ..... Page 6

Appendices

A. Floor Layout and illumination levels.
B. Laboratory Analytical Results.
C. Lab Chain of Custody.
D. Photographs.

Executive Summary

An initial baseline industrial hygiene survey was conducted at the El Campo Armory on 24 March 2004 as part of the Texas Army National Guard Occupational Health Program to identify potential health hazards in the workplace. The survey consisted of collecting lead wipe samples and bulk asbestos samples, conducting an illumination survey, a noise survey, and an evaluation of the Heating Ventilation and Air Conditioning System (HVAC) as it relates to indoor air quality.

The following table summarizes the survey findings and recommendations for each topic surveyed.

Topic	Summary of Findings	Recommendations
Armory Lead Wipe Samples	<10 to 41 microgram per square foot.	No action.
Asbestos Bulk Samples	No Suspect asbestos containing material identified.	No action.
Noise Survey	No excessive noise source was identified.	No action.
Illumination Survey	30 to 75 footcandles	No action.
HVAC/IAQ	No issues observed or documented.	No action.

SUBJECT: Industrial Hygiene Initial Baseline Survey of the El Campo Armory in El Campo, Texas on 24 March 2004

BACKGROUND:

Introduction. At the request of Non-Responsive of the National Guard Bureau Region South Industrial Hygiene Office, an initial baseline industrial hygiene survey was performed at the El Campo Armory in El Campo, Texas. Non-Responsive Industrial Hygiene Technician for the Texas Army National Guard and Non-Responsive contract Industrial Hygienist, Tammer Sciences, Inc. conducted the survey on 24 March 2004. The purpose of the survey was to perform an initial baseline industrial hygiene survey to identify potential health hazards present at the armory, specifically lead contamination from the indoor firing range.

Site Description. The armory, which was built in 1960 and was renovated in 2003, houses Company A and the 112 AR. The building is a one story structure and consists of administrative office areas, a kitchen, classrooms, sleeping and storage areas library, a drill hall, and a supply room. No indoor firing range is in this armory. One full time employees work at this armory. A copy of the floor layout and photos are included in Appendix A and D, respectively.

Scope of Work. The work included collecting wipe samples for lead, bulk samples for suspect asbestos containing building material, illumination levels, noise readings where necessary, and an evaluation of the ventilation system as it pertains to indoor air quality.

Methodology Lead wipe samples were collected from surfaces in the firing range and in the Armory in accordance to instructions published by Region South National Guard Bureau, which required the use of unscented baby wipes to wipe one square foot of surface. Samples were then placed in a sealed plastic bag and sent for analysis to EMSL laboratory, which is an American Industrial Hygiene Association (AIHA) Accredited laboratory. Asbestos bulk samples were collected from suspect building materials that were grouped based on similarity of composition. Bulk sample collection was minimally destructive and samples were collected from inconspicuous areas. Bulk samples were also collected from suspect friable and damaged building material. Each bulk sample was placed in a sealed bag and sent to EMSL laboratory for analysis. Noise readings were collected using a noise level meter in areas where a noise source was identified. All noise measurements were area readings. Illumination readings were collected using a Western Schlumberger light meter Serial 8384. Illumination readings were taken on work surfaces such as desks or approximately four feet from the floor.

FINDINGS and DISCUSSION:

The Point of Contact during the survey was Non-Responsive

Lead Wipe Samples: Eight wipe samples were collected from various areas of the armory as listed in the table below.

Sample Number	Sample Location	Micrograms of lead (ug) per square foot
ELC01	Top of ice maker in kitchen.	<10.0
ELC02	Top of shelf above stove in kitchen.	41.0
ELC03	Drill hall floor by supply room..	<10.0
ELC04	Drill hall floor middle of the hall	<10.0
ELC05	Drill hall floor by main entrance.	<10.0
ELC06	Supply diffuser in readiness NCO office	<10.0
ELC07	Top of a book shelf in the readiness NCO office	<10.0
ELC08	Field Blank	<10.0

The US Environmental Protection Agency (EPA), under a new standard issued in 2000, considers lead dust as a hazard if levels are greater than 40 micrograms of lead in dust per square foot on floors; 250 micrograms of lead in dust per square foot on interior window sills and 400 parts per million (ppm) of lead in bare soil in children's play areas or 1200 ppm average for bare soil in the rest of the yard. This standard is a major effort by the EPA to identify dangerous levels of lead in paint, dust and soil in order to protect children from lead poisoning. The National Guard Bureau recommends a limit of 200 micrograms per square foot for surface contamination. The laboratory report and chain of custody forms are attached in Appendices B and C.

Asbestos Suspect Building Material: Typical building materials identified in the Armory consisted of 12 by 12 inches floor tiles, 2x4 feet ceiling tiles, and Baseboard in the administrative office areas and classrooms. Cement floors, cinder block walls, and corrugated steel deck in the drill hall, supply, storage, and other areas. No samples were collected because the building was totally renovated in 2003.

Noise Survey: Based on observations during the walkthrough baseline survey, no sources of excessive noise were identified and therefore no area noise readings were collected. Noise levels are likely to be well below the Occupational Safety and Health Administration (OSHA) regulated limit of 90 dBA and the Army recommended limit of 85 dBA.

Illumination Survey Lighting levels throughout the Armory ranged between 30 foot-candles to 75 foot-candles. Illumination levels are noted on the floor layout in Appendix A. Illumination ranges for each area are listed in the Table below:

Area	Reading in Foot-candles
Administrative Offices.	40 – 75
Classrooms.	30 – 40
Supply Rooms.	30 – 35
Drill Hall.	40 – 55
Hallway.	30 – 35
Kitchen.	50 – 55

The Army Design Guide (DG415-2) minimum illumination level of 50 foot-candle for office area and 20 foot-candles for parts storage/supply. The American National Standard Institute (ANSI) recommends a minimum illumination level of 50 to 100 foot-candles for office work, 20 to 50 for general lighting. Luminance depends on various factors including the task to be performed, the age of the individual, and the surroundings. Luminance of 50 to 100 foot-candles is recommended for performance of visual tasks of medium contrast or small size such as reading pencil handwriting and poorly printed or reproduced material. Depending on the type of display, background luminance of 30 to 60 foot-candles is recommended for VDT work. Replacing light bulbs with higher wattage will increase lighting levels. Replacing burnt out light bulbs and cleaning the light fixture should improve the lighting levels.

Heating Ventilating and Air Conditioning (HVAC) The Heating Ventilating and Air-Conditioning (HVAC) System for the Armory consisted of three individual furnace forced air units. The common return air plenum is located underneath each unit and is constructed of wooden plywood. No water leaks signs were observed in the mechanical closets. However, the presence of water and wood will provide an opportunity for a microbiological growth source within this common plenum. Given the right conditions these sources can contribute negatively to the quality of the indoor air. All condensate water should be isolated from the wood on the return air plenum. Consideration should be given to replace the wood with a metal structure. No other complaints of indoor air quality issues were documented or communicated with the POC.

Recommendation:

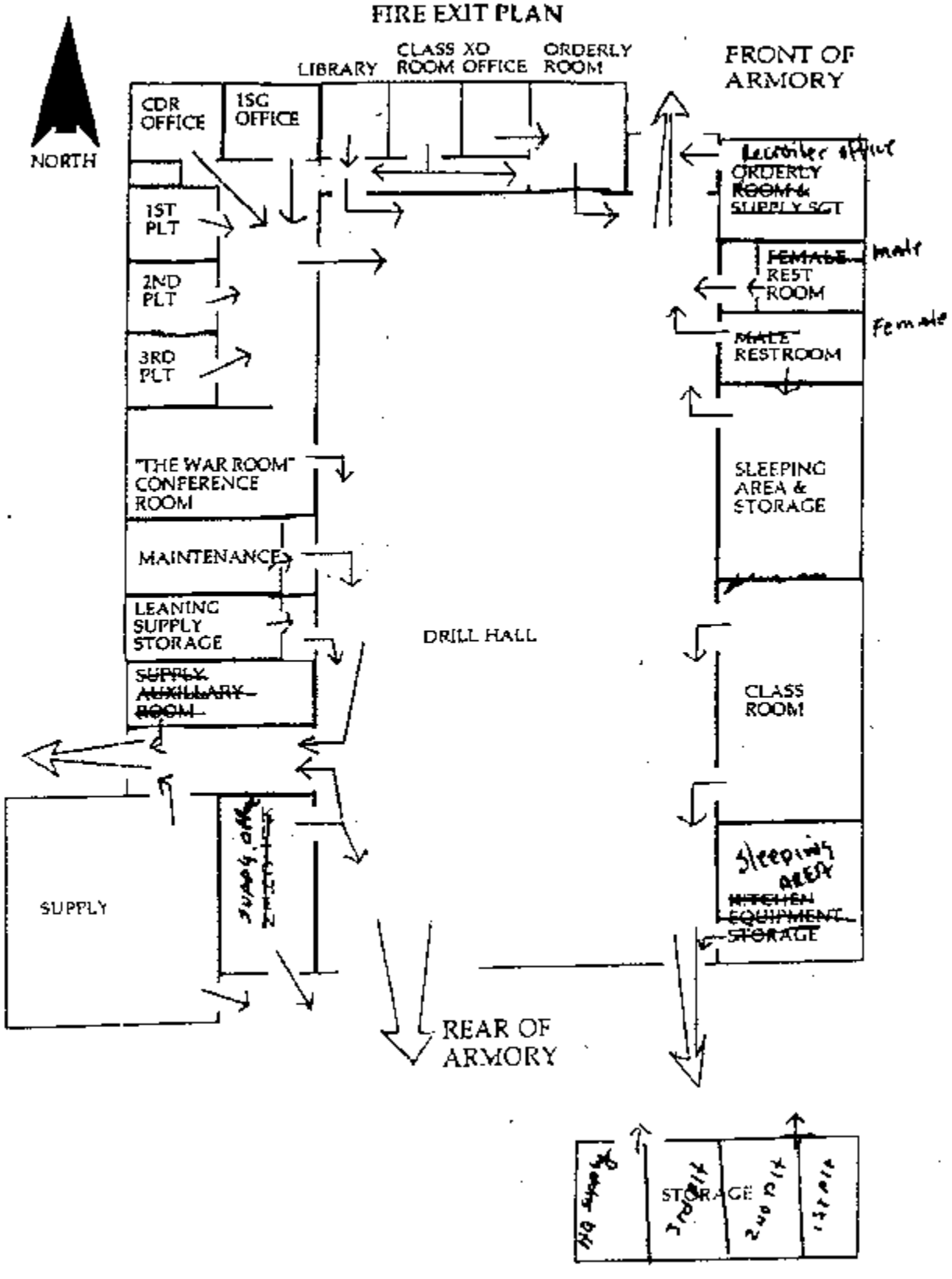
None.

Technical Assistance: For technical assistance regarding information found in this report

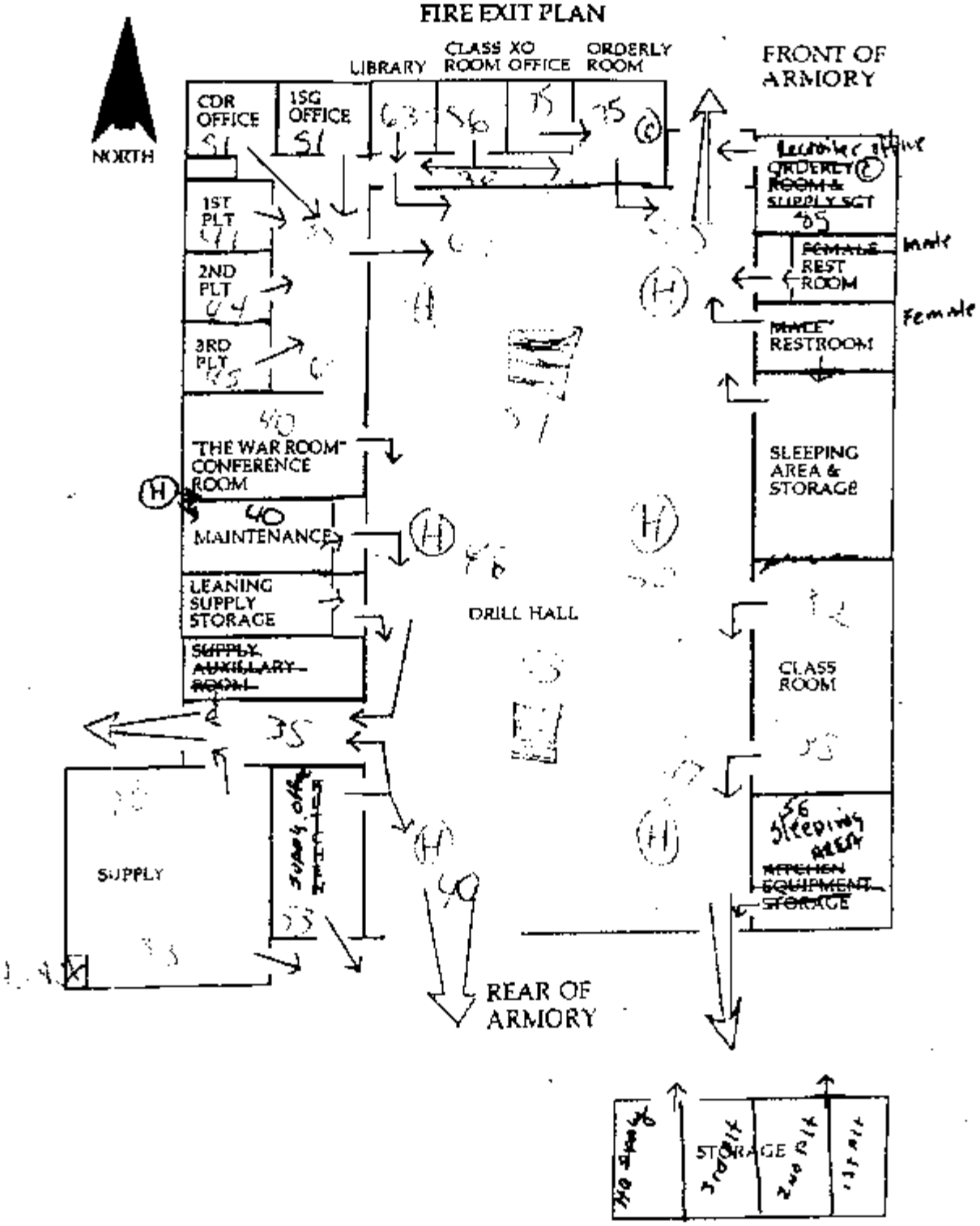
Non-Responsive

APPENDIX A

FIRE EXIT PLAN



FIRE EXIT PLAN



BEST AVAILABLE COPY

APPENDIX B

EMSL Analytical
3 Cooper St., Westmont, NJ 08108
Phone: (856) 858-4800 Fax: (856) 858-9551 Email: ekauffman@emsl.com

Attn: Non-Responsive
Fax:
Project: El Campo, TX

Customer ID: TS80
Customer PO:
Received: 03/30/04 10:12 AM

EMSL Order: 200403342
EMSL Proj:

Lead in Wipes by Flame AAS (SW 846, 7420)

Client Sample Description		Lab ID	Analyzed	Area Sampled	Lead Concentration
EIC01	Results for these wipe samples do not meet the EPA standards for sample matrix and are not recognized under the NLLAP accreditation program	0001	4/14/04	n/a	14.0 µg/wipe
EIC02		0002	4/14/04	n/a	<10.0 µg/wipe
EIC03		0003	4/14/04	n/a	41.0 µg/wipe
EIC04		0004	4/14/04	n/a	<10.0 µg/wipe
EIC05		0005	4/14/04	n/a	<10.0 µg/wipe
EIC06		0006	4/14/04	n/a	<10.0 µg/wipe
EIC07		0007	4/14/04	n/a	<10.0 µg/wipe
EIC08		0008	4/14/04	n/a	<10.0 µg/wipe

Non-Responsive

The QC data associated with the sample results included in this report meet the recovery and precision
the comment section. The test results contained within this report meet the requirements of NELAC unless
ACCREDITATIONS: NJ-NELAP 04853, AIHA Environmental Lead Laboratory Approval Program: 100194

Date Printed: 4/14/04 9:25:58 AM

Page 1 of 1

APPENDIX C

20040334?

LEAD

EMSL ANALYTICAL **CHAIN OF CUSTODY**

Date: 3/26/04 EMSL Representative: ____ Project Name/No.: ____ P.O.#: ____
Company Name: Tommer Sciences, Inc. EMSL-Bill to: ____
Street: 3344 Lawrence Drive Street: Same
Box #: ____ Box #: ____
City/State: Naperville, IL Zip: 60564 City/State: ____ Zip: ____
Phone Results to: (Name) [redacted] Non-Responsive
Fax Results to: (Name) [redacted]

MATRIX	METHOD	INSTRUMENT	[redacted] Limit)	
Lead Chips*	SW846-7420, 3050B Mod. / AOAC (974.02)	Flame Atomic Absorption	0.01% —	
Lead Wastewater	SW846-7420	Flame Atomic Absorption	0.4 mg/l water 40 mg/kg (ppm) soil	
Lead Soil *	or SW846-6010B	ICP	0.1 mg/l water 10 mg/kg (ppm) soil	
Lead in Air***	NIOSH 7082 Mod.	Flame Atomic Absorption	4 ug/filter	
	or NIOSH 7300 Mod.	ICP	3.0 ug/filter	
Lead in Wipe* ☑-ASTM Wipe Type	SW846-7420 / HUD Appendix 14.2 Digest.	Flame Atomic Absorption	10 ug/wipe	[illegible]
☐-non ASTM	or SW846-6010B	ICP	3.0 ug/wipe	
TCLP Lead**	SW846-1311/7420	Flame Atomic Absorption	0.4 mg/l (ppm)	
	or SW846-6010B	ICP	0.1 mg/l (ppm)	
STLC Lead (California)*	CA Title 22 / SW846-7420	Flame Atomic Absorption	0.4 mg/l (ppm)	
	or SW846-6010B	ICP	0.1 mg/l (ppm)	
Lead in Air ****	NIOSH 7105 Mod.	Graphite Furnace Atomic Absorption	0.03 ug/filter	
Lead Wastewater	SW846-7421	Graphite Furnace Atomic Absorption	0.003 mg/l (ppm) water	
Lead Soil *			0.3 mg/kg (ppm) soil	
Lead in Drinking Water (check state Certification Requirements)	EPA 239.2 / 200.9	Graphite Furnace Atomic Absorption	0.003 mg/l (ppm)	
Total Dust	NIOSH 0500/0600	Gravimetric Reduction	0.0001g	

2004 MAR 30 AM 10: 12 WESTMONT, IL EMSL

*T/A T (Turnaround) - Same day, 24 hr - 1 Day, 2 Days, 3 Days, 4 Days, 5 Days, 6-10 Days
*, **, ***, ****, ... # Please Refer to Price Quote
* If no box is checked, non-ASTM is assumed

SAMPLE #	LOCATION	Air volume, L Area, in²	LAB #
EIC01	El Campo, TX		03342.1
EIC02			-2

(1) Relinquished By: (Person) [redacted] Non-Responsive Date: 3/26/04
Received at EMSL By: [redacted] Date: 3/26/04
Received at EMSL By: Date: ____

Note: Please duplicate this form and use additional sheets if necessary.
(1) The individual signing and relinquishing these samples to the laboratory attests to the accuracy of the information reported on this chain of custody.

Lead Chain Nov 2003 STLC.doc

EMSL ANALYTICAL CHAIN OF CUSTODY LEAD

SAMPLE #	LOCATION	Air volume, L Area, in²	LAB #
ELC04	ElCampo TX		03142 7
ELC05			1
06			2
07			7
08			4
ELC03			3

@ Relinquished By: (Person) [redacted] Date: 3/26/04

Received at EMSL By: [redacted] Date: 3/30/04

Received at EMSL By: [redacted] Date: _____

Non-Responsive

Note: Please duplicate this form and use additional sheets if necessary.

@ The individual signing and relinquishing these samples to the laboratory attests to the accuracy of the information reported on this chain of custody.

Lead Chain Nov 2001 rv STLC.doc

APPENDIX D

Photo #1: Armory front entrance. Note the armory was hosting a mash fund raiser on the day of the survey.

Photo #2: Outside the armory's northwest corner.

Photo #3: South side of the armory.

Photo #4: Eat side of the armory.

Photo #5: Drill hall facing south.

Photo #6: Drill hall facing north.

Photo #7: Armory's kitchen.

Photo #8: Classroom in the Armory.

Photo #09: Furnace unit

Photo #10: Furnace units showing the wooden common return plenum

DEPARTMENT OF THE ARMY AND THE AIR FORCE
NATIONAL GUARD BUREAU
REGIONAL INDUSTRIAL HYGIENE OFFICE
AIRPORT PLAZA SUITE 1530
510 PLAZA DRIVE
COLLEGE PARK, GA 30349

NGB-ARS-IHSE (40-5f) 10 October 2007

MEMORANDUM FOR: ADJUTANT GENERAL TX ARNG, ATTN.: Non-Responsive Non-Responsive Ellington Field Armory, 1182 Ellington Field, Houston, Texas 77034-5596.

Thru: Non-Responsive Deputy State Army Surgeon, JFTX-ARM-SS, 3500 West 35th Street, Building 10, Austin, TX 78763-5218.

SUBJECT: Transmittal of IH Survey, CW5 (Ret) William LaChance, Ellington Field Armory, 1182 Ellington Field, Houston, Texas 77034-5596.

1. References.

a. OSHA Standards 29 CFR (Code of Federal Regulations), General Industry, revised 1996 rev.

b. AR 40-5, Preventive Medicine, 22 July 2005.

c. AR 11-34, 15 February 1990, The Army Respiratory Protection Program.

d. AR 385-10, 29 February 2000, Army Safety Program.

f. TB MED 503, The Army Industrial Hygiene Program, 30 October 2000.

g. Title 29 Code of Federal regulation (CFR), 1989 rev, Part 1910.94 (c) (6) Table G-10, Ventilation.

h. Industrial Ventilation, 25th, 2004, American Conference of Governmental Industrial Hygienist, Cincinnati, Ohio.

i. Title 29 Code of Federal Regulation (CFR), Part 1910.1025 Lead.

k. Title 40 Code of Federal Regulation (CFR), Part 745.227.

l. TG 277, Army Facilities Management Information Document on Mold Remediation Issues

2. General.

a. In accordance to the JFTX-H-OH Industrial Hygiene Implementation Plan of 2007, a follow-up industrial hygiene survey was performed at the Ellington Field Armory located at 1182 Ellington Field, Houston, Texas 77034-5596. The purpose of the survey was to perform a baseline industrial hygiene survey to evaluate potential health hazards present in the building.

b. The Point of Contact during the survey was Non-Responsive

SUBJECT: Transmittal of IH Survey, CW5 (Ret) William LaChance, Ellington Field Armory, 1182 Ellington Field, Houston, Texas 77034-5596.

c. Non-Responsive Industrial Hygiene Technician for the Texas Army National Guard conducted the sampling on 28 September 2007.

3. General.

a. **Site Description.** The Ellington Field Armory; a two-story brick over cinder block structure with Central HVAC was built in 1990. The facility houses several training rooms and classrooms, administrative office areas, and a supply rooms with storage and vault. Twenty AGR soldiers and civilian technicians work at the Ellington Field Armory supporting 400-500 M-Day soldiers and tenant units. The industrial use Central HVAC for the Ellington Field Armory consist of a chilled water HVAC system with interior units mounted inside accessible attic areas. The POC has sent request for various repairs to be made throughout the Armory which are addressed in the survey. Additional funding for plans to add additional motor pool areas and retrofitting Ammo Bunkers for supply storage are of great concern for supply personnel. A copy of the floor layout and photos are included in Appendix C..

b. **Scope of Work.** The work included collecting wipe samples for lead, bulk samples for suspect asbestos containing building material, illumination levels, noise readings, and an evaluation of the ventilation system as it pertains to indoor air quality. The Aviation facility was included on the follow-up survey to include sampling surfaces for suspect mold damaged areas in the QC room.

c. **Methodology** In the baseline survey dated 19 February 2004; Lead wipe samples were collected from various surfaces throughout the building. The samples were collected accordance to instructions published by Region South National Guard Bureau, which required the use of Ghost wipes or unscented baby wipes to wipe one square foot of surface. Samples were then placed in a sealed plastic bag and sent for analysis to an American Industrial Hygiene Association (AIHA) Accredited laboratory. Asbestos bulk samples were not collected during the baseline or observed during current survey. Sterile swab and tape samples of mold for culture and identification were collected from various surfaces throughout the QC room at the HAASF Aviation Facility. All swab samples taken were placed in individual sterile self contained vials and shipped to an American Industrial Hygiene Association (AIHA) Accredited laboratory for analysis. Area Illumination readings were collected using an EXTECH 401025 light meter Serial Number Q168802. Illumination readings were taken on work surfaces and approximately four feet from the floor.

4. Findings.

a. **Lead Wipe Samples:** Wipe samples for lead dust were collected from various in the prior survey dated 16 October 2003. All elevated results were self contained in the empty locked indoor range. Access to the locked range is limited to facilities commission and industrial hygiene personnel only. No areas were sampled, tested or noted during current survey.

The US Environmental Protection Agency (EPA), under a new standard issued in 2000, considers lead dust as a hazard if levels are greater than 40 micrograms of lead in dust per square foot on floors; 250 micrograms of lead in dust per square foot on interior window sills and 400 parts per million (ppm) of lead in bare soil in children's play areas or 1200 ppm average for bare soil in the rest of the yard. This standard is a major effort by the EPA to identify dangerous levels of lead in paint, dust and soil in order to protect children from lead poisoning. The National Guard Bureau recommends a limit of 200 micrograms per square foot for surface contamination. Deteriorated Paint surfaces that contain lead levels at or above 0.06 % by weight or 600 (ppm) are considered

a hazard. The contaminated areas should be properly cleaned and decontaminated in accordance to the instructions found in NG PAM 420-15.

b. **Asbestos Suspect Building Material:** No areas were sampled, tested or noted during current survey

c. **Suspect Mold Samples** Six sterile swab and five tape samples of various locations were sampled and sent to an American Industrial Hygiene Association (AIHA) Accredited laboratory for culture and identification. Results of analysis are attached in Appendices A and B.

d. **Illumination Survey** Lighting levels throughout the Armory ranged between 2 foot-candle to 110 foot-candles. Specific readings were as follows:

Ellington Field Armoyr	Reading in Foot-candles
Classrooms	25-78
Office Areas	45-84
Kitchen	52-110
Hallways and Lobby	5-68
Drill Hall	10-35
Supply and Storage	02-30
Latrines	02-89
HAASF QC room	45-68

Most readings are within the Army Design Guide (DG415-2) minimum illumination level of 50 foot-candle for office area and 20 foot-candles for parts storage/supply. The American National Standard Institute (ANSI) recommends a minimum illumination level of 50 to 100 foot-candles for office work, 20 to 50 for general lighting. Luminance depends on various factors including the task to be performed, the age of the individual, and the surroundings. Luminance of 50 to 100 foot-candles is recommended for performance of visual tasks of medium contrast or small size such as reading pencil handwriting and poorly printed or reproduced material. Depending on the type of display, background luminance of 30 to 60 foot-candles is recommended for VDT work. Areas with low light readings have burnt out bulbs or fixtures are in need of repair. Replacing light bulbs with higher wattage will increase lighting levels. Replacing broken light fixtures and or lights and or cleaning them should improve the lighting levels. .

e. **Noise Survey:** No noise Hazardous areas were identified or recorded on the day of the survey

f. **Heating Ventilating and Air Conditioning (HVAC):** The industrial use Central HVAC for the Ellington Field Armory consist of a chilled water HVAC system with interior units mounted inside accessible attic areas. The system is capable to deliver outside makeup air to the occupied space. The supply rooms and not equipped with conditioned air and various exhaust units are not present in the ducts; local ceiling mounted heating units are in the drill hall and latrines. For additional storage space, supply personnel use outside ammo bunkers. Due to climate and lack of adequate ventilation. humidity and ventilation is of great concern in supply rooms and storage bunkers. Currently due to supply cage improvement project, supply areas are without drop ceilings and have rolled fiber insulation exposed. Occupants

SUBJECT: Transmittal of IH Survey, Non-Responsive Ellington Field Armory, 1182 Ellington Field, Houston, Texas 77034-5596.

working in the occupied area are forced to use local fans to move air in occupied areas and have complained of itching. Various HVAC issues have been documented or communicated with the POC and will be forwarded to the State Facilities Commission.

5. Recommendations.

a. Evidence of Lead contaminated surfaces was found as listed in the 2003 report. Continue to clean weapons offsite and practice good housekeeping by washing hands after handling and cleaning weapons and after leaving supply areas. (RAC 3)

b. Members with sensitivity to mold spores and dust allergens may exhibit allergy type symptoms while occupying various locations within the building. Please refer to attached OSHA.GOV publication: (RAC 2)
http://www.osha.gov/Publications/preventing_mold.pdf

c. Contact facilities to make improvements to eliminate conditions the attribute to mold growth and to remediate mold contamination in areas inside HAASF Aviation QC room. (RAC 2)

d. After eliminating conditions that contribute to mold accumulation; Clean and or Replace mold contaminated surfaces in accordance with TG 277. Please refer to attached CHPPM publication: (RAC 2)
http://chppmwww.apgea.army.mil/documents/TG/TECHGUID/TG277.pdf

e. Repair and or replace broken light fixtures and or paint walls to improve luminescence in areas with low light readings within the facility. (RAC 3)

f. To reduce further damage and maintain overall indoor air quality; encapsulate exposed insulation in supply rooms. Document and monitor roof leaks and contact your local facilities commission for roof repair and ceiling tile replacement if needed. (RAC 3)

g. Provide the Design Criteria for the Expansion of the Motor pool area to the Regional IH Office for evaluation to ensure the motor pool will meet the needs of the reorganization and the addition of military vehicles . RAC 3

h. Due to geographic location, extend HVAC ducts to all latrines and supply rooms. Ventilate all occupied areas by repairing all exhaust vents and ensuring vents in outside storage bunkers, latrines and supply rooms are within design guide and ventilation standards. Balance HVAC system to eliminate excess humidity in occupied areas. Continue to monitor HVAC system, document and track all work orders. (RAC 2)

i. Have facilities consult supply personnel for placement of supply cages. (RAC 3)

NGB-ARS-IHSE (40-5f) 10 October 2007

SUBJECT: Transmittal of IH Survey, Non-Responsive, Ellington Field Armory, 1182 Ellington Field, Houston, Texas 77034-5596.

Non-Responsive

CF: NGB-ARS-IHSE
State Occupational Health Office, 3500 West 35th Street, Building 86, Austin, TX 78763.
State Safety Manager, P. O. BOX 5218, Austin, TX 78763-5218.

ENCL.
as

NGB-ARS-IHSE (40-5f) 10 October 2007

SUBJECT: Transmittal of IH Survey, Non-Responsive Ellington Field Armory, 1182 Ellington Field, Houston, Texas 77034-5596.

Appendix A:

Laboratory Analytical Results.

USPHS FOH ENVIRONMENTAL MICROBIOLOGY LABORATORY, PHILADELPHIA, PA
LABORATORY REPORT #ARNG-07-7R

Client agency: US Army National Guard, Atlanta, GA
Agreement #/Scope of Work #/Project #: A121804 / S122578 /P129562
Sampling date: 9/6/07
Date of inoculation: 9/7/07
General location: National Guard SE Region, IH Office, Houston, TX
Sampling technique: Wipe sampling
Medium used: Malt extract agar (MEA) and cellulose Czapek agar (CCA) for fungi
Samples submitted by [redacted]
Date characterization completed: 9/17/07

Wipe samples on MEA and CCA plates

Sample ID	Sampling Location	Area (in^2)	Dilution factor	Fungi on MEA @ 25°C	*Stachybotrys chartarum* on CCA @ 25°C
ELMS01	Ellington Field HAASF QC, inside blank	1	10X-MEA 10X-CCA	No fungal growth CFU/in^2 < 10	Absent
ELMS02	Ellington Field HAASF QC, supply duct	1	4,000X-MEA 10X-CCA	1. *Cladosporium* (483*) 2. *Penicillium* (96) CFU/in^2 = 2.3 x 10^6	Absent
ELMS03	Ellington Field HAASF QC, return vent	1	4,000X-MEA 10X-CCA	1. *Cladosporium* (171) CFU/in^2 = 6.8 x 10^5	Absent
ELMS04	Ellington Field HAASF QC, supply vent	1	4,000X-MEA 10X-CCA	1. *Acremonium* (231) 2. *Cladosporium* (79) CFU/in^2 = 1.2 x 10^6	Absent
ELMS05	Ellington Field HAASF QC, ceiling (Mid)	1	4,000X-MEA 10X-CCA	1. *Cladosporium* (> 400) CFU/in^2 > 1.6 x 10^6	Absent
ELMS06	Ellington Field HAASF QC, ceiling (wall)	1	4,000X-MEA 10X-CCA	1. *Cladosporium* (291) 2. *Penicillium* (1) CFU/in^2 = 1.2 x 10^6	Absent
LB	Laboratory blank	NA#	10X-MEA 10X-CCA	No fungal growth	Absent

Sample ID	Sampling Location	Area (in^2)	Dilution factor	Fungi on MEA @ 25°C	*Stachybotrys chartarum* on CCA @ 25°C
ELMS07	Ellington Field HAASF QC, black binder desk	1	10X-MEA 10X-CCA	1. *Cladosporium* (76) 2. *Aspergillus sp.* (4) 3. *Penicillium* (4) 4. *Aspergillus versicolor* (2) CFU/in^2 = 860	Absent
ELMS08	Ellington Field HAASF QC, outside blank	1	10X-MEA 10X-CCA	No fungal growth CFU/in^2 < 10	Absent

* Colony counts.
# Not applicable.

Characterization completed by: _____
Ling-Ling Hung, Ph.D. Microbiologist

Quality control checked [redacted] (initials)

EMLab P&K
1150 Bayhill Drive, Suite 100, San Bruno, CA 94066
(650) 829-5800 Fax (650) 829-5852 www.emlab.com

Client: U.S. Public Health Service
C/O: Non-Responsive
Re: [redacted]

Date of Submittal: 09-07-2007
Date of Receipt: 09-10-2007
Date of Report: 09-12-2007

DIRECT MICROSCOPIC EXAMINATION REPORT
(Wet Mount)

Background Debris and/or Description	Miscellaneous Spores Present*	MOLD GROWTH: Molds seen with underlying mycelial and/or sporulating structures†	Other Comments††	General Impression
Lab ID-Version‡: 1459423-1: Tape sample EIMT P1: Ellington, field blank				
Scant	None	None	None	No mold spores detected
Lab ID-Version: 1459424-1: Tape sample EIMT P2: Ellington, supply duct				
Moderate	Few	4+ *Cladosporium* species (spores, hyphae, conidiophores) 3+ *Aspergillus* species (spores, hyphae, conidiophores)	None	Mold growth
Lab ID-Version: 1459425-1: Tape sample EIMT P3: Ellington, RTN vent				
Heavy	Few	4+ *Cladosporium* species (spores, hyphae, conidiophores) < 1+ colorless spores typical of *Penicillium / Aspergillus* (spores)	None	Mold growth
Lab ID-Version: 1459426-1: Tape sample EIMT P4: Ellington, supply vent				
Heavy	Few	4+ *Cladosporium* species (spores, hyphae, conidiophores) 2+ colorless spores typical of *Penicillium / Aspergillus* (spores) 2+ *Acremonium* species (spores, hyphae, conidiophores)	None	Mold growth
Lab ID-Version: 1459427-1: Tape sample EIMT P5: Ellington, ceiling				
Moderate	Few	4+ *Cladosporium* species (spores, hyphae, conidiophores)	None	Mold growth

‡ A "Version" greater than 1 indicates amended data.

NGB-ARS-IHSE (40-5f) 10 October 2007

SUBJECT: Transmittal of IH Survey, Non-Responsive Ellington Field Armory, 1182 Ellington Field, Houston, Texas 77034-5596.

Appendix B:

Lab Chain of Custody

US PUBLIC HEALTH SERVICE, FEDERAL OCCUPATIONAL HEALTH CHAIN-OF-CUSTODY / FIELD DATA SHEET

Environmental Microbiology Laboratory
[redacted]
Non-Responsive

PROJECT REFERENCE

Agreement No.:	A
Statement of Work No.:	S
Project No:	P ELLFC0907
Agency/Project Name:	NGB SOUTHEAST REGION IH OFFICE(…)
Location (City, State):	ATLANTA, GA

For Lab Use Only — Conditions on Receipt with Name & Date
Project /Report #:
Due Date:
Samples Received Chilled? YES NO (circle one)

Water Sample Codes[3]
Container Types: P-Plastic, G-Glass, V-VOC
Preservatives: A-None, B-H_2SO_4, C-HNO_3, D-NaOH

Turn Around Time Codes[4]
STD- Standard
R- Rush@
2D- Two Day Rush*
ND- Next Day Rush*@
SD- Same Day Rush*@
WH- Weekend/Holiday*

Analysis Requested

Sample ID #	Type[1]	Media[2]	Collected Date	Collected Time	Sample Location / Description	Air Flow (LPM)	Air Time (Min.)	Air Volume (Liters)	Wipe Area (In^2)	Water Volume (Liters)	Water Code[3]	Turn Around Time[4]	Lab ID #	Analysis Requested
ELMS1	[illegible]	[illegible]	[illegible]	[illegible]	Ellington Field HAASF QC / INSIDE BLANK				/					
ELMS2	[illegible]	[illegible]	[illegible]	[illegible]	Ellington Field HAASF QC / SUPPLY DUCT (SWAB)				/					
ELMS3	[illegible]	[illegible]	[illegible]	[illegible]	Ellington Field HAASF QC / RTN VENT (SWAB)				/					
ELMS4	[illegible]	[illegible]	[illegible]	[illegible]	Ellington Field HAASF QC / SUPPLY VENT (SWAB)				/					
ELMS5	[illegible]	[illegible]	[illegible]	[illegible]	Ellington Field HAASF QC / CEILING (SWAB) [illegible]				/					
ELMS6	[illegible]	[illegible]	[illegible]	1648	Ellington Field HAASF QC / CEILING (SWAB)				/					
ELMS7	[illegible]	[illegible]	[illegible]	[illegible]	Ellington Field HAASF QC / [illegible]				/					
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible] / [illegible]				/					

Sample Type Codes[1]
1-Air 2-Water 3-Paint 4-Soil 5-Dust
6-Bulk 7-Wipe 8-Contact Plate
9-Tape 10-Spore Trap (Zefon & others)
11-Other

Sample Media Codes[2]
1-Charcoal 2-XAD 3-Matched Weight
4-Preweighted 5-MEA 6-CCA 7-R2A/TSA
8-Air-O-Cell Cassette 9-MCE Cassette (0.45)
10-MCE Cassette (0.8) 11-MCE Filter 12-Other

Relinquished By	Date & Time	Received By	Date & Time

COMMENTS:

* Applied to non-viable microbiological samples only. @ Applied to asbestos samples, SD: 2-hour PLM/PCM, 6-hour TEM; ND: 24-hour; R: 3-5 business days.

US PUBLIC HEALTH SERVICE, FEDERAL OCCUPATIONAL HEALTH CHAIN-OF-CUSTODY / FIELD DATA SHEET

Environmental Microbiology Laboratory
50 S. Independence Mall West, Suite 321
[redacted] Non-Responsive

PROJECT REFERENCE

Agreement No.:	A
Statement of Work No.:	S
Project No.:	P EIIFA 0207
Agency/Project Name:	NGB SOUTHEAST Region IH OFFICE
Location (City, State):	ATLANTA, GA

For Lab Use Only — Conditions on Receipt with Name & Date
Project /Report #:
Due Date:
Samples Received Chilled? YES NO (circle one)

Water Sample Codes[3]
Container Types: P-Plastic, G-Glass, V-VOC
Preservatives: A-None, B-H_2SO_4, C-HNO_3, D-NaOH

Turn-Around-Time Codes[4]
STD- Standard
R- Rush[@]
2D- Two Day Rush*
ND- Next Day Rush*[@]
SD- Same Day Rush*[@]
WH- Weekend/Holiday*

Analysis Requested

ID #	Type[1]	Media[2]	Collected Date	Collected Time	Sample Location / Description	Air Flow (LPM)	Air Time (Min.)	Air Volume (Liters)	Wipe Area (in²)	Water Volume (Liters)	Water Code[3]	Turn Around Time[4]	Lab ID #
EIMTP1				11	Ellington Field HAASF QC / TAPE Blank								
EIMTP2					Ellington Field HAASF QC / Supply Duct (TAPE)								
EIMTP3					Ellington Field HAASF QC / RTN VENT (TAPE)								
EIMTP4					Ellington Field HAASF QC / Supply VENT (TAPE)								
EIMTP5				11/0	Ellington Field HAASF QC / CEILING (TAPE)								

Sample Type Codes[1]
1-Air 2-Water 3-Paint 4-Soil 5-Dust 6-Bulk 7-Wipe 8-Contact Plate 9-Tape 10-Spore Trap (Zefon & others) 11-Other

Sample Media Codes[2]
1-Charcoal 2-XAD 3-Matched Weight 4-Preweighted 5-MEA 6-CCA 7-R2A/TSA 8-Air-O-Cell Cassette 9-MCE Cassette (0.45) 10-MCE Cassette (0.8) 11-MCE Filter 12-Other

Relinquished By	Date & Time	Received By	Date & Time

COMMENTS:

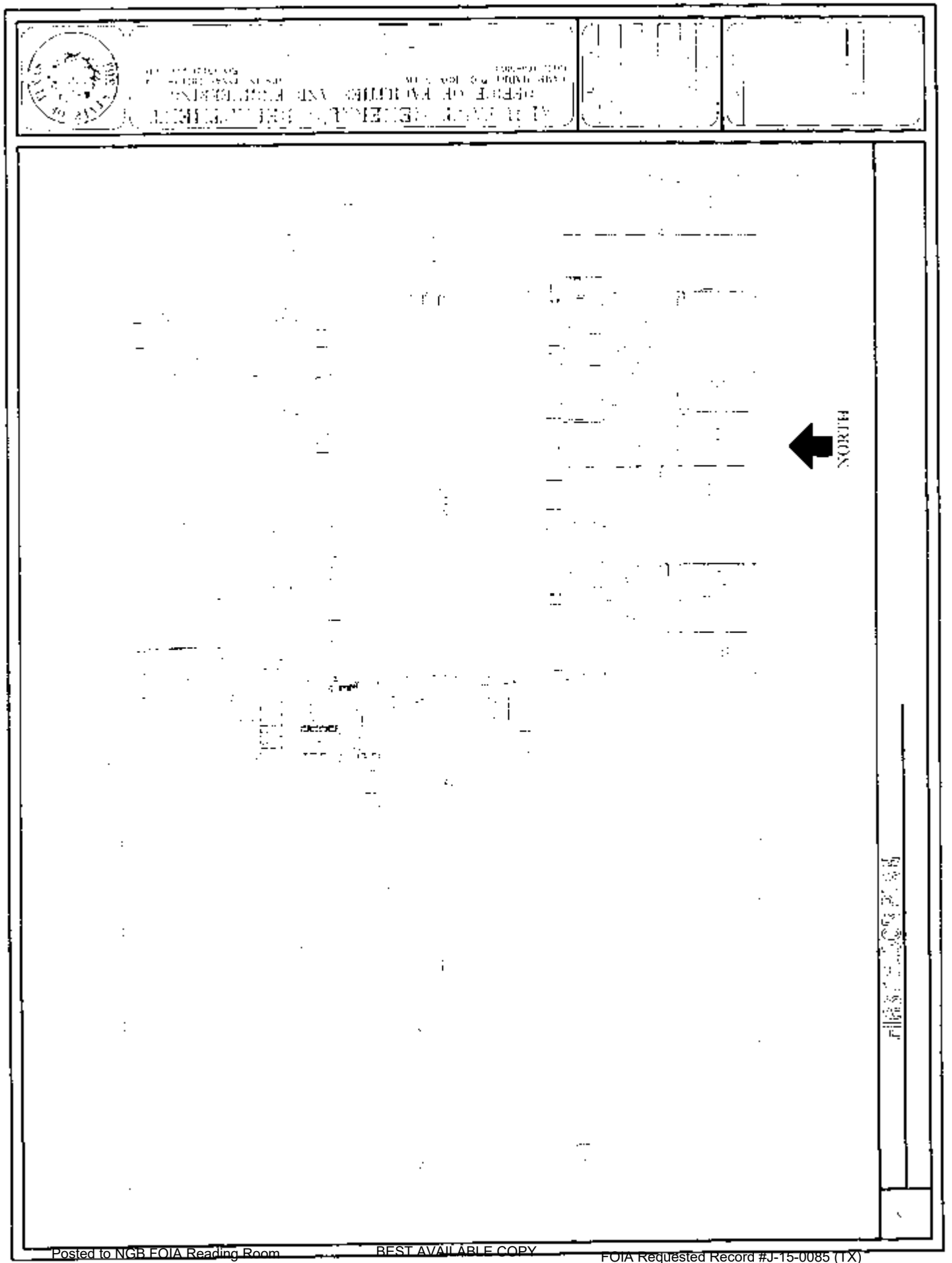
*Applied to non-viable microbiological samples only. [@] Applied to asbestos samples, SD: 2-hour PLM/PCM, 6-hour TEM; ND: 24-hour; R: 3-5 business days.

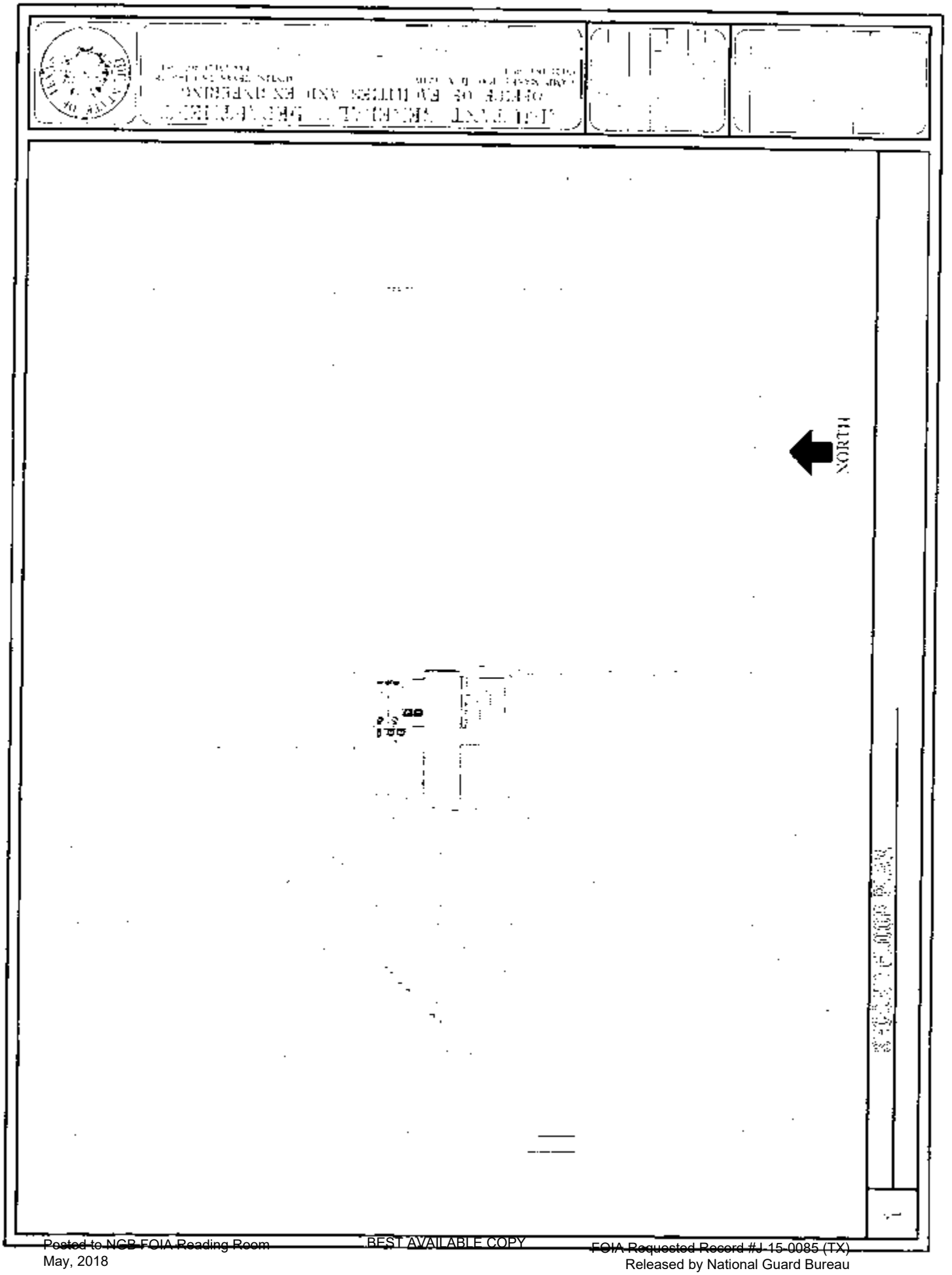
NGB-ARS-IHSE (40-5f) 10 October 2007

SUBJECT: Transmittal of IH Survey, Non-Responsive, Ellington Field Armory, 1182 Ellington Field, Houston, Texas 77034-5596.

Appendix C

Photographs and Floor Layout.





10 October 2007

SUBJECT: Transmittal of IH Survey [redacted] Ellington Field Armory, 1182 Ellington Field, Houston, Texas 77034-5596.

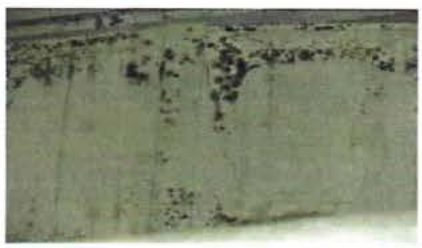
Ellington Field Armory

			
Ellington Field Armory	Drill Hall	Kitchen	Classroom
			
Supply Room w/ Exposed Insulation	Supply Room w/Modified Exhaust Ventilation	Supply Storage Ammo Bunkers	Supply Storage Ammo Bunkers no Lighting
			
Ammo Bunkers w/no Outside Lighting	Chilled Water HVAC	Chilled Water HVAC Control Unit in Attic	Chilled Water HVAC Duct Work in Attic
			
Duct Heating Unit Electronic	Make up Air Duct	Attic Roof Vent	Locked Closed Indoor Range

NGB-ARS-IHSE (40-5f) 10 October 2007

SUBJECT: Transmittal of IH Survey, [redacted]ngton Field Armory, 1182 Ellington Field, Houston, Texas 77034-5596.

Ellington Field HAASF QC

	
HAASF QC	**HVAC Duct**
	
HVAC Duct	**HAASF QC Ceiling**

DEPARTMENT OF THE ARMY AND THE AIR FORCE
NATIONAL GUARD BUREAU
REGIONAL INDUSTRIAL HYGIENE OFFICE
AIRPORT PLAZA SUITE 1530
510 PLAZA DRIVE
COLLEGE PARK, GA 30349

NGB-AVN-SI

July 30, 2003

MEMORANDUM FOR: ADJUTANT GENERAL TX ARNG, ATTN.: State Occupational Health Office, P. O. BOX 5218, Austin, TX 78763-5218

SUBJECT: Transmittal of the Survey Reports for Irving Armory, Dallas, TX and Fort Worth #2 Armory, Fort Worth, TX.

1. References.

a. Department of Defense Instruction 6055.1, Department of Defense Occupational Safety and Health (OSH) Program, 26 October 1984.

b. Army Regulation (AR) 40-5, 30 August 1986, Medical Service, Preventive Medicine.

c. National Guard Regulation (NGR) 385-10, 1988, Army National Guard Safety and Occupational Health Program.

d. AR 11-34, The Army Respiratory Protection Program, 15 February 1990.

e. TB MED 502, Occupational and Environmental Health Respiratory Protection Program, February 1982.

f. DA PAM 40-503, 30 October 2000, The Army Industrial Hygiene Program.

g. DA PAM 40-501, 10 December 1998, Hearing Conservation.

h. Threshold Limit Values and Biological Exposure Indices (TLV's) for 2001, American Conference of Governmental Industrial Hygienists (ACGIH), Cincinnati, Ohio.

i. Industrial Ventilation, 23rd Edition, American Conference of Governmental Industrial Hygienist, Cincinnati, Ohio.

j. USAEHA TG-141, November 1997, Guidelines for Air Sampling and Bulk sample Collection.

NGB-AVN-SI
SUBJECT: Transmittal of the Survey Reports for Irving Armory, Dallas, TX and Fort Worth #2 Armory, Fort Worth, TX.

k. Title 29, Code of Federal Regulations (CFR), 2000 rev., part 1910, Occupational Safety and Health Standards.

l. Report dated 2 July 2003, Industrial Hygiene Survey, Tamar Sciences, Inc., Naperville, IL.

2. General.

a. At the request of the TXARNG Safety and Occupational Health Office, an Industrial Hygiene Service was put together to conduct Health Hazard Information module (HHIM) Field surveys and industrial hygiene sampling of the Irving Armory, Dallas, TX and Fort Worth #2 Armory, Fort Worth, TX.

b. The surveys were conducted by Non-Responsive of Tammer Sciences, Inc., Napervile, IL

3. Findings. All Health Hazard information are on the survey findings of the report. (See enclosure 1)

4. Recommendations.

a. Follow all recommendations made in reference 1.l., requesting industrial hygiene (IH) services where needed to complete the recommendations.

b. Conduct an air sampling survey in the areas in and around those identified with elevated lead dust levels in page 3 0f reference 1.l, to ensure that the lead dust present is not airborne and that employees in these areas are not exposed above the action level where applicable.

c. Control water infiltration in the armory and/or replace or repair damaged surfaces or components (ceiling and floor tiles). Building conditions that present IAQ concerns or problems not only exacerbates normally minor health issues but also tend to promote or accelerate building deterioration.

d. The recommendations given in the comment section and data collected will serve as a baseline for the Industrial Hygiene Implementation Plan (IHIP) for FY-03. A follow up operation and hazard specific air sampling survey based on the enclosed findings will be included in the FY-04 IHIP.

e. Consider additional Industrial Hygiene services to monitor operations that were not looked at or surveyed during the present survey, especially if this will help eliminate health hazards and reduce medical surveillance cost.

NGB-AVN-SI
SUBJECT: Transmittal of the Survey Reports for Irving Armory, Dallas, TX and Fort Worth #2 Armory, Fort Worth, TX.

f. To execute your responsibilities in correcting all deficiencies and meeting all standards coordinate with the Occupational Health Nurse and the Occupational Safety and Health Office for technical guidance.

f. Give special consideration to cleaning light fixtures, increasing the wattage and painting walls a lighter color when upgrading the lighting in the facility.

5. If additional information is needed about the industrial hygiene survey or air sample

Non-Responsive

Non-Responsive

CF:
NBG-AVN-SH
State Occupational Health Office, P. O. BOX 5218, Austin, TX 78763-5218.
State Safety Manager, P. O. BOX 5218, Austin, TX 78763-5218.

Encl
as

Industrial Hygiene Baseline Survey Report
For
Texas Army National Guard
(TXARNG)

At
Fort Worth #2
5104 Sandage Avenue
Fort Worth, Texas

Prepared for:

Department of the Army and the Air Force
National Guard Bureau
Regional Industrial Hygiene Office
Region South
Airport Plaza Suite 1530
510 Plaza Drive
College Park, GA 30349

By
Non-Responsive

July 2, 2003

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- Scope of Work
- Methodology

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- Noise Survey ..... Page 4
- Illumination Survey ..... Page 5
- Heating Ventilating and Air Conditioning (HVAC) ..... Page 5
- Recommendations ..... Page 6

Appendices

A. References.
B. Laboratory Analytical Results.
C. Lab Chain of Custody.
D. Floor Layout and Photographs.
E. Indoor Firing Range Cleaning Guidance.

Executive Summary

An initial baseline industrial hygiene survey was conducted at the Fort Worth #2 Armory on 8 May 2003 as part of the Texas Army National Guard Occupational Health Program to identify potential health hazards in the workplace. The survey consisted of collecting lead wipe samples and bulk asbestos samples, conducting an illumination survey, a noise survey, and an evaluation of the Heating Ventilation and Air Conditioning System (HVAC) as it relates to indoor air quality.

The following table summarizes the survey findings and recommendations for each topic surveyed.

Topic	Summary of Findings	Recommendations
Lead Wipe Samples	<10 to 20000 microgram per square foot.	Do not use the firing range space until it is cleaned and decontaminated properly.
Asbestos Bulk Samples	Pipe thermal insulation contained 15% chrysotile.	Update the facility asbestos management plan to include the fitting insulation.
Noise Survey	Noise levels ranged from 4 to 65 dBA.	No action.
Illumination Survey	20 to 60 footcandles	No action.
HVAC/IAQ	No issues.	No action.

SUBJECT: Industrial Hygiene Initial Baseline Survey of the Fort Worth #2 Armory in Fort Worth, Texas on 8 May 2003

BACKGROUND:

Introduction. At the request of Non-Responsive of the National Guard Bureau Region South Industrial Hygiene Office, an initial baseline industrial hygiene survey was performed at the Fort Worth #2 Armory in Fort Worth, Texas. Non-Responsive Industrial Hygiene Technician for the Texas Army National Guard and Non-Responsive contract Industrial Hygienist, Tammer Sciences, Inc. conducted the survey on 8 May 2003. The purpose of the survey was to perform an initial baseline industrial hygiene survey to evaluate potential health hazards present at the armory.

Site Description. The facility houses the 2nd Brigade Headquarters, 49th Armored Division. The armory building is a one-story structure that was constructed in 1956. The facility houses several administrative office areas, a kitchen, a mess hall, training or class rooms, a drill hall, several supply rooms, and a converted indoor firing range area used for storage and as an exercise room. A total of 14 full time employees work at this armory. A copy of the floor layout and photos are included in Appendix D.

Scope of Work. The work included collecting wipe samples for lead, bulk samples for suspect asbestos containing building material, illumination levels, noise readings, and an evaluation of the ventilation system as it pertains to indoor air quality.

Methodology Lead wipe samples were collected from surfaces that showed signs of lead contamination in Armories that have a renovated, inactive, or closed indoor firing range (IFR). The samples were collected accordance to instructions published by Region South National Guard Bureau, which required the use of unscented baby wipes to wipe one square foot of surface. Samples were then placed in a sealed plastic bag and sent for analysis to EMSL laboratory, which is an American Industrial Hygiene Association (AIHA) Accredited laboratory. Asbestos bulk samples were collected from suspect building materials that were grouped based on similarity of composition. Bulk sample collection was minimally destructive and samples were collected from inconspicuous areas. Bulk samples were also collected from suspect friable and damaged building material. Each bulk sample was placed in a sealed bag and sent to EMSL laboratory for analysis. A photograph of the sampled material and area were also taken. Noise readings were measured using a SPER Scientific Sound Level Meter Model; 840019 Serial Number 0174519, with a calibration date of July 2, 2002. All noise measurement were area readings. Illumination readings were collected using a Western Schlumberger light meter Serial 8384. Illumination readings were taken on work surfaces and approximately four feet from the floor.

FINDINGS and DISCUSSION:

The Point of Contact during the survey was Non-Responsive

Lead Wipe Samples: Seventeen wipe samples were collected from the converted indoor firing range area and other administrative areas as listed in the table below.

Sample Number	Sample Location	Micrograms of lead (ug) per square foot
FW001	Surface of Bullet backstop.	20000
FW002	Floor in front of backstop/trap in [illegible] range.	400
FW003	Top of fan stored in the range.	10
FW004	Top of weight lifting machine in range	15
FW005	Top of window ledge in observation [illegible]	390
FW006	Top of table used for the stereo in range.	17
FW007	Top of a refrigerator in the kitchen.	25
FW008	Top of display case in drill hall by overhead door.	130
FW009	Top of toolbox stored in the converted IFR near the trap area.	<10
FW010	Top of bookcase in commander's office.	<10
FW011	Top of a MaxiCam machine in range.	<10
FW012	Floor mat in front of weights in range.	12
FW013	Top of control panel for the treadmill.	<10
FW014	Top of control panel for the treadmill by door.	<10
FW015	Floor area in drill hall by overhead door.	<10
FW016	Floor area in drill hall by supply room.	<10
FW017	Floor area in drill hall by hallway southeast.	<10
FW018	Field blank	<10

The US Environmental Protection Agency (EPA), under a new standard issued in 2000, considers lead dust as a hazard if levels are greater than 40 micrograms of lead in dust per square foot on floors; 250 micrograms of lead in dust per square foot on interior window sills and 400 parts per million (ppm) of lead in bare soil in children's play areas or 1200 ppm average for bare soil in the rest of the yard. This standard is a major effort by the

EPA to identify dangerous levels of lead in paint, dust and soil in order to protect children from lead poisoning. The National Guard Bureau recommends a limit of 200 micrograms per square foot for surface contamination. The laboratory report and chain of custody forms are attached in Appendices B and C.

The indoor firing range and other contaminated area as indicated by the wipe sampling results should be properly cleaned and decontaminated in accordance to the instructions found in NG PAM 385-18. Appendix E contains recommended guidelines for cleaning and decontaminating indoor firing range. The firing range should not be used as an exercise room or a storage area until it is properly cleaned and decontaminated.

Asbestos Suspect Building Material: Three types of building materials were identified as potentially containing asbestos. The identified types included 2x4 feet ceiling tiles, fiberboard, and thermal pipe insulation. A total of four bulk samples were collected randomly from the identified materials. The table below lists the samples collected and the results:

Sample #	Description	% Asbestos Type
FW01A	2x4 Ceiling tiles form the office areas.	None.
FW02A	Fiberboard from supply rooms.	None.
FW03A	Pipe fitting thermal insulation from the hot water system.	None.
FW04A	Pipe thermal insulation from the hot water system.	None.
FW03A		None.

The laboratory report and chain of custody forms are attached in Appendices B and C.

Noise Survey Area noise readings were collected in the various surveyed areas within the armory and reported as a range. The Table below lists the noise reading ranges as recorded on the day of the survey:

Area	Reading in Decibels on the A-Scale (dBA)
Converted Firing Range.	46 – 48
Drill or Assembly Hall.	55 – 60
Classroom.	40 – 42
HHC Administration offices.	40 – 48
Kitchen.	40 – 50
BDE Administrative office.	45 – 50
BRT RNCO Admin. Areas	50 – 60
HHC and ERT Supply Area	60 – 65

All readings are well below the Occupational Safety and Health Administration (OSHA) regulated limit of 90 dBA and the Army recommended limit of 85 dBA.

Illumination Survey Lighting levels throughout the Armory ranged between 20 foot-candles to 60 foot-candles. Specific readings were as follows:

Area	Reading in Foot-candles
Converted Firing Range.	40 – 50
Drill or Assembly Hall.	40 – 60
Classroom.	20 – 40
HHC Administration offices.	50 – 60
Kitchen.	50 – 60
BDE Administrative office.	30 – 60
BRT RNCO Admin. Areas	30 – 50
HHC and BRT Supply Area	40 – 45

All readings are within the Army Design Guide (DG415-2) minimum illumination level of 50 foot-candle for office area and 20 foot-candles for parts storage/supply. The American National Standard Institute (ANSI) recommends a minimum illumination level of 50 to 100 foot-candles for office work, 20 to 50 for general lighting. Luminance depends on various factors including the task to be performed, the age of the individual, and the surroundings. Luminance of 50 to 100 foot-candles is recommended for performance of visual tasks of medium contrast or small size such as reading pencil handwriting and poorly printed or reproduced material. Depending on the type of display, background luminance of 30 to 60 foot-candles is recommended for VDT work. Replacing light bulbs with higher wattage will increase lighting levels. Replacing burnt out light bulbs and cleaning the light fixture should improve the lighting levels.

Heating Ventilating and Air Conditioning (HVAC) The Heating Ventilating and Air-Conditioning (HVAC) System for the Armory consisted of individual gas heaters in each office or area and window unit air conditioners. No outside makeup air capability is available. However, all windows can be opened. No complaints of indoor air quality issues were documented or communicated with the POC.

Recommendations:

1. Close the firing range and do not use as an exercise until it is properly cleaned and decontaminated.

2. Clean and decontaminate the converted firing range and other contaminated surfaces and areas by wet wiping and vacuuming using a High Efficiency Particulate Air (HEPA) filter.

Technical Assistance: For technical assistance regarding information found in this report

Non-Responsive

APPENDIX A

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

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

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

Army Regulation (AR) 11-34, The Army Respiratory Protection Program, 1990

Army Regulation (AR) 40-5, Preventative Medicine, 15 October 1990.

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

National Fire Protection Association (NFPA) No. 30, Standard for Flammable and Combustibles Liquid Code, 1996.

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

NGR 385-10, Army National Guard Safety and Occupational Health Program, 29 December 1989.

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

Title 29, Code Of Federal Regulations (CFR), 1999, revision, Part 1910, Occupational Safety and Health Standards.

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

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

APPENDIX B

EMSL Analytical

3 Cooper St, Westmont, NJ 08108
Phone: [illegible] Fax: [illegible] Email: [illegible]

EMSL

Attn: Non-Responsive [redacted]

Fax: [redacted]
Project: [redacted]

Customer ID: T880
Customer PO:
Received: 05/12/03 11:00 AM
EMSL Order: 20030447
EMSL Project ID:

Lead in Wipes by Flame AAS (SW 846, 7420)

Client Sample Description		Lab ID	Analyzed	Area Sampled	Lead Concentration
FW001	Results for these wipe samples do not meet the EPA standards for sample matrix and are not recognized under the NLLAP accreditation program	0001	5/14/03	144 in²	20000.0 µg/ft²
FW002		0002	5/14/03	144 in²	5400.0 µg/ft²
FW003		0003	5/14/03	144 in²	10.0 µg/ft²
FW004		0004	5/14/03	144 in²	18.0 µg/ft²
FW005		0005	5/14/03	144 in²	390.0 µg/ft²
FW006		0006	5/14/03	144 in²	17.0 µg/ft²
FW007		0007	5/14/03	144 in²	25.0 µg/ft²
FW008		0008	5/14/03	144 in²	130.0 µg/ft²
FW009		0009	5/14/03	144 in²	<10.0 µg/ft²
FW010		0010	5/14/03	144 in²	<10.0 µg/ft²
FW011		0011	5/14/03	144 in²	<10.0 µg/ft²
FW012		0012	5/14/03	144 in²	12.0 µg/ft²
FW013		0013	5/14/03	144 in²	<10.0 µg/ft²
FW014		0014	5/14/03	144 in²	<10.0 µg/ft²
FW015		0015	5/14/03	144 in²	<10.0 µg/ft²
FW016		0016	5/14/03	144 in²	<10.0 µg/ft²
FW017		0017	5/14/03	144 in²	<10.0 µg/ft²
FW018		0018	5/14/03	144 in²	<10.0 µg/ft²

Non-Responsive [redacted]

The QC data associated with the sample results included in this report meet the recovery and precision requirements established by the AIHA, unless specifically indicated otherwise in [illegible].
ACCREDITATION: AIHA Environmental Lead Laboratory Approval Program # [illegible]

Date Printed: 5/14/03 3:54:12 PM

Page 1 of 1

EMSL Analytical, Inc.
107 Haddon Ave., Westmont, NJ 08108
Phone: (856) 858-4800 Fax: (856) 858-4960 Email: [illegible]@EMSL.com

Attn: [redacted]

Fax:

Project:

Customer ID: TS80
Customer PO:
Received: 05/12/03 2:35 PM
EMSL Order: 040307586
EMSL Project ID:
Analysis Date: 5/15/03

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Treatment	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
FW01A 040307586-0001	FORT WORTH #2	Tan/White Fibrous Heterogeneous	Teased	99% Cellulose	1% Non-fibrous (other)	None Detected
FW02A 040307586-0002	FORT WORTH #2	Tan/White Fibrous Heterogeneous	Teased	100% Cellulose		None Detected
FW03A 040307586-0003	FORT WORTH #2	Green/Grayish Fibrous Heterogeneous	Teased	15% Glass 5% Min. Wool	80% Non-fibrous (other)	None Detected
FW04A 040307586-0004	FORT WORTH #2	Tan/White/Green Fibrous Heterogeneous	Teased	65% Cellulose 2% Synthetic	18% Non-fibrous (other)	15% Chrysotile

[redacted]

Analyst(s) [redacted]

PLM has been known to miss asbestos in a small percentage of samples which contain asbestos. Negative PLM results ... [illegible] ... This report may not be reproduced, except in full, without written approval by EMSL Analytical, Inc. The above test report relates only to the items tested. This report may not be used by the client to claim product endorsement by NVLAP nor any agency of the United States Government.

Analysis performed by EMSL Westmont (NVLAP #101048-0), NY ELAP 10872

PLM-1 1

THIS IS THE LAST PAGE OF THE REPORT.

APPENDIX C

EMSL ANALYTICAL **CHAIN OF CUSTODY** 2004442 **LEAD**

Revised 7/1/99

SAMPLE #	LOCATION	Air volume, L / Area, in^2	LAB #
FW001	FORT WORTH #2	144 in^2	044421
FW002			2
FW003			3
FW004			4
FW005			5
FW006			6
FW007			7
FW008			8
FW009			9
FW010			10
FW011			11
FW012			12
FW013			13
FW014			14
FW015			15
FW016			16
FW017			17
FW018			18
SEPERATE REPORT			
~~[illegible]~~	Note for the	above	Samples
please	analyze w/INI	of	9 days

Relinquished By: (Person) [redacted]		at EMSL By: [redacted]	
Date 5/13/03	Date		[illegible]

Note: Please duplicate this form and use additional sheets if necessary.

Page 4 of 4

0403075S8

EMSL Analytical, Inc.
Revised 07/07/99

CHAIN OF CUSTODY

Asbestos

EMSL Rep:

Third Party Billing requires written authorization from third party

Your Company Name:	Tammer Sciences, Inc.	EMSL-Bill to:	
Street:	3944 Lawrence Dr.	Street:	Same as Shipping
Box #:		Box #:	
City/State:	Naperville, IL Zip: 60564	City/State:	Zip:

Phone Results to:
Name:
Telephone #:
Project Name/Number:

[redacted] Non-Responsive

MATRIX			TURNAROUND			
☐ Air	☐ Floor Tile	☐ Soil	☐ 3 hrs	☐ 6 Hours	☐ Same Day or 12 Hours*	☐ 24 Hours 1 day
☑ Bulk	☐ Drinking Water	☐ Dust	☐ 48 Hours 2 days*	☐ 72 Hours 3 days	☐ 96 Hours 4 days	☐ 120 Hours 5 Days
☐ Wipe	☐ Wastewater	☐ Micro-Vac	☑ 144+ hours 6-10 Days			

TEM AIR, 3 hours, 6 hours. Please call ahead to schedule. There is a premium charge for 3 hour tat, please call 1-800-220-3675 for price prior to sending samples. You will be asked to sign and authorization form for this service. 12 hours (must arrive by 11:00 a.m Mon - Fri.), Please Refer to Price Quote

PCM - Air
- ☐ NIOSH 7400
- ☐ OSHA
- ☐ Other:

PLM - Bulk
- ☑ EPA 600/R-93/116
- ☐ EPA Point Count
- ☐ NY Stratified Point Count
- ☐ PLM 10B (Gravimetric) NY 198.1
- ☐ Other:

SEM Air or Bulk
- ☐ Qualitative
- ☐ Quantitative

TEM AIR
- ☐ AHERA
- ☐ NIOSH 7402
- ☐ EPA Level II

TEM BULK/mise
- ☐ Drop Mount (Qualitative)
- ☐ Chatfield
- ☐ TEM NOB (Gravimetric) NY 198.4

TEM WATER
- ☐ Wastewater
- ☐ Drinking Water EPA 100.1
- ☐ Water - NY Wastewater
- ☐ Water-NY Drinking Water

TEM MICROVAC / WIPE
- ☐ ASTM D 5755-95 quantitative method

XRD
- ☐ Asbestos
- ☐ Silica

OTHER
- ☐

SAMPLE NUMBER	LOCATION	VOLUME (If Applicable)
DAL501A	DALLAS # 5	N/A
DAL502A		

Client Sample # (s)

Total Samples #:

Relinquished: [redacted] Non-Responsive Date: 5/8/03 Time: PM

Received: Date: Time:

Fedex

Page 1 of 3

EMSL Analytical, Inc.
Revised 07/07/99

CHAIN OF CUSTODY

0410307558

Asbestos

SAMPLE NUMBER	LOCATION	VOLUME (If Applicable)
DAL 503A	DALLAS # 5	NA
DAL 504A		
DAL 505A		
→	* SEPERATE REPORT *	←
IRV01A	IRVING/DALLAS	
IRV02A		N/A
IRV03A		
IRV04A		
→	* SEPERATE REPORT *	←
DAL201A	DALLAS # 2	
DAL202A		N/A
DAL203A		
→	* SEPERATE REPORT *	
DAL401A	DALLAS # 4	
DAL402A		N/A
DAL403A		
DAL404A		
DAL405A		
DAL406A		
DAL407A		
DAL408A		
→	* SEPERATE REPORT *	
DAL301A	DALLAS # 3	
DAL302A		N/A
DAL303A		
*	SEPERATE REPORT *	

Page 2 of 3

2

0403017358

EMSL Analytical, Inc.
Revised 07/07/99

CHAIN OF CUSTODY

Asbestos

SAMPLE NUMBER	LOCATION	VOLUME (If Applicable)
FW01A	FORT WORTH # 2	N/A
FW02A		
FW03A		
FW04A		
→ SEPERATE REPORTS ←		

Page 3 of 3

APPENDIX D

BEST AVAILABLE COPY

Photo 1: Fort Worth #2 Armory Front Entrance.

Photo 2: Fort Worth #2 Armory south side.

Photo 3: Armory north side showing the outside of the firing range

Photo 4: Outside showing the east side of the armory.

Photo 5: Bullet trap in the firing range.

Photo 6: Floor area in front of bullet stop in firing range.

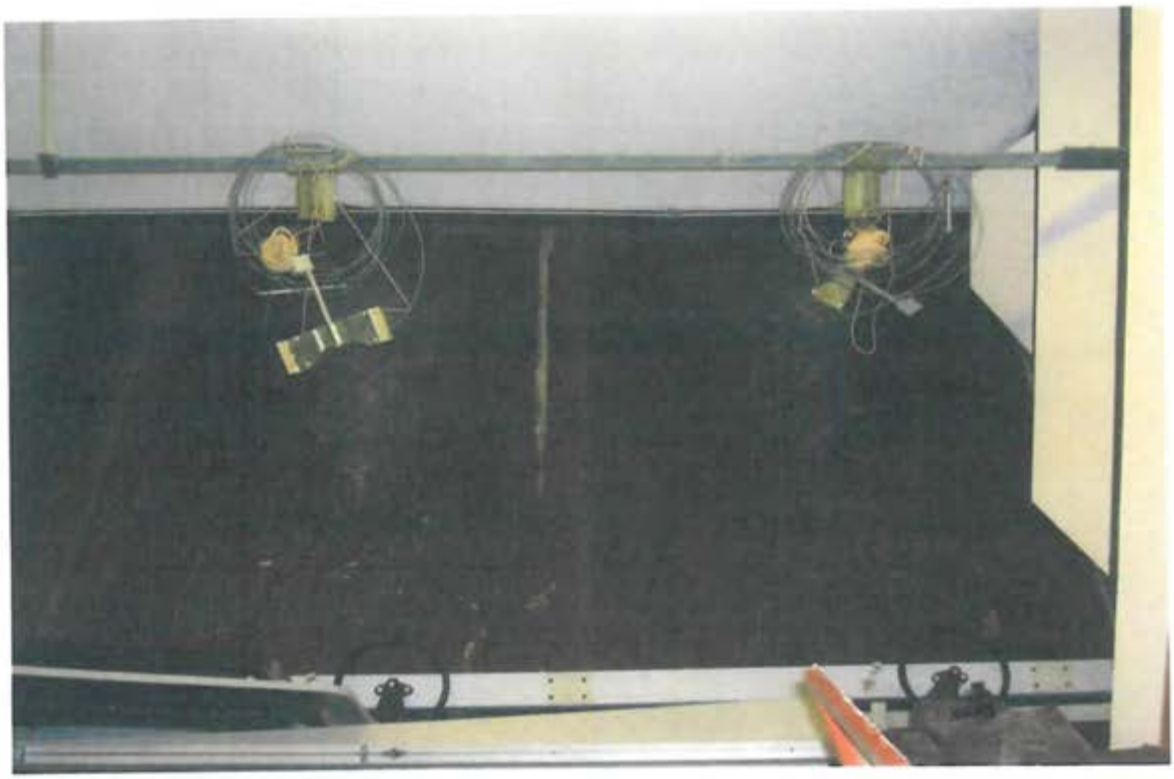


Photo 7: Bullet trap and stop in firing range.

Photo 8: Seperation wall between observation deck and range.

Photo 9: Exercise equipment used in the converted firing range.

Photo 10: Weight lifting machine in range. Note the soda cup.

Photo 11: Stereo used in the firing range.

Photo 12: Floor mat in front of the weight machine in the firing range.

Photo 13: Kitchen.

Photo 14: Drill hall facing west.

Photo 15: Drill or assembly hall facing east.

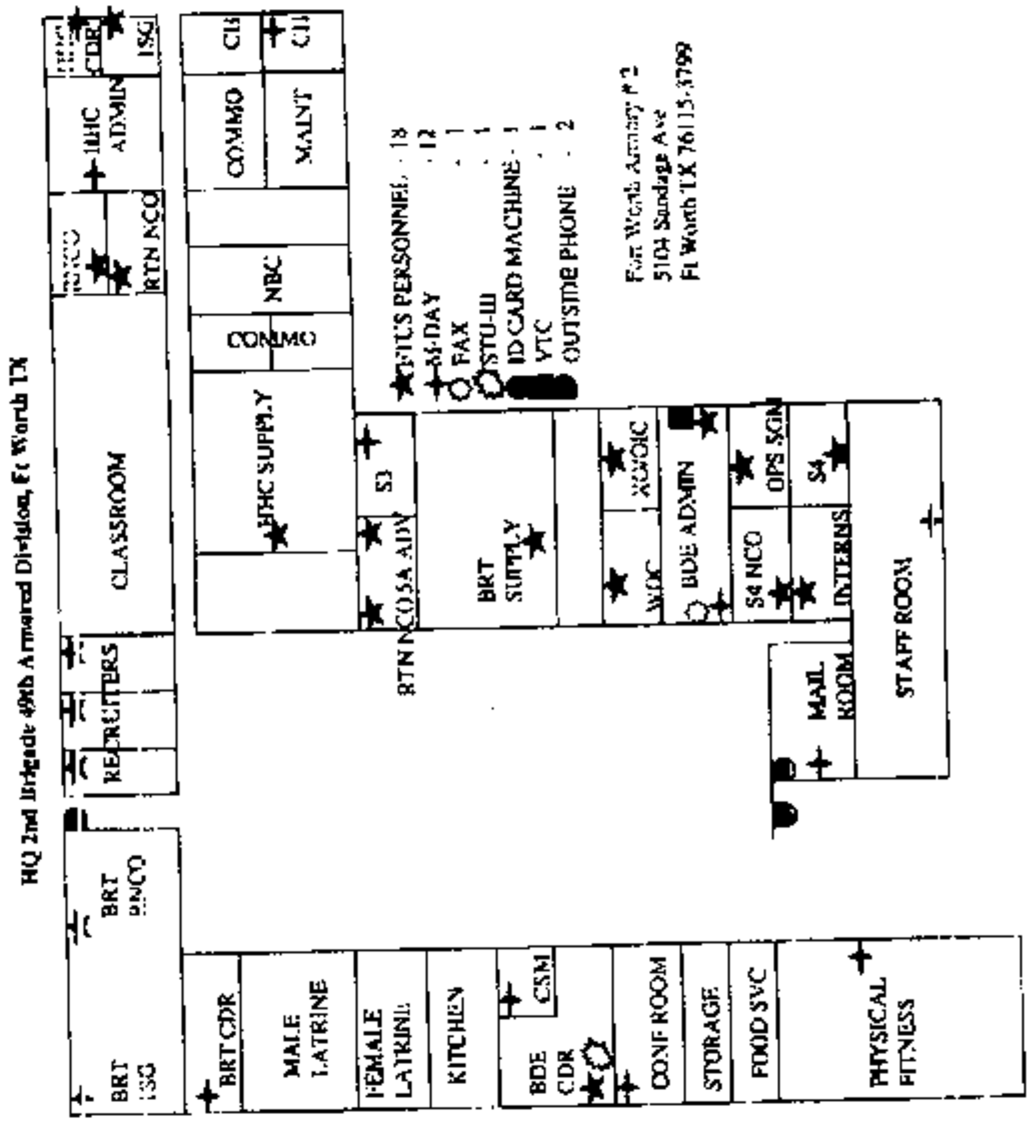
Photo 16: Classroom.

Photo 17: Photo of the fiberboard found in the supply room ceiling.

Photo 18: Ceiling tiles typical of the office admin. areas.

Photo 19: Thermal pipe fitting insulation in the drill hall.

Photo 20: Thermal pipe insulation in drill hall..


HQ 2nd Brigade 49th Armored Division, Ft Worth TX
FTUS PERSONNEL - 18
M-DAY - 12
FAX - 1
STU-III - 1
ID CARD MACHINE - 1
VTC - 1
OUTSIDE PHONE - 2
Fort Worth Armory #2
5104 Sandage Ave
Ft Worth TX 76115-3799
CDR
1SG
HHC ADMIN
RTN NCO
CLASSROOM
RECRUITERS
BRT RNCO
BRT 1SG
BRT CDR
MALE LATRINE
FEMALE LATRINE
KITCHEN
CSM
BDE CDR
CONF ROOM
STORAGE
FOOD SVC
PHYSICAL FITNESS
COMMO
MAINT
NBC
COMMO
HHC SUPPLY
S3
COSA ADV
RTN NCO
BRT SUPPLY
XO/OIC
WOC
BDE ADMIN
OPS SGM
S4
S4 NCO
INTERNS
STAFF ROOM
MAIL ROOM

APPENDIX E

Indoor Firing Range Cleaning Guidance

1. Introduction - This document describes procedures to be employed in cleaning a range for non-lead use. All lead hazard control activities can produce dangerous quantities of leaded dust. Unless this dust is properly removed, a facility will be more hazardous after the work is completed than it was originally. Once deposited, leaded dust is difficult to remove effectively. Whenever possible, ongoing and daily cleaning of leaded dust during lead hazard control projects is recommended. Ongoing and daily cleaning is also necessary to minimize worker exposures. Cleaning is the process of removing visible debris and dust particles too small to be seen by the naked eye. Removal of lead hazards in a space will not make the space safe unless excessive levels of leaded dust are also removed. This is true regardless of whether the dust was present before or generated by the lead hazard control process itself. Improper cleaning can increase the cost of a project considerably because additional cleaning and clearance sampling will be necessary. A visibly clean surface may contain high and unacceptable levels of dust particles and require special cleaning procedures. However, cleaning and clearance can be achieved routinely if care and diligence are exercised.

2. Difficulties in Cleaning - While cleaning is an integral and essential component of any lead hazard control activity, it is also the most likely part of the activity to fail. Several common reasons for this failure include worker inexperience, high dust-producing methods, and deadlines.

3. Performance Standard - Although the cleaning methods described in this document are feasible and have been shown to be effective in meeting clearance standards, other methods may also be used if they are safe and effective. This performance-oriented approach should stimulate innovation, reduce cost, and ensure safe conditions for both occupants and workers.

4. Clearance Standard - 200 µg/ft 2 on interior floors and horizontal surfaces (NAVFAC Message 160647Z APR 98), 800 µg/ft 2 for exterior concrete (a HUD interim recommendation and serves as a useful guideline). These levels are based on wipe sampling. Clearance testing determines whether the premises or area are clean enough to be reoccupied as a non-lead work area after the completion of a lead hazard control project. A cleaned area may not be reoccupied until compliance with clearance standards has been established. To prevent delays, final testing and final cleaning activities should be coordinated.

5. Worker Inexperience - To understand the level of cleanliness required to meet the established clearance standards for hazard control cleanup, new hazard control personnel often require a significant reorientation to cleaning. Many construction workers are used to cleaning up only dust that they can see, not the invisible dust particles that are also important to remove.

6. Equipment Needed for Cleaning - The following equipment is needed to conduct cleaning: high-efficiency particulate air (HEPA) vacuums and attachments (crevice tools), detergent, waterproof gloves, rags, sponges, mops, buckets, 6-mil plastic bags, debris containers, waste water containers, shovels, rakes, water-misting sprayers, and 6-mil polyethylene plastic sheeting (or equivalent).

7. Waste Disposal - Regulations governing hazardous and non-hazardous waste storage, transportation, and disposal affect both the daily and final cleaning procedures. The hazard control contractor and the disposal contractor should work together to establish formal written procedures, specifying selected containers, storage areas, and debris pickups, to ensure that all relevant regulations are met.

8. Containment - Because of the difficulty involved in the removal of fine dust, dust generated by hazard control work should be contained to the extent possible to the inside of work areas. Inadequately constructed or maintained containments or poor work practices will result in additional cleaning efforts, due to dust that has leaked out or been tracked out of the work area.

9. Pre-cleaning Procedures – Pre cleaning (i.e., cleaning conducted before lead hazard control is begun) is necessary only in facilities that are heavily contaminated with debris/paint chips, etc. Pre cleaning involves removing large debris and paint chips, followed by HEPA vacuuming. These steps may be followed by removal of occupant furniture or carpeting (rugs or carpets or any porous item in the firing range is not recommended due to the difficulty in cleaning these items effectively), depending on the worksite preparation. Carpeting (if present) should always be misted before its removal to control the generation of hazardous dust. However, if necessary, owners or project management should be prepared to remove furniture before lead hazard control work begins.

10. Basic Cleaning Methods: Wet Wash and Vacuum Cleaning Techniques – Because leaded dust adheres tenaciously, especially to rough or porous materials like weathered or worn wood surfaces and masonry surfaces (particularly concrete), workers should be trained in cleaning methods. As a motivator, some contractors have awarded bonuses to workers who pass clearance the first time. The typical cleaning method uses a special vacuum cleaner equipped with a HEPA filter, followed by wet washing with special cleaning agents and rinsing, followed by a final pass with the HEPA vacuum. Although HEPA filtered vacuums and trisodium phosphate (TSP) cleaners have been considered the standard cleaning tools for lead hazard control projects, new research, discussed under the Alternatives Methods section in this document, suggests that other tools and products may also be effective in efficiently cleaning dust, while providing adequate worker protection from airborne exposure risks. Some of these innovations may even be superior.

a. HEPA Vacuuming - HEPA vacuums differ from conventional vacuums in that they contain high-efficiency filters that are capable of trapping extremely small particles. These filters can remove particles of 0.3 microns or greater from air with 99.97 percent efficiency or greater. (A micron is 1 millionth of a meter, or about 0.00004 inches.) Some vacuums are equipped with an ultra-low penetration air (ULPA) filter that is capable of filtering out particles of 0.13microns or greater at 99.9995 percent efficiency. However, ULPA filters are slightly more expensive and may be less available than HEPA filters. Vacuuming with conventional vacuum machines is unlikely to be effective because much of the fine dust will be exhausted back into the environment where it can settle on surfaces. Considerations for the proper use of a HEPA vacuum are listed below.

(1) Operating Instructions - There are a several manufacturers of HEPA vacuums. Although all HEPA vacuums operate on the same general principle, they may vary considerably with respect to specific procedures, such as how to change the filters. To ensure the proper use of equipment, carefully follow the manufacturer's operating instructions and, if possible, arrange training sessions with the manufacturer's representative. Although HEPA vacuums have the same suction capacity as ordinary vacuums that are comparably sized, their filters are more efficient. Improper cleaning or changing of HEPA filters may reduce the vacuum's suction capability.

(2) Special Attachments - Because the HEPA vacuum will be used to vacuum surfaces other than floors, operators should buy attachments and appropriate tool kits for use on different surfaces such as brushes of various sizes, crevice tools, and angular tools.

(3) Selecting Appropriate Size(s) - HEPA vacuums are available in several sizes, ranging from a small lunch bucket-sized unit to track-mounted systems. Two criteria for size selection are the size of the job and the type of electrical power available. Manufacturer recommendations should be followed.

(4) Wet-Dry HEPA Vacuums - Some hazard control contractors have found the wet-dry HEPA vacuums to be particularly effective in meeting clearance standards. These vacuums are equipped with a special shut-off float switch to protect the electrical motor from water contact.

(5) Pre-filters - HEPA filters are usually used in conjunction with a pre filter or series of pre filters that trap the bulk of the dust in the exhaust air stream, particularly the larger particles. The HEPA filter traps most of the remaining small particles that have passed through the pre filter(s). All filters must be maintained and replaced or cleaned as specified in the manufacturer's instructions. Failure to do so may cause a reduction in suction power (thus reducing the vacuum's efficiency and effectiveness). Failure to change pre filters may damage the vacuum motor and will also shorten the service life of the HEPA filter, which is far more expensive than the pre-filters.

(6) HEPA Vacuuming Procedures - Surfaces to be vacuumed include ceilings, walls, floors, doors, heating, ventilation, and air conditioning (HVAC) equipment (heating diffusers, radiators, pipes, and vents), fixtures of any kind (light), built-in cabinets, and appliances. All rooms and surfaces should be included in the HEPA vacuum process, except for those that (1) were found not to have lead hazards and were properly separated from work areas before the process began, or 2) were never entered during the process. Sidewalks, driveways, and other exterior surfaces should be vacuumed if exterior hazard control work was conducted, or if debris was stored or dropped outside. Vacuuming should begin on the ceilings and end on the floors, sequenced to avoid passing through rooms already cleaned, with the entryway cleaned last.

(7) Emptying the HEPA Vacuum - Used filters and vacuumed debris are potentially hazardous waste and should be treated accordingly. Therefore, operators should use extreme caution when opening the HEPA vacuum for filter replacement or debris removal to avoid accidental release of accumulated dust into the environment. This may occur,

for example, if the vacuum's seal has been broken and the vacuum's bag is disturbed. Operators should also wear a full set of protective clothing and equipment, including appropriate respirators, when performing this maintenance function, which should be done in the containment area or off-site.

b. **Wet Detergent Wash** - Several types of detergents have been used to remove leaded dust. Those with a high phosphate content (containing at least 5 percent presidium phosphate, also known as TSP) have been found to be effective when used as part of the final cleaning process. TSP detergents are thought to work by coating the surface of dusts with phosphate or polyphosphate groups, which reduces electrostatic interactions with other surfaces and thereby permits easier removal. Because of environmental concerns some states have restricted the use of TSP, and some manufacturers have eliminated phosphates from their household detergents. However, high TSP detergents can usually be found in hardware stores and may be permitted for limited use, such as lead hazard control. Other non-TSP cleaning agents developed specifically for removing leaded dust have also been found to be effective (possibly more effective than TSP) in limited trials by several investigators and may also be safer, since TSP is a skin and eye irritant.* Manufacturer's Dilution Instructions - Users of cleaning agents for leaded dust removal should follow manufacturer's instructions for the proper use of a product, especially the recommended dilution ratio. Even diluted, trisodium phosphate is a skin irritant and users should wear waterproof gloves. Eye protection should also be worn, and portable eyewash facilities manufacturer's instructions. Failure to do so may cause a reduction in suction power (thus reducing the vacuum's efficiency and effectiveness). Failure to change pre-filters may damage the vacuum motor and will also shorten the service life of the HEPA filter, which is far more expensive than the pre-filters.

(6) **HEPA Vacuuming Procedures** - Surfaces to be vacuumed include ceilings, walls, floors, doors, heating, ventilation, and air conditioning (HVAC) equipment (heating diffusers, radiators, pipes, and vents), fixtures of any kind (light), built-in cabinets, and appliances. All rooms and surfaces should be included in the HEPA vacuum process, except for those that (1) were found not to have lead hazards and were properly separated formwork areas before the process began, or (2) were never entered during the process. Sidewalks, driveways, and other exterior surfaces should be vacuumed if exterior hazard control work was conducted, or if debris was stored or dropped outside. Vacuuming should begin on the ceilings and end on the floors, sequenced to avoid passing through rooms already cleaned, with the entryway cleaned last.

(7) **Emptying the HEPA Vacuum** - Used filters and vacuumed debris are potentially hazardous waste and should be treated accordingly. Therefore, operators should use extreme caution when opening the HEPA vacuum for filter replacement or debris removal to avoid accidental release of accumulated dust into the environment. This may occur, for example, if the vacuum's seal has been broken and the vacuum's bag is disturbed. Operators should also wear a full set of protective clothing and equipment, including appropriate respirators, when performing this maintenance function, which should be done in the containment area or off-site.

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(1) **Proper Wet-Cleaning Procedures** - At the conclusion of the active lead hazard control process and after the initial HEPA vacuuming, all vacuumed surfaces should be thoroughly and completely washed with a high-phosphate solution or other lead-specific cleaning agent (or equivalent) and rinsed. Select a detergent that does not damage existing surface

finishes (TSP may damage some finishes). Work should proceed from ceilings to floors and be sequenced to avoid passing through rooms already cleaned.

(2) Changing Cleaning Mixture - Many manufacturers of cleaners will indicate the surface area that their cleaning mixture will cover. To avoid recontaminating an area by cleaning it with dirty water, users should follow manufacturer-specified surface area limits. However, regardless of manufacturers' recommendations, the cleaning mixture should be changed after its use for each room. As a rule of thumb, 5 gallons should be used to clean no more than 1,000 square feet. Used cleaning mixture is potentially hazardous waste; consult with your local water and sewage utility for directions on its proper disposal. Wash water should never be poured onto the ground. The wash water is usually filtered and then poured down toilet (if the local water authority approves).

11. The HEPA/Wet Wash/HEPA Cycle Typical Procedures - The usual cleaning cycle that follows lead hazard control activities is called the HEPA vacuum/wet wash/HEPA cycle and is applied to an entire affected area as follows: First, the area is HEPA vacuumed. Next, the area is washed down. After drying, the area is again HEPA vacuumed. The rationale for this three-pass system is as follows: The first HEPA vacuum removes as much dust and remaining debris as possible. The wet wash further dislodges dust from surfaces. The final HEPA cycle removes any remaining particles dislodged but not removed by the wet wash.

12. Single-Pass Wet Wash/HEPA Vacuum - Some lead hazard control contractors have roundhead spray cleaner vacuums to be a cost-effective alternative to the three-pass system. Similar to home carpet-cleaning machines, these vacuums simultaneously deliver a solution to the surface and recover the dirty solution. Theoretically, this process combines two of the steps in the HEPA vacuum/wet wash/HEPA cycle into one step. While anecdotal evidence indicates that the spray cleaner wet wash/HEPA is effective for some uses, limitations have been noted in its use for ceilings, vertical surfaces, and hard to reach areas. This device may be used as long as clearance standards are met.

13. Sealing Floors - Before clearance, all floors without an intact, nonporous coating should be coated. Sealed surfaces are easier to clean and maintain over time than those that are not sealed. Wooden floors should be sealed with a clear polyurethane or epoxy coating. Concrete floors should be sealed with a concrete sealer or other type of epoxy coating. If these floors are already covered by an effective coat of sealant, it may be possible to skip this step. New surfaces should be cleaned with a cleaning solution that is appropriate for that type of surface.

14. Surface Painting or Sealing of Non-floor Surfaces - Surfaces, including walls, ceilings, and wood-work, should be coated with an appropriate primer and repainted. Surfaces enclosed with vinyl, aluminum coil stock, and other materials traditionally not repainted are exempt from the painting provision. Coating of walls may not be appropriate if lined with acoustic material to control noise.

15. Exterior Cleaning - Areas potentially affected by exterior lead hazard control should be protected via a containment system. Because weather can adversely affect the efficacy of exterior containment, the surface plastic of the containment system should be removed at the endow each workday. On a daily basis, as well as during final cleaning, the immediate area should be examined visually to ensure that no debris has escaped containment. Any such debris should be raked or vacuumed and placed in single 6- mil or double 4-mil plastic bags, which should then be sealed and stored along with other contaminated debris. HEPA vacuuming inappropriate for hard exterior surfaces, not for soil.

16. Worker Protection Measures - Studies indicate that during daily cleaning activities, especially while wet sweeping, workers may be exposed to high levels of airborne dust. Therefore, workers should wear protective clothing and equipment and appropriate respirators if required.

17. Maintaining Containment - The integrity of the plastic sheeting used in a lead hazard control project must be maintained. During their daily cleaning activities, workers should monitor the sheeting and immediately repair any holes or rips with 6-mil plastic and duct tape.

18. Decontamination of Workers, Supplies, and Equipment - Decontamination is necessary to ensure that worker's families, other workers, and subsequent properties do not become contaminated. Specific procedures for proper decontamination of equipment, tools, and materials prior to their removal from lead hazard control containment areas should be implemented. Work clothing, work shoes, and tools should not be placed in a worker's automobile unless they have been laundered or placed in sealed bags. All vacuums and tools that were used should be wiped down using sponges or rags and detergent solutions. Consumable/disposable supplies, such as mop heads, sponges, and rags, should

be discarded after each space is completed. Soiled items should be treated as contaminated debris. Durable equipment, such as power and hand tools, generators, and vehicles should be cleaned prior to their removal from the site. The cleaning should consist of a thorough HEPA vacuuming followed by washing.

19. Preliminary Visual Examination - After the cleaning work is completed, the certified supervisor should visually evaluate the entire work area to ensure that all work has been completed and all visible dust and debris have been removed. While the preliminary examination may be performed by the lead hazard control supervisor, contractor, or owner as a preparatory step before the final clearance examination, it does not replace the independent visual assessment conducted during clearance. If the visual examination results are unsatisfactory, affected surfaces must be retreated and/or reclined. Therefore, it is more cost-effective to have the supervisor rather than the clearance examiner perform this initial examination.

20. Final Inspection - The final clearance evaluation should take place at least 1 hour after the final cleaning. Clearance has three purposes: 1) to ensure that the lead hazard control work incomplete; 2) to detect the presence of leaded dust; and 3) to make sure that all treated surfaces have been repainted or otherwise sealed. Clearance is usually performed after the sealant is applied to the floor.

21. Advanced Screening - Advanced screening for clearance may be considered. Immediate on-site analysis of dust wipes may alert the contractor to continue cleaning prior to final clearance sampling.

22. Recleaning After Clearance Failure - If after passing the final visual examination, the space fails the clearance wipe dust tests, the HEPA/wet wash/HEPA cleaning cycle should be carefully and methodically repeated. Failure is an indication that the cleaning has not been successful. Recleaning should be conducted under the direct supervision of a certified supervisor. Care should be exercised during the recleaning of "failed" surfaces or components to avoid recontaminating "cleared" surfaces or components.

23. Cleaning Cost Considerations - An important consideration in determining lead hazard control strategies and methods is the cost and difficulty of required daily and final cleanup operations and the likelihood that one can meet dust-clearance standards. A general rule of thumb is that lead hazard control strategies that generate the most dust will have higher cleanup costs and higher initial clearance test-failure rates.

24. Initial Clearance Test Failure Rates - The likelihood of passing final dust-clearance tests is highly correlated with the chosen intervention strategy, methods, and care exercised by the contractor. Chemical removal and hand-scraping strategies generally experience higher failure rates than replacement and encapsulation/ enclosure strategies. However, clearance failure is not solely related to abatement method. The diligence and effectiveness of an abatement contractor's cleaning process has a major impact on the likelihood of the space to pass the final wipe test clearance.

25. Key Factors In Effective Cleaning - Effective cleaning will be aided by adequate sealing of surfaces with polyethylene sheeting prior to lead hazard control, proper daily cleaning practices, good worker training, and attention to detail. Where poor worksite preparation is employed, additional cleaning may be required to meet clearance.

26. Special Problems - Surfaces such as porous concrete, old porous hardwood floors, and areas such as corners of rooms and window troughs pose especially difficult cleaning challenges. Porous concrete and corners of rooms normally require additional vacuuming to achieve unacceptable level of cleanliness.

27. Alternative Methods - Alternatives to the recommended cleaning tools and practices discussed in this document are available, some with significant potential for increasing effectiveness and lowering costs. Other vacuums may be used if worker exposures do not increase, if compliance with clearance standards is achieved, and if a variance from OSHA regulation is obtained by the contractor or employer (if required). The OSHA lead standard requires the use of HEPA vacuum equipment (see 29 CFR 1926.62 (h)(4), which states, "where vacuuming methods are selected, the vacuums shall be equipped with HEPA filters.").Agitator heads on vacuums have been shown to significantly enhance vacuum effectiveness on carpets in cleaning fine dust without increasing airborne dust levels. Vacuums without agitator heads appear to perform relatively poorly on carpets.

DEPARTMENT OF THE ARMY AND THE AIR FORCE
NATIONAL GUARD BUREAU
REGIONAL INDUSTRIAL HYGIENE OFFICE
AIRPORT PLAZA SUITE 1530
510 PLAZA DRIVE
COLLEGE PARK, GA 30349

NGB-ARS-IHSE (40-5f) November 24, 2009

MEMORANDUM FOR: ADJUTANT GENERAL TX ARNG,: ATTN: Non-Responsive Sandage Armory, 5104 Sandage Avenue, Fort Worth, Texas 76115.

Thru: Non-Responsive eputy State Surgeon, JFTX-ARM-SS, 35th Street, Building 10, Austin, TX 78763-5218.

SUBJECT: Industrial Hygiene Survey of Sandage National Guard Armory, Fort Worth, Texas

1. References.

a. Department of Defense Instruction 6055.1, Department of Defense Occupational Safety and Health (OSH) Program, 26 October 1984.

b. Army Regulation (AR) 40-5, 30 August 1986, Medical Service, Preventive Medicine.

c. National Guard Regulation (NGR) 385-10, 1988, Army National Guard Safety and Occupational Health Program.

d. AR 11-34, The Army Respiratory Protection Program, 15 February 1990.

e. TB MED 502, Occupational and Environmental Health Respiratory Protection Program, February 1982.

f. DA PAM 40-503, 30 October 2000, The Army Industrial Hygiene Program.

g. DA PAM 40-501, 10 December 1998, Hearing Conservation.

h. Threshold Limit Values and Biological Exposure Indices (TLV's) for 2003, American Conference of Governmental Industrial Hygienists (ACGIH), Cincinnati, Ohio.

i. Industrial Ventilation, 23rd Edition, American Conference of Governmental Industrial Hygienist, Cincinnati, Ohio.

j. USAEHA TG-141, November 1997, Guidelines for Air Sampling and Bulk sample Collection.

SUBJECT SUBJECT: Industrial Hygiene Survey of Sandage National Guard Armory, Fort Worth, TX

k. Title 29, Code of Federal Regulations (CFR), 2004 rev., part 1910, Occupational Safety and Health Standards.

l. Report Industrial Hygiene Survey TX ARNG Sandage National Guard Armory, LAE CONSULTING, Severn, MD.

2. General.

a. At the request of TX ARNG Occupational Health Office, an Industrial Hygiene Service was put together to conduct Health Hazard Information module (HHIM) Field surveys and industrial hygiene sampling at of TX ARNG Sandage National Guard Armory, Fort Worth, TX.

b. The surveys were conducted by Non-Responsive LAE CONSULTING, 1218 Scattered Pines Court, Severn, MD, 21144.

3. Findings. The information that follows is based on the findings of the survey performed. All HHIM field survey forms, industrial hygiene sampling and survey findings of the report are enclosed (See ENCL 1). Operations of very short duration were not sampled due to the requirements of the sampling method. If the operation changes or if the length of the operation is increased, contact this office to schedule sampling if it is deemed needed.

4. Recommendations. Follow the recommendations made in reference 1. l., requesting industrial hygiene (IH) services where needed to complete the recommendations.

a. The recommendations given in the comments section of the HHIM data sheets and data collected will serve as an update of the baseline for the Industrial Hygiene Implementation Plan (IHIP) for FY2009. A follow up operation and hazard specific air sampling survey based on the enclosed findings will be included in the FY2010 IHIP.

b. Have all HHIM data entered into the HHIM computer module.

c. Use the report to help in correcting all deficiencies noted.

d. Consider additional Industrial Hygiene services to monitor operations that were not looked at or surveyed during the present visits, especially if this will help eliminate health hazards and reduce medical surveillance cost.

e. Contact the State Occupational Health Office for any medical Surveillance that may be needed.

f. To execute your responsibilities in correcting all deficiencies, coordinate with the Occupational Health Nurse and the Occupational Safety and Health Office for technical guidance.

NGB-ARS-IHSE (40-5f) November 24, 2009

SUBJECT SUBJECT: Industrial Hygiene Survey of Sandage National Guard Armory, Fort Worth, TX

5. The present report addressed to the local facility commanders was divided in such a way that personal data can be detached and kept by the OHM or blocked when forwarding these reports to other entities within the appropriate offices of TX ARNG. If additional

Non-Responsive

CF:
Non-Responsive 855 East Industrial Road, Saginaw, Texas 76131-2714.
State Occupational Health Office, 3500 West 35th Street, Building 86, Austin, TX 78763.
State Safety Manager, P. O. BOX 5218, Austin, TX 78763-5218.
ENCL.
as

LAE Consulting

23 November 2009

MEMORANDUM FOR: Sandage Armory, ATTN: Non-Responsive 04 Sandage Avenue, Fort Worth, Texas 76115

SUBJECT: Industrial Hygiene Survey of Sandage National Guard Armory, Fort Worth, Texas

1. References.

a. Title 29, Code of Federal Regulations (CFR) Part 1910, Occupational Safety and Health Administration (OSHA).

b. AR 40-5, Preventive Medicine, 15 October 1990.

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

d. TB MED 503, The Army Industrial Hygiene Program.

e. Title 29 CFR, Part 1910.1200, The Hazard Communication Standard.

f. IES Lighting Handbook, Application Volume 1981, Illumination Engineering Society of North America.

g. Threshold Limit Values (TLV's) For Chemical Substances and Physical Agents, and Biological Exposure Indices (BEI's), 2003, ACGIH, Cincinnati Ohio

h. Department of the Army Pamphlet (DA PAM) 40-501, 27 August 1991, Hearing Conservation

i. Industrial Ventilation, 23rd Edition, American Conference of Governmental Industrial Hygienists (ACGIH), Cincinnati, Ohio

j. NG Pam 420-15, Guidelines and Procedures for Rehabilitation and Conversion of Indoor Firing Ranges, 3 November 2006.

SUBJECT: Industrial Hygiene Survey of Sandage National Guard Armory, Fort Worth, Texas

2. Background. At the request of Non-Responsive of the National Guard Bureau Region South Industrial Hygiene Office, Non-Responsive of LAE Consulting conducted an industrial hygiene survey at the Sandage National Guard Armory, Fort Worth, Texas on 10 Nov 09. The purpose of the survey was to conduct a baseline survey of the Armory. The building was visually examined and employees were interviewed for data related to the building and the operations performed. The illumination was measured and lead wipe samples were taken in various areas of the Armory.

3. Facility Description. This facility currently houses one unit. The facility houses administrative areas, one Supply Room, an Arms room, a drill hall. The current unit moved into the Armory in 2007 when the deactivated indoor firing range was converted into the fitness center.

4. Findings.

a. The deactivated indoor firing range is converted into Fitness Center the conversion took place in 2007. The range backstop, target retrievers, and all items associated with a fire range have been removed. The ranges observation room has been walled. The exhaust fan has been removed and the exterior bricked. Lead wipe samples were taken throughout the fitness room below the drop ceiling. None of the samples were above the clearance level of 200 ug/ft^2 indicated in reference j. Lead wipe sample results and locations are within the enclosure of the report.

b. Illumination was surveyed throughout the building. A diagram of illumination measurements can be found within the enclosure of this report. The areas listed below are below the standards required in reference f. The findings are as followed in Foot-candles (FC):

Table 1

AREA/LOCATION	MEASURED FC	REQUIRED FC
Room 138	31.9	50-75
Room 140 Conference area	33.7	50-75
140 A Classroom	8.9-33.7	50-75
Room 106	25.6	50-75
Rm 119 Summers area	24.8	50-75

c. Packages of the Flu mist, live virus vaccine was found stored in the mess hall refrigerator. The medical platoon does not have refrigeration designated for medicines and/or vaccines.

d. Technicians are provided desk and chairs that are not ergonomic. Writing desks are used as computer work stations and have a small amount of workspace. Desks did not have keyboard trays. Chairs have limited or no adjustability.

e. An ant mound was noticed in the fitness room. Ants were active during the survey.

f. Twenty-two Lead wipe samples and one blank were taken in various locations throughout the Armory and in the converted indoor firing range. Sample locations and results are included with the enclosure of this report.

SUBJECT: Industrial Hygiene Survey of Sandage National Guard Armory, Fort Worth, Texas

5. Technical Assistance. For technical assistance, regarding information found in this report.

Non-Responsive

3. Laboratory Results
4. Lead wipe locations and results

CF: Texas State Safety and Occupational Health Office, AGTX-CSH, Building 86, Austin, TX 78763

LAE Consulting
1218 Scattered Pines Court, Severn, Maryland 21144
Telephone: (410) 551-2717

SUBJECT: Industrial Hygiene Survey of Sandage National Guard Armory, Fort Worth, Texas

6. Recommendations.

a. No further evaluation is needed. **(RAC 4)**

b. Lighting should be upgraded to 50 foot candles in administrative areas. In administrative areas, consider purchasing supplemental lighting such as a desk lamp. **(RAC 2)**

c. Discourage storage of vaccines and medicines in the refrigerator in the mess kitchen. Purchase a refrigerator for the Medical platoon ensures the refrigerator is designated for medical supplies only. **(RAC 2)**

d. Recommend the facility request an Ergonomic survey of this Armory. Contact the state Occupational Health and Safety office for assistance in obtaining the survey. **(RAC 2)**

e. Contact pest controller to inspect and eliminate ant nests. Consult with the state Facility engineering office for assistance.

f. Recommend the state Safety and Occupational Health office review the Lead wipes sample results. **(RAC 4)**

Sandage Armory Lead Wipe Sample Results

Sample #	Location	Results
1	D.R. right side wall former backstop	BRL
2	D.R. left side wall former backstop	BRL
3	Downrange wall	BRL
4	Downrange wall over 3&4 lateral file cabinet	BRL
5	Right wall 5 feet up above golf clubs	BRL
6	Floor in former pit area rt side 5 feet from wall	BRL
7	Floor in front of pit 7 feet right of wall	BRL
8	Wall left side over mirror 7 feet up	BRL
9	Floor concrete under universal gym	62 ug/ft^2
10	Right side of wall 7 ft up near Maxi Cam	BRL
11	D.R. floor 1 ft outside 2nd exit door	24 ug/ft^2
12	Wall left side behind treadmills	BRL
13	Wall 6 feet right side above tables	BRL
14	Floor on mat in center in front of upright bike	21 ug/ft^2
15	Floor near corner of former observation room	BRL
16	Floor 1 ft outside former range	BRL
17	Dish tray window ledge in drill hall	32 ug/ft^2
18	Floor in front of supply 3 ft from door	BRL
19	Center of drill hall floor	BRL
20	Top of Dr. Pepper machine	BRL
21	Floor 5 feet from right wall near bulletin board	BRL
22	Floor outside room 106, 6.5 ft from door	BRL
23	Top of armoire in rm 124 next to TV	BRL
24	Blank	BRL

**BRL indicates below reporting limits*
**D.R. indicates downrange*
** U.R. indicates up range*

Analytical Environmental Services, Inc.

Date: 11/19/2009

LEAD ON WIPES (N9100/7082)
N7082

CLIENT: LAE Consulting
Project: Sandage Armory, Forth Worth, TX
Delivery Order:
PO No:

Lab Order: 0911923
Date Received: 11/11/2009 10:30 AM
Matrix: Wipe

Laboratory ID	Client Sample ID	Results	Units	Report Limit	DF	Date Collected	Date Analyzed	Analyst
0911923-001A	SA-BLANK	BRL	µg/ft²	20	1	11/10/2009	11/13/2009	MAW
0911923-002A	SA-01	BRL	µg/ft²	20	1	11/10/2009	11/13/2009	MAW
0911923-003A	SA-02	BRL	µg/ft²	20	1	11/10/2009	11/13/2009	MAW
0911923-004A	SA-03	BRL	µg/ft²	20	1	11/10/2009	11/13/2009	MAW
0911923-005A	SA-04	BRL	µg/ft²	20	1	11/10/2009	11/13/2009	MAW
0911923-006A	SA-05	BRL	µg/ft²	20	1	11/10/2009	11/13/2009	MAW
0911923-007A	SA-06	BRL	µg/ft²	20	1	11/10/2009	11/13/2009	MAW
0911923-008A	SA-07	BRL	µg/ft²	20	1	11/10/2009	11/13/2009	MAW
0911923-009A	SA-08	BRL	µg/ft²	20	1	11/10/2009	11/13/2009	MAW
0911923-010A	SA-09	62	µg/ft²	20	1	11/10/2009	11/13/2009	MAW
0911923-011A	SA-10	BRL	µg/ft²	20	1	11/10/2009	11/13/2009	MAW
0911923-012A	SA-11	24	µg/ft²	20	1	11/10/2009	11/13/2009	MAW
0911923-013A	SA-12	BRL	µg/ft²	20	1	11/10/2009	11/13/2009	MAW
0911923-014A	SA-13	BRL	µg/ft²	20	1	11/10/2009	11/13/2009	MAW
0911923-015A	SA-14	21	µg/ft²	20	1	11/10/2009	11/13/2009	MAW
0911923-016A	SA-15	BRL	µg/ft²	20	1	11/10/2009	11/13/2009	MAW
0911923-017A	SA-16	BRL	µg/ft²	20	1	11/10/2009	11/13/2009	MAW
0911923-018A	SA-17	32	µg/ft²	20	1	11/10/2009	11/13/2009	MAW
0911923-019A	SA-18	BRL	µg/ft²	20	1	11/10/2009	11/13/2009	MAW
0911923-020A	SA-19	BRL	µg/ft²	20	1	11/10/2009	11/13/2009	MAW
0911923-021A	SA-20	BRL	µg/ft²	20	1	11/10/2009	11/16/2009	MAW
0911923-022A	SA-21	BRL	µg/ft²	20	1	11/10/2009	11/16/2009	MAW
0911923-023A	SA-22	BRL	µg/ft²	20	1	11/10/2009	11/16/2009	MAW
0911923-024A	SA-23	BRL	µg/ft²	20	1	11/10/2009	11/16/2009	MAW

Qualifiers: BRL - Not Detected at the Reporting Limit; DF - Dilution Factor

Results are blank corrected where applicable

HEALTH HAZARD INFORMATION MODULE: INDUSTRIAL HYGIENE SURVEY

(For use of this form, see HHIM User's Guide)

ARLOC	INSTALLATION	BLDG/RM NO.
48000	SANDAGE ARMORY	5104 SANDAGE AVE FORT WORTH, TX 76115

LOCATION/CODE	OPERATION/CODE
AA	ADO

SURVEY DATE	EVALUATOR
10 NOV 09	LAE CONSULTING

MACOM/CODE	SUBMACOM/CODE	SUPERVISOR
NG	XX	Non-Responsive

TELEPHONE/DSN NO.	UNIT/ORGANIZATION	RAC	FREQUENCY (hrs/day)
Non-Responsive	SANDAGE ARMORY	3	+8 hrs

NO. CIV(S)	NO. MIL	NO. CONTRACTORS	NO. LOC(S)	NO. OTHER

SECTION 2: FACILITY DATA

LAB HOODS	VAPOR DEGREASERS	SPRAY BOOTHS
0	0	0

MAINTENANCE BAYS	OPEN SURFACE TANKS	VENTILATION UNITS
0	0	0

SECTION 3: SURVEY DATA

CONTROLS PRESENT	EVALUATION	UNIT CODE	CONTROLS REQUIRED	STATUS

PERSONAL PROTECTIVE EQUIPMENT (R= REQUIRED; U = UTILIZED)

GLOVES	R/U	RESPIRATOR	NIOSH TC NO.	MANUFACTURER	R/U
ACID	/	AIR LINE			/
COLD SURFACES	/	ABRASIZE BLASTING HOOD			/
HOT SURFACES	/	DISPOSABLE			/
NBC AGENTS	/	FULL FACE AIR PURIFYING			/
OIL	/	1/2 FACE AIR PURIFYING			/
SOLVENTS	/	1/4 FACE AIR PURIFYING			/
SURGICAL GLOVES	/	SELF CONTAINED			/

EYES/FACE	R/U	HEARING	R/U	BODY	R/U	HEAD/FIT	R/U
CHEMICAL SPLASH	X/	CANAL CAPS	/	APRONS	X/	COLD WEATHER BOOTS/HATS	/
FULL FACE SHEILD	/	EARPLUGS	X/	COLD WEATHER CLOTHING	/	HARD HATS	/
CHEMICAL/SAFETY	X/	HELMETS	/	COVERALLS	/	IMPERMEABLE BOOTS	/
SAFETY/IMPACT	X/	MUFFS	X	FULL BODY SUIT	/	SAFETY/CONDUCTIVE SHOES	/
WELDING HELMET	/	MUFF/EARPLUG COMBO	/	HEAT REFELECTIVE VEST/SUIT	/	SAFETY/NCN-CONDUCTIVE SHOES	X/
		MUFF/EARPLUG W/TIME LIMIT	/	SAFETY BELT/HARNESS	/		/

HEALTH HAZARD INFORMATION MODULE: INDUSTRIAL HYGIENE SURVEY

(For use of this form, see HHIM User's Guide)

ARLOC	INSTALLATION	BLDG/RM NO.
48000	SANDAGE ARMORY	5104 SANDAGE AVE FORT WORTH, TX 76115

LOCATION/CODE	OPERATION/CODE
SA	SAH

SURVEY DATE	EVALUATOR
10 NOV 09	LAE CONSULTING

MACOM/CODE	SUBMACOM/CODE	SUPERVISOR
NG		Non-Responsive

TELEPHONE/DSN NO.	UNIT/ORGANIZATION	RAC	FREQUENCY (hrs/day)
Non-Responsive	SANDAGE ARMORY	3	+8 hrs

NO. CIV(S)	NO. MIL	NO. CONTRACTORS	NO. LOC(S)	NO. OTHER
				2

SECTION 2: FACILITY DATA

LAB HOODS	VAPOR DEGREASERS	SPRAY BOOTHS
0	0	0
MAINTENANCE BAYS	**OPEN SURFACE TANKS**	**VENTILATION UNITS**
0	0	0

SECTION 3: SURVEY DATA

CONTROLS PRESENT	EVALUATION	UNIT CODE	CONTROLS REQUIRED	STATUS

PERSONAL PROTECTIVE EQUIPMENT (R= REQUIRED; U = UTILIZED)

GLOVES	R/U	RESPIRATOR	NIOSH TC NO.	MANUFACTURER	R/U
ACID	/	AIR LINE			/
COLD SURFACES	/	ABRASIZE BLASTING HOOD			/
HOT SURFACES	/	DISPOSABLE			/
NBC AGENTS	/	FULL FACE AIR PURIFYING			/
OIL	/	1/2 FACE AIR PURIFYING			/
SOLVENTS	/	1/4 FACE AIR PURIFYING			/
SURGICAL GLOVES	/	SELF CONTAINED			/

EYES/FACE	R/U	HEARING	R/U	BODY	R/U	HEAD/FIT	R/U
CHEMICAL SPLASH	X/	CANAL CAPS	/	APRONS	X/	COLD WEATHER BOOTS/HATS	/
FULL FACE SHEILD	/	EARPLUGS	X/	COLD WEATHER CLOTHING	/	HARD HATS	/
CHEMICAL/SAFETY	X/	HELMETS	/	COVERALLS	/	IMPERMEABLE BOOTS	/
SAFETY/IMPACT	X/	MUFFS	X	FULL BODY SUIT	/	SAFETY/CONDUCTIVE SHOES	/
WELDING HELMET	/	MUFF/EARPLUG COMBO	/	HEAT REFELECTIVE VEST/SUIT	/	SAFETY/NCN-CONDUCTIVE SHOES	X/
		MUFF/EARPLUG W/TIME LIMIT	/	SAFETY BELT/HARNESS	/		/

SECTION 4: HAZARD INVENTORY DATA

View of Sandage Armory, Fort Worth TX

View of Flu mist live vaccine (lower tray) stored with food in the kitchen refrigerator

View of Hazardous Material storage container

View of Flammable material stoage cabinet located outside the Armory

Interior view of the Hazardous Material storage container

View of the Converted Indoor Firing Range

View of the Converted Indoor Firing Range

View of demarkation of the former backstop/pit area

Up range view of converted indoor firing range

Up range view of converted indoor firing range

Up range view of converted indoor firing range. Back wall may have been the former observation room

Straight line on bricks demarks possible location of former observation room

Former location of range exhaust

View of Lead wipe samples 1&2. located on back wall were backstop may have been positioned

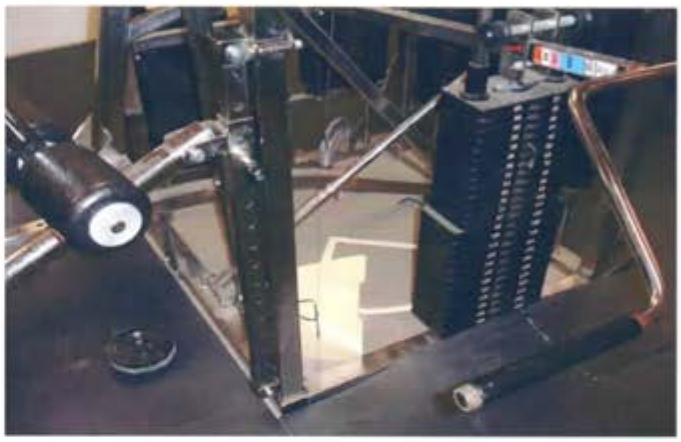
View of Lead wipe sample 3. located, Rightr wall of near backstop

View of Lead wipe sample 4, located left wall over 3&4 lateral file cabinet

View of Lead wipe sample 5, locatedon right wall 5 ft above golf clubs

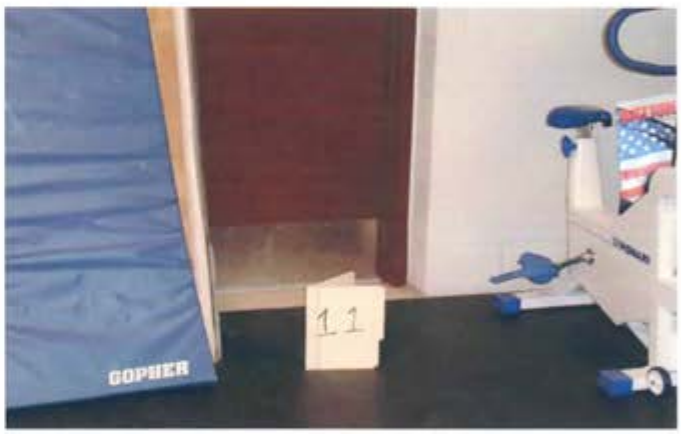
View of Lead wipe samples 6&7, located on floor in pit area

View of Lead wipe sample 8, located on left wall 7 feet above mirror



View of Lead wipe sample 9, located onconcrete floor under Universal gym

View of Lead wipe sample 10, located
on wall right side of Maxi Cam equipment



View of Lead wipe sample11, located on floor 1 ft from exit door to outside

View of Lead wipe sample 12, located left wall 7 ft above behind tread mills

View of Lead wipe sample 13, located 6 feet on right wall above tables and chairs

View of Lead wipe sample 14, located on floor mat center in front of upright bike

View of Lead wipe sample 15, located on floor corner of former observation room

View of Lead wipe sample 16, located on floor 1 ft outside the former range in the drill hall

View of Lead wipe sample 17, located on dish tray window in drill hall

View of Lead wipe sample 18, located on floor in front of supply room in Drill Hall

View of Lead wipe sample 19, located on center of drill hall floor

View of Lead wipe sample 20, Top of Dr. Pepper beverage machine

View of Lead wipe sample 21, Floor 5 feet from the wall near bulletin board

View of Lead wipe sample 22, located on the floor 5 feet outside room 106

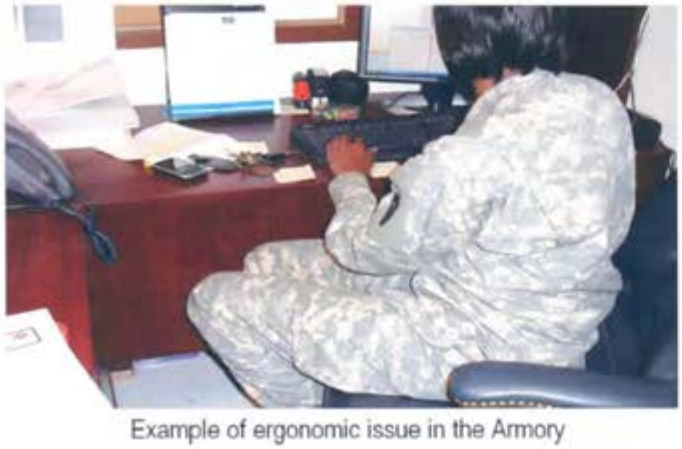
View of Lead wipe sample 23, located on top of armoire in room 124

View of ant mound in fitness center

View of Drill Hall

View of Drill Hall

Example of ergonomic issue in the Armory



Example of ergonomic issue in the Armory

Example of ergonomic issue in the Armory

Examples of Ergonomic Issues in the Sandage Armory

DEPARTMENT OF THE ARMY AND THE AIR FORCE
NATIONAL GUARD BUREAU
REGIONAL INDUSTRIAL HYGIENE OFFICE
AIRPORT PLAZA SUITE 1530
510 PLAZA DRIVE
COLLEGE PARK, GA 30349

NGB-AVN-SI

February 10, 2004

MEMORANDUM FOR: ADJUTANT GENERAL TX ARNG, ATTN.: State Occupational Health Office, P. O. BOX 5218, Austin, TX 78763-5218

SUBJECT: Transmittal of the Survey Reports Seguin Armory, New Braunfels Armory, San Marcos Armory, Hondo Armory, Kerrville Armory and Fredericksburg Armory, TX.

1. References.

a. Department of Defense Instruction 6055.1, Department of Defense Occupational Safety and Health (OSH) Program, 26 October 1984.

b. Army Regulation (AR) 40-5, 30 August 1986, Medical Service, Preventive Medicine.

c. National Guard Regulation (NGR) 385-10, 1988, Army National Guard Safety and Occupational Health Program.

d. AR 11-34, The Army Respiratory Protection Program, 15 February 1990.

e. TB MED 502, Occupational and Environmental Health Respiratory Protection Program, February 1982.

f. DA PAM 40-503, 30 October 2000, The Army Industrial Hygiene Program.

g. DA PAM 40-501, 10 December 1998, Hearing Conservation.

h. Threshold Limit Values and Biological Exposure Indices (TLV's) for 2001, American Conference of Governmental Industrial Hygienists (ACGIH), Cincinnati, Ohio.

i. Industrial Ventilation, 23rd Edition, American Conference of Governmental Industrial Hygienist, Cincinnati, Ohio.

j. USAEHA TG-141, November 1997, Guidelines for Air Sampling and Bulk sample Collection.

NGB-AVN-SI
SUBJECT: Transmittal of the Survey Reports Seguin Armory, New Braunfels Armory, San Marcos Armory, Hondo Armory, Kerrville Armory and Fredericksburg Armory, TX.

k. Title 29, Code of Federal Regulations (CFR), 2000 rev., part 1910, Occupational Safety and Health Standards.

l. Report of October 2003, Industrial Hygiene Survey, Non-Responsive Technical Solutions Fayetteville, GA.

2. General.

a. At the request of the TX ARNG Safety and Occupational Health Office, an Industrial Hygiene Service was put together to conduct Health Hazard Information module (HHIM) Field surveys and industrial hygiene sampling of the Seguin Armory, New Braunfels Armory, San Marcos Armory, Hondo Armory, Kerrville Armory and Fredericksburg Armory, TX.

b. The survey was conducted by Non-Responsive Technical Solutions, Fayetteville, GA.

3. Findings. All Health Hazard information are on the survey findings of the report. (See enclosure 1)

4. Recommendations.

a. Follow all recommendations made in reference 1.l., requesting industrial hygiene (IH) services where needed to complete the recommendations.

b. Conduct an air sampling survey in the areas in and around those identified with elevated lead dust levels in page 3 0f reference 1.l, to ensure that the lead dust present is not airborne and that employees in these areas are not exposed above the action level where applicable.

c. Control water infiltration in the armory and/or replace or repair damaged surfaces or components (ceiling and floor tiles). Building conditions that present IAQ concerns or problems not only exacerbates normally minor health issues but also tend to promote or accelerate building deterioration.

d. The recommendations given in the comment section and data collected will serve as a baseline for the Industrial Hygiene Implementation Plan (IHIP) for FY-03. A follow up operation and hazard specific air sampling survey based on the enclosed findings will be included in the FY-04 IHIP.

NGB-AVN-SI
SUBJECT: Transmittal of the Survey Reports Seguin Armory, New Braunfels Armory, San Marcos Armory, Hondo Armory, Kerrville Armory and Fredericksburg Armory, TX.

e. Consider additional Industrial Hygiene services to monitor operations that were not looked at or surveyed during the present survey, especially if this will help eliminate health hazards and reduce medical surveillance cost.

f. To execute your responsibilities in correcting all deficiencies and meeting all standards coordinate with the Occupational Health Nurse and the Occupational Safety and Health Office for technical guidance.

f. Give special consideration to cleaning light fixtures, increasing the wattage and painting walls a lighter color when upgrading the lighting in the facility.

5. If additional information is needed about the industrial hygiene survey or air sample

Non-Responsive

CF:
NBG-AVN-SH
State Occupational Health Office, P. O. BOX 5218, Austin, TX 78763-5218.
State Safety Manager, P. O. BOX 5218, Austin, TX 78763-5218.

Encl
as

Army National Guard
Industrial Hygiene Survey

Fredericksburg Armory

595 Armory Rd.
Fredericksburg, TX 78624-9404

POC Non-Responsive

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5 November 2003

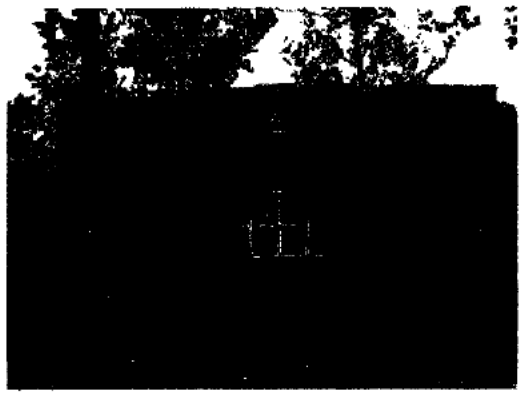
MEMORANDUM FOR: Texas Army National Guard, ATTN: Non-Responsive ommander, Company A (-) 249 SPT, 595 Armory Rd., Fredericksburg, TX 78624-9404

SUBJECT: Industrial Hygiene Survey of Fredericksburg Armory Army National Guard, Fredericksburg, Texas

BACKGROUND

At the request of Non-Responsive ational Guard Bureau Regional Industrial Hygiene South Office, Atlanta, GA, an initial baseline industrial hygiene survey was performed at the following Army National Guard Armory facility on **16 October 2003**:

Fredericksburg Armory
595 Armory Rd.
Fredericksburg, TX 78624-9404



This facility houses the following units:

No.	Unit	Comments
1	Company A (-) 249 SPT	Non-Responsive
2		

The facility was built in 1962

The baseline industrial hygiene survey includes:

- Lead wipe dust surveys
- Illuminations surveys
- Ventilation surveys
- Noise surveys, if necessary

A field survey form is completed on all industrial operations at the facility, and the data contained in this report.

An initial baseline industrial hygiene survey was conducted at the Fredericksburg Armory, Fredericksburg, Texas, on 16 October 2003 as part of the Texas Army National Guard Occupational Health Program to identify potential hazards in the workplace. The survey consisted of collecting lead wipe samples, bulk asbestos samples (as needed), conducting noise and illumination survey, as well as evaluating the condition of the building, including the Heating Ventilation and Air Conditioning (HVAC) System as it relates to indoor air quality. A review of several industrial hygiene programs, such as hazard communication, radiation protection, ergonomics, and personal protective equipment was also performed.

The following table summarizes the survey findings and recommendations for each topic surveyed:

Building condition / Indoor Air Quality	1. There were no obvious signs of occupational hazards or concerns. 2. This facility completed renovations in November 2002, and maintained very well.	Continue to follow good hygiene and housekeeping practices.
Lead Wipe Samples	Below Reportable Levels (BRL) to 68 $\mu g/ft^2$	Continue to follow good hygiene and housekeeping practices.
Asbestos Bulk Samples	No issues	No action
Illumination Survey	39.7 to 162.1 foot-candles * No light samples were obtained from the Supply Room, as the circuit breaker trips when the light is turned on. A work order is opened to fix this problem.	Upgrade lighting measurements as required. Replacing blown or broken lights, painting the walls a light color, cleaning existing light fixtures, rearranging furniture to make better use of available light, and supplemental or task lighting are considerations in increasing available light levels.
Noise Survey	No issues	No action
Hazards Communication	No Chemical list available. MSDS are not updated for chemicals used. ***Unit just returned from deployment, so they did not have all paperwork updated as yet.	Update and maintain chemical inventory list and cross-reference MSDS book to inventory list for easy access in case of emergency. Personnel responsible for these items should receive annual training in HAZCOM requirements

Ergonomics	Ergonomics concerns in Administrative and Supply Areas BEST AVAILABLE COPY	Complete ergonomics survey on all personnel and offer ergonomic training or awareness to employees who spend the majority of their time working on a computer terminal
Personal Protective Equipment	No issues	No Action

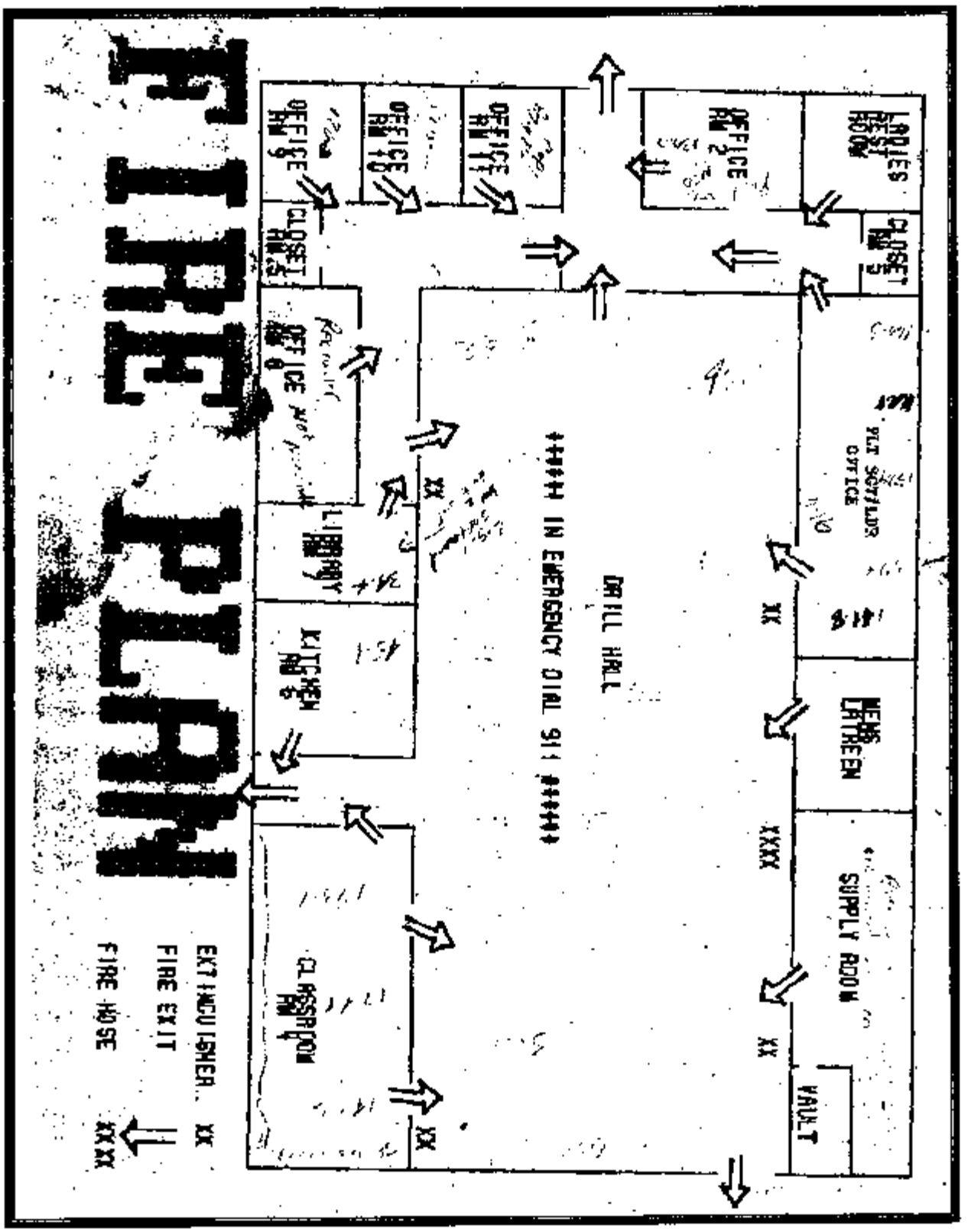
TECHNICAL ASSISTANCE:

Non-Responsive

The following survey instrumentation was provided by or for the contractor, and was used to obtain lead wipe dust, illumination, ventilation, and noise sample measurements. All noise dosimeter instrumentation was calibrated before and after sampling. All other instrumentation was operated according to manufacture recommendations.

Extech Light Meter	Q009472	Purchased New June 2003
Bruel & Kjaer Sound Level Meter	1942768	September 7, 2002
Bruel & Kjaer 4231 Acoustic calibrator	1944552	September 3, 2002
Alnor Velometer	53281	October 1, 2002
Ghost Wipe Lead Dust Wipes		

FACILITY DIAGRAM:



BEST AVAILABLE COPY

PERSONNEL DATA:

This facility houses the following full-time personnel:

Last Name	First Name	MI	Sex	SSN (Last 4 digits)	Rank	Unit #
Non-Responsive						

BUILDING CONDITION:

Walk-through Observations

1		There were no obvious signs of occupational hazards or concerns. The facility is newly renovated and maintained very well.	
2			
3			
4			
5			
6			

ADMINISTRATIVE OFFICES:

Light Reading Results:

There are several administrative offices in the facility. Administrative personnel are required to use computer systems, file, read, write and perform other administrative tasks as necessary. Computer use occurs throughout the day.

Illumination and Engineering Society of North America (IES) requires 20 to 50 foot-candles (FC) for storage areas and 50 – 100 FC for administrative areas.

Light levels found in the administrative areas are as follows:

Readiness NCO	130		
Copy Room	87.9		
Office Room 10	120.6		
Office Room 9	126.8		
Library	34.4		The disabling of 2 of the 4 florescent bulbs has softened room lighting.
Classroom 4		130.0	The lighting in this area is enhanced by the natural sunlight.
PLT SGT / LDR Office		145.1	

Ventilation Sample Results:

Readiness NCO	800	12 X 12	

The kitchen is currently not used for cooking, however, the surfaces are used to prepare sandwiches and other light meals.

Light Reading Results:

Illumination and Engineering Society of North America (IES) requires 20 to 50 foot-candles (FC) for storage areas and 50 – 100 FC for administrative areas.

Light levels found in the kitchen / mess hall area are as follows:

Kitchen Counter	45.1		

Lead Wipe Sample Results:

Under the Environment Protection Agency standard (40 CFR 745) lead dust levels above 40 micrograms per square foot on bare and carpeted floors is considered dangerous.

1-Fredericksburg	Blank (Administrative Offices, Kitchen, Drill Hall and HVAC)	BRL	Below Reporting Levels
2- Fredericksburg	Kitchen Counter	BRL	

DRILL HALL

Personnel officially use the drill hall 2 days per month. It is not rented out for community events. Weapons cleaning take place by units during drill weekends.

Light Reading Results:

Illumination and Engineering Society of North America (IES) requires 20 to 50 foot-candles (FC) for storage areas and 50 – 100 FC for administrative areas.

Light levels found in the drill hall area are as follows:

Drill Hall by back door	55.1		
Drill Hall outside the Supply Room	50.1		
Drill Hall near front entrance	39.7		
Drill Hall near PLT SGT / LDR Office	45.1		

Lead Wipe Sample Results:

Under the Environment Protection Agency standard (40 CFR 745) lead dust levels above 40 micrograms per square foot on bare and carpeted floors is considered dangerous. The following are the sample results:

3-Fredericksburg	Drill Hall by back door	BRL	Below Reporting Levels
4- Fredericksburg	Drill Hall outside Supply Room	BRL	

Noise Sample Results:

Noise levels in the drill hall area were below the threshold required for hearing protection. There is no requirement for a Hearing Conservation Program for full-time personnel.

HVAC SYSTEM

Since there is no IFR in this facility, and the HVAC units are new, an HVAC lead wipe sample was not taken.

SUPPLY ROOM(s) and VAULT(s)

This facility has one supply room, with several storage areas. The supply officer(s) use the computer between 8-10 hours per day. An inventory of all chemicals is maintained by the Supply Sgt. A Material Safety Data Sheet book is maintained with a table of contents, and/or is cross-referenced to the chemical inventory sheet for easy accessibility by all personnel in case of emergency. Heavy lifting is performed with the aid of hand jacks, lifts, and other personnel.

Light Reading Results:

Illumination and Engineering Society of North America (IES) requires 20 to 50 foot-candles (FC) for storage areas and 50 – 100 FC for administrative areas.

Light levels found in the Supply Room / Vault areas are as follows:

Breaker trips when lights are turned on. No light samples were taken in this area			

Lead Wipe Sample Results:

Under the Environment Protection Agency standard (40 CFR 745) lead dust levels above 40 micrograms per square foot on bare and carpeted floors is considered dangerous.

5- Fredericksburg	Blank (Supply and Vault)	BRL	Below Reporting Levels
6- Fredericksburg	Supply Desk	BRL	
7- Fredericksburg	Vault Rack	68.0	
8- Fredericksburg	Vault Shelf	63.0	

INDOOR FIRING RANGE

This facility has never had an indoor firing range.

MOTOR POOL

The motor pool is an outdoor area used to park vehicles and perform light maintenance. There are fuelers in the fleet and fire extinguishers are strategically placed, however, the inspection tags for the fire extinguishers are worn off due to exposure to the outside elements.

a. Continue a maintenance schedule for ensuring that filters in the HVAC system are properly changed, any leaks or standing water are identified, repaired, and prevented, and supply and exhaust grilles are appropriately cleaned. Failure to do so may lead to indoor air quality issues. The plan should include monitoring, inspecting and cleaning HVAC components such as outside air intakes, outside air dampers, air filters, drain pans, heating and cooling coils, the interior of air handling units, fan motors and belts, air humidification, controls and cooling towers. Consult manufacturers' instructions for appropriate maintenance schedules.

b. If indoor air quality issues develop, non-porous (e.g., metals, glass, and hard plastics) and semi-porous (e.g., wood, and concrete) materials that are structurally sound and are visibly moldy can be cleaned and reused. Cleaning should be done using a detergent solution. Porous materials such as ceiling tiles and insulation, and wallboards with more than a small area of contamination should be removed and discarded. Porous materials (e.g., wallboard, and fabrics) that can be cleaned, can be reused, but should be discarded if possible. A professional restoration consultant should be contacted when restoring porous materials with more than a small area of fungal contamination. All materials to be reused should be dry and visibly free from mold. Routine inspections should be conducted to confirm the effectiveness of remediation work.

c. Any initial water infiltration should be stopped and cleaned immediately. An immediate response (within 24 to 48 hours) and thorough clean up, drying, and/or removal of water damaged materials will prevent or limit mold growth. If the source of water is elevated humidity, relative humidity should be maintained at levels below 60% to inhibit mold growth. Emphasis should be on ensuring proper repairs of the building infrastructure, so that water damage and moisture buildup does not recur.

d. Contaminated materials that cannot be cleaned should be removed from the building in a sealed plastic bag. There are no special requirements for the disposal of moldy materials.

e. Upgrade lighting measurements as required. Replacing blown or broken lights, painting the walls a light color, cleaning existing light fixtures, rearranging furniture to make better use of available light, and supplemental or task lighting are considerations in increasing available light levels.

f. An ergonomics survey should be completed for all supply and administrative personnel as a preventative measure to address and document any ergonomic concerns or problems. An emphasis on maintaining neutral postures and proper lifting techniques should be covered.

g. Material Safety Data Sheets (MSDS) are required to be kept at the primary workplace facility and to be easily accessible in case of emergency. Personnel responsible for these items should receive annual training in the requirements of the Hazardous Communication Program and the appropriate keeping and storage of MSDSs.

h. Ensure personnel are prohibited from drinking, eating, smoking chewing tobacco and gum, or applying makeup in supply and maintenance areas. Hands should be cleaned with soap and water before eating drinking, eating, smoking, chewing tobacco and gun, or applying makeup. Remove all refrigerators, cups, and other utensils from supply and maintenance areas.

j. Fire extinguishers should be visually inspected on a monthly basis and recorded on service tag.

k. Perform noise survey on maintenance equipment. Ensure that all noise hazardous machinery and noise hazardous areas are appropriately marked.

l. Perform noise dosimetry on maintenance personnel during drill weekend, in order to document noise exposure.

m. Portable eyewashes should be maintained on a weekly basis to ensure removal of opportunistic pathogens.

Photo # 1

Kitchen counter – Lead wipe sample taken here

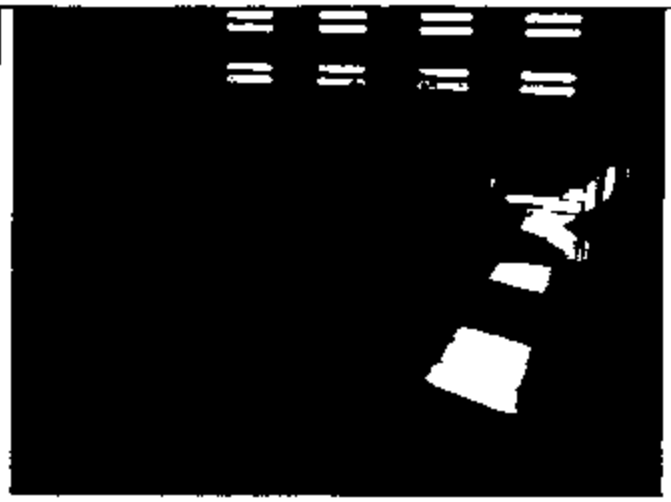


Photo # 2

Drill Hall by back door vehicle parking area – Lead wipe samples taken here.

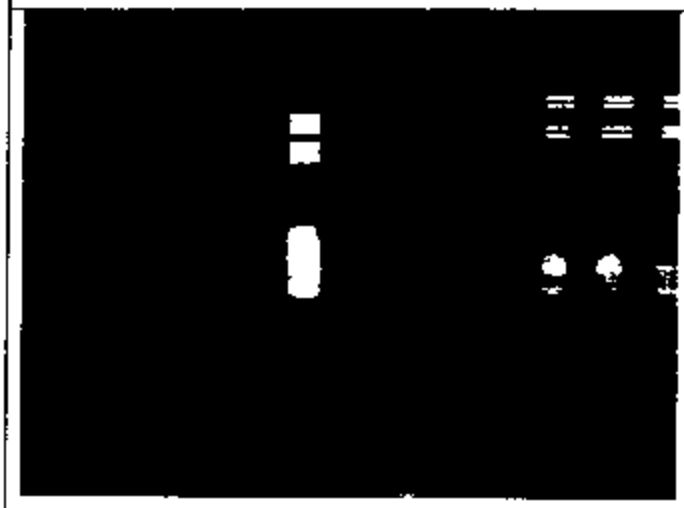


Photo # 3

Drill Hall by Supply Room – Lead wipe samples taken here

Photo # 4

This is the outdoor motor pool area – fire extinguishers are strategically placed, however, the inspection tags are worn off due to exposure to the elements.

Analytical Environmental Servs, Inc.

Date: 10/24/2003

TOTAL LEAD IN WIPE SAMPLES
N7082

CLIENT:	Technical Solutions International	**Lab Order:**	0310645
Project:	Fredericksburg Armory	**Date Received:**	10/20/2003 12:5
Project No:	Fredericksburg	**Matrix:**	Wipe
PO No:		**Analyst:**	SSS

Laboratory ID	Client Sample ID	Results	Units	MDL	DF	Date Collected	Date Analyzed
0310645-001A	FREDERICKSBURG	BRL	µg, Total	2.83	1	10/16/2003	10/23/2003
0310645-002A	FREDERICKSBURG	BRL	µg, Total	2.83	1	10/16/2003	10/23/2003
0310645-003A	FREDERICKSBURG	BRL	µg, Total	2.83	1	10/16/2003	10/23/2003
0310645-004A	FREDERICKSBURG	BRL	µg, Total	2.83	1	10/16/2003	10/24/2003
0310645-005A	FREDERICKSBURG	BRL	µg, Total	2.83	1	10/16/2003	10/24/2003
0310645-006A	FREDERICKSBURG	BRL	µg, Total	2.83	1	10/16/2003	10/24/2003
0310645-007A	FREDERICKSBURG	68.0	µg, Total	2.83	1	10/16/2003	10/24/2003
0310645-008A	FREDERICKSBURG	63.0	µg, Total	2.83	1	10/16/2003	10/24/2003

Qualifiers: MDL - Method Detection Limit; DF - Dilution Factor
ND - Not Detected at the Reporting Limit

Page 2 of 1

Fredericksburg, TX

FLOOR SEAL-ALL FLOOR FINISHER	TRASH BAGS
BATHROOM TISSUE	RING MASTER QT- TOILET BOWL CLEANER LYSOL SPRAY PLEDGE GLASS & STAINLESS CLEANER
LIME SOL	SCOURING POWDER ALL PURPOSE CLEANER
D-DUST FLOOR POLISH STRIPPY FLOOR CLEANER	WINDEX
RAGS	

[redacted]

DEPARTMENT OF THE ARMY AND THE AIR FORCE
NATIONAL GUARD BUREAU
REGIONAL INDUSTRIAL HYGIENE OFFICE
AIRPORT PLAZA SUITE 1530
510 PLAZA DRIVE
COLLEGE PARK, GA 30349

NGB-AVN-SI

July 22, 2004

MEMORANDUM FOR: ADJUTANT GENERAL TX ARNG, ATTN.: State Occupational Health Office, P. O. BOX 5218, Austin, TX 78763-5218

SUBJECT: Transmittal of the Survey Reports for Waxahachie Armory, Corsicana Armory, Mexia Armory. Waco Armory, Gatesville Armory, Kileen Armory, Temple Armory, Brenham Armory, and Bryan Armory, TX.

1. References.

a. Department of Defense Instruction 6055.1, Department of Defense Occupational Safety and Health (OSH) Program, 26 October 1984.

b. Army Regulation (AR) 40-5. 30 August 1986, Medical Service, Preventive Medicine.

c. National Guard Regulation (NGR) 385-10, 1988, Army National Guard Safety and Occupational Health Program.

d. AR 11-34, The Army Respiratory Protection Program, 15 February 1990.

e. TB MED 502, Occupational and Environmental Health Respiratory Protection Program, February 1982.

f. DA PAM 40-503. 30 October 2000, The Army Industrial Hygiene Program.

g. DA PAM 40-501, 10 December 1998, Hearing Conservation.

h. Threshold Limit Values and Biological Exposure Indices (TLV's) for 2001, American Conference of Governmental Industrial Hygienists (ACGIH), Cincinnati, Ohio.

i. Industrial Ventilation, 23rd Edition, American Conference of Governmental Industrial Hygienist, Cincinnati, Ohio.

j USAEHA TG-141, November 1997, Guidelines for Air Sampling and Bulk sample Collection

NGB-AVN-SI
SUBJECT: Transmittal of the Survey Reports for Waxahachie Armory, Corsicana Armory, Mexia Armory, Waco Armory, Gatesville Armory, Kileen Armory, Temple Armory, Brenham Armory, and Bryan Armory, TX.

k. Title 29, Code of Federal Regulations (CFR), 2000 rev., part 1910, Occupational Safety and Health Standards.

l. Report of July 14, 2004, Industrial Hygiene Survey, Tammer Sciences INC, 3744 Lawrence Dr., Naperville, IL.

2. General.

a. At the request of the TX ARNG Safety and Occupational Health Office, an Industrial Hygiene Service was put together to conduct Health Hazard Information module (HHIM) Field surveys and industrial hygiene sampling of the Waxahachie Armory, Corsicana Armory, Mexia Armory, Waco Armory, Gatesville Armory, Kileen Armory, Temple Armory, Brenham Armory Brenham Armory, and Bryan Armory, TX.

b. Non-Responsive Tammer Sciences INC, 3744 Lawrence Dr., Naperville, IL 60564, conducted the survey.

3. Findings. All Health Hazard information are on the survey findings of the report. (See enclosure 1)

4. Recommendations.

a. Follow all recommendations made in reference 1.l., requesting industrial hygiene (IH) services where needed to complete the recommendations.

b. Conduct an air sampling survey in the areas in and around those identified with elevated lead dust levels in page 3 0f reference 1.l, to ensure that the lead dust present is not airborne and that employees in these areas are not exposed above the action level where applicable.

c. Control water infiltration in the armory and/or replace or repair damaged surfaces or components (ceiling and floor tiles). Building conditions that present IAQ concerns or problems not only exacerbates normally minor health issues but also tend to promote or accelerate building deterioration.

d. The recommendations given in the comment section and data collected will serve as a baseline for the Industrial Hygiene Implementation Plan (IHIP) for FY-03. A follow up operation and hazard specific air sampling survey based on the enclosed findings will be included in the FY-04 IHIP.

NGB-AVN-SI
SUBJECT: Transmittal of the Survey Reports for Waxahachie Armory, Corsicana Armory, Mexia Armory, Waco Armory, Gatesville Armory, Kileen Armory, Temple Armory, Brenham Armory, and Bryan Armory, TX.

e. Consider additional Industrial Hygiene services to monitor operations that were not looked at or surveyed during the present survey, especially if this will help eliminate health hazards and reduce medical surveillance cost.

f. To execute your responsibilities in correcting all deficiencies and meeting all standards coordinate with the Occupational Health Nurse and the Occupational Safety and Health Office for technical guidance.

g. Give special consideration to cleaning light fixtures, increasing the wattage and painting walls a lighter color when upgrading the lighting in the facility.

5. If additional information is needed about the industrial hygiene survey or air sample

Non-Responsive

CF:
NBG-AVN-SH
State Occupational Health Office, P. O. BOX 5218, Austin, TX 78763-5218.
State Safety Manager, P. O. BOX 5218, Austin, TX 78763-5218.

Encl
as

Industrial Hygiene Baseline Survey Report
For
Texas Army National Guard
(TXARNG)

At
Gatesville Armory
3301 East Main Street
Gatesville, Texas

Prepared for:

Department of the Army and the Air Force
National Guard Bureau
Regional Industrial Hygiene Office
Region South
Airport Plaza Suite 1530
510 Plaza Drive
College Park, GA 30349

By

Non-Responsive

July 9, 2004

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- Scope of Work
- Methodology

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- Noise Survey ..... Page 4
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- Heating Ventilating and Air Conditioning (HVAC) ..... Page 5
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Appendices

A. Floor Layout and illumination levels.
B. Laboratory Analytical Results.
C. Lab Chain of Custody.
D. Photographs.

Executive Summary

An initial baseline industrial hygiene survey was conducted at the Gatesville Armory on 3 June 2004 as part of the Texas Army National Guard Occupational Health Program to identify potential health hazards in the workplace. The survey consisted of collecting lead wipe samples and bulk asbestos samples, conducting an illumination survey, a noise survey, and an evaluation of the Heating Ventilation and Air Conditioning System (HVAC) as it relates to indoor air quality.

The following table summarizes the survey findings and recommendations for each topic surveyed.

Topic	Summary of Findings	Recommendations
IFR Lead Wipe Sample Results	14 to 27,000 microgram per square foot.	Do not use the firing range space until it is cleaned and decontaminated properly.
Armory Lead Wipe Samples	<10 to 11 microgram per square foot.	No action.
Asbestos Bulk Samples	No Suspect asbestos containing material identified.	No action.
Noise Survey	No excessive noise source was identified.	No action.
Illumination Survey	15 to 95 footcandles	No action.
HVAC/IAQ	Water damage wa observed in the drill hall.	Repair water leaks and replace all water damaged building materials.

SUBJECT: Industrial Hygiene Initial Baseline Survey of the Gatesville Armory in Gatesville, Texas on 3 June 2004

BACKGROUND:

Introduction. At the request of Non-Responsive of the National Guard Bureau Region South Industrial Hygiene Office, an initial baseline industrial hygiene survey was performed at the Gatesville Armory in Gatesville, Texas. Non-Responsive Industrial Hygiene Technician for the Texas Army National Guard and Non-Responsive contract Industrial Hygienist, Tammer Sciences, Inc. conducted the survey on 3 June 2004. The purpose of the survey was to perform an initial baseline industrial hygiene survey to identify potential health hazards present at the armory, specifically lead contamination from the indoor firing range.

Site Description. The armory houses Det 1 HHC 3-141 Inf. The building, which was built 1970 and renovated 1986, is a one story structure and consists of an administrative office area, a kitchen, classrooms, a drill hall, supply rooms, storage rooms, and an indoor firing range. A copy of the floor layout and photos are included in Appendix A and D, respectively.

Scope of Work. The work included collecting wipe samples for lead, bulk samples for suspect asbestos containing building material, illumination levels, noise readings where necessary, and an evaluation of the ventilation system as it pertains to indoor air quality.

Methodology Lead wipe samples were collected from surfaces in the firing range and in the Armory in accordance to instructions published by Region South National Guard Bureau, which required the use of unscented baby wipes to wipe one square foot of surface. Samples were then placed in a sealed plastic bag and sent for analysis to EMSL laboratory, which is an American Industrial Hygiene Association (AIHA) Accredited laboratory. Asbestos bulk samples were collected from suspect building materials that were grouped based on similarity of composition. Bulk sample collection was minimally destructive and samples were collected from inconspicuous areas. Bulk samples were also collected from suspect friable and damaged building material. Each bulk sample was placed in a sealed bag and sent to EMSL laboratory for analysis. Noise readings were collected using a noise level meter in areas where a noise source was identified. All noise measurements were area readings. Illumination readings were collected using a Western Schlumberger light meter Serial 8384. Illumination readings were taken on work surfaces such as desks or approximately four feet from the floor.

FINDINGS and DISCUSSION:

The Point of Contact during the survey was Non-Responsive

Lead Wipe Samples: Twenty nine wipe samples were collected from the indoor firing range and various areas of the armory as listed in the table below.

Sample Number	Sample Location	Micrograms of lead (ug) per square foot
GAT 01	IFR back wall (facing wall) upper right.	240.0
GAT 02	IFR back wall (facing wall) middle.	330.0
GAT 03	IFR back wall (facing wall) lower left.	310.0
GAT 04	IFR right wall (facing range) upper right (facing wall).	56.0
GAT 05	IFR right wall (facing range) middle (facing wall).	1500.0
GAT 06	IFR right wall (facing range) lower left (facing wall).	1200.0
GAT 07	IFR left wall (facing range) upper right (facing wall).	190.0
GAT 08	IFR left wall (facing range) middle (facing wall).	46.0
GAT 09	IFR left wall (facing range) lower left (facing wall).	170.0
GAT 10	IFR top of heater cover by firing line right facing range	18,000.0
GAT 11	IFR ceiling middle of the range.	14.0
GAT 12	IFR bullet deflector left side (facing range) by bullet stop.	310.0
GAT 13	IFR floor to the left facing the range by firing line.	27,000.0
GAT 14	IFR floor middle of range.	23,000.0
GAT 15	IFR floor to the right of the bullet trap.	19,000.0
GAT 16	IFR bullet Stop upper right facing stop.	9,800.0
GAT 17	IFR bullet Stop middle.	11,000.0
GAT 18	IFR bullet Stop lower left facing stop.	11,000.0
GAT 19	Field blank	15.0
GAT 20	Top of serving line in kitchen	11.0
GAT 21	Top of refrigerator in kitchen.	<10.0
GAT 22	Top of desk in classroom	<10.0
GAT 23	Supply diffuser in Non-Responsive office.	<10.0
GAT 24	Return air grill in [redacted] office.	<10.0
GAT 25	Top of filing cabinet in office 1 administrative area.	<10.0
GAT 26	Drill hall floor by supply room.	<10.0
GAT 27	Drill hall floor in center.	<10.0
GAT 28	Drill hall floor diagonally opposite to supply room.	<10.0
GAT 29	Top of the soda machine in the drill hall.	<10.0

The US Environmental Protection Agency (EPA), under a new standard issued in 2000, considers lead dust as a hazard if levels are greater than 40 micrograms of lead in dust per square foot on floors; 250 micrograms of lead in dust per square foot on interior window sills and 400 parts per million (ppm) of lead in bare soil in children's play areas or 1200 ppm average for bare soil in the rest of the yard. This standard is a major effort by the EPA to identify dangerous levels of lead in paint, dust and soil in order to protect children from lead poisoning. The National Guard Bureau recommends a limit of 200 micrograms per square foot for surface contamination. The laboratory report and chain of custody forms are attached in Appendices B and C. The indoor firing range as indicated by the wipe sampling results should be properly cleaned and decontaminated in accordance to the instructions found in NG PAM 385-15.

Asbestos Suspect Building Material: Typical building materials identified in the Armory consisted of 12 by 12 inches floor tiles, 2x4 feet ceiling tiles, and Baseboard in the administrative office areas. Cement floors, cinder block walls, and corrugated steel deck in the drill hall, supply, storage, and other areas. The table below lists the samples collected and the results:

Sample #	Description	% Asbestos Type
GAT A01	12x12 inch floor tile.	None.
GAT A02	2x4 foot ceiling tile.	None.
GAT A03	Baseboard.	None.

The laboratory report and chain of custody forms are attached in Appendices B and C.

Noise Survey: Based on observations during the walkthrough baseline survey, no sources of excessive noise were identified and therefore no area noise readings were collected. Noise levels are likely to be well below the Occupational Safety and Health Administration (OSHA) regulated limit of 90 dBA and the Army recommended limit of 85 dBA.

Illumination Survey Lighting levels throughout the Armory ranged between 15 foot-candles to 95 foot-candles. Illumination levels are noted on the floor layout in Appendix A. Illumination ranges for each area are listed in the Table below:

Area	Reading in Foot-candles
Administrative Offices.	35 – 80
Classrooms	40 – 65
Supply Rooms.	25 – 50
Drill Hall.	20 – 60
Hallway.	30 – 50
Kitchen.	15 – 95

The Army Design Guide (DG415-2) minimum illumination level of 50 foot-candle for office area and 20 foot-candles for parts storage/supply. The American National Standard Institute (ANSI) recommends a minimum illumination level of 50 to 100 foot-candles for office work, 20 to 50 for general lighting. Luminance depends on various factors including the task to be performed, the age of the individual, and the surroundings. Luminance of 50 to 100 foot-candles is recommended for performance of visual tasks of medium contrast or small size such as reading pencil handwriting and poorly printed or reproduced material. Depending on the type of display, background luminance of 30 to 60 foot-candles is recommended for VDT work. Replacing light

bulbs with higher wattage will increase lighting levels. Replacing burnt out light bulbs and cleaning the light fixture should improve the lighting levels.

Heating Ventilating and Air Conditioning (HVAC) The Heating Ventilating and Air-Conditioning (HVAC) System for the Armory consisted of two forced air furnaces with cooling capabilities. The units have outside makeup air capabilities. No other complaints of indoor air quality issues were documented or communicated with the POC. However, water leak stains were observed in the drill hall as shown in Photo #12. The leak should be repaired and all water damaged building materials should be replaced or cleaned properly.

Recommendation:

1. Clean and decontaminate the firing range in accordance to NG PAM 385-15 specifications.

2. Repair water leaks and replace all water damaged building materials.

Technical Assistance: For technical assistance regarding information found in this report

Non-Responsive

APPENDIX A

GATESVILLE

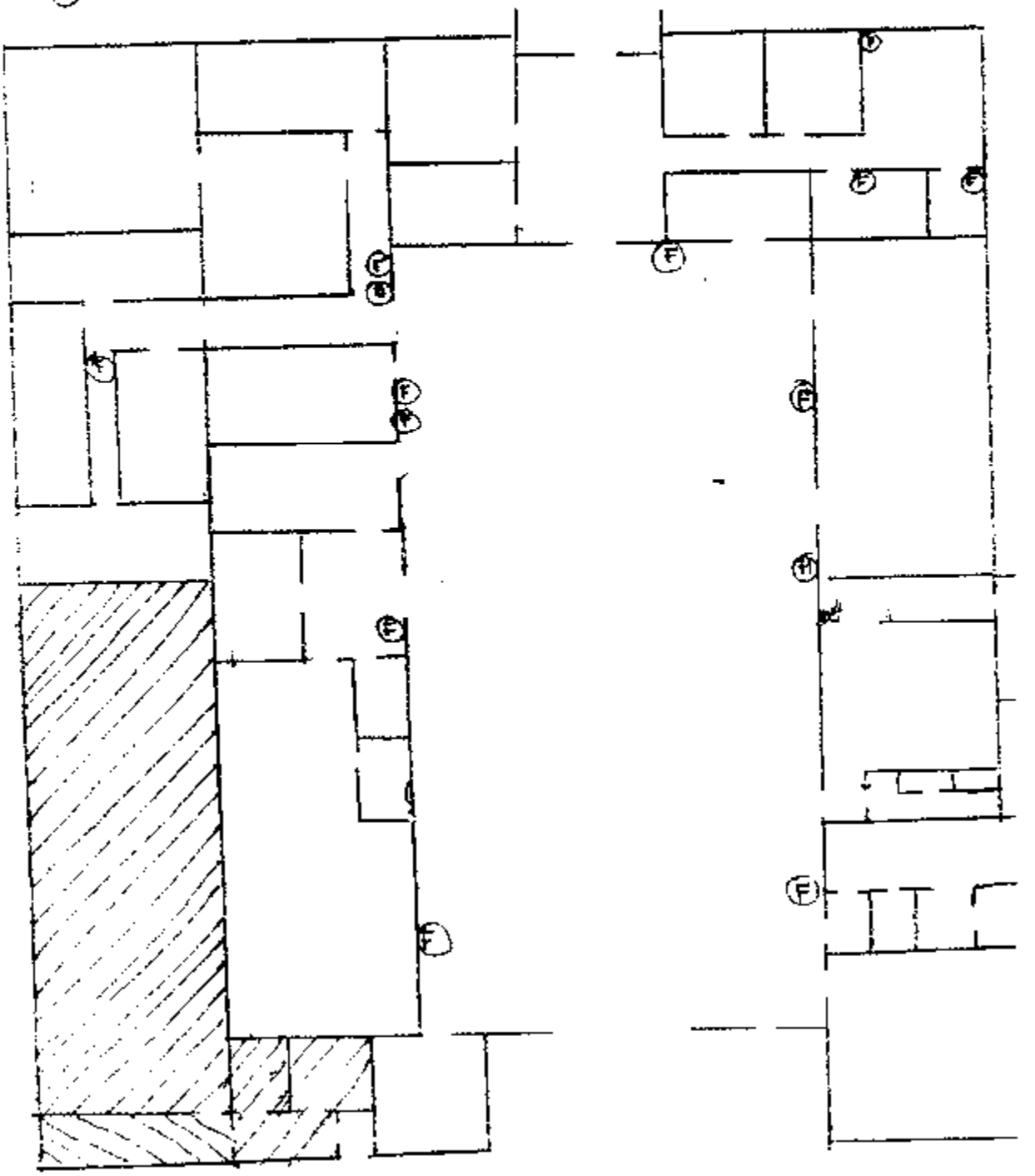
(F) = Fire extinguisher

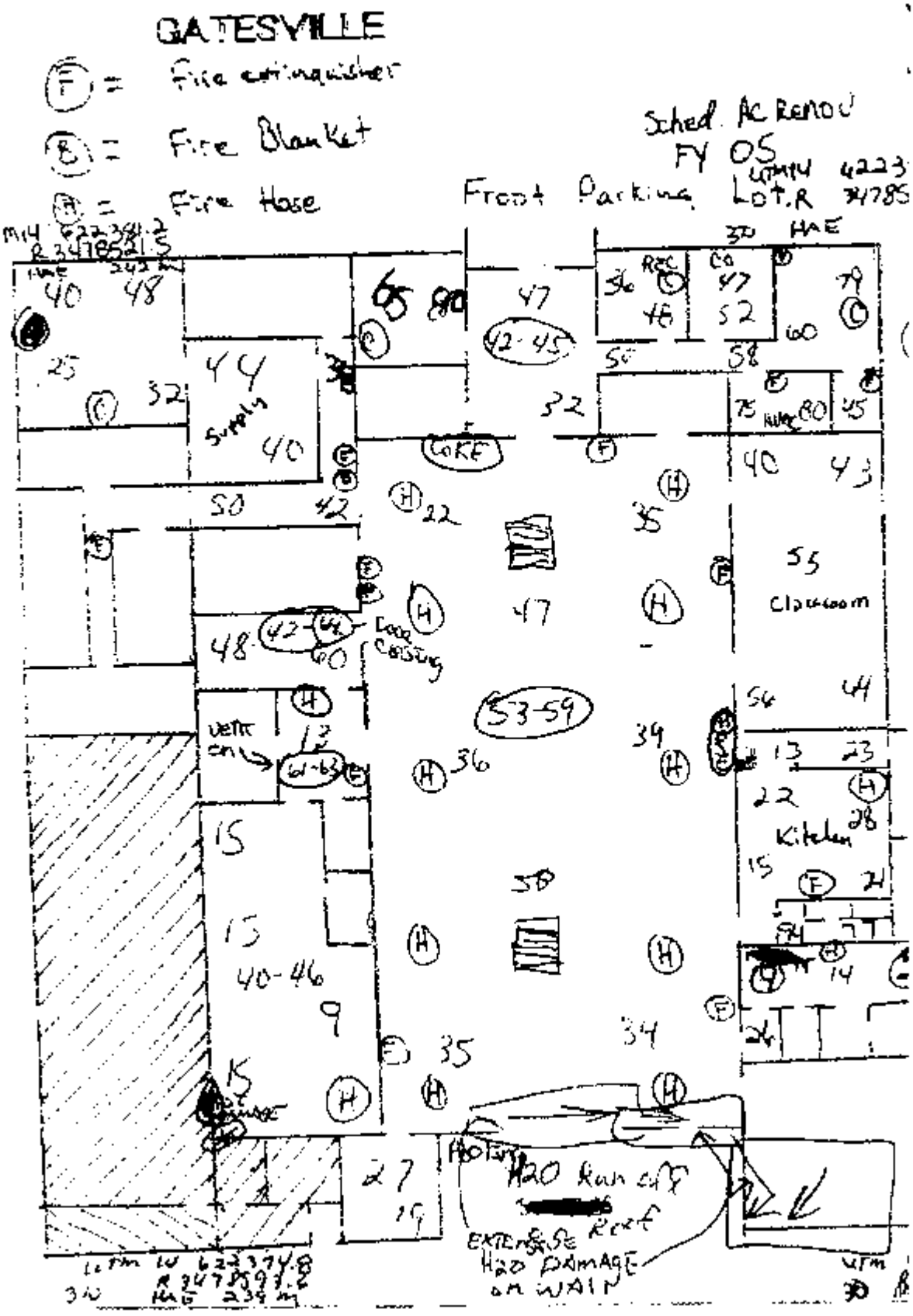
(B) = Fire Blanket

(H) = Fire Hose

N

Front Parking Lot





APPENDIX B

EMSL Analytical
3 Cooper St., Westmont, NJ 08108
Phone: (856) 858-4800 Fax: (856) 858-9551 Email: skauffman@emsl.com

EMSL

Attn: Non-Responsive
Fax:
Project:

Customer ID: TS80
Customer PO:
Received: 06/07/04 1:19 PM

EMSL Order: 200406800
EMSL Proj:

Lead in Wipes by Flame AAS (SW 846, 7420)

Client Sample Description		Lab ID	Analyzed	Area Sampled	Lead Concentration
GAT 01	Results for these wipe samples do not meet the EPA standards for sample matrix and are not recognized under the NLLAP accreditation program	0001	6/16/04	n/a	240.0 µg/wipe
GAT 02		0002	6/16/04	n/a	330.0 µg/wipe
GAT 03		0003	6/16/04	n/a	310.0 µg/wipe
GAT 04		0004	6/16/04	n/a	56.0 µg/wipe
GAT 05		0005	6/16/04	n/a	1500.0 µg/wipe
GAT 06		0006	6/16/04	n/a	1200.0 µg/wipe
GAT 07		0007	6/16/04	n/a	190.0 µg/wipe
GAT 08		0008	6/16/04	n/a	46.0 µg/wipe
GAT 09		0009	6/16/04	n/a	170.0 µg/wipe
GAT 10		0010	6/16/04	n/a	18000.0 µg/wipe
GAT 11		0011	6/16/04	n/a	14.0 µg/wipe
GAT 12		0012	6/16/04	n/a	310.0 µg/wipe
GAT 13		0013	6/16/04	n/a	27000.0 µg/wipe
GAT 14		0014	6/16/04	n/a	23000.0 µg/wipe
GAT 15		0015	6/16/04	n/a	19000.0 µg/wipe
GAT 16		0016	6/16/04	n/a	9800.0 µg/wipe
GAT 17		0017	6/16/04	n/a	11000.0 µg/wipe
GAT 18		0018	6/16/04	n/a	11000.0 µg/wipe
GAT 19		0019	6/16/04	n/a	15.0 µg/wipe
GAT 20		0020	6/16/04	n/a	11.0 µg/wipe
GAT 21		0021	6/16/04	n/a	10.0 µg/wipe

Non-Responsive

The QC data associated with the sample results included in this report meet the recovery and precision requirements [illegible] the comment section. The test results contained within this report meet the requirements of NELAC unless otherwise noted. This report relates only to those items tested, Unless otherwise noted, the results in this report have not been blank corrected.

ACCREDITATIONS: NJ-NELAP: 04653, AIHA Environmental Lead Laboratory Approval Program: 100194

Date Printed: 6/21/04 4:59:26 PM

EMSL Analytical
3 Cooper St., Westmont, NJ 08108
Phone: (856) 858-4800 Fax: (856) 858-9651 Email: akauffman@emsl.com

EMSL

Attn: Non-Responsive
Fax:
Project: Gatesville

Customer ID: TS80
Customer PO:
Received: 06/07/04 1:19 PM

EMSL Order: 200406800
EMSL Proj:

Lead in Wipes by Flame AAS (SW 846, 7420)

Client Sample Description	Lab ID	Analyzed	Area Sampled	Lead Concentration
GAT 22	0022	6/16/04	n/a	<10.0 µg/wipe
GAT 23	0023	6/16/04	n/a	<10.0 µg/wipe
GAT 24	0024	6/16/04	n/a	<10.0 µg/wipe
GAT 25	0025	6/16/04	n/a	<10.0 µg/wipe
GAT 26	0026	6/16/04	n/a	<10.0 µg/wipe
GAT 27	0027	6/16/04	n/a	<10.0 µg/wipe
GAT 28	0028	6/16/04	n/a	<10.0 µg/wipe
GAT 29	0029	6/16/04	n/a	23.0 µg/wipe

Non-Responsive

The QC data associated with the sample results included in this report meet the recovery and precision requirements established by the AIHA, unless specifically indicated otherwise in the comment section. The test results contained within this report meet the requirements of NELAC unless otherwise noted. This report relates only to those items tested. Unless otherwise noted, the results in this report have not been blank corrected.
ACCREDITATIONS: NJ-NELAP: 04853, AIHA Environmental Lead Laboratory Approval Program: 100194

Date Printed: 6/21/04 4:59:34 PM

EMSL Analytical, Inc.
107 Haddon Ave., Westmont, NJ 08108
Phone: (856) 858-4800 Fax: (856) 858-4960 Email: asiegel@EMSL.com

Attn: Non-Responsive
Fax:
Project:

Customer ID: TS80
Customer PO:
Received: 06/07/04 1:06 PM
EMSL Order: 040410196
EMSL Proj:
Analysis Date: 6/15/04

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Treatment	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
GAT A01 040410196-0001	GATESVILLE	Gray Non-Fibrous Heterogeneous	Dissolved		100% Non-fibrous (other)	None Detected
GAT A02 040410196-0002	GATESVILLE	Gray/White Fibrous Heterogeneous	Teased	40% Cellulose 40% Glass	20% Non-fibrous (other)	None Detected
GAT A03 040410196-0003	GATESVILLE	Brown Non-Fibrous Heterogeneous	Ashed		100% Non-fibrous (other)	None Detected

Non-Responsive

Non-Responsive

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected may require additional testing by TEM to confirm asbestos quantities. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. The test results contained within this report meet the requirements of NELAC unless otherwise noted.
Analysis performed by EMSL Westmont (NVLAP #101048-0, NY ELAP 10872

PLM1 THIS IS THE LAST PAGE OF THE REPORT 1

APPENDIX C

EMSL ANALYTICAL CHAIN OF CUSTODY LEAD

Date: ______ EMSL Representative: ______ Project Name/No.: ______ P.O.#: ______

Company Name: Tammer Sciences, Inc. EMSL-Bill to: Same as Mail to

Street: 3744 Lawrence Drive Street: ______

Box #: ______ Box #: ______

City/State: Naperville, IL Zip: 60564 City/State: ______ Zip: [redacted]

Phone Results to: (Name) [redacted] Telephone [redacted]

Fax Results to: (Name) ______ Fax #: [redacted]

MATRIX		METHOD	INSTRUMENT	RL (Reporting Limit)	TAT
Lead Chips*		SW846-7420, 3050B Mod. / AOAC (974.02)	Flame Atomic Absorption	0.01% **	
Lead Wastewater		SW846-7420	Flame Atomic Absorption	0.4 mg/l water 40 mg/kg (ppm) soil	
Lead Soil +		or SW846-6010B	ICP	0.1 mg/l water 10 mg/kg (ppm) soil	
Lead in Air***		NIOSH 7082 Mod.	Flame Atomic Absorption	4 ug/filter	
		or NIOSH 7300 Mod.	ICP	3.0 ug/filter	
Lead in Wipe* List Wipe Type	☑ ASTM	SW846-7420 / HUD Appendix 14.2 Digest.	Flame Atomic Absorption	10 ug/wipe	Regular
	☐ non ASTM	or SW846-6010B	ICP	3.0 ug/wipe	
TCLP Lead **		SW846-1311/ 7420	Flame Atomic Absorption	0.4 mg/l (ppm)	
		or SW846-6010B	ICP	0.1 mg/l (ppm)	
STLC Lead (California) +		CA Title 22 / SW846-7420	Flame Atomic Absorption	0.4 mg/l (ppm)	
		or SW846-6010B	ICP	0.1 mg/l (ppm)	
Lead in Air ****		NIOSH 7105 Mod.	Graphite Furnace Atomic Absorption	0.03 ug/filter	
Lead Wastewater		SW846-7421	Graphite Furnace Atomic Absorption	0.003 mg/l (ppm) water	
Lead Soil +				0.3 mg/kg (ppm) soil	
Lead in Drinking Water (check state Certification Requirements)		EPA 239.2 / 200.9	Graphite Furnace Atomic Absorption	0.003 mg/l (ppm)	
Total Dust		NIOSH 0500-0600	Gravimetric Reduction	0.0001g	

T/AT (Turnaround) - Same day, 24 hr - 1 Day, 2 Days, 3 Days, 4 Days, 5 Days, 6-10 Days

*, **, ***, ****, +, ++ # Please Refer to Price Quote

* If no box is checked, non-ASTM is assumed

SAMPLE #	LOCATION	Air volume, L Area, in²	LAB #
GAT01 — GAT29	GATESVILLE		06/04 1-29

Relinquished By: (Person) [redacted] Date: 6/5/04

Received at EMSL By: Date: 6/7/04

Received at EMSL By: Date: ______

Note: Please duplicate this form and use additional sheets if necessary.

The individual signing and relinquishing these samples to the laboratory attests to the accuracy of the information reported on this chain of custody.

Lead Chain Nov 2001 ... STLC.doc

EMSL Rep:

Third Party Billing requires written authorization from third party

Your Company Name: Tanner Sciences, Inc
Street: 3744 Lawrence Drive
Box #:
City/State: Naperville, IL Zip: 60564

EMSL-Bill to: Same as mail to
Street:
Box #:
City/State: Zip:

Phone Results to: [redacted]
Name:
Telephone #:
Project:
Name/Number:

Fax Results to: [redacted]
Name:
Fax #:
Purchase Order #:

MATRIX			TURNAROUND			
☐ Air	☐ Floor Tile	☐ Soil	☐ 3 hrs	☐ 6 Hours	☐ Same Day or 12 Hours*	☐ 24 Hours 1 day
☑ Bulk	☐ Drinking Water	☐ Dust	☐ 48 Hours 2 days	☐ 72 Hours 3 days	☐ 96 Hours 4 days	☐ 120 Hours 5 Days
☐ Wipe	☐ Wastewater	☐ Micro-Vac	☑ 144+ hours 6-10 Days			

TEM AIR, 3 hours, 6 hour , Please call ahead to schedule. There is a premium charge for 3 hour tat, please call 1-800-220-3675 for price prior to sending samples. You will be asked to sign and authorization form for this service. 12 hours (must arrive by 11:00 a.m Mon - Fri.), Please Refer to Price Quote

PCM - Air
- ☐ NIOSH 7400
- ☐ OSHA
- ☐ Other:

PLM - Bulk
- ☑ EPA 600/R-93/116
- ☐ EPA Point Count
- ☐ NY Stratified Point Count
- ☐ PLM NOB (Gravimetric) NY 198.1
- ☐ Other:

SEM Air or Bulk
- ☐ Qualitative
- ☐ Quantitative

TEM AIR
- ☐ AHERA
- ☐ NIOSH 7402
- ☐ EPA Level II

TEM BULK/misc
- ☐ Drop Mount (Qualitative)
- ☐ Chatfield
- ☐ TEM NOB (Gravimetric) NY 198.4

TEM WATER
- ☐ Wastewater
- ☐ Drinking Water EPA 100.1
- ☐ Water NY Wastewater
- ☐ Water NY Drinking Water

TEM MICROVAC / WIPE
- ☐ ASTM D 5755-95 Qualitative Method

XRD
- ☐ Asbestos
- ☐ Silica

OTHER
- ☐

SAMPLE NUMBER	LOCATION	VOLUME (If Applicable)
	GATESVILLE	

Client Sample # (s): GAT A01 - GAT A03 Total Samples #: 3

Relinquished: SAMPLES [redacted] Time: AM

Received: FOR ANAL [redacted] Time:

EMSL ANA [redacted]

1

APPENDIX D

Photo #1: Armory front entrance

Photo #2: West side of the armo

Photo #3: north east side of the armory

Photo #4: North west side of the armory

Photo #5: Drill hall facing north.

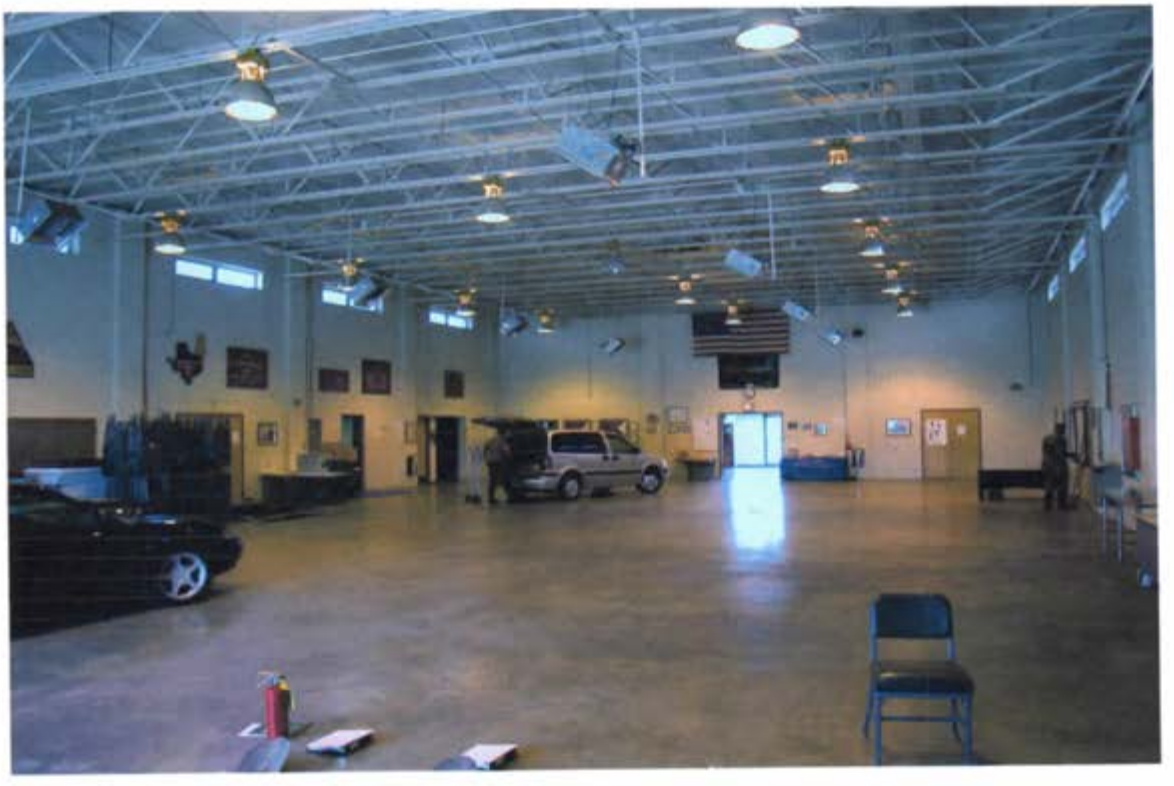


Photo #6: Drill hall facing south.

Photo #7: Indoor firing range facing the bullet trap.

Photo #8: Indoor firing range facing the firing line.

Photo #9: The armory's kitchen showing the serving line.

Photo#10: Armory's classroom.

Photo #11: Mechanical room.

Photo #12: Water damage in the drill ha..

DEPARTMENT OF THE ARMY AND THE AIR FORCE
NATIONAL GUARD BUREAU
REGIONAL INDUSTRIAL HYGIENE OFFICE
AIRPORT PLAZA SUITE 1530
510 PLAZA DRIVE
COLLEGE PARK, GA 30349

ARNG-CSG

March 23, 2015

MEMORANDUM Adjutant General TX ARNG, ATTN: Non-Responsive Facility Supervisor, TX ARNG Grand Prairie Armory, 1013 Lakecrest Drive, Grand Prairie , TX 7508.

SUBJECT: Transmittal of Industrial Hygiene Survey Report of TXARNG Grand Prairie Armory,Grand Prairie, Texas

1. References.

a. OSHA Standards 29 CFR (Code of Federal Regulations), General Industry, revised 1996 rev.

b. Department of Defense Instruction 6055.1, Department of Defense Occupational Safety and Health (OSH) Program, 19 August 1998.

c. Title 29, Code of Federal Regulations (CFR), 2009 rev., part 1910, Occupational Safety and Health Standards.

d. Title 29 CFR, General Industry, revised 1996 rev. Part 1940

e. Army Regulation (AR) 40-5, Medical Service, Preventive Medicine, 25 May 2007

f. AR 385-10, the Army Safety Program, 23 August 2007.

g. AR 11-34, 15 February 1990, the Army Respiratory Protection Program.

h. National Guard Regulation (NGR) 385-10, Army National Guard Safety and Occupational Health Program, 12 September 2008.

i. TB MED 503, the Army Industrial Hygiene Program, 30 October 2000.

j. Threshold Limit Values and Biological Exposure Indices (TLV's) for 2009 American Conference of Governmental Industrial Hygienists (ACGIH), Cincinnati, Ohio.

k. Industrial Ventilation, 26th rd Edition, American Conference of Governmental Industrial Hygienist, Cincinnati, Ohio.

l. USAEHA TG-141, November 1997, Guidelines for Air Sampling and Bulk sample Collection.

2. General. At the request the Safety & Occupational Health Office an Industrial Hygiene Service was put together to conduct an IH Survey of the TX ARNG Grand Prairie Armory,Grand Prairie, Texas

3. Findings. All sampling data and field survey forms, industrial hygiene sampling and survey findings of the report are enclosed (See ENCL 1). Operations of very short duration were not

sampled due to the requirements of the sampling method. If the operation changes or if the length of the operation is increased, contact this office to schedule sampling if it is deemed needed then.

4. Recommendations.

a. Follow all recommendations made in the report enclosed, requesting industrial hygiene (IH) services where needed to complete the recommendations

b. Data sheets and data collected will serve as an update of the baseline for the Industrial Hygiene Master Plan (IHMP) for FY2015. A follow up operation and hazard specific air sampling survey based on the enclosed findings will be included in the FY2016 IHMP.

c. Use the report to help in correcting all deficiencies noted.

d. Consider additional Industrial Hygiene services to monitor operations that were not looked at or surveyed during the present visits, especially if this will help eliminate health hazards and reduce medical surveillance cost.

e. Contact the State Occupational Health Office, for any medical Surveillance that may be needed.

f. To execute your responsibilities in correcting all deficiencies, coordinate with the Occupational Health Nurse and the Occupational Safety and Health Office for technical guidance.

5. The present report addressed to the local facility commanders was divided in such a way that personal data can be detached and kept by the OHM or blocked when forwarding these reports to other entities within the appropriate offices of TX ARNG. If additional information

Non-Responsive

Non-Responsive

Non-Responsive

CF: ARNG
State Occupational Health Office, 3500 West 35th Street, Building 86, Austin, TX 78763.
Deputy State Army Surgeon, MAJ Laura J Stephens, JFTX-ARM-SS, 3500 West 35th Street, Building 10, Austin, TX 78763-5218.
State Safety Manager, P. O. BOX 5218, Austin, TX 78763-5218.
ENCL.
as

Industrial Hygiene Survey
1 July, 2014
Texas Army National Guard
Grand Prairie Armory
1013 Lakecrest Dr.
Grand Prairie, TX. 72701

Prepared For:
Dept of the Army and Air Force
National Guard Bureau
Regional Industrial Hygiene Office
Region South
510 Plaza Drive, Suite 1530
College Park, Georgia 30349
By

Non-Responsive

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Appendix A – Laboratory Results of Lead Wipe Tests

Appendix B - Drawings of Sampled Areas

Appendix C – Photographs of Areas Sampled for Lead in dust

Appendix D – Drawings of Facility

Appendix E -- Photographs of Facility

Appendix F – HHIM Forms

Appendix G – Personnel Roster

EXECUTIVE SUMMARY:

An Industrial Hygiene Survey was conducted at the National Guard armory in Grand Prairie, Texas on 1 July, 2014, as part of the Texas Army National Guard Occupational Health Program. The survey consisted of conducting lead wipe sampling from the weapons vault and general areas of the facility, illumination survey, noise evaluation, review of the MSDS inventory, interviews with personnel assigned to this facility on a daily basis, and a walkthrough of the building to evaluate potential health hazards that may be present.

TOPIC	SUMMARY OF FINDINGS	RECOMMENDATIONS
Sampling for Lead	Lead in Dust was detected in all areas sampled. Several samples exceeded the allowable limits. See Table 1 and Appendix B	Recommend to clean the weapons racks and floors in these areas, per NG PAM 420-15. See Recommendations.
MSDS Inventories	The MSDS inventories for all units were stored in a POL Conex outside. The inventories did not appear to be clearly documented and organized.	Recommend to audit all MSDS inventories, reorganize products, and update documentation. See Recommendations.

MEMORANDUM FOR: Non-Responsive Executive Officer, HHC (-) 2nd 149th AVN, TX ARNG, 1013 Lakecrest Dr., Grand Prairie, TX 75051

SUBJECT: Industrial Hygiene Survey for the Grand Prairie TX Armory

INTRODUCTION

At the request of the National Guard Bureau South Region Industrial Hygiene Office, an Industrial Hygiene Survey was performed by Non-Responsive at the Grand Prairie, TX armory on 1 July, 2014. The purpose of this survey was to perform a health hazards assessment. The POC for this survey was Non-Responsive

The armory was reportedly built in 1973, and renovated in 1993. It houses office areas, classrooms, conference rooms, meeting areas, latrines, fitness room, supply rooms, weapons vaults, kitchen, drill hall, and an IFR. The POC stated that the IFR had been locked for years. The state kept the key and would not allow access. Outside there is a Motor Pool area, several Conexes, and a large metal container for the Hazardous/Flammable chemicals and POL. Due to the presence of an FMS shop on the compound, there is no vehicle maintenance performed at this facility. Personnel reported that this armory is due to be remodeled in 2015. There is a landing area for helicopters nearby.

There are seven NG units are assigned to this armory. They are the HHC 2/149 Aviation, B Co 2/149 Aviation, D Co 2/149, E Co 2/149, B Co 449 ASB Medical Cmd, and C Co 949. Twenty full-time military troops work at the facility daily. Between all of the units, there are a total of 645 M-day troops assigned to this facility.

METHODOLOGY

The following instruments and testing methods were used during this survey:

- Extech Foot Candle / Lux Meter, model 407026.
  - Illumination readings were taken from all work areas, approximately four feet from the floor, and compared to IES (Illuminating Engineering Society) and ANSI RP7-1991 recommendations.
- Quest Sound Level Meter (SLM), model 2200.
  - SLM was set to Slow on the A-scale. Range setting was 60-120dba.
- Ghost Wipes (To test for the presence of Lead in dust)
  - Unscented "baby wipes" were used to sample one square foot areas in the weapons vaults and supply rooms, and maintenance bays. The samples were sealed, and sent to an AIHA accredited laboratory for analysis.
- The survey of the facility included photographs of the building and areas of interest, a walkthrough of the facility, and informal discussions with the POC and/or other staff.

SURVEY FINDINGS

BUILDING CONDITION

The building is reported as structurally sound, with no roof leaks or chronic issues. The roof was said to be new. It was also reported that the armory was surveyed for asbestos in 2013. The POC noted that a unit with over 200 soldiers had been in their facility for the past 30 days, and they had just left. They had not had a chance to return the armory to its normal state of order and cleanliness at the time of the survey. There were no mold issues reported or observed during the survey, and no visible signs of moisture damage to ceiling tiles, walls, or floors. There were no reports of standing water around the building foundation, and none observed. Monthly drills are held in the drill hall. It was stated that no civic activities are held in the drill hall. The kitchen is used approximately once per month. Lighting and ventilation was good overall. The facilities group is located just behind the armory motor pool, and it was said that they do a good job maintaining the facility. The latrines were in good condition, with no mold or mildew present. Conference rooms were neat and clean. One of the stoves appeared to have a lot of age, but the other areas were relatively clean. The hood was turned on and verified to be working.

MOTOR POOL

There is a motor pool area in the back of the facility. The FMS shop is across the street, so there is no vehicle maintenance performed in the armory. Reportedly, no vehicles are kept running for any length of time in the drill hall.

PERSONNEL

Twenty military troops work at the facility daily. Through interviews with the Readiness Officer, there were no reports of excessive noise, eye strain, muscle strain, repetitive motion issues, back strain, or ergonomic issues. Most employees work a 10-hour day. It was also reported that there are no concerns with water or air quality, and that employees are generally in good spirits, with no chronic sicknesses or other health issues affecting the staff as a group. There is no forklift used in the drill hall.

MSDS

It was reported that full time troops perform mandatory environmental training annually. A Compliance Environmental Tool Kit is on hand, with forms and SOPs related to spills, hazardous waste, etc. Spill Prevention Control and Countermeasures planned training, and Hazardous Waste and Hazardous Material Management and Sustainability training are required annually. Hazardous chemicals are stored outside in a Conex purposed for POL. Inside there are three yellow metal cabinets for hazardous chemicals, one for C Co, D Co, and E Co. A printed MSDS inventory is affixed to the outside of each cabinet and in MSDS binders kept in the Conex. The supply sergeant for each unit is required to maintain their MSDS inventory. The inventories were reviewed while on site. The

inventories did not appear to be clearly documented and organized. See the Recommendations section of this report for details.

LEAD WIPE SURVEY

It was reported that weapons are cleaned in various areas of the armory. Samples for lead in dust were taken from three weapons vaults, three supply rooms, the IFR, and the S4/149 office. All areas sampled tested positive for lead in dust. All supply rooms had samples that exceeded the recommended limits for lead in dust. The S4/149 office also exceeded the limits for lead in dust. See Table 1 and Appendix B for sampling results.

The National Guard Bureau recommends a limit of 200 micrograms of lead in dust per square foot for work areas that require abatement. Weapons vaults are areas where this applies. These rooms should not present lead in dust contamination since weapons should be cleaned before returning them to their racks. The HHC vault had three of four samples above 200 micrograms per square foot.

The EPA standard for lead in dust per square foot (40 CFR 745) specifies limits of 40 micrograms of lead in dust in areas where children, pregnant women or people of child-bearing age occupy the area. This standard is applicable to the supply rooms and the S4/149 office. The areas that were above the EPA standard of 40 micrograms per square foot were the supply rooms for D Co, E Co, and HHC. The S4 office also exceeded the limit. See Table 1 and Appendix B. It is recommended to use the wet cleaning method described in NG PAM 420-15 to clean these areas. See the References and Recommendations sections below.

Late in the afternoon the supply sergeant for the third supply room returned unexpectedly and made the supply room and vault available for lead wipe testing. The state environmental representative also showed up late in the afternoon and opened up the IFR so it could be sampled for lead.

IFR

It was reported that the IFR at this armory had been active at one time, but had not been remediated for lead. It was also stated that the state IH office locked the IFR and retained the key after the last sampling for lead in dust came back positive. Late in the afternoon the state IH technician opened the IFR so sampling could be conducted. Lead wipe samples were taken throughout this room, and all of them tested positive for lead in dust. Reportedly, the IFR and the rest of the armory will be remodeled in 2015. See Table 1 for sampling results.

ILLUMINATION SURVEY

Light readings were measured throughout the facility. The state facilities group located just behind the armory maintains the lighting. Results of the survey showed light measurements meeting or exceeding IES (Illuminating Engineering Society) and ANSI RP7-1991 guidelines throughout most areas of the facility occupied by NG personnel. Refer to Table 2 for survey results and areas that need attention.

DRILL HALL

The drill hall is used for monthly drills. Reportedly, it is not used for any civic activities during the year. The drill hall appeared to be clean, and light levels were in accordance with IES guidelines. Personnel reported that no vehicle maintenance is performed in the drill hall, and that vehicles are not left running in the drill hall for any length of time.

SUPPLY ROOMS

There is a supply room and weapons vault for three of the units in this facility. The supply room owners are as follows: Non-Responsive (HHC), Non-Responsive Co). Each of them had sufficient lighting. The supply sergeants reported no flammable or hazardous materials in the cages or cabinets in these areas. Lead in dust sampling was positive in all supply rooms, and exceeded the recommended limits for lead in dust. See Table 1 and Appendix B.

NOISE

Even though there is a helicopter landing area nearby, noise from the helicopters is reported not to be an issue. A sample of a helicopter taking off was taken from outside the rear of the drill hall, and measured 72dba at its loudest volume level. This is well within tolerances. If personnel need to go near the helicopters they wear PPE. The kitchen hood fans were sampled and registered 79dba. The refrigeration room in the kitchen measured 71dba. Personnel did not report any loud, persistent noises that caused them concern.

HVAC SYSTEM

The state facilities group handles the maintenance of the HVAC system, including changing the monthly filters. Personnel reported no issues with the HVAC system.

Nat Guard armory
Grand Prairie, TX

1 July, 2014

TABLE 1 (LEAD WIPE TEST RESULTS)

SAMPLE LOCATION	Surveyor's Field No	RESULT µg/ft²
SFC Dicken Office 149 BN	JPR412	177
Weapons Vault D-Co 2/149 AVN	JPR413	BRL
Weapons Vault D-Co 2/149 AVN	JPR414	30
Weapons Vault D-Co 2/149 AVN	JPR415	BRL
Weapons Vault D-Co 2/149 AVN	JPR416	59
Weapons Vault D-Co 2/149 AVN Blank	JPR417	BRL
Supply Rm, D-Co 2/149 AVN	JPR418	159
Supply Rm, D-Co 2/149 AVN	JPR419	BRL
Supply Rm, D-Co 2/149 AVN	JPR420	BRL
Weapons Vault HHC	JPR421	99
Weapons Vault HHC	JPR422	384
Weapons Vault HHC	JPR423	344
Weapons Vault HHC	JPR424	968
Weapons Vault HHC Blank	JPR425	BRL
Supply Rm HHC	JPR426	40
Supply Rm HHC	JPR427	118
Supply Rm HHC	JPR428	67
Supply Rm HHC	JPR429	27
Weapons Vault E Co	JPR430	106
Weapons Vault E Co	JPR431	BRL
Weapons Vault E Co	JPR432	BRL
Weapons Vault E Co	JPR433	69
Weapons Vault E Co Blank	JPR434	BRL
Supply Rm E Co	JPR435	85
Supply Rm E Co	JPR436	34
Supply Rm E Co	JPR437	BRL
IFR	JPR438	32
IFR	JPR439	67
IFR	JPR440	31
IFR	JPR441	27
IFR	JPR442	72
IFR	JPR443	32
IFR	JPR444	76
IFR	JPR445	28
IFR	JPR446	35
IFR	JPR447	BRL

Note 1:µg/ft² refers to micrograms or one millionth of a gram per sq ft.

Note 2: BRL means Not Detected at the Reporting Limit.

TABLE 2 (ILLUMINATION TEST RESULTS)

Location	Light Reading (foot candles)	IES Recommendations (foot candles)
* Drill Hall Male Latrine	8 Avg	20-50
Drill Hall Female Latrine	20 Avg	20-50
Locker Room	30 Avg	10-20
Male Latrine off main lobby	20 Avg	20-50
*Female Latrine off main lobby	5 Avg	20-50
Main Foyer	45 Avg	10-20
Hallway near classroom 172 and 180	30 Avg	10-20
Hallway off Non-Responsive ffice	10 Avg	10-20
Conf Rm 118	40 Avg	30-70
*Gym	10 Avg	20-30
Room 173 Classroom	45 Avg	20-100
E Co Office	30 Avg	50-100
E Co Vault	30 Avg	20-50
E Co Supply Rm	20 Avg	20-50
Medical / Admin /Training offices and Orderly Room area	40 Avg	20-50
*Room 115 office area (one bad ballast)	20 Avg	50-100
Offices nea Non-Responsive office	50+ Avg	50-100
*HHC Supply Room (may have bad ballast)	10 Avg	20-50
HHC Supply Room Office	60 Avg	50-100
HHC Office area	80 Avg	50-100
D Co Weapons Vault	45 Avg	20-50
D Co Supply Room	22 Avg	20-50
Drill Hall	30 Avg	10-20
Janitorial Closet Rm 175	25 Avg	10-20
Classroom	70 Avg	20-100
*D Co 2/149 Readiness Office	30 Avg	50-100
*D Co Supply Rm Office	35 Avg	50-100
Kitchen	80 Avg	50-100
*Water Heater Closet	6 Avg	10-20

*Deficient Areas. Please note comments describing faults.

RECOMMENDATIONS

- Use the report to help in correcting all deficiencies noted.
- Evidence of Lead in Dust was detected in all areas sampled and exceeded recommended limits in the three supply rooms tested and the HHC vault. Recommend to clean the floors and gun racks in all armory supply rooms, weapons vaults, drill hall, and the S4/149 office using the wet method described in NG PAM 420-15, Guidelines and Procedures for Rehabilitation and Conversion of Indoor Firing Ranges. (RAC 2)
- Ensure that weapon maintenance and cleaning is performed away from the drill hall or other common areas. Practice good personal hygiene by washing hands after handling weapons and ammunition, and cleaning tables or floors where weapons have been placed. (RAC3)
- Recommend to audit all MSDS inventories and reorganize products. Ensure that all MSDS inventories are kept updated and stored in appropriate locations. Establish an inventory roll up sheet to manage the chemical inventory, and update the MSDS when new materials arrive and old ones are replaced. Ensure that troops have knowledge of the location of the MSDS books, and are enrolled in annual Hazard Communication training. (RAC2)
- Replace the light fixture bulbs and/or ballasts in areas with illumination levels below IES recommendations. (RAC3)

REFERENCES

- Guide to Occupational Exposure 2000, American Conference of Governmental Industrial Hygienists (ACGIH), Cincinnati, Ohio.
- American National Standards Institute (ANSI). /Illuminating Engineering Society (IES), Industrial Lighting 1991.
- Title 29, Code of Federal Regulations (CFR). 1999, revision, Part 1910. Occupational Safety and Health Standards
- AR 40-5, Preventative Medicine, 15 October 1990.
- AR 385-10, The Army Safety Program, 23 May 1988.
- NG PAM 420-15 , Guidelines and Procedures for Rehabilitation and Conversion of Indoor Firing Ranges
- AR 385-16, National Guard Pamphlet, Safety Guidelines for Converting Indoor Firing Ranges to Other uses.
- TB MED 503, The Army Industrial Hygiene Program, February 1985.
- Department of the Army Pamphlet (DA PAM) 40-501, 27 August 1991, Hearing Conservation.
- Title 29 CFR, Part 1910. 1200, The Hazard Communication Standard.
- DG 415-1, Design Guide for Armories

Non-Responsive

APPENDIX A
Lab Test Results

Analytical Environmental Services, Inc

Date: 24-Sep-14

Lab Order:	1409G52
Client:	Pinnacle IH
Project:	Grand Prairie, TX Armory
Matrix:	Wipe
Date Received:	9/17/2014 3:30:00 PM

LEAD ON WIPES (N7082)
N7082

Laboratory ID	Client Sample ID	Result	Units	Reporting Limit	DF	Qual	Date Collected	Date Analyzed	Analyst
1409G52-006A	/PR412-SFC DICKEN OFFICE	177	ug/ft2	20	1		07/01/2014	09/22/2014	JS
1409G52-007A	/PR413-VAULT-D CO	BRL	ug/ft2	20	1		07/01/2014	09/22/2014	JS
1409G52-008A	/PR414-VAULT-D CO	30	ug/ft2	20	1		07/01/2014	09/22/2014	JS
1409G52-009A	/PR415-VAULT-D CO	BRL	ug/ft2	20	1		07/01/2014	09/22/2014	JS
1409G52-010A	/PR416-VAULT-D CO	59	ug/ft2	20	1		07/01/2014	09/22/2014	JS
1409G52-011A	/PR417-VAULT-D CO-BLANK	BRL	ug/ft2	20	1		07/01/2014	09/22/2014	JS
1409G52-012A	/PR418-SUPPLY RM-D CO	159	ug/ft2	20	1		07/01/2014	09/22/2014	JS
1409G52-013A	/PR419-SUPPLY RM-D CO	BRL	ug/ft2	20	1		07/01/2014	09/22/2014	JS
1409G52-014A	/PR420-SUPPLY RM-D CO	BRL	ug/ft2	20	1		07/01/2014	09/22/2014	JS
1409G52-015A	/PR421-VAULT HHC	99	ug/ft2	20	1		07/01/2014	09/22/2014	JS
1409G52-016A	/PR422-VAULT HHC	384	ug/ft2	20	1		07/01/2014	09/22/2014	JS
1409G52-017A	/PR423-VAULT HHC	344	ug/ft2	20	1		07/01/2014	09/22/2014	JS
1409G52-018A	/PR424-VAULT HHC	968	ug/ft2	20	1		07/01/2014	09/22/2014	JS
1409G52-019A	/PR425-VAULT HHC-BLANK	BRL	ug/ft2	20	1		07/01/2014	09/22/2014	JS
1409G52-020A	/PR426-SUPPLY RM HHC	40	ug/ft2	20	1		07/01/2014	09/22/2014	JS
1409G52-021A	/PR427-SUPPLY RM HHC	118	ug/ft2	20	1		07/01/2014	09/22/2014	JS
1409G52-022A	/PR428-SUPPLY RM HHC	67	ug/ft2	20	1		07/01/2014	09/22/2014	JS
1409G52-023A	/PR429-SUPPLY RM HHC	27	ug/ft2	20	1		07/01/2014	09/22/2014	JS
1409G52-024A	/PR430-VAULT E CO	106	ug/ft2	20	1		07/01/2014	09/22/2014	JS
1409G52-025A	/PR431-VAULT E CO	BRL	ug/ft2	20	1		07/01/2014	09/22/2014	JS
1409G52-026A	/PR432-VAULT E CO	BRL	ug/ft2	20	1		07/01/2014	09/22/2014	JS
1409G52-027A	/PR433-VAULT E CO	69	ug/ft2	20	1		07/01/2014	09/22/2014	JS
1409G52-028A	/PR434-VAULT E CO BLANK	BRL	ug/ft2	20	1		07/01/2014	09/22/2014	JS
1409G52-029A	/PR435-SUPPLY RM E CO	85	ug/ft2	20	1		07/01/2014	09/22/2014	JS
1409G52-030A	/PR436-SUPPLY RM E CO	34	ug/ft2	20	1		07/01/2014	09/22/2014	JS
1409G52-031A	/PR437-SUPPLY RM E CO	BRL	ug/ft2	20	1		07/01/2014	09/22/2014	JS
1409G52-032A	/PR438-IFR	32	ug/ft2	20	1		07/01/2014	09/22/2014	JS
1409G52-033A	/PR439-IFR	67	ug/ft2	20	1		07/01/2014	09/22/2014	JS
1409G52-034A	/PR440-IFR	31	ug/ft2	20	1		07/01/2014	09/22/2014	JS
1409G52-035A	/PR441-IFR	27	ug/ft2	20	1		07/01/2014	09/22/2014	JS
1409G52-036A	/PR442-IFR	72	ug/ft2	20	1		07/01/2014	09/22/2014	JS
1409G52-037A	/PR443-IFR	32	ug/ft2	20	1		07/01/2014	09/22/2014	JS
1409G52-038A	/PR444-IFR	76	ug/ft2	20	1		07/01/2014	09/22/2014	JS
1409G52-039A	/PR445-IFR	28	ug/ft2	20	1		07/01/2014	09/22/2014	JS
1409G52-040A	/PR446-IFR	39	ug/ft2	20	1		07/01/2014	09/22/2014	JS
1409G52-041A	/PR447-IFR BLANK	BRL	ug/ft2	20	1		07/01/2014	09/22/2014	JS

Qual/Flag: BRL - Not Detected at the Reporting Limit; DF - Dilution Factor
R - Analyte detected in the associated Method Blank

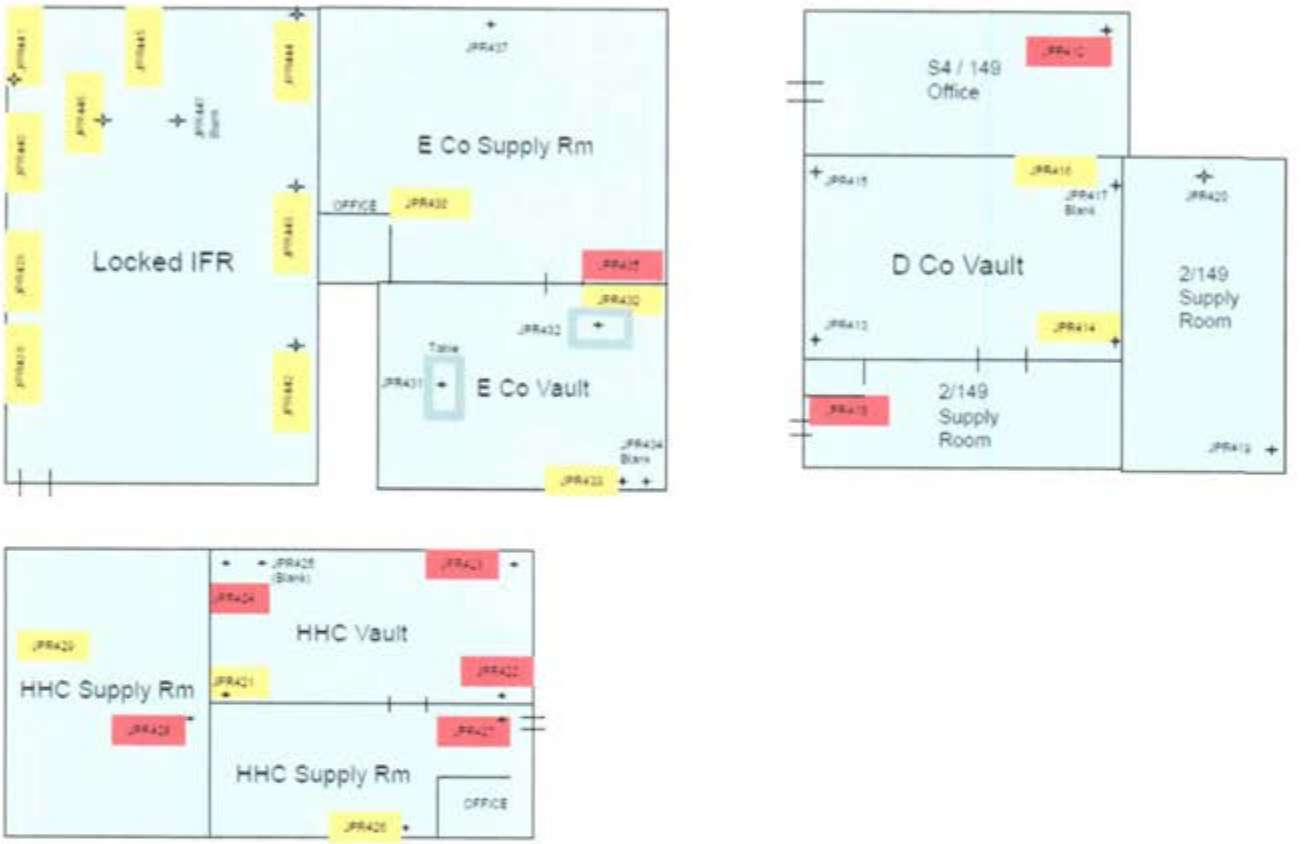
APPENDIX B

Drawing of Sampled Areas.

Yellow indicates lead present

Red indicates above recommended limits.

Grand Prairie, TX armory



APPENDIX C
Photographs of Areas Sampled for Lead in Dust

JPR414 D Co Vault

JPR413 D Co Vault

JPR418 2/149 Supply Room

JPR420 2/149 Supply Room

JPR412 S4/149 Office

JPR427 HHC Supply Rm

JPR430 E Co Vault

JPR431 E Co Vault

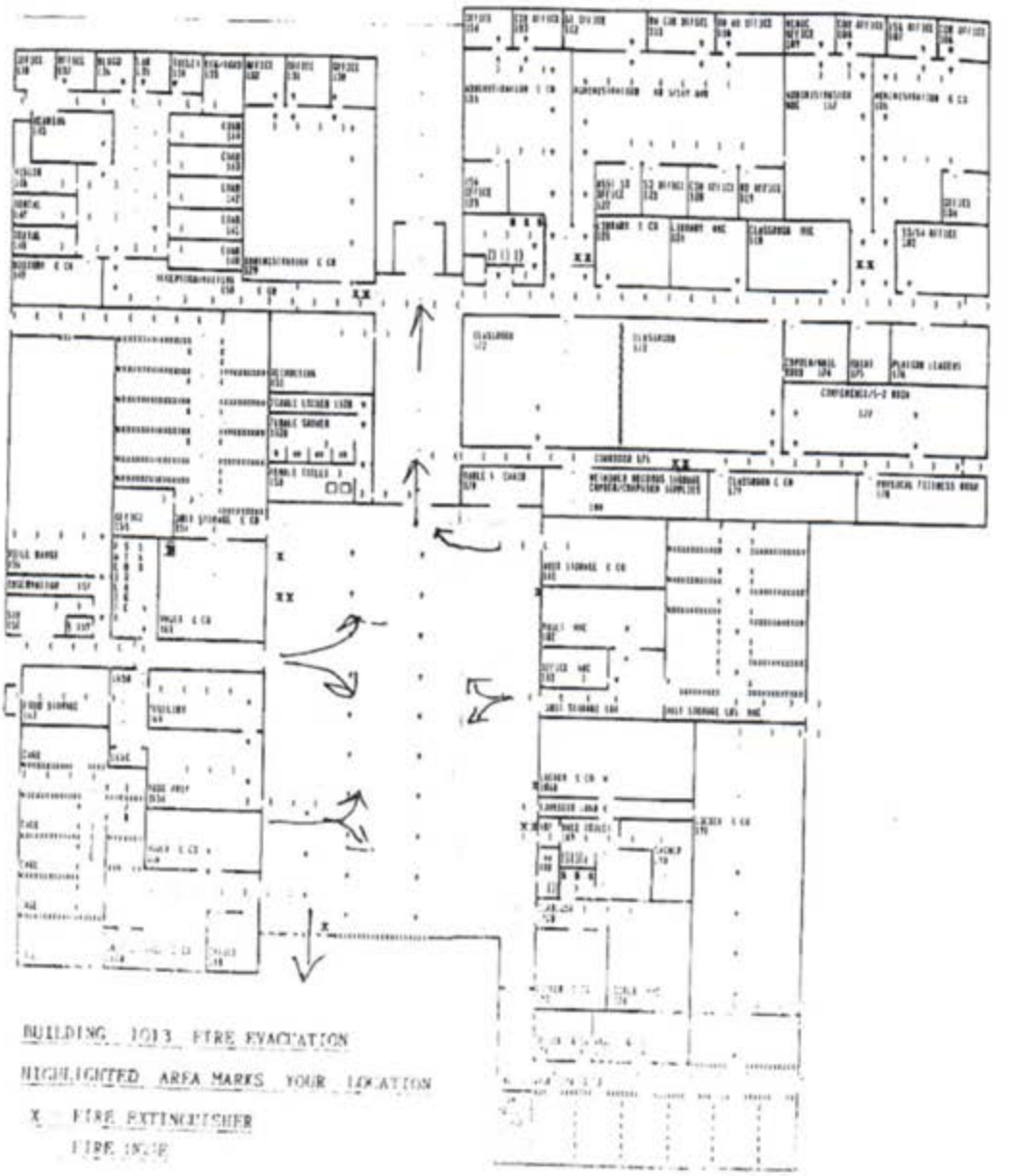
JPR435 E Co Supply Rm

JPR436 E Co Supply Rm

JPR440 IFR

JPR441 IFR

APPENDIX D
DRAWING OF FACILITY



APPENDIX E
PHOTOS OF FACILITY

Bldg Front

Motor Pool

Safety Supplies

Kitchen

Drill Hall

Storage

E Co Supply Rm

D Co Supply Rm

POL

HHC Supply Rm

E Co Vault

Co C 949 BSB Medical

APPENDIX F
HHIM Forms

HEALTH HAZARD INFORMATION MODULE FIELD SURVEY
*SEE PRIVACY ACT STATEMENT ON REVERSE.
(For use of this form, see HHIM User's Instructions.)

SECTION 1. DEMOGRAPHIC DATA

Grand Prairie, TX

a. APLOC 48000 b. INSTALLATION Armory c. BLDG/RM NUMBER 0001, N/A
d. LOCATION/CODE Admin, AA e. OPERATION/CODE Admin, AND f. DESCRIPTION
General Admin duties such as computer work, phone calls, paperwork, filing, occasional heavy lifting.
g. MACOM/CODE Nat Guard, ARNG h. UIC/CODE Other: XX i. SUPERVISOR Non-Responsive
j. TELEPHONE/AUTOVON NUMBER Non-Responsive k. RAC ____ l. FREQUENCY (Hrs Per Day) 10
m. NO CIV(S) 0 n. NO MIL 20 o. NO CONTRACTOR(S) 2 p. NO LOC(S) 1 q. NO OTHER 0

SECTION 2. IH STAFFING DATA

a. LAB HOODS ____ b. VAPOR DEGREASERS ____ c. MAINTENANCE BAYS ____ d. SPRAY BOOTHS ____
e. OPEN SURFACE TANKS ____ f. VENTILATION UNITS ____

SECTION 3. SURVEY DATA

a. SURVEY DATE 1 July 2014 b. EVALUATOR (INITIALS) Non-Responsive

c. CONTROLS PRESENT	d. EVALUATION	e. UNIT CODE	f. CONTROLS REQUIRED	g. STATUS
Lighting Office	+50 Avg	FC	50-100	Adequate
Lighting Storage	+20 Avg	FC	20-50	Adequate
Lighting Hallway	+10 Avg	FC	10-20	Adequate

h. PERSONAL PROTECTIVE EQUIPMENT (R=REQUIRED; A=AVAILABLE)

1. RESPIRATOR	MANUFACTURER	NIOSH TC NO	R/A
DISPOSABLE			/
½ FACE AIR PURIFYING			/
½ FACE AIR PURIFYING			/
FULL FACE AIR PURIFYING			/
POWERED AIR PURIFYING			/
AIRLINE			/
SELF-CONTAINED			/
ABRASIVE BLASTING HOOD			/

2. GLOVES	R/A	3. EYES/FACE	R/A	4. HEARING	R/A	5. BODY	R/A	6. HEAD/FOOT	R/A
ACID	/	CHEMICAL/SPLASH	/	MUFFS	/	APRONS	/	HARD HATS	/
OIL	/	SAFETY/IMPACT	/	EARPLUGS	/	COVERALLS	/	IMPERMEABLE BOOTS	/
SOLVENTS	/	CHEMICAL/SAFETY	/	CANAL CAPS	/	FULL BODY SUIT	/	SAFETY CONDUCT SHOES	/
HOT SURFACES	/	FULL FACE SHIELD	/	HELMETS	/	SAFETY BELT/ HARNESS	/	SAFETY/NONCONDUCTIVE SHOES	/
COLD SURFACES	/	WELDING HELMET	/			HEAT REFLECT VEST/SUIT	/		
MICRO AGENTS	/								

SECTION 4. HAZARD INVENTORY DATA

a. CAS CODE	b. HAZARD DESCRIPTION	c. PAC or EPC	d. MEDICAL SURVEILLANCE RECOMMENDED (YES or NO)
7439-92-1	Lead Particulars	3	No
PD-LIFTING	Heavy lifting	3	No
PD-VDT	Eye Hand Strain - Extended Computer Work	3	No
PD-STRESS	Weekly PT training	3	No
PD-EYEHAZ	Eye Hazards related to poor lighting	3	No

SECTION 5. SAMPLING DATA

a. HAZARD	b. SAMPLE TYPE	c. RESULTS	d.
Lead in Dust	Wipe	See Report	

SECTION 6. PERSONNEL DATA

a. LAST NAME	b. FIRST NAME	c. MI	d. SEX	e. SSN
See Report				See Report

SECTION 7. COMMENTS (Add blank sheet of paper if necessary)

1. No complaints of health issues from personnel
2. Lighting and ventilation adequate in all areas.
3. Facility was neat and clean.

PRIVACY ACT STATEMENT

Title 5 U.S. Code, Section 301; Executive Order 9397 authorizes the use of your Social Security Number as a identificatio of this information is to identify and monitor data relating each DA civilian employee exposed to a hazardous workplace c this information is to provide histories of exposure for any given worker

Disclosure of your Social Security Number is not mandatory; however, nondisclosure

Signatur

Non-Responsive

Nat Guard armory
Grand Prairie, TX

1 July, 2014

HEALTH HAZARD INFORMATION MODULE FIELD SURVEY

*SEE PRIVACY ACT STATEMENT ON REVERSE.

(For use of this form, see IHHIM User's Instructions.)

SECTION 1. DEMOGRAPHIC DATA

a. AFLOC 48000 b. INSTALLATION Grand Prairie, TX Armory c. BLDG/RM NUMBER 0001, Supply Rm

d. LOCATION/CODE Supply Area / SA e. OPERATION/CODE Warehouse / WAH f. DESCRIPTION

Heavy Lifting, Falling Objects, Working in cages and weapons vaults, Working with hazardous chemicals.

g. MACOM/CODE Nat Guard / [redacted] h. CODE Other : XX i. SUPERVISOR [redacted]

j. TELEPHONE/AUTOVON NUMBER [redacted] k. PAC ____ l. FREQUENCY (Hrs Per Day) 10

m. NO CIV(S) 2 n. NO MIL 20 o. NO CONTRACTOR(S) 0 p. NO LOC(S) 1 q. NO OTHER 12

SECTION 2. IH STAFFING DATA

a. LAB HOODS ____ b. VAPOR DEGREASERS ____ c. MAINTENANCE BAYS ____ d. SPRAY BOOTHS ____

e. OPEN SURFACE TANKS ____ f. VENTILATION UNITS ____

SECTION 3. SURVEY DATA

a. SURVEY DATE 1 July, 2014 b. EVALUATOR (INITIALS) [redacted]

c. CONTROLS PRESENT	d. EVALUATION	e. UNIT CODE	f. CONTROLS REQUIRED	g. STATUS
Lighting Office	+50 Avg	FC	50-100	Adequate
Lighting Storage	+20 Avg	FC	20-50	Adequate
Lighting Vault	+10 Avg	FC	10-20	Adequate

h. PERSONAL PROTECTIVE EQUIPMENT (R=REQUIRED; A=AVAILABLE)

1. RESPIRATOR	MANUFACTURER	NIOSH TC NO	R/A
DISPOSABLE			/
½ FACE AIR PURIFYING			/
½ FACE AIR PURIFYING			/
FULL FACE AIR PURIFYING			/
POWERED AIR PURIFYING			/
AIRLINE			/
SELF-CONTAINED			/
ABRASIVE BLASTING HOOD			/

2. GLOVES	R/A	3. EYES/FACE	R/A	4. HEARING	R/A	5. BODY	R/A	6. HEAD/FOOT	R/A
ACID	/	CHEMICAL/SPLASH	/	MUFFS	/	APRONS	/	HARD HATS	/
OIL	/	SAFETY/IMPACT	/	EARPLUGS	/	COVERALLS	/	IMPERMEABLE BOOTS	/
SOLVENTS	/	CHEMICAL/SAFETY	/	CANAL CAPS	/	FULL BODY SUIT	/	SAFETY CONDUCT SHOES	/
HOT SURFACES	/	FULL FACE SHIELD	/	HELMETS	/	SAFETY BELT/ HARNESS	/	SAFETY/NONCONDUCTIVE SHOES	/
COLD SURFACES	/	WELDING HELMET	/			HEAT REFLECT VEST/SUIT	/		
FIRE AGENTS	/								

SECTION 4. HAZARD INVENTORY DATA

CAS CODE	b. HAZARD DESCRIPTION	c. PAC or EPC	d. MEDICAL SURVEILLANCE RECOMMENDED (YES or NO)
7439-92-1	Lead Particulates	2	No
PO-Lifting	Heavy Lifting	3	No
PO-Fallobj	Falling Objects	3	No
PO-Eyehaz	Eye Hazards related to poor lighting	3	No
PO-Stress	Weekly PT Training	3	No

SECTION 5. SAMPLING DATA

a. HAZARD	b. SAMPLE TYPE	c. RESULTS	d.
Lead in Dust	Wipe	See Report	

SECTION 6. PERSONNEL DATA

a. LAST NAME	b. FIRST NAME	c. MI	d. SEX	e. SSN
See Report				See Report

SECTION 7. COMMENTS (Add blank sheet of paper if necessary)

1. No complaints of health issues from personnel
2. Lighting and ventilation adequate in all areas
3. Facility was neat and clean

PRIVACY ACT STATEMENT

Title 5 U.S. Code, Section 301; Executive Order 9397 authorizes the use of your Social Security Number as a identifier. The of this information is to identify and monitor data relating each DA civilian employee exposed to a hazardous workplace c the information is to provide histories of exposure for any given worker.

Disclosure of your Social Security Number is not mandatory; however, nondisclosure [redacted] of t

Signature [redacted] Non-Responsive

Nat Guard armory
Grand Prairie, TX

1 July, 2014

APPENDIX G
Personnel Roster

Last, First	Last 4 SS#
Non-Responsive	

BEST AVAILABLE COPY

DEPARTMENT OF THE ARMY AND THE AIR FORCE
NATIONAL GUARD BUREAU
REGIONAL INDUSTRIAL HYGIENE OFFICE
AIRPORT PLAZA SUITE 1530
510 PLAZA DRIVE
COLLEGE PARK, GA 30349

NGB-AVN-SI July 22, 2004

MEMORANDUM FOR: ADJUTANT GENERAL TX ARNG, ATTN.: State Occupational Health Office, P. O. BOX 5218, Austin, TX 78763-5218

SUBJECT: Transmittal of the Survey Reports for Big Spring Armory, Snyder Armory, Wylie Armory, Terrell Armory, Wichita Falls Armory, Kaufman Armory, and Greenville Armory, TX.

1. References.

a. Department of Defense Instruction 6055.1, Department of Defense Occupational Safety and Health (OSH) Program, 26 October 1984.

b. Army Regulation (AR) 40-5, 30 August 1986, Medical Service, Preventive Medicine.

c. National Guard Regulation (NGR) 385-10, 1988, Army National Guard Safety and Occupational Health Program.

d. AR 11-34, The Army Respiratory Protection Program, 15 February 1990.

e. TB MED 502, Occupational and Environmental Health Respiratory Protection Program, February 1982.

f. DA PAM 40-503, 30 October 2000, The Army Industrial Hygiene Program.

g. DA PAM 40-501. 10 December 1998, Hearing Conservation.

h. Threshold Limit Values and Biological Exposure Indices (TLV's) for 2001, American Conference of Governmental Industrial Hygienists (ACGIH), Cincinnati, Ohio.

i. Industrial Ventilation, 23rd Edition, American Conference of Governmental Industrial Hygienist, Cincinnati, Ohio.

j. USAEHA TG-141, November 1997, Guidelines for Air Sampling and Bulk sample Collection.

k. Title 29, Code of Federal Regulations (CFR), 2000 rev., part 1910, Occupational Safety and Health Standards.

l. Report of June 30, 2004, Industrial Hygiene Survey, Tammer Sciences INC, 3744 Lawrence Dr., Naperville, IL.

2. General.

a. At the request of the TX ARNG Safety and Occupational Health Office, an Industrial Hygiene Service was put together to conduct Health Hazard Information module (HHIM) Field surveys and industrial hygiene sampling of the Big Spring Armory, Snyder Armory, Wylie Armory, Terrell Armory, Wichita Falls Armory, Kaufman Armory, and Greenville Armory, TX.

b. Non-Responsive Tammer Sciences INC, 3744 Lawrence Dr., Naperville, IL 60564, conducted the survey.

3. Findings. All Health Hazard information are on the survey findings of the report. (See enclosure 1)

4. Recommendations.

a. Follow all recommendations made in reference 1.l., requesting industrial hygiene (IH) services where needed to complete the recommendations.

b. Conduct an air sampling survey in the areas in and around those identified with elevated lead dust levels in page 3 0f reference 1.l, to ensure that the lead dust present is not airborne and that employees in these areas are not exposed above the action level where applicable.

c. Control water infiltration in the armory and/or replace or repair damaged surfaces or components (ceiling and floor tiles). Building conditions that present IAQ concerns or problems not only exacerbates normally minor health issues but also tend to promote or accelerate building deterioration.

d. The recommendations given in the comment section and data collected will serve as a baseline for the Industrial Hygiene Implementation Plan (IHIP) for FY-03. A follow up operation and hazard specific air sampling survey based on the enclosed findings will be included in the FY-04 IHIP.

NGB-AVN-SI
SUBJECT: Transmittal of the Survey Reports for Big Spring Armory, Snyder Armory, Wylie Armory, Terrell Armory, Wichita Falls Armory, Kaufman Armory, and Greenville Armory, TX.

e. Consider additional Industrial Hygiene services to monitor operations that were not looked at or surveyed during the present survey, especially if this will help eliminate health hazards and reduce medical surveillance cost.

f. To execute your responsibilities in correcting all deficiencies and meeting all standards coordinate with the Occupational Health Nurse and the Occupational Safety and Health Office for technical guidance.

g. Give special consideration to cleaning light fixtures, increasing the wattage and painting walls a lighter color when upgrading the lighting in the facility.

5. If additional information is needed about the industrial hygiene survey or air sample

Non-Responsive

CF:
NBG-AVN-SH
State Occupational Health Office. P. O. BOX 5218, Austin, TX 78763-5218.
State Safety Manager. P. O. BOX 5218. Austin, TX 78763-5218.

Encl
as

Industrial Hygiene Baseline Survey Report
For
Texas Army National Guard
(TXARNG)

At
Greenville Armory
9314 Jackson Finney
Greenville, Texas

Prepared for:

Department of the Army and the Air Force
National Guard Bureau
Regional Industrial Hygiene Office
Region South
Airport Plaza Suite 1530
510 Plaza Drive
College Park, GA 30349

By

Non-Responsive

June 25, 2004

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- Introduction
- Site Description
- Scope of Work
- Methodology

Findings & Discussion

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- Asbestos Suspect Building Material ..... Page 3
- Noise Survey ..... Page 3
- Illumination Survey ..... Page 3
- Heating Ventilating and Air Conditioning (HVAC) ..... Page 4
- Recommendations ..... Page 4

Appendices

A. Floor Layout and illumination levels.
B. Laboratory Analytical Results.
C. Lab Chain of Custody.
D. Photographs.

Executive Summary

An initial baseline industrial hygiene survey was conducted at the Greenville Armory on 14 April 2004 as part of the Texas Army National Guard Occupational Health Program to identify potential health hazards in the workplace. The survey consisted of collecting lead wipe samples and bulk asbestos samples, conducting an illumination survey, a noise survey, and an evaluation of the Heating Ventilation and Air Conditioning System (HVAC) as it relates to indoor air quality.

The following table summarizes the survey findings and recommendations for each topic surveyed.

Topic	Summary of Findings	Recommendations
Armory Lead Wipe Samples	<10 to 46 microgram per square foot.	No action.
Asbestos Bulk Samples	No samples collected	No action.
Noise Survey	No excessive noise source was identified.	No action.
Illumination Survey	10 to 60 footcandles	No action.
HVAC/IAQ	No issues observed or documented.	No action.

SUBJECT: Industrial Hygiene Initial Baseline Survey of the Greenville Armory in Greenville, Texas on 14 April 2004

BACKGROUND:

Introduction. At the request of Non-Responsive of the National Guard Bureau Region South Industrial Hygiene Office, an initial baseline industrial hygiene survey was performed at the Greenville Armory in Greenville, Texas. Non-Responsive Industrial Hygiene Technician for the Texas Army National Guard and Non-Responsive contract Industrial Hygienist, Tammer Sciences, Inc. conducted the survey on 13 April 2004. The purpose of the survey was to perform an initial baseline industrial hygiene survey to identify potential health hazards present at the armory, specifically lead contamination from the indoor firing range.

Site Description. The armory, which was built in 1994, houses Company A and the third of the 144th Infantry. The building is a one-story structure and consists of an administrative office area, a kitchen, classrooms, a drill hall, a motor pool, maintenance bay, and supply rooms. No indoor firing range was found at this armory. A copy of the floor layout and photos are included in Appendix A and D, respectively.

Scope of Work. The work included collecting wipe samples for lead, bulk samples for suspect asbestos containing building material, illumination levels, noise readings where necessary, and an evaluation of the ventilation system as it pertains to indoor air quality.

Methodology Lead wipe samples were collected from surfaces in the firing range and in the Armory in accordance to instructions published by Region South National Guard Bureau, which required the use of unscented baby wipes to wipe one square foot of surface. Samples were then placed in a sealed plastic bag and sent for analysis to EMSL laboratory, which is an American Industrial Hygiene Association (AIHA) Accredited laboratory. Asbestos bulk samples were collected from suspect building materials that were grouped based on similarity of composition. Bulk sample collection was minimally destructive and samples were collected from inconspicuous areas. Bulk samples were also collected from suspect friable and damaged building material. Each bulk sample was placed in a sealed bag and sent to EMSL laboratory for analysis. Noise readings were collected using a noise level meter in areas where a noise source was identified. All noise measurements were area readings. Illumination readings were collected using a Western Schlumberger light meter Serial 8384. Illumination readings were taken on work surfaces such as desks or approximately four feet from the floor.

FINDINGS and DISCUSSION:

The Point of Contact during the survey was Non-Responsive

Lead Wipe Samples: Twelve wipe samples were collected from various areas of the armory as listed in the table below.

Sample Number	Sample Location	Micrograms of lead (ug) per square foot
GR-01	Top of refrigerator in kitchen.	<10.0
GR-02	Top of serving line between kitchen and drill hall	<10.0
GR-03	Supply diffuser in administrative office	<10.0
GR-04	Return air grill in the administrator office	46.0
GR-05	Top of a cabinet in the administrative office	16.0
GR-06	Drill hall floor by supply room	16.0
GR-07	Drill hall floor diagonally opposite the floor sample by supply	<10.0
GR-08	Drill hall floor in center.	<10.0
GR-09	Top of the soda machine in the drill hall	19.0
GR-10	Top of a surface in the classroom	<10.0
GR-11	Top of a random surface in the armory	26.0
GR-12	Field Blank	<10.0

The US Environmental Protection Agency (EPA), under a new standard issued in 2000, considers lead dust as a hazard if levels are greater than 40 micrograms of lead in dust per square foot on floors; 250 micrograms of lead in dust per square foot on interior window sills and 400 parts per million (ppm) of lead in bare soil in children's play areas or 1200 ppm average for bare soil in the rest of the yard. This standard is a major effort by the EPA to identify dangerous levels of lead in paint, dust and soil in order to protect children from lead poisoning. The National Guard Bureau recommends a limit of 200 micrograms per square foot for surface contamination. The laboratory report and chain of custody forms are attached in Appendices B and C.

Asbestos Suspect Building Material: Typical building materials identified in the Armory consisted of 12 by 12 inches floor tiles, 2x4 feet ceiling tiles, and Baseboard in the administrative office areas. Cement floors, cinder block walls, and corrugated steel deck in the drill hall, supply, storage, and other areas. No samples were collected because the armory was built in 1994.

Noise Survey: Based on observations during the walkthrough baseline survey, no sources of excessive noise were identified and therefore no area noise readings were collected. Noise levels are likely to be well below the Occupational Safety and Health Administration (OSHA) regulated limit of 90 dBA and the Army recommended limit of 85 dBA.

Illumination Survey Lighting levels throughout the Armory ranged between 10 foot-candles to 60 foot-candles. Illumination levels are noted on the floor layout in Appendix A. Illumination ranges for each area are listed in the Table below:

Area	Reading in Foot-candles
Administrative Offices.	20 – 30
Locker Room.	10 – 20
Supply Room.	10 – 30
Drill Hall.	20 – 30
Classroom.	25 – 60
Kitchen.	30 – 50

The Army Design Guide (DG415-2) minimum illumination level of 50 foot-candle for office area and 20 foot-candles for parts storage/supply. The American National Standard Institute (ANSI) recommends a minimum illumination level of 50 to 100 foot-candles for office work, 20 to 50 for general lighting. Luminance depends on various factors including the task to be performed, the age of the individual, and the surroundings. Luminance of 50 to 100 foot-candles is recommended for performance of visual tasks of medium contrast or small size such as reading pencil handwriting and poorly printed or reproduced material. Depending on the type of display, background luminance of 30 to 60 foot-candles is recommended for VDT work. Replacing light bulbs with higher wattage will increase lighting levels. Replacing burnt out light bulbs and cleaning the light fixture should improve the lighting levels.

Heating Ventilating and Air Conditioning (HVAC) The Heating Ventilating and Air-Conditioning (HVAC) System for the Armory consisted of a forced air furnace unit. No other complaints of indoor air quality issues were documented or communicated with the POC.

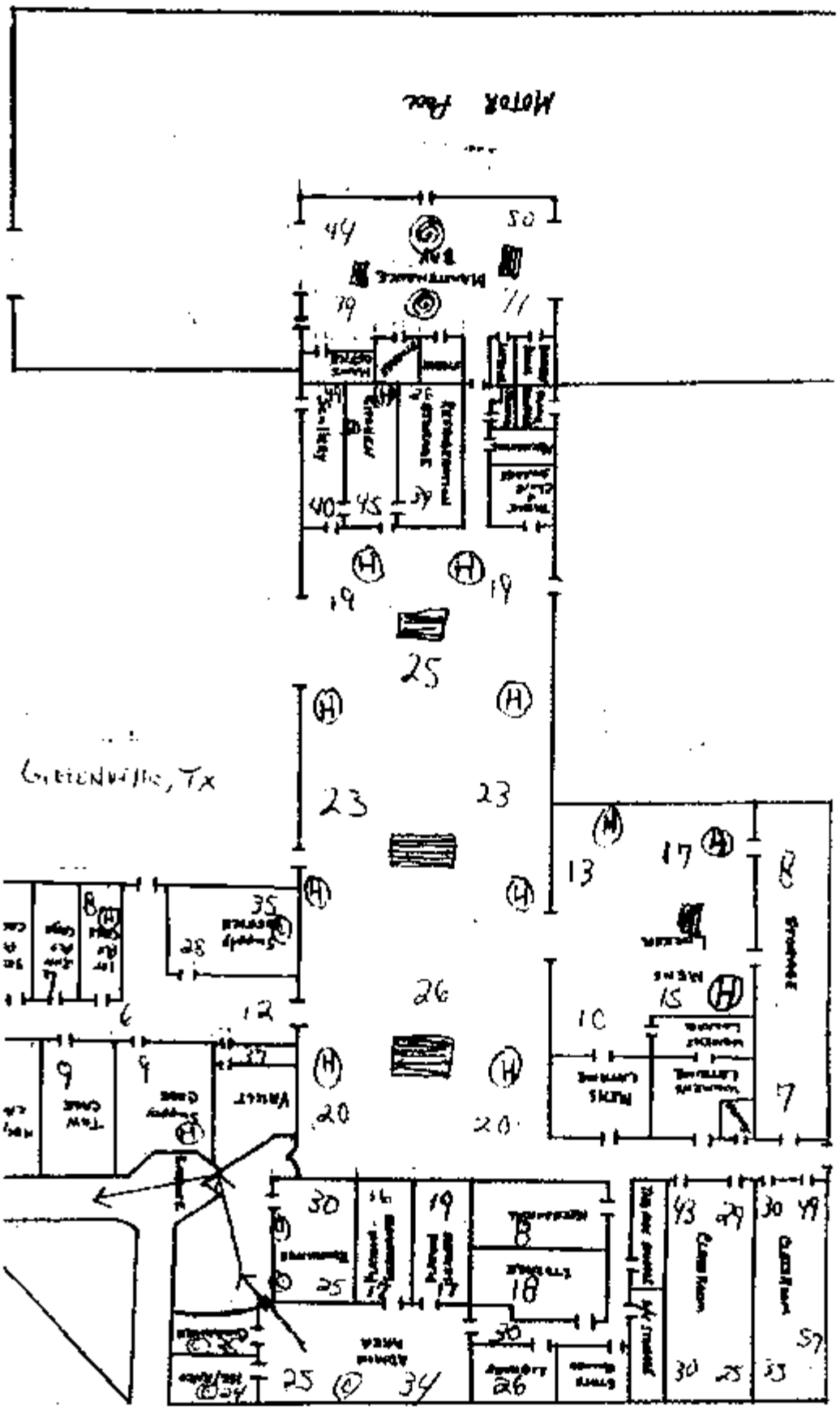
Recommendation:

None.

Technical Assistance: For technical assistance regarding information found in this report

Non-Responsive

APPENDIX A



APPENDIX B

EMSL Analytical
3 Cooper St., Westmont, NJ 08108
Phone: (856) 858-4800 Fax: (856) 858-0851 Email: skauffman@emsl.com

Attn: Non-Responsive
Fax:
Project: Greenville, TX

Customer ID: TS80
Customer PO:
Received: 04/22/04 1:41 PM

EMSL Order: 200404878
EMSL Proj:

Lead in Wipes by Flame AAS (SW 846, 7420)

Client Sample Description		Lab ID	Analyzed	Area Sampled	Lead Concentration
GR-01	Results for these wipe samples do not meet the EPA standards for sample matrix and are not recognized under the NLLAP accreditation program	0001	5/7/04	144 in²	<10.0 µg/ft²
GR-02		0002	5/7/04	144 in²	<10.0 µg/ft²
GR-03		0003	5/7/04	144 in²	<10.0 µg/ft²
GR-04		0004	5/7/04	144 in²	46.0 µg/ft²
GR-05		0005	5/7/04	144 in²	16.0 µg/ft²
GR-06		0006	5/7/04	144 in²	16.0 µg/ft²
GR-07		0007	5/7/04	144 in²	<10.0 µg/ft²
GR-08		0008	5/7/04	144 in²	<10.0 µg/ft²
GR-09		0009	5/7/04	144 in²	19.0 µg/ft²
GR-10		0010	5/7/04	144 in²	<10.0 µg/ft²
GR-11		0011	5/7/04	144 in²	26.0 µg/ft²
GR-12		0012	5/7/04	144 in²	<10.0 µg/ft²

Non-Responsive

The QC data associated with the sample results included in this report meet the recovery and precision requirements established by the AIHA, unless specifically indicated otherwise in the comment section. The test results contained within this report meet the requirements of NELAC unless otherwise noted. This report relates only to those items tested. Unless otherwise noted, the results in this report have not been blank corrected.
ACCREDITATIONS: NJ-NELAP: 04653, AIHA Environmental Lead Laboratory Approval Program: 100194

/04 12:14:09 PM

APPENDIX C

20048 4774

EMSL ANALYTICAL CHAIN OF CUSTODY LEAD

Date: _____ EMSL Representative: _____ Project Name/No.: _____ P.O #: _____

Company Name: Tanner Sciences, Inc. EMSL-Bill to: Same [illegible] Inc. [illegible]

Street: 3744 Lawrence Drive Street: _____

Box #: _____ Box #: _____

City/State: Naperville, IL Zip: 60564 City/State: _____ Zip: _____

Phone Results to: - Name) Non-Responsive

Fax Results to: (Name) _____

MATRIX	METHOD	INSTRUMENT	RL (Reporting Limit)	TAT
Lead Chips*	SW846-7420, 3050B Mod. / AOAC (974.02)	Flame Atomic Absorption	0.01%	
Lead Wastewater	SW846-7420	Flame Atomic Absorption	0.4 mg/l water 40 mg/kg (ppm) soil	
Lead Soil	or SW846-6010B	ICP	0.1 mg/l water 10 mg/kg (ppm) soil	
Lead in Air**	NIOSH 7082 Mod.	Flame Atomic Absorption	4 ug/filter	
	or NIOSH 7300 Mod.	ICP	3.0 ug/filter	
Lead in Wipe* ☑-ASTM Ea. Wipe Type ☐-non ASTM	SW846-7420 / HUD Appendix 14.2 Digest	Flame Atomic Absorption	10 ug/wipe	Rush
	or SW846-6010B	ICP	3.0 ug/wipe	
TC P Lead**	SW846-1311/ 7420	Flame Atomic Absorption	0.4 mg/l (ppm)	
	or SW846-6010B	ICP	0.1 mg/l (ppm)	
STLC Lead - California*	CA Title 22 sec. 12 / SW846-7420	Flame Atomic Absorption	0.4 mg/l (ppm)	
	or SW846-6010B	ICP	0.1 mg/l (ppm)	
Lead in Air****	NIOSH 7105 Mod.	Graphite Furnace Atomic Absorption	0.05 ug/filter	
Lead Wastewater	SW846-7421	Graphite Furnace Atomic Absorption	0.003 mg/l (ppm) water	
Lead Soil ~			0.3 mg/kg (ppm) soil	
Lead in Drinking Water (check state Certification Requirements)	EPA 239.2 / 200.9	Graphite Furnace Atomic Absorption	0.003 mg/l (ppm)	
Total Dust	NIOSH 0500-0600	Gravimetric Reduction	0.0001g	

T/T (Turnaround) - Same day, 24 hr - 1 Day, 2 Days, 3 Days, 4 Days, 5 Days, 6-10 Days

*, **, ***, ****, ~, ~~ Please Refer to Price Quote

* If no box is checked, non-ASTM is assumed

SAMPLE #	LOCATION	Air volume, L Area, in²	LAB #
GR-01	Green Ville, TX	144	64178-1
GR-02			-2

Relinquished By: (Person) Non-Responsive Date: 4/19/04

Received at EMSL By: _____ Date: 4/19/04

Received at EMSL By: _____ Date: _____

Note: Please duplicate this form and use additional sheets if necessary.

The individual signing and relinquishing these samples to the laboratory attests to the accuracy of the information reported on this chain of custody.

Lead Chain Nov 2001 - STLC.doc

EMSL ANALYTICAL CHAIN OF CUSTODY L0404478 LEAD

SAMPLE #	LOCATION	Air volume, L / Area, in^2	LAB #
GR-03			L0418-3
GR-04			4
05			5
06			6
07			7
08			8
09			9
10			10
11			11
12			12

RECEIVED EMSL WESTMONT, N.J. 2004 APR 22 PM 1:41

(1) Relinquished By: (Person) Non-Responsive [redacted] Date: 4/19/04

Received at EMSL By: Date:

Received at EMSL By: Date: 4/22/04

Note: Please duplicate this form and use additional sheets if necessary.

(1) The individual signing and relinquishing these samples to the laboratory attests to the accuracy of the information reported on this chain of custody.

Lead Chain Nov 2003 - STLC.doc

Photo #1: Armory front entrance.

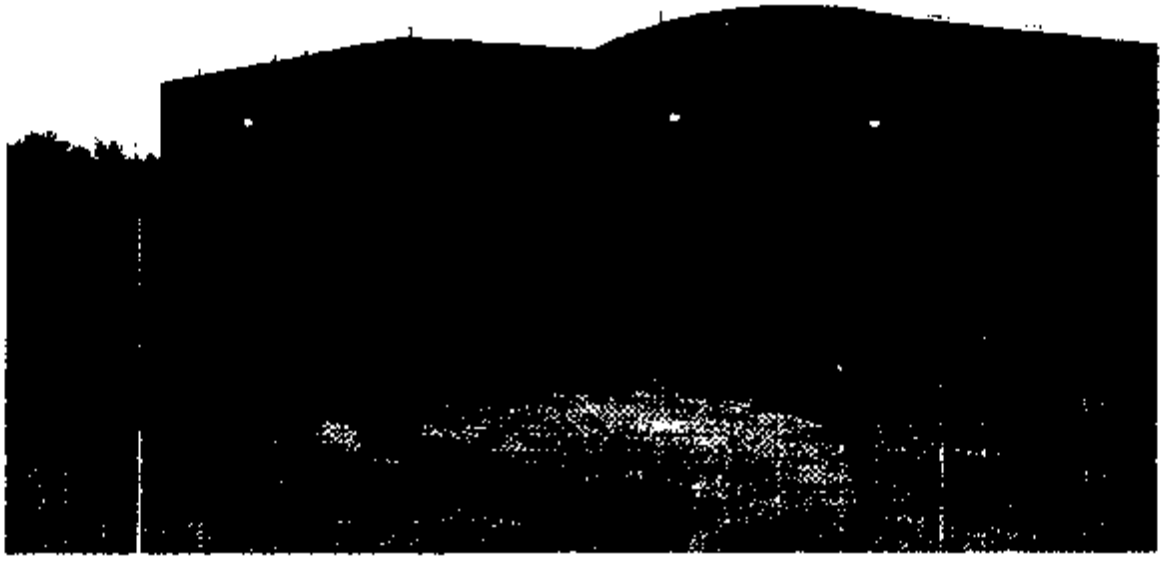


Photo #2: Rear side of the armory.

APPENDIX D

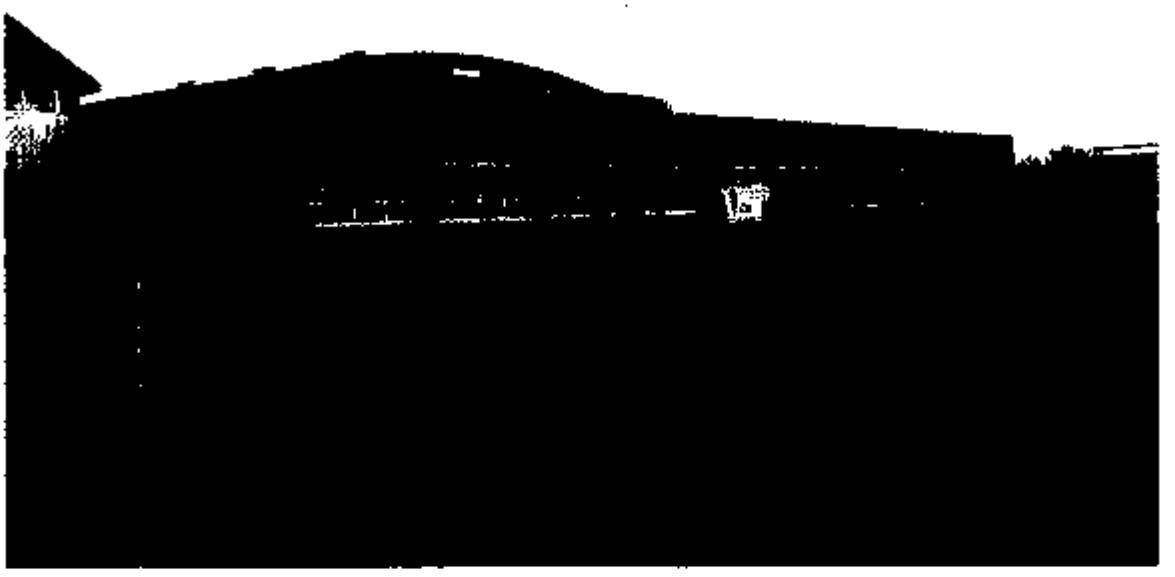


Photo #3: East side of the armory.

Photo #4: Drill hall facing north.

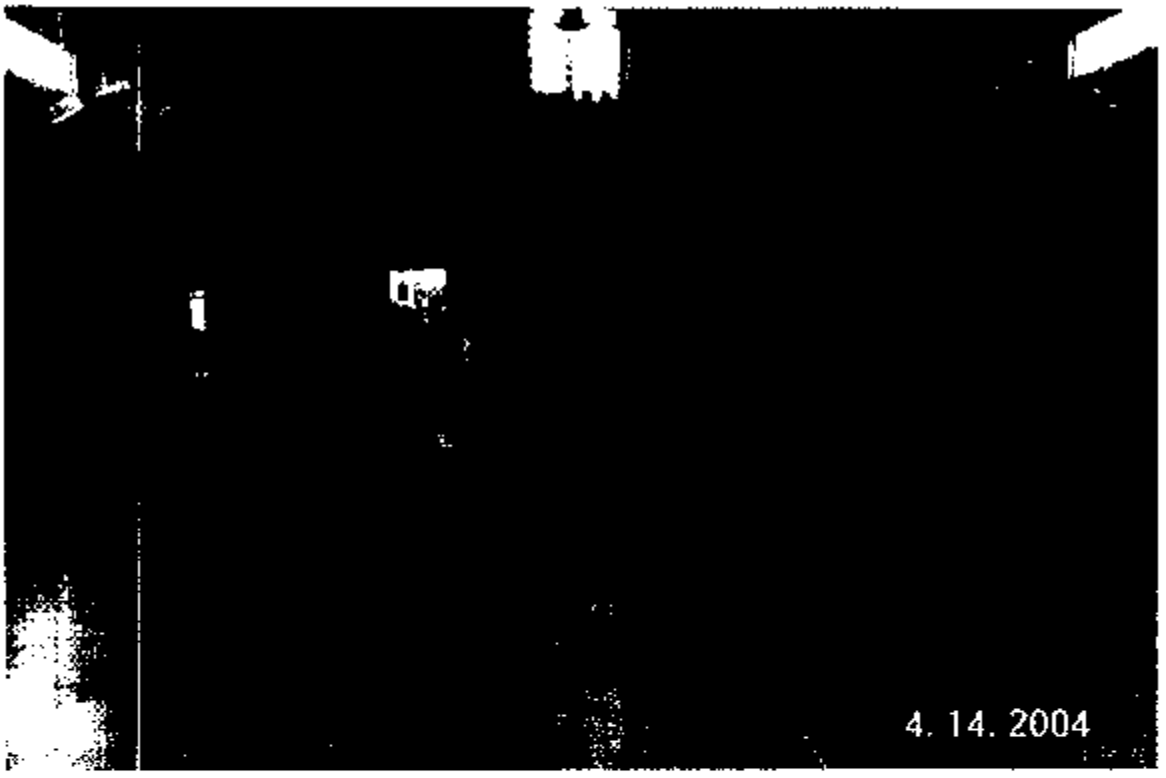


Photo #5: Drill hall facing north.

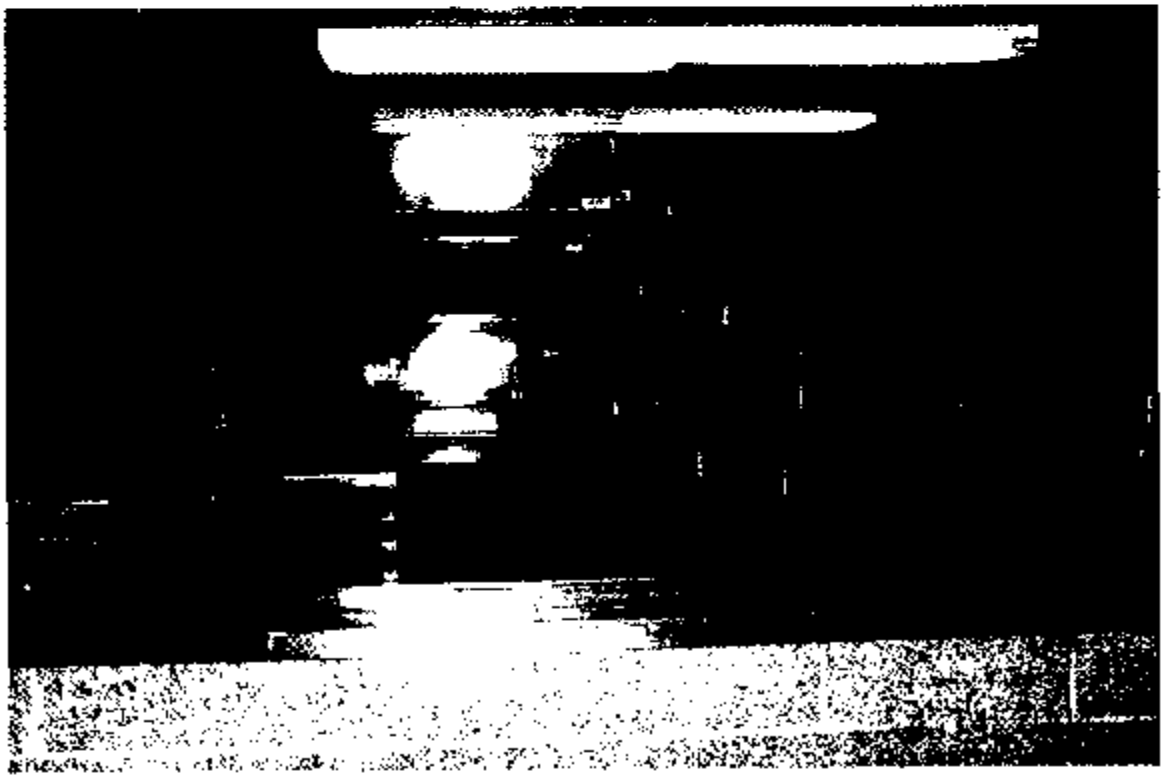
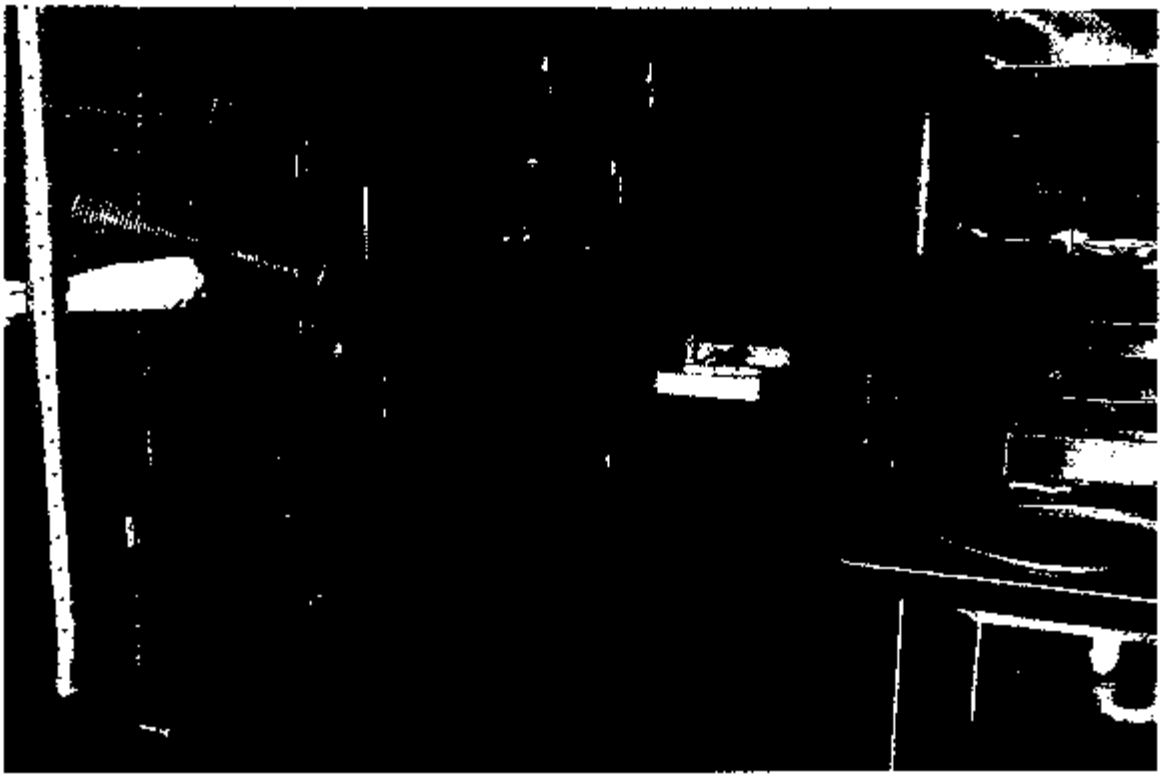


Photo #6: Armory's kitchen showing the serving line.



Photo#7: Armory's kitchen.

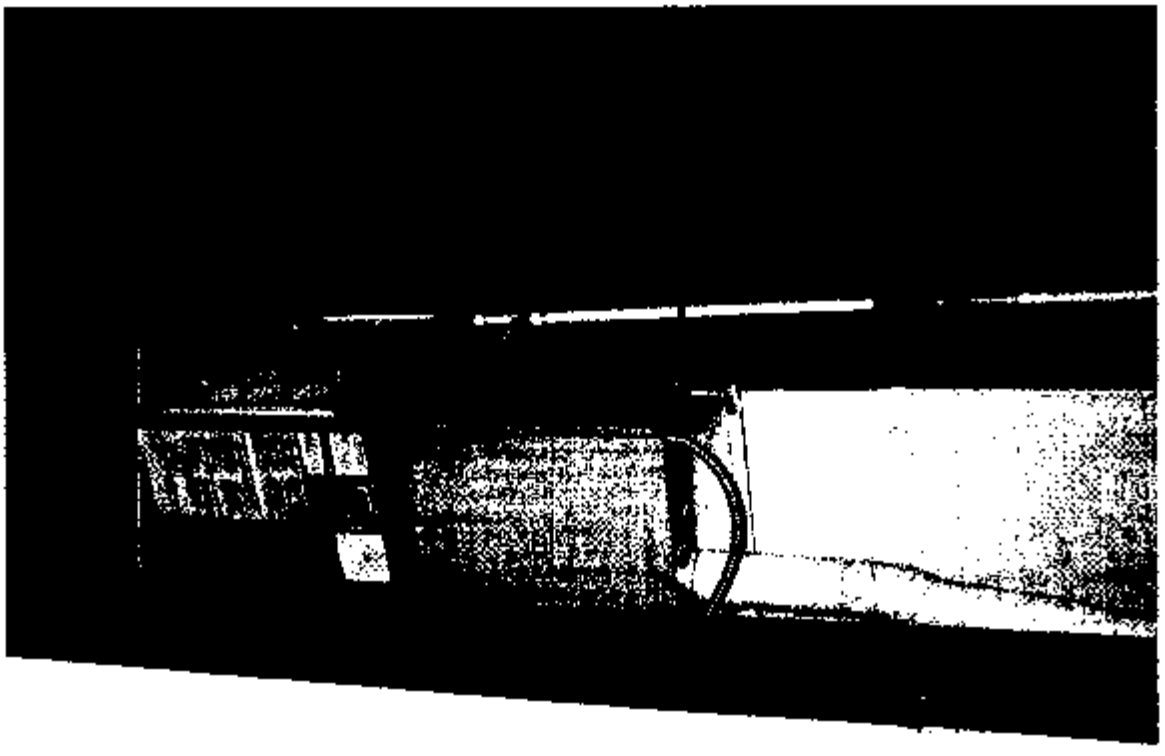


Photo #8: The Armory's furnace

DEPARTMENT OF THE ARMY AND THE AIR FORCE
NATIONAL GUARD BUREAU
REGIONAL INDUSTRIAL HYGIENE OFFICE
AIRPORT PLAZA SUITE 1530
510 PLAZA DRIVE
COLLEGE PARK, GA 30349

NGB-AVN-SI

December 17, 2003

MEMORANDUM FOR: ADJUTANT GENERAL TX ARNG, ATTN.: State Occupational Health Office, P. O. BOX 5218, Austin, TX 78763-5218

SUBJECT: Transmittal of the Survey Reports Longview Armory, Henderson Armory, Marshal Armory, Kilgore Armory, Texarkana Armory and Atlanta Armory, TX.

1. References.

a. Department of Defense Instruction 6055.1, Department of Defense Occupational Safety and Health (OSH) Program, 26 October 1984.

b. Army Regulation (AR) 40-5, 30 August 1986, Medical Service, Preventive Medicine.

c. National Guard Regulation (NGR) 385-10, 1988, Army National Guard Safety and Occupational Health Program.

d. AR 11-34, The Army Respiratory Protection Program, 15 February 1990.

e. TB MED 502, Occupational and Environmental Health Respiratory Protection Program, February 1982.

f. DA PAM 40-503, 30 October 2000, The Army Industrial Hygiene Program.

g. DA PAM 40-501, 10 December 1998, Hearing Conservation.

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i. Industrial Ventilation, 23rd Edition, American Conference of Governmental Industrial Hygienist, Cincinnati, Ohio.

j. USAEHA TG-141, November 1997, Guidelines for Air Sampling and Bulk sample Collection.

NGB-AVN-SI
SUBJECT: Transmittal of the Survey Reports Longview Armory, Henderson Armory, Marshal Armory, Kilgore Armory, Texarkana Armory and Atlanta Armory, TX.

k. Title 29, Code of Federal Regulations (CFR), 2000 rev., part 1910, Occupational Safety and Health Standards.

l. Report Survey dated October 2003, Industrial Hygiene Survey, Non-Responsive Environmental Management Solutions

2. General.

a. At the request of the TX ARNG Safety and Occupational Health Office, an Industrial Hygiene Service was put together to conduct Health Hazard Information module (HHIM) Field surveys and industrial hygiene sampling of the Longview Armory, Henderson Armory, Marshal Armory, Kilgore Armory, Texarkana Armory and Atlanta Armory, TX.

b. The survey was conducted by Non-Responsive, Environmental Management Solutions, Dallas, GA.

3. Findings. All Health Hazard information are on the survey findings of the report. (See enclosure 1)

4. Recommendations.

a. Follow all recommendations made in reference 1.l., requesting industrial hygiene (IH) services where needed to complete the recommendations.

b. Conduct an air sampling survey in the areas in and around those identified with elevated lead dust levels in page 3 0f reference 1.l, to ensure that the lead dust present is not airborne and that employees in these areas are not exposed above the action level where applicable.

c. Control water infiltration in the armory and/or replace or repair damaged surfaces or components (ceiling and floor tiles). Building conditions that present IAQ concerns or problems not only exacerbates normally minor health issues but also tend to promote or accelerate building deterioration.

d. The recommendations given in the comment section and data collected will serve as a baseline for the Industrial Hygiene Implementation Plan (IHIP) for FY-03. A follow up operation and hazard specific air sampling survey based on the enclosed findings will be included in the FY-04 IHIP.

NGB-AVN-SI
SUBJECT: Transmittal of the Survey Reports Longview Armory, Henderson Armory, Marshal Armory, Kilgore Armory, Texarkana Armory and Atlanta Armory, TX.

e. Consider additional Industrial Hygiene services to monitor operations that were not looked at or surveyed during the present survey, especially if this will help eliminate health hazards and reduce medical surveillance cost.

f. To execute your responsibilities in correcting all deficiencies and meeting all standards coordinate with the Occupational Health Nurse and the Occupational Safety and Health Office for technical guidance.

f. Give special consideration to cleaning light fixtures, increasing the wattage and painting walls a lighter color when upgrading the lighting in the facility.

5. If additional information is needed about the industrial hygiene survey or air sample

Non-Responsive

CF:
NBG-AVN-SH
State Occupational Health Office, P. O. BOX 5218, Austin, TX 78763-5218.
State Safety Manager, P. O. BOX 5218, Austin, TX 78763-5218.

Encl
as

Enviro-Management, Inc.

INDUSTRIAL HYGIENE SERVICE

MEMORANDUM FOR: Detachment 1 Headquarters Company (HHC) 5-112 Armored Division. Attn: Commander, 600 Sand Street, Henderson, Texas 75652.

SUBJECT: Industrial Hygiene Survey for the John R. Alford National Guard Armory, Henderson, Texas.

1. References.

   a. Title 29, Code of Federal Regulations (CFR) Part 1910, Occupational Safety and Health Administration (OSHA).
   b. AR 40-5, Preventive Medicine, 15 October 1990.
   c. AR 385-10, 23 May 1988, Army Safety Program.
   d. TB MED 503, The Army Industrial Hygiene Program.
   e. Title 29 CFR, Part 1910.1200, The Hazard Communication Standard.
   f. Department of the Army Pamphlet (DA PAM) 40-501, 27 August 1991, Hearing Conservation.
   g. National Guard Pamphlet (NG PAM) AR 385-16, Safety Guidelines for Converting Indoor Firing Ranges to Other Uses.
   h. National Institute for Occupational Health and Safety (NIOSH), (76-130) Technical Information, Lead Exposure and Design Considerations for Indoor Firing Ranges GPO, 1975.
   i. Industrial ventilation, 22nd Edition, American Conference of Governmental Industrial Hygienist (ACGIH), Cincinnati, Ohio.
   j. 29 CFR 1926.58, The OSHA Asbestos Standard.
   k. Housing and Urban Development (HUD) Guidelines for the Evaluation and Control of Lead Based Paint Hazards in Housing.

2. Purpose. The purpose of this survey was to conduct a baseline Industrial Hygiene Survey of the John R. Alford National Guard Armory. The survey consisted of a walk through inspection of all operations and administrative areas in the Alford Armory. An interview was conducted with Non-Responsive to gather background and historical information relative to the various operations at the Alford Armory. A diagram of the building is found in Appendix A. Photographs of the facility are located in Appendix B. Appendix C contains the health hazard inventory module (HHIM). Appendix D includes an excerpt from NG PAM 385-16, Guidelines for converting indoor firing ranges to other uses and Appendix E includes laboratory results.

3. Background. At the request of Non-Responsive of the National Guard Bureau Region South Industrial Hygiene Office, an industrial hygiene survey was conducted at the John R. Alford Armory in Henderson, Texas on October 8, 2003 by Non-Responsive Industrial Hygienist.

3100 Pennsylvania Ave., S.E., • Washington, D.C. 20020 • (202) 582-2461 • (202) 582-2478

SUBJECT: Industrial Hygiene Survey for the Alford National Guard Armory, Henderson, Texas.

4. Facility Description. This facility houses Detachment 1 HHC 5-112 AR. One full time employee works in the Henderson Armory. The armory is utilized by supply personnel during the week (Monday through Friday) and is utilized for Guard drill on the weekends. The physical structure is a one story red brick building. The building was constructed in early 1957. A list of the operations and administrative areas are detailed in Table I.

TABLE I
Operations and Administrative Areas

Inactive Firing Range	Mechanical Room
Supply Room/Vault	Orderly Room
Recruiter's office	Class Room
Dining Hall	POL
Kitchen	
Library	

5. Health Hazard Inventory Module (HHIM) & Risk Assessment Codes - The results of the walk through survey were entered into a health hazard inventory module (HHIM) industrial hygiene form. The form details the hazards found in the particular operation, the controls that are present, and types of personal protective equipment (PPE) used. Health hazard risk assessment codes (RAC's) were assigned to the operations. Risk assessment codes were determined using the RAC table in the Department of Defense (DOD) Instruction 6055.1 and are repreduced in Appendix C.

6. Findings.

A. Inactive Firing Range/Vehicle Maintenance Facility and Boiler Room - An initial walk through of the facility revealed that there was an inactive firing range located on the premises. A vehicle maintenance operation was not present. An inactive boiler room was not present.

B. Suspect Asbestos Containing Materials
(1)There were no suspect asbestos containing materials identified in this facility. This is consistent the building having been renovated in 1985.

C. Water damage – Although the roof has been repaired three times, water damage was identified in several building materials. The floor tiles were buckled from water saturation, ceiling tiles had black mold growth, and a blackboard in a classroom had evidence of mold growth behind it.

SUBJECT: Industrial Hygiene Survey for the Alford National Guard Armory, Henderson, Texas.

D. Supply Room – The employee in charge of this operation is SGT James Wage. SGT Wage works in this area during the week and on drill weekends. The employee is responsible for ordering, distributing and storing military supplies and equipment. An ULLS and a RCAS computer system are also utilized in this operation. Non-Responsive uses the computer approximately five hours per day. Illumination measurements taken in the office area revealed 40 foot candles (ftc) of illumination. The ANSI Standard recommends a minimum of 50 ftc of illumination for general office work. The employee had no ergonomic concerns or complaints. A flammable cabinet was not present in the supply area.

E. Vault – The vault is used to store military weapons and night vision goggles. Entry into the vault is limited to Non-Responsive on weekdays and on the weekends. Weapons repair is not performed inside the vault nor is it meant for continuous occupancy. There is only one means of entry and egress and no independent ventilation is present in the vault. The vault was not labeled for the radioactive hazard.

F. Illumination survey - An illumination survey was conducted in four areas at this facility. The illumination levels in three of the areas surveyed were not within the American National Standards Institute (ANSI) recommended minimum illumination levels.

The illumination levels in the survey can be seen in table II.

TABLE II
Illumination Survey

Location	Illumination Level (ftc)	ANSI Minimum Requirements (ftc)	DG 412-2 Minimum Requirements (ftc)
Non-Responsive esk	82	50 – 100	50
omputer	44.5	50 – 100	50
Supply Room storage room	8-15	10	10
Supply room Office	40	50-100	50-100

Notes: ANSI office illumination depending on the task is 50 ftc for general desk work and 90 ftc for reading poor quality print.

BEST AVAILABLE COPY

G. Drill Floor – The drill floor is used on guard weekends by drill personnel. The floor is composed of concrete and the ceiling is composed of a compressed seaweed material that is approximately 30-35 feet in height. Interviews revealed that vehicles were occasionally driven onto the drill hall floor and weapons are also cleaned in the area. As required, lead wipe samples were collected from the drill floor and the laboratory results reveal the following: All samples were below the 200 micrograms/ sq.ft. guideline as required by NG PAM (AR) 385-16.

H. Inactive Firing Range – The Alford Armory is equipped with an inactive indoor firing range that has been left in tact. An interview revealed that the firing range had not been cleaned or decommissioned. There are no materials stored inside the range. As required, lead wipe samples were collected from the inactive firing range. Laboratory results revealed that two of the samples taken from the firing range were found to be above 200 micrograms/sq. ft. guidelines as required by NG PAM(AR)385-16.

I. Kitchen – The kitchen is adjacent to the armory floor and is fully functional. The kitchen is not used.

J. Flammable Storage Operation – Anti-freeze, oils and lubricants, etc. are stored in this operation. This operation is accessed by the supply sergeant on weekdays and on drill weekends. There were no material safety data sheets (MSDS) or a hazardous materials inventory list (HMIL) readily available.

SUBJECT: Industrial Hygiene Survey for the Alford National Guard Armory, Henderson, Texas.

Recommendations

1. Lighting should be upgraded in all areas which were indicated as deficient.

2. As required by NG PAM (AR) 385-16, the inactive firing range and the drill floor should be decontaminated and clearance testing should be performed to verify the effectiveness of the cleanup.

3. Material safety data sheets (MSDS's) and a hazardous materials inventory list (HMIL) should be developed for the flammable storage operation.

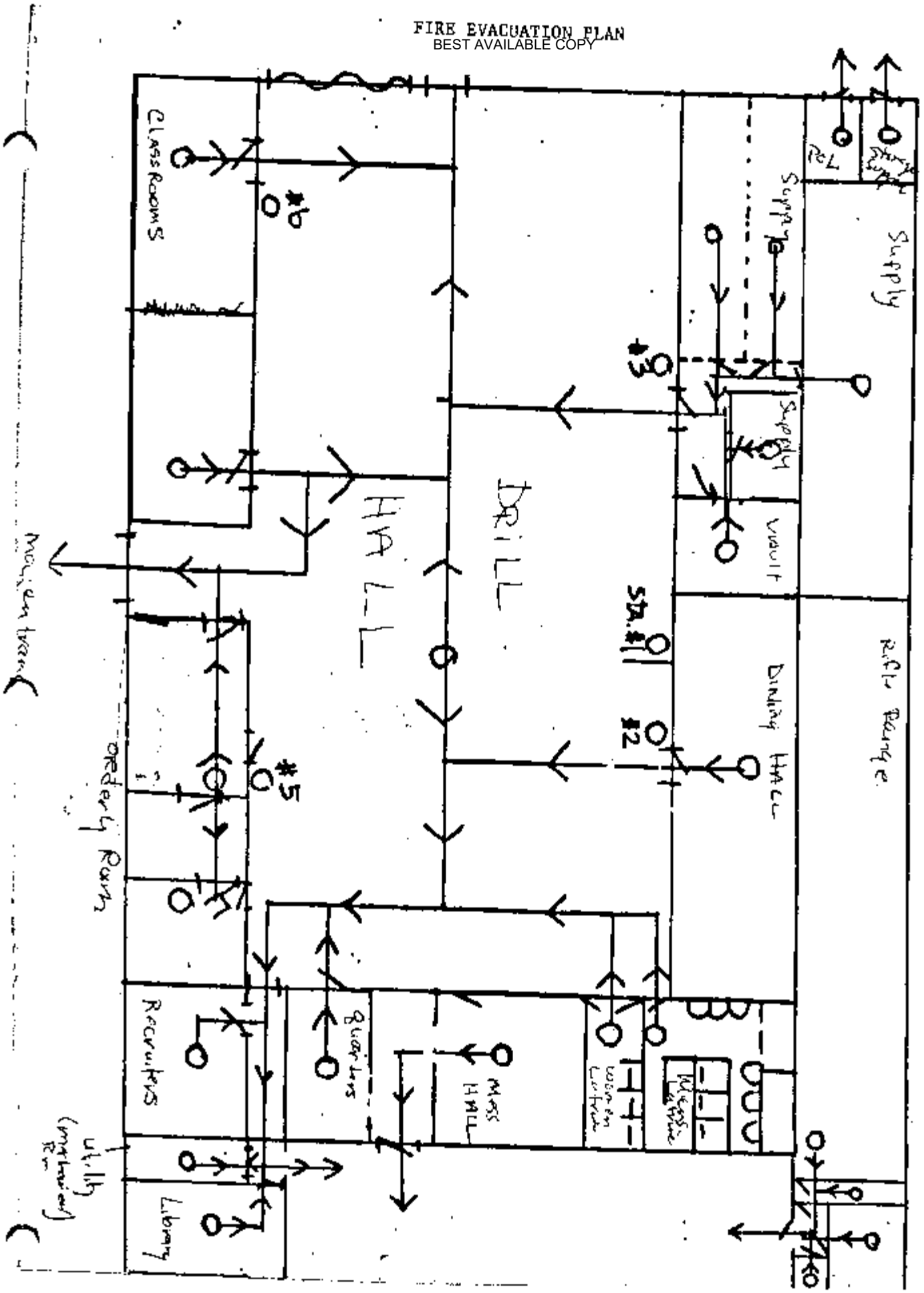
SUBJECT: Industrial Hygiene Survey for the Alford National Guard Armory, Henderson, Texas.

Alford National Guard Armory
Lead Wipe Sample Analysis
Appendix E

Sample No.	Location	Type Analysis	Micrograms /cubic ft ug/m3
AF-01	Drill Fl., Overhead door	Lead	110.0
AF-02	Drill Fl. Center of Floor	Lead	180.0
AF-03	Drill Fl., @ serving station	Lead	580.0
AF-04	Kitchen, at entrance	Lead	220.0
AF-05	Blank	Lead	<10.0
AF-06	Orderly Room, Supply Vent	Lead	11.0
AF-07	IFR, Bullet backstop		67000.0
AF-08	IFR, In front of bullet backstop	Lead	7300.0
AF-09	IFR, Rear wall next to entrance/exit	Lead	250.0
AF-10	Blank	Lead	<10.0

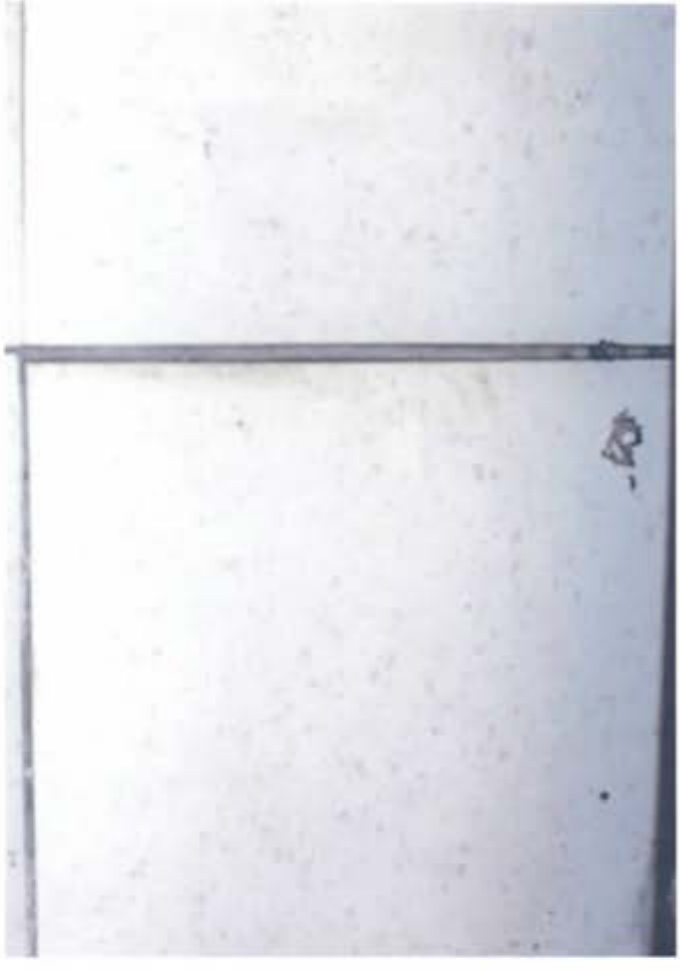
APPENDIX A

FIRE EVACUATION PLAN



HENDERSON ARMORY

APPENDIX B



APPENDIX C

ARLOC: 48000 Installation:

Building Number: ALFORD ARMORY Room Number: ORDERLY office

Location: AA Operation: ADO Survey Date: Year 03 Month 10 Day 08 MACOM: NG Sub-MACOM: XX RAC: 5

Unit/Organization: 600 SAND STREET HENDERSON, TEXAS 75692

Supervisor: Mr. [X] Ms. [ ] Non-Responsive [redacted]

Supervisor or Point of Contact Telephone Number: DSN [ ] Commercial [X]

Frequency (hrs/day): 09 No. CIVs: 01 No. MIL: [ ] Contractors: [ ] No. LOCs: [ ]

Lab Hoods: [ ] Vapor Degreasers: [ ] Spray Booths: [ ] Open Surface Tanks: [ ] Ventilation Units: [ ]

Controls present (if >6, continue in comments)[25]	Evaluation [25 char max per line]	Unit Code	Controls Required [25 char max per line]
Lighting			

Gloves

	e*	R	U
acid			
cold surfaces			
hot surfaces			
NBC agents			
oil			
solvents			
surgical gloves			
leather/cotton			
other			

Respirator

	e*	R	U
airline			
abrasive blasting hood			
disposable			
full face air purifying			
1/2 face air purifying			
powered air purifying			
1/4 face air purifying			
self-contained			
other			

Manufacturer's Description [10 char max] | NIOSH TC# or foreign equiv. [10 char max]

Eyes and Face

	e*	R	U
chemical splash			
full face shield			
chem/safety impact			
safety impact			
welding helmet			
sunglasses			
welding goggles/glasses			
laser eye protection			
other			

Hearing

	e*	R	U
canal caps			
(>85-108dBA steady) earplugs			
helmets w/muffs			
muffs alone			
(106-118) muff/earplug comb			
muffs and earplugs			
(118 or >) with time limit			
other			
other			

Body

	e*	R	U
aprons			
cold weather clothing			
coveralls			
full body suit			
heat reflective vest/suit			
safety belt/harness			
special purpose clothing			
other			
other			

Head and Feet

	e*	R	U
cold weather boots/hat			
hard hats			
impermeable boots			
safety shoes (conductive)			
safety shoes (nonconductive)			
other			
other			
other			
other			

e* = evaluator's recommendation or agreement

Reminders: ergonomics - dermatitis - physical agents - flammable storage
EYE (permanent) ____ - EYE (portable) ____ - SHW - GMV - LEV

ACO ADM DSA DSN LAB LCK RAD ECB EPL RITS SPR WEL

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AC | EPC | CAS Code | PAC | EPC | Hazard Description

PONOISECO
POFOOTHAZ
POFLYPROJ
POEYEHAZA
POFLAMHAZ
POLIFTING
POSHARPOB
POHOTOBJE
POELSHOCK
COLUBEOIL

Social Security Number or Other Unique Identifier | Last Name | First Name | MI | Sex | Category

☐ Personnel data provided by the facility is attached to this form

Comments — Remember to comment on problems, recommendations, and needed control items

1. Operation described is: ADO
2. other operations: OFF, NIAN

☐ (Comments continued on attached sheet)

☐ This operation was explained to the evaluators.

☐ There is a noise data sheet

☐ There is a ventilation data sheet

HHIMS INDUSTRIAL HYGIENE SURVEY FORM

ARLOC: 48000 Installation:

Building Number: ALFORD ARMORY

Room Number: SUPPLY ROOM / VAULT

Location: SA Operation: SAH

Survey Date: Year 03 Month 10 Day 08

MACOM: NG Sub-MACOM: XX RAC: 4

Unit/Organization: 600 3RD STREET HENDERSON TEXAS 75652

Supervisor: Mr. [X] Ms. [ ] [redacted]

Supervisor or Point of Contact Telephone Number: DSN [ ] Commercial [X]

Frequency (hrs/day): 09 No. CIVs: No. MIL: Contractors: No. LOCs:

Lab Hoods: Vapor Degreasers: Spray Booths: Open Surface Tanks: Ventilation Units:

Controls present (if >6, continue in comments)[25]	Evaluation [25 char max per line]	Unit Code	Controls Required [25 char max per line]
LIGHTS	office	F T C	50-100 ANSI
	Storage AREA	F T C	10 ANSI

Gloves

	e*	R	U
acid			
cold surfaces			
hot surfaces			
NBC agents			
oil			
solvents			
surgical gloves			
leather/cotton			
other			

Respirator

	e*	R	U
airline			
abrasive blasting hood			
disposable			
full face air purifying			
1/2 face air purifying			
powered air purifying			
1/4 face air purifying			
self-contained			
other			

Manufacturer's Description [10 char max] | NIOSH TC# or foreign equiv. [10 char max]

Eyes and Face

	e*	R	U
chemical splash			
full face shield			
chem/safety impact			
safety impact			
welding helmet			
sunglasses			
welding goggles/glasses			
laser eye protection			
other			

Hearing

	e*	R	U
canal caps			
(>85-108dBA steady) earplugs			
helmets w/muffs			
muffs alone			
(108-118) muff/earplug comb			
muffs and earplugs			
(118 or >) with time limit			
other			
other			

Body

	e*	R	U
aprons			
cold weather clothing			
coveralls			
full body suit			
heat reflective vest/suit			
safety belt/harness			
special purpose clothing			
other			
other			

Head and Feet

	e*	R	U
cold weather boots/hat			
hard hats			
impermeable boots			
safety shoes (conductive)		X	X
safety shoes (nonconductive)			
other			
other			
other			
other			

e* = evaluator's recommendation or agreement

Reminders: ergonomics - dermatitis - physical agents - flammable storage
EYE (permanent) ____ - EYE (portable) ____ - SHW - GMV - LEV

ACO ADM DSA DSN LAB LCK
RAD ECB EPL RHS SPR WEL

MEDDAC (FT MEADE) 1 MAY 95 FORM 609-R

PAC	EPC	CAS Code	PAC	EPC	Hazard Description
3	B	PONOISECO	3	A	Tetium
		POFOOTTIAZ			
		POFLYPROJ			
		POEYEHAZA			
		POFLAMHAZ			
		POLIFTING			
		POSHARPOB			
		POHOTOBJE			
		POELSHOCK			
		COLUBEOIL			

Social Security Number or Other Unique Identifier | Last Name | First Name | MI | Sex | Category

☐ Personnel data provided by the facility is attached to this form

Comments — Remember to comment on problems, recommendations, and needed control items

1. Operation described is: SAH
2. other operations: MAN, LOA
3. WEAPONS ARE Stored and locked in this vault.
4. This operation is meant for continuous occupation.

(Comments continued on attached sheet)

☐ This operation was explained to the evaluators. ☐ There is a noise data sheet ☐ There is a ventilation data sheet

ARLOC: 48000 Installation: ALLORD ARMORY

Location: 9C Operation: NBC Survey Date: Year 03 Month 10 Day 08 MACOM: NG Sub-MACOM: XX RAC: 4

Unit/Organization: 600 SAND STREET HENDERSON, TEXAS 75652 ROOM

Supervisor: Mr. X Ms. [redacted] Non-Responsive

Supervisor or Point of Contact Telephone Number: DSN Commercial X

Frequency (hrs/day): 01 No. CIVs: — No. MIL: 01 Contractors: — No. LOCs: —

Lab Hoods: — Vapor Degreasers: — Spray Booths: — Open Surface Tanks: — Ventilation Units:

Controls present (if >6, continue in comments)[25]	Evaluation [25 char max per line]	Unit Code	Controls Required [25 char max per line]

Gloves	e*	R	U
acid			
cold surfaces			
hot surfaces			
NBC agents			
oil			
solvents			
surgical gloves			
leather/cotton			
other			

Respirator	e*	R	U
airline			
abrasive blasting hood			
disposable			
full face air purifying			
1/2 face air purifying			
powered air purifying			
1/4 face air purifying			
self-contained			
other			

Manufacturer's Description [10 char max]	NIOSH TC# or foreign equiv. [10 char max]

Eyes and Face	e*	R	U
chemical splash			
full face shield			
chem/safety impact			
safety impact			
welding helmet			
sunglasses			
welding goggles/glasses			
laser eye protection			
other			

Hearing	e*	R	U
canal caps			
(>85-106dBA steady) earplugs			
helmets w/muffs			
muffs alone			
(106-116) muff/earplug comb			
muffs and earplugs			
(116 or >) with time limit			
other			
other			

Body	e*	R	U
aprons			
cold weather clothing			
coveralls			
full body suit			
heat reflective vest/suit			
safety belt/harness			
special purpose clothing			
other			
other			

Head and Feet	e*	R	U
cold weather boots/hat			
hard hats			
impermeable boots			
safety shoes (conductive)			
safety shoes (nonconductive)		X	X
other			
other			
other			
other			

e* = evaluator's recommendation or agreement

Reminders: ergonomics - dermatitis - physical agents - flammable storage
EYE (permanent) ____ - EYE (portable) ____ - SHW - GMV - LEV

ACO ADM DSA DSN LAB LCK RAD ECB EPL RHS SPR WEL

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Guard Description

Social Security Number or Other Unique Identifier

Last Name

First Name

MI

Sex

Category

M-DAY ONLY

☐ Personnel data provided by the facility is attached to this form

Comments

Remember to comment on problems, recommendations, and needed control items

1. Operation described is: NBC

2. OTHER OPERATIONS: MAN, LOA.

☐ (Comments continued on attached sheet)

☐ This operation was explained to the evaluators.

☐ There is a noise data sheet

☐ There is a ventilation data sheet

TRIMIS INDUSTRIAL HYGIENE SURVEY FORM

ARLOC: 48000 Installation:

Building Number: BLEORD ARMORY

Room Number: FIRING RANGE

Location: WF Operation: IFR

Survey Date: Year 03 Month 10 Day 08

MACOM: NG Sub-MACOM: XX RAC: 3

Unit/Organization: 600 SAND STREET HENDERSON TEXAS 75652

Supervisor: Mr. [X] Ms. [ ] [redacted]

Supervisor or Point of Contact Telephone Number: DSN [ ] Commercial [X]

Frequency (hrs/day): 000 No. CIVs: No. MIL: Contractors: No. LOCs:

Lab Hoods: Vapor Degreasers: Spray Booths: Open Surface Tanks: Ventilation Units:

Controls present (if >6, continue in comments)[25]	Evaluation [25 char max per line]	Unit Code	Controls Required [25 char max per line]

Gloves

	e*	R	U
acid			
cold surfaces			
hot surfaces			
NBC agents			
oil			
solvents			
surgical gloves			
leather/cotton			
other			

Respirator

	e*	R	U
airline			
abrasive blasting hood			
disposable			
full face air purifying			
1/2 face air purifying			
powered air purifying			
1/4 face air purifying			
self-contained			
other			

Manufacturer's Description [10 char max]	NIOSH TC# or foreign equiv. [10 char max]

Eyes and Face

	e*	R	U
chemical splash			
full face shield			
chem/safety impact			
safety impact			
welding helmet			
sunglasses			
welding goggles/glasses			
laser eye protection			
other			

Hearing

	e*	R	U
canal caps			
(>85-108dBA steady) earplugs			
helmets w/muffs			
muffs alone			
(108-118) muff/earplug comb			
muffs and earplugs			
(118 or >) with time limit			
other			
other			

Body

	e*	R	U
aprons			
cold weather clothing			
coveralls			
full body suit			
heat reflective vest/suit			
safety belt/harness			
special purpose clothing			
other			
other			

Head and Feet

	e*	R	U
cold weather boots/hat			
hard hats			
impermeable boots			
safety shoes (conductive)			
safety shoes (nonconductive)			
other			
other			
other			
other			

e* = evaluator's recommendation or agreement

Reminders: ergonomics - dermatitis - physical agents - flammable storage
EYE (permanent) ____ - EYE (portable) ____ - SHW - GMV - LEV

ACO ADM DSA DSN LAB LCK
RAD ECB EPL RHS SPR WEL

MEDDAC (FT MEADE) 1 MAY 95 FORM 609-R

PAC	EPC	CAS Code	PAC	EPC	Hazard Description
1		PONOISECO 7439-92-1 POFOOTHAZ POFLYPROJ POEYEHAZA POFLAMHAZ POLIFTING POSHARPOB POHOTOBJE POELSHOCK COLUBEOIL	3		LEAD DUST

Social Security Number or Other Unique Identifier | Last Name | First Name | MI | Sex | Category

☐ Personnel data provided by the facility is attached to this form

Comments — Remember to comment on problems, recommendations, and needed control items

1. Operation described is: IFR
2. OTHER Operations: SAH, NAN, LOA

(Comments continued on attached sheet)

☐ This operation was explained to the evaluators. ☐ There is a noise data sheet ☐ There is a ventilation data sheet

USAMMA INDUSTRIAL HYGIENE SURVEY FORM

ARLOC: 48000 Installation:

Building Number: ALFORD ARMORY

Room Number: DRILL FLOOR

Location: OT Operation: OTH

Survey Date: Year 03 Month 10 Day 08

MACOM: NG Sub-MACOM: XX RAC:

Unit/Organization: 600 SAND STREET HENDERSON, TEXAS 75652

Supervisor: Mr. [X] Ms. [ ] [redacted]

Supervisor or Point of Contact Telephone Number: DSN: Commercial: [X]

Frequency (hrs/day): 009 No. CIVs: No. MIL: Contractors: No. LOCs:

Lab Hoods: Vapor Degreasers: Spray Booths: Open Surface Tanks: Ventilation Units:

Controls present (if >6, continue in comments)[25]	Evaluation [25 char max per line]	Unit Code	Controls Required [25 char max per line]

Gloves

	e*	R	U
acid			
cold surfaces			
hot surfaces			
NBC agents			
oil			
solvents			
surgical gloves			
leather/cotton			
other			

Respirator

	e*	R	U
airline			
abrasive blasting hood			
disposable			
full face air purifying			
1/2 face air purifying			
powered air purifying			
1/4 face air purifying			
self-contained			
other			

Manufacturer's Description [10 char max]	NIOSH TC# or foreign equiv. [10 char max]

Eyes and Face

	e*	R	U
chemical splash			
full face shield			
chem/safety impact			
safety impact			
welding helmet			
sunglasses			
welding goggles/glasses			
laser eye protection			
other			

Hearing

	e*	R	U
canal caps			
(>85-108dBA steady) earplugs			
helmets w/muffs			
muffs alone			
(108-118) muff/earplug comb			
muffs and earplugs			
(118 or >) with time limit			
other			
other			

Body

	e*	R	U
aprons			
cold weather clothing			
coveralls			
full body suit			
heat reflective vest/suit			
safety belt/harness			
special purpose clothing			
other			
other			

Head and Feet

	e*	R	U
cold weather boots/hat			
hard hats			
impermeable boots			
safety shoes (conductive)			
safety shoes (nonconductive)			X
other			X
other			
other			
other			

e* = evaluator's recommendation or agreement

Reminders: ergonomics - dermatitis - physical agents - flammable storage
EYE (permanent) ____ - EYE (portable) ____ - SHW - GMV - LEV

ACO ADM DSA DSN LAB LCK
RAD ECB EPL RHS SPR WEL

MEDDAC (FT MEADE) 1 MAY 95 FORM 609-R

PAC	EPC	CAS Code	PAC	EPC	Hazard Description
		PONOISECO			
		POFOOTHAZ			
		POFLYPROJ			
		POEYEHAZA			
		POFLAMHAZ			
		POLIFTING			
		POSHARPOB			
		POHOTOBJE			
		POELSHOCK			
		COLUBEOIL			

Social Security Number or Other Unique Identifier | Last Name | First Name | MI | Sex | Category

☐ Personnel data provided by the facility is attached to this form

Comments — Remember to comment on problems, recommendations, and needed control items

1 Operation described is: other

2 OTHER OPERATIONS: LOA, MAN

☐ (Comments continued on attached sheet)

☐ This operation was explained to the evaluators. ☐ There is a noise data sheet ☐ There is a ventilation data sheet

HHIMS INDUSTRIAL HYGIENE SURVEY FORM

ARLOC: 48000 Installation:

Building Number: ALFORD ARMORY

Room Number: FLAMmable STORAGE

Location: SC Operation: DHP Survey Date: Year 03 Month 10 Day 08 MACOM: NG Sub-MACOM: XX RAC: 3

Unit/Organization: 600 SAND STREET HENDERSON TEXAS 75652

Supervisor: Mr. X Ms. [redacted]

Supervisor or Point of Contact Telephone Number: DSN Commercial X

Frequency (hrs/day): 009 No. CIVs: 01 No. MIL: — Contractors: — No. LOCs: —

Lab Hoods: — Vapor Degreasers: — Spray Booths: — Open Surface Tanks: — Ventilation Units: —

Controls present (if >6, continue in comments)[25]	Evaluation [25 char max per line]	Unit Code	Controls Required [25 char max per line]

Gloves	e*	R	U
acid			
cold surfaces			
hot surfaces			
NBC agents			
oil			
solvents			
surgical gloves			
leather/cotton			
other			

Respirator	e*	R	U
airline			
abrasive blasting hood			
disposable			
full face air purifying			
1/2 face air purifying			
powered air purifying			
1/4 face air purifying			
self-contained			
other			

Manufacturer's Description [10 char max] | NIOSH TC# or foreign equiv. [10 char max]

Eyes and Face	e*	R	U
chemical splash			
full face shield			
chem/safety impact			
safety impact			
welding helmet			
sunglasses			
welding goggles/glasses			
laser eye protection			
other			

Hearing	e*	R	U
canal caps			
(>85-108dBA steady) earplugs			
helmets w/muffs			
muffs alone			
(108-118) muff/earplug comb			
muffs and earplugs			
(118 or >) with time limit			
other			
other			

Body	e*	R	U
aprons			
cold weather clothing			
coveralls			
full body suit			
heat reflective vest/suit			
safety belt/harness			
special purpose clothing			
other			
other			

Head and Feet	e*	R	U
cold weather boots/hat			
hard hats			
impermeable boots			
safety shoes (conductive)		X	X
safety shoes (nonconductive)			
other			
other			
other			
other			

e* = evaluator's recommendation or agreement

Reminders: ergonomics - dermatitis - physical agents - flammable storage
EYE (permanent) ____ - EYE (portable) ____ - SHW - GMV - LEV

ACO ADM DSA DSN LAB LCK
RAD ECB EPL RTS SPR WEL

MEDDAC (FT MEADE) 1 MAY 95 FORM 609-R

PAC	EPC	CAS Code
		PONOISECO
2	Ø	POFOOTHAZ
		POFLYPROJ
2	Ø	POEYEHAZA
2	Ø	POFLAMHAZ
2	Ø	POLIFTING
		POSHARPOB
		POHOTOBJE
		POELSHOCK
2	Ø	COLUBEOIL

PAC	EPC	Hazard Description
3	A	Petroleum distillates
3	A	petroleum spirits/mineral spts/vmp Naphtha.

Social Security Number or Other Unique Identifier	Last Name	First Name	MI	Sex	Category

☐ Personnel data provided by the facility is attached to this form

Comments — Remember to comment on problems, recommendations, and needed control items

1. Operation described is: DHP Storage and dispersing oils and lubricants.

☐ (Comments continued on attached sheet)

☐ This ope[illegible] was explained to the evaluators.
☐ There is a [illegible] data sheet
☐ There is a ventilation data sheet

BEST AVAILABLE COPY

APPENDIX D

Kenna - PYI

HEADQUARTERS
DEPARTMENTS OF THE ARMY AND THE AIR FORCE
Washington, DC 20310-2500
31 January 1994

NG PAM (AR) 385-16/
ANGPAM 91-101

Safety

GUIDELINES FOR CONVERTING INDOOR FIRING RANGES TO OTHER USES

Summary. This is a new pamphlet. This guidance prescribes policy, responsibilities, and procedures on how to convert lead-contaminated indoor firing ranges to other uses.

Applicability. This guidance applies to all persons responsible for the operation of Army National Guard (ARNG) and Air National Guard (ANG) indoor firing ranges. As no regulation/guidance can foresee all situations that might arise, the following is written in a broad scope and is intended to be interpreted as to the INTENT of the law by health professionals.

Supplementation. Supplementation of this guidance is prohibited without prior approval from Chief, National Guard Bureau (NGB-AVN-SI).

Impact on New Manning System. This guidance does not contain information that affects the New Manning System.

Interim changes. Interim changes are not official unless they are authenticated by the Chief, Administrative Services. Users will destroy interim changes on their expiration date unless sooner superseded or rescinded.

Suggested Improvements. The proponent of this publication is the National Guard Bureau. Users are invited to send comments and suggested improvements on DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to Chief, National Guard Bureau, Attn: NGB-AVN-SI, 111 South George Mason Drive, Arlington, VA 22204-1382.

Distribution. Distribution of this publication is made in accordance with the requirements on DA Form 12-09-E.

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D. OSHA Instruction CPL 2-2.20B
E. Where to Purchase Sample Media and Containers
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Glossary

1. Purpose

This pamphlet establishes policy and procedures for converting indoor firing ranges to other uses.

2. References

Related publications are listed below.

a. DODI 6055.1 (Department of Defense Occupational Safety and Health (OSH) Program).

b. AR 11-34 (The Army Respiratory Protection Program).

c. AR 40-5 (Preventive Medicine).

d. NGR (AR) 385-15 (Policy, Responsibilities, and Procedures for Inspection/Evaluation and Use of ARNG Indoor Firing Ranges).

e. TB MED 502 (Occupational and Environmental Health Respiratory Protection Program).

f. USAEHA TG 141 (Industrial Hygiene Air Sampling and Bulk Sampling Instructions).

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

APPENDIX B
INTERPRETATION OF SAMPLE RESULTS (PRIOR TO CLEANING)

B-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.

B-2 BETWEEN 201 and 200,000 micrograms/sq ft.
Range must be decontaminated. Continue with cleaning instructions listed in paragraph 15. Sample results will be used to establish a baseline. The baseline sample results will be used to ensure the 75 percent reduction is achieved.

B-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 should be considered suspect. Larger concentrations of lead dust may exist on surfaces tested other than results indicate. If the initial sampling results are above 200,000 micrograms/sq ft, the range should be cleaned by either HEPA vacuuming and/or wet wiping to establish a baseline. After the cleaning procedure is completed, resampling should occur until sample results are under the 200,000 micrograms/sq ft limit.

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

APPENDIX C
INTERPRETATION OF SAMPLE RESULTS (AFTER CLEANING)

C-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. The paint color must contrast the color of the present substratum.

C-2 ABOVE 200 micrograms/sq ft
As a minimum, a 75 percent reduction should occur from your initial sample results or the samples should be under the 200 microgram/sq ft level. If all sample results meet this criteria, a contrasting color of lead-free latex paint must be applied before the area is utilized for other purposes. The room can only be used as a storage area. Storage of kitchen equipment and food is prohibited. The room cannot be used for a child care or nursery area. If sample results are not below the 75 percent reduction, a more thorough cleaning of the range is required along with resampling until criteria are met.

* **PLEASE NOTE**, that if your original wipe sample results were, i.e., 175,000 ug/sq ft then you would have to reduce the lead level below 13,125 ug/sq ft. This would meet the 75 percent reduction criteria, however, this is an enormous amount of lead dust and care should be taken to ensure a heavy coat of paint seals the lead dust. It is unknown at this time whether or not the remaining amount of lead dust will allow the latex paint to adhered to the substratum. If the paint peels, falls to the floor and is crushed over a period of time, it will create another respirable lead hazard. If this happens, contact your Regional Industrial Hygiene Office for guidance. Periodically monitor the converted range for signs of peeling paint. Paint chips can be analyzed for lead content. **DO NOT IGNORE PEELING PAINT IN A CONVERTED INDOOR FIRING RANGE.**

APPENDIX E

EMSL Analytical, Inc.
10755 Baltimore Avenue, Beltsville, MD 20705
Phone: (301) 937-5700 Fax: (301) 937-8701 Email: beltsvillelab@emsl.com

Attn: Non-Responsive
Fax:
Project: Henderson Armory

Customer ID: USA50B
Customer PO: 1449-03W
Received: 10/22/03 4:32 PM
EMSL Order: 190305711
EMSL Project ID:

Lead in Wipes by Flame AAS (SW 846, 7420)

Client Sample Description		Lab ID	Analyzed	Area Sampled	Lead Concentration
H-01	Drill floor near rolling door	0001	10/23/2003	144 in²	110.0 µg/ft²
H-02	Drill floor center of drill floor	0002	10/23/2003	144 in²	180.0 µg/ft²
H-03	Drill floor front of mess hall	0003	10/23/2003	144 in²	560.0 µg/ft²
H-04	Kitchen floor @ entrance	0004	10/23/2003	144 in²	220.0 µg/ft²
H-05	Blank	0005	10/23/2003	n/a	<10.0 µg/wipe
H-06	Orderly rm, supply grill	0006	10/23/2003	144 in²	11.0 µg/ft²
H-07	IFR bullet back stop	0007	10/23/2003	144 in²	67000.0 µg/ft²
H-08	IFR front of bullet box stop	0008	10/23/2003	144 in²	7300.0 µg/ft²
H-09	IFR rear wall next to ent/exit	0009	10/23/2003	144 in²	250.0 µg/ft²
H-10	Blank	0010	10/23/2003	n/a	<10.0 µg/wipe

or other approved signatory

Results apply to the samples analyzed in accordance with the sample results listed in this report meet the mandatory and procedural requirements established by the AIHA, unless otherwise indicated otherwise in the comment section.
ACCREDITATIONS: AIHA Environmental Lead Laboratory Approval Program #122891

Date Printed: 10/23/2003 6:07:21 PM

Page 1 of 1

DEPARTMENT OF THE ARMY AND THE AIR FORCE
NATIONAL GUARD BUREAU
REGIONAL INDUSTRIAL HYGIENE OFFICE
AIRPORT PLAZA SUITE 1530
510 PLAZA DRIVE
COLLEGE PARK, GA 30349

NGB-AVN-SI

February 10, 2004

MEMORANDUM FOR: ADJUTANT GENERAL TX ARNG, ATTN.: State Occupational Health Office, P. O. BOX 5218, Austin, TX 78763-5218

SUBJECT: Transmittal of the Survey Reports Seguin Armory, New Braunfels Armory, San Marcos Armory, Hondo Armory, Kerrville Armory and Fredericksburg Armory, TX.

1. References.

a. Department of Defense Instruction 6055.1, Department of Defense Occupational Safety and Health (OSH) Program, 26 October 1984.

b. Army Regulation (AR) 40-5, 30 August 1986, Medical Service, Preventive Medicine.

c. National Guard Regulation (NGR) 385-10, 1988, Army National Guard Safety and Occupational Health Program.

d. AR 11-34, The Army Respiratory Protection Program, 15 February 1990.

e. TB MED 502, Occupational and Environmental Health Respiratory Protection Program, February 1982.

f. DA PAM 40-503, 30 October 2000, The Army Industrial Hygiene Program.

g. DA PAM 40-501, 10 December 1998, Hearing Conservation.

h. Threshold Limit Values and Biological Exposure Indices (TLV's) for 2001, American Conference of Governmental Industrial Hygienists (ACGIH), Cincinnati, Ohio.

i. Industrial Ventilation, 23rd Edition, American Conference of Governmental Industrial Hygienist, Cincinnati, Ohio.

j. USAEHA TG-141, November 1997, Guidelines for Air Sampling and Bulk sample Collection.

NGB-AVN-SI
SUBJECT: Transmittal of the Survey Reports Seguin Armory, New Braunfels Armory, San Marcos Armory, Hondo Armory, Kerrville Armory and Fredericksburg Armory, TX.

k. Title 29, Code of Federal Regulations (CFR), 2000 rev., part 1910, Occupational Safety and Health Standards.

l. Report of October 2003, Industrial Hygiene Survey, Non-Responsive Technical Solutions Fayetteville, GA.

2. General.

a. At the request of the TX ARNG Safety and Occupational Health Office, an Industrial Hygiene Service was put together to conduct Health Hazard Information module (HHIM) Field surveys and industrial hygiene sampling of the Seguin Armory, New Braunfels Armory, San Marcos Armory, Hondo Armory, Kerrville Armory and Fredericksburg Armory, TX.

b. The survey was conducted by Non-Responsive Technical Solutions, Fayetteville, GA.

3. Findings. All Health Hazard information are on the survey findings of the report. (See enclosure 1)

4. Recommendations.

a. Follow all recommendations made in reference 1.l., requesting industrial hygiene (IH) services where needed to complete the recommendations.

b. Conduct an air sampling survey in the areas in and around those identified with elevated lead dust levels in page 3 0f reference 1.l, to ensure that the lead dust present is not airborne and that employees in these areas are not exposed above the action level where applicable.

c. Control water infiltration in the armory and/or replace or repair damaged surfaces or components (ceiling and floor tiles). Building conditions that present IAQ concerns or problems not only exacerbates normally minor health issues but also tend to promote or accelerate building deterioration.

d. The recommendations given in the comment section and data collected will serve as a baseline for the Industrial Hygiene Implementation Plan (IHIP) for FY-03. A follow up operation and hazard specific air sampling survey based on the enclosed findings will be included in the FY-04 IHIP.

NGB-AVN-SI
SUBJECT: Transmittal of the Survey Reports Seguin Armory, New Braunfels Armory, San Marcos Armory, Hondo Armory, Kerrville Armory and Fredericksburg Armory, TX.

e. Consider additional Industrial Hygiene services to monitor operations that were not looked at or surveyed during the present survey, especially if this will help eliminate health hazards and reduce medical surveillance cost.

f. To execute your responsibilities in correcting all deficiencies and meeting all standards coordinate with the Occupational Health Nurse and the Occupational Safety and Health Office for technical guidance.

f. Give special consideration to cleaning light fixtures, increasing the wattage and painting walls a lighter color when upgrading the lighting in the facility.

5. If additional information is needed about the industrial hygiene survey or air sample

Non-Responsive

CF:
NBG-AVN-SH
State Occupational Health Office, P. O. BOX 5218, Austin, TX 78763-5218.
State Safety Manager, P. O. BOX 5218, Austin, TX 78763-5218.

Encl
as

Army National Guard
Industrial Hygiene Survey

Hondo Armory

2404 18th Street
Hondo, TX 78861-1598

POC Non-Responsive

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5 November 2003

MEMORANDUM FOR: Texas Army National Guard, ATTN Non-Responsive Commander, Det. 1 Company C 1st Battalion 141st Inf., 2404 18th Street, Hondo, TX 78861-1598

SUBJECT: Industrial Hygiene Survey of Hondo Armory Army National Guard, Hondo, Texas

BACKGROUND:

At the request of Non-Responsive National Guard Bureau Regional Industrial Hygiene South Office, Atlanta, GA, an initial baseline industrial hygiene survey was performed at the following Army National Guard Armory facility on **15 October 2003**:

Hondo Armory
2404 18th Street
Hondo, TX 78861-1598

This facility houses the following units:

No.	Unit	Commander
1	Det. 1 Company C 1st Battalion 141st Inf.	Non-Responsive
2		

The facility was built in 1954

The baseline industrial hygiene survey includes:

- Lead wipe dust surveys
- Illuminations surveys
- Ventilation surveys
- Noise surveys, if necessary

A field survey form is completed on all industrial operations at the facility, and the data contained in this report.

EXECUTIVE SUMMARY:

An initial baseline industrial hygiene survey was conducted at the Hondo Armory, Hondo, Texas, on 15 October 2003 as part of the Texas Army National Guard Occupational Health Program to identify potential hazards in the workplace. The survey consisted of collecting lead wipe samples, bulk asbestos samples (as needed), conducting noise and illumination survey, as well as evaluating the condition of the building, including the Heating Ventilation and Air Conditioning (HVAC) System as it relates to indoor air quality. A review of several industrial hygiene programs, such as hazard communication, radiation protection, ergonomics, and personal protective equipment was also performed.

The following table summarizes the survey findings and recommendations for each topic surveyed:

Topic	Summary of Findings	Recommendations
Building condition / Indoor Air Quality	Water damage to several areas of the ceiling through out the building, are evidence of roof leaks. There are open work orders to fix these leaks.	Create a maintenance work order to identify and fix sources of leaks.
Lead Wipe Samples	Below Reportable Levels (BRL) to 1900 $\mu g/ft^2$	Decontaminate surfaces and all contaminated items, and follow good hygiene and housekeeping practices.
Asbestos Bulk Samples	No issues	No action
Illumination Survey	29.2 to 181.7 foot-candles	Upgrade lighting measurements as required. Replacing blown or broken lights, painting the walls a light color, cleaning existing light fixtures, rearranging furniture to make better use of available light, and supplemental or task lighting are considerations in increasing available light levels.
Noise Survey	No issues	No action
Hazards Communication	No Chemical list available. MSDS are not updated for chemicals used. ***Unit just returned from deployment, so they did not have all paperwork updated as yet.	Update and maintain chemical inventory list and cross-reference MSDS book to inventory list for easy access in case of emergency. Personnel responsible for these items should receive annual training in HAZCOM requirements

Ergonomics	Ergonomics concerns in Administrative and Supply Areas	Complete ergonomics survey on all personnel and offer ergonomic training or awareness to employees who spend the majority of their time working on a computer terminal
Personal Protective Equipment	No issues	No Action

TECHNICAL ASSISTANCE:

Non-Responsive

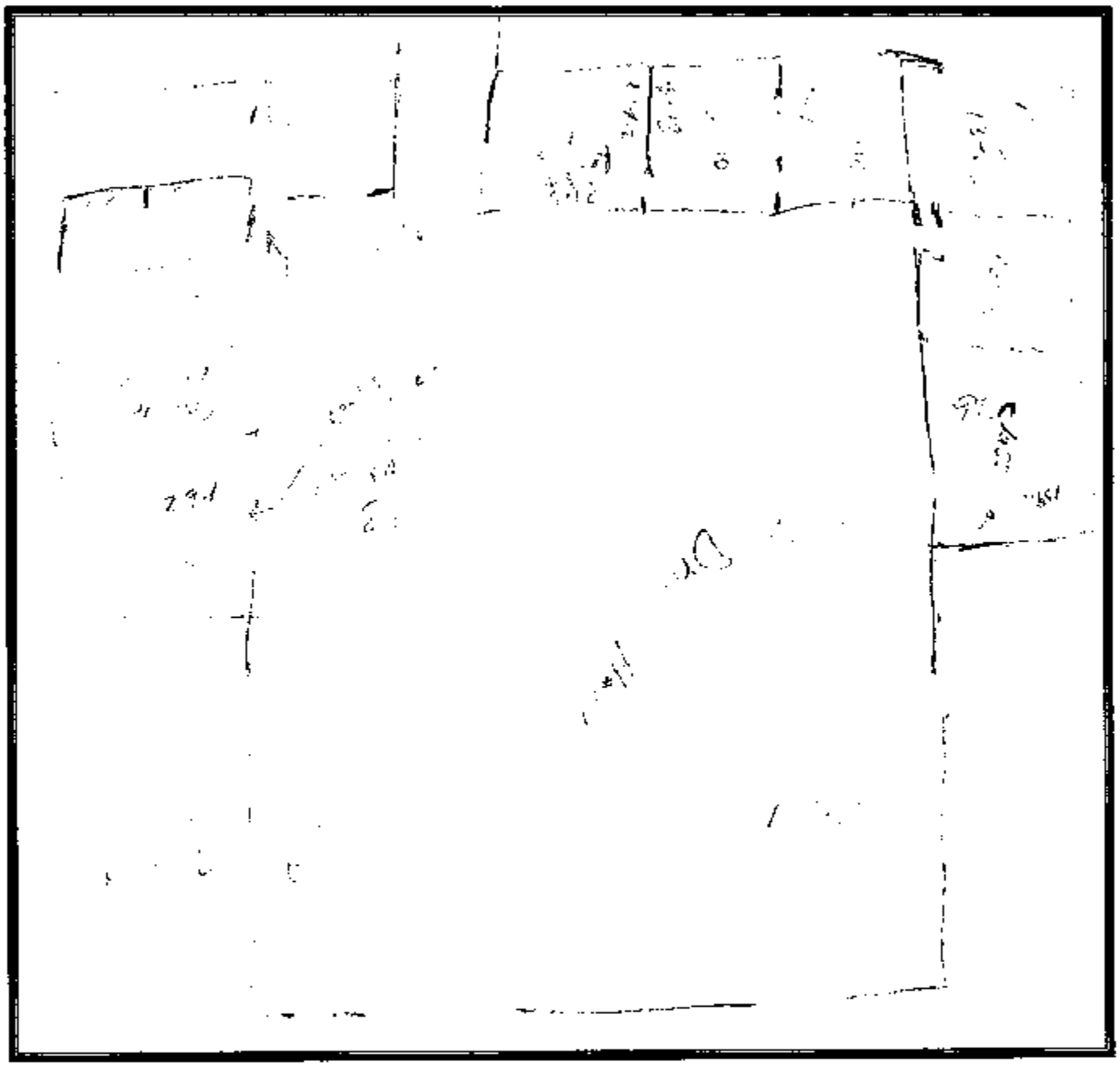
INSTRUMENTATION:

The following survey instrumentation was provided by or for the contractor, and was used to obtain lead wipe dust, illumination, ventilation, and noise sample measurements. All noise dosimeter instrumentation was calibrated before and after sampling. All other instrumentation was operated according to manufacture recommendations.

Instrument	Serial Number	Calibration
Extech Light Meter	Q009472	Purchased New June 2003
Bruel & Kjaer Sound Level Meter	1942768	September 7, 2002
Bruel & Kjaer 4231 Acoustic calibrator	1944552	September 3, 2002
Alnor Velometer	53281	October 1, 2002
Ghost Wipe Lead Dust Wipes		

FINDINGS:

FACILITY DIAGRAM:



PERSONNEL DATA:

This facility houses the following full-time personnel:

Last Name	First Name	MI	Sex	SSN (Last 4 digits)	Rank	Unit #
Non-Responsive						

BUILDING CONDITION:

Walk-through Observations

No.	Location	Description	Picture #
1		Overall the building is in good maintenance, as it was recently renovated due to tornado damage. A new roof was part of the renovation.	
2	Readiness NCO Office	There is evidence of a roof leak in this office. A work order is open to fix.	1
3	Male latrine	There is evidence of roof leakage in the male latrine	2
4	Kitchen	There is evidence of roof leakage in the kitchen area. A work order has been opened to fix.	3 & 4
5			
6			

Paint Chips Lead Sample Results:

Sample Location	Sample No.	Results ($\mu g/ft^2$)	Remarks

ADMINISTRATIVE OFFICES:

Light Reading Results:

There are several administrative offices in the facility. Administrative personnel are required to use computer systems, file, read, write and perform other administrative tasks as necessary. Computer use occurs throughout the day.

Illumination and Engineering Society of North America (IES) requires 20 to 50 foot-candles (FC) for storage areas and 50 100 FC for administrative areas.

Light levels found in the administrative areas are as follows:

Location	Sample Reading in Foot-candles (FC)	Average FC	Remarks
Readiness NCO		105.9	
Office 1	88.4		
Office 2	70.5		
Recruiter's Office	139.6		
Classroom	94.3		
Classroom	109.2		
Open Front office	181.7		

Ventilation Sample Results:

Location	Sample Reading (FPM)	Area of grid	Control range
Readiness NCO	800	12 X 12	

Lead Wipe Sample Results:

Under the Environment Protection Agency standard (40 CFR 745) lead dust levels above 40 micrograms per square foot on bare and carpeted floors is considered dangerous.

Sample Location	Sample No.	Results ($\mu g/ft^2$)	Remarks

KITCHEN / MESS HALL

The kitchen is currently not used for cooking, however, the surfaces are used to prepare sandwiches and other light meals.

Light Reading Results:

Illumination and Engineering Society of North America (IES) requires 20 to 50 foot-candles (FC) for storage areas and 50 – 100 FC for administrative areas.

Light levels found in the kitchen / mess hall area are as follows:

Location	Sample Reading in Foot-candles (FC)	Average FC	Remarks
Kitchen Counter	29.1		

Lead Wipe Sample Results:

Under the Environment Protection Agency standard (40 CFR 745) lead dust levels above 40 micrograms per square foot on bare and carpeted floors is considered dangerous.

Sample No.	Sample Location	Results ($\mu g/ft^2$)	Remarks
1-Hondo	Blank (Administrative offices, Kitchen, Drill Hall and HVAC)	BRL	Below Reporting Levels
2-Hondo	Kitchen Counter	BRL	

DRILL HALL

Personnel officially use the drill hall 2 days per month. It is not rented out for community events. Weapons cleaning take place by units during drill weekends.

Light Reading Results:

Illumination and Engineering Society of North America (IES) requires 20 to 50 foot-candles (FC) for storage areas and 50 – 100 FC for administrative areas.

Light levels found in the drill hall area are as follows:

Location	Sample Reading in Foot-candles (FC)	Average FC	Remarks
Drill Hall 1	113.7		
Drill Hall 2	98.1		
Drill Hall 3	76.3		
Drill Hall 4	83.7		

Lead Wipe Sample Results:

Under the Environment Protection Agency standard (40 CFR 745) lead dust levels above 40 micrograms per square foot on bare and carpeted floors is considered dangerous. The following are the sample results:

Sample No.	Sample Location	Results ($\mu g/ft^2$)	Remarks
3-Hondo	Drill Hall by Supply Office	BRL	Below Reporting Levels
4-Hondo	Drill Hall by Back Door	BRL	

Noise Sample Results:

Noise levels in the drill hall area were below the threshold required for hearing protection. There is no requirement for a Hearing Conservation Program for full-time personnel.

HVAC SYSTEM

The HVAC system was newly installed with the renovation. Since there is no IFR in this facility, an HVAC lead wipe sample was not taken.

SUPPLY ROOM(s) and VAULT(s)

This facility has one supply room, with several storage areas. The supply SGT uses the computer between 4-8 hours per day. An inventory of all chemicals and a Material Safety Data Sheet book are not updated for chemicals used, as unit has recently returned from deployment. Heavy lifting is performed with the aid of hand jacks, lifts, and other personnel.

Light Reading Results:

Illumination and Engineering Society of North America (IES) requires 20 to 50 foot-candles (FC) for storage areas and 50 – 100 FC for administrative areas.

Light levels found in the Supply Room / Vault areas are as follows:

Location	Sample Reading in Foot-candles (FC)	Average FC	Remarks
Supply Desk	14.3		All bulbs are on, but bulbs are old.

Lead Wipe Sample Results:

Under the Environment Protection Agency standard (40 CFR 745) lead dust levels above 40 micrograms per square foot on bare and carpeted floors is considered dangerous.

Sample No.	Sample Location	Results ($\mu g/ft^2$)	Remarks
5-Hondo	Blank (Supply and Vault)	BRL	Below Reporting Levels
6-Hondo	Supply Desk	BRL	
7-Hondo	Rack in Vault	1900	
8-Hondo	Shelf in Vault	1220	

INDOOR FIRING RANGE

This facility has never had an indoor firing range.

MOTOR POOL

The motor pool is an outdoor area used to park vehicles and perform light maintenance.

APPENDIX A – Recommendations:

a. Continue a maintenance schedule for ensuring that filters in the HVAC system are properly changed, any leaks or standing water are identified, repaired, and prevented, and supply and exhaust grilles are appropriately cleaned. Failure to do so may lead to indoor air quality issues. The plan should include monitoring, inspecting and cleaning HVAC components such as outside air intakes, outside air dampers, air filters, drain pans, heating and cooling coils, the interior of air handling units, fan motors and belts, air humidification, controls and cooling towers. Consult manufacturers' instructions for appropriate maintenance schedules.

b. If indoor air quality issues develop, non-porous (e.g., metals, glass, and hard plastics) and semi-porous (e.g., wood, and concrete) materials that are structurally sound and are visibly moldy can be cleaned and reused. Cleaning should be done using a detergent solution. Porous materials such as ceiling tiles and insulation, and wallboards with more than a small area of contamination should be removed and discarded. Porous materials (e.g., wallboard, and fabrics) that can be cleaned, can be reused, but should be discarded if possible. A professional restoration consultant should be contacted when restoring porous materials with more than a small area of fungal contamination. All materials to be reused should be dry and visibly free from mold. Routine inspections should be conducted to confirm the effectiveness of remediation work.

c. Any initial water infiltration should be stopped and cleaned immediately. An immediate response (within 24 to 48 hours) and thorough clean up, drying, and/or removal of water damaged materials will prevent or limit mold growth. If the source of water is elevated humidity, relative humidity should be maintained at levels below 60% to inhibit mold growth. Emphasis should be on ensuring proper repairs of the building infrastructure, so that water damage and moisture buildup does not recur.

d. Contaminated materials that cannot be cleaned should be removed from the building in a sealed plastic bag. There are no special requirements for the disposal of moldy materials.

e. Upgrade lighting measurements as required. Replacing blown or broken lights, painting the walls a light color, cleaning existing light fixtures, rearranging furniture to make better use of available light, and supplemental or task lighting are considerations in increasing available light levels.

f. An ergonomics survey should be completed for all supply and administrative personnel as a preventative measure to address and document any ergonomic concerns or problems. An emphasis on maintaining neutral postures and proper lifting techniques should be covered.

g. Material Safety Data Sheets (MSDS) are required to be kept at the primary workplace facility and to be easily accessible in case of emergency. Personnel responsible for these items should receive annual training in the requirements of the Hazardous Communication Program and the appropriate keeping and storage of MSDSs.

h. Ensure personnel are prohibited from drinking, eating, smoking chewing tobacco and gum, or applying makeup in supply and maintenance areas. Hands should be cleaned with soap and water before eating drinking, eating, smoking, chewing tobacco and gum, or applying makeup. Remove all refrigerators, cups, and other utensils from supply and maintenance areas.

j. Fire extinguishers should be visually inspected on a monthly basis and recorded on service tag.

k. Perform noise survey on maintenance equipment. Ensure that all noise hazardous machinery and noise hazardous areas are appropriately marked.

l. Perform noise dosimetry on maintenance personnel during drill weekend, in order to document noise exposure.

APPENDIX B – Pictures

	
Photo # 1 **There is evidence of roof leakage in the Readiness NCO office**	**Photo # 2** **There is evidence of water leakage in male latrine**
	
Photo # 3 **Evidence of roof leakage in the kitchen area**	**Photo # 4** **Another view of the area that is showing signs of roof leakage in the kitchen area.**

	
Photo # 5	**Photo # 6**
Kitchen counter area where lead wipe samples were taken	**Drill Hall area near rear door and supply room, lead wipe samples were taken here.**

APPENDIX C – Lab Report

Analytical Environmental Servs, Inc. Date: 10-24-2003

TOTAL LEAD IN WIPE SAMPLES
N7082

CLIENT:	Technical Solutions International	**Lab Order:**	0310642
Project:	Hondo Armory	**Date Received:**	10/20/2003 12:5
Project No:	Hondo Armory	**Matrix:**	Wipe
PO No:		**Analyst:**	SSS

Laboratory ID	Client Sample ID	Results	Units	MDL	DF	Date Collected	Date Analyzed
0310642-001A	1-HONDO	BRL	µg, Total	2.83	1	10/15/2003	10/23/2003
0310642-002A	2-HONDO	BRL	µg, Total	2.83	1	10/15/2003	10/23/2003
0310642-003A	3-HONDO	BRL	µg, Total	2.83	1	10/15/2003	10/23/2003
0310642-004A	4-HONDO	BRL	µg, Total	2.83	1	10/15/2003	10/23/2003
0310642-005A	5-HONDO	BRL	µg, Total	2.83	1	10/15/2003	10/23/2003
0310642-006A	6-HONDO	BRL	µg, Total	2.83	1	10/15/2003	10/23/2003
0310642-007A	7-HONDO	1900	µg, Total	2.83	1	10/15/2003	10/23/2003
0310642-008A	8-HONDO	1220	µg, Total	2.83	1	10/15/2003	10/23/2003

Qualifiers: MDL - Method Detection Limit DF - Dilution Factor
ND - Not Detected at the Reporting Limit

Page 2 of 2

DEPARTMENT OF THE ARMY AND THE AIR FORCE
NATIONAL GUARD BUREAU
REGIONAL INDUSTRIAL HYGIENE OFFICE
AIRPORT PLAZA SUITE 1530
510 PLAZA DRIVE
COLLEGE PARK, GA 30349

NGB-AVN-SI July 30, 2003

MEMORANDUM FOR: ADJUTANT GENERAL TX ARNG, ATTN.: State Occupational Health Office, P. O. BOX 5218, Austin, TX 78763-5218

SUBJECT: Transmittal of the Survey Reports for Irving Armory, Dallas, TX and Fort Worth #2 Armory, Fort Worth, TX.

1. References.

a. Department of Defense Instruction 6055.1, Department of Defense Occupational Safety and Health (OSH) Program, 26 October 1984.

b. Army Regulation (AR) 40-5, 30 August 1986, Medical Service, Preventive Medicine.

c. National Guard Regulation (NGR) 385-10, 1988, Army National Guard Safety and Occupational Health Program.

d. AR 11-34, The Army Respiratory Protection Program, 15 February 1990.

e. TB MED 502, Occupational and Environmental Health Respiratory Protection Program, February 1982.

f. DA PAM 40-503, 30 October 2000, The Army Industrial Hygiene Program.

g. DA PAM 40-501, 10 December 1998, Hearing Conservation.

h. Threshold Limit Values and Biological Exposure Indices (TLV's) for 2001, American Conference of Governmental Industrial Hygienists (ACGIH), Cincinnati, Ohio.

i. Industrial Ventilation, 23rd Edition, American Conference of Governmental Industrial Hygienist, Cincinnati, Ohio.

j. USAEHA TG-141, November 1997, Guidelines for Air Sampling and Bulk sample Collection.

NGB-AVN-SI
SUBJECT: Transmittal of the Survey Reports for Irving Armory, Dallas, TX and Fort Worth #2 Armory, Fort Worth, TX.

k. Title 29, Code of Federal Regulations (CFR), 2000 rev., part 1910, Occupational Safety and Health Standards.

l. Report dated 2 July 2003, Industrial Hygiene Survey, Tamar Sciences, Inc., Naperville, IL.

2. General.

a. At the request of the TXARNG Safety and Occupational Health Office, an Industrial Hygiene Service was put together to conduct Health Hazard Information module (HHIM) Field surveys and industrial hygiene sampling of the Irving Armory, Dallas, TX and Fort Worth #2 Armory, Fort Worth, TX.

b. The surveys were conducted by Non-Responsive of Tammer Sciences, Inc., Napervile, IL

3. Findings. All Health Hazard information are on the survey findings of the report. (See enclosure 1)

4. Recommendations.

a. Follow all recommendations made in reference 1.l., requesting industrial hygiene (IH) services where needed to complete the recommendations.

b. Conduct an air sampling survey in the areas in and around those identified with elevated lead dust levels in page 3 0f reference 1.l, to ensure that the lead dust present is not airborne and that employees in these areas are not exposed above the action level where applicable.

c. Control water infiltration in the armory and/or replace or repair damaged surfaces or components (ceiling and floor tiles). Building conditions that present IAQ concerns or problems not only exacerbates normally minor health issues but also tend to promote or accelerate building deterioration.

d. The recommendations given in the comment section and data collected will serve as a baseline for the Industrial Hygiene Implementation Plan (IHIP) for FY-03. A follow up operation and hazard specific air sampling survey based on the enclosed findings will be included in the FY-04 IHIP.

e. Consider additional Industrial Hygiene services to monitor operations that were not looked at or surveyed during the present survey, especially if this will help eliminate health hazards and reduce medical surveillance cost.

NGB-AVN-SI
SUBJECT: Transmittal of the Survey Reports for Irving Armory, Dallas, TX and Fort Worth #2 Armory, Fort Worth, TX.

f. To execute your responsibilities in correcting all deficiencies and meeting all standards coordinate with the Occupational Health Nurse and the Occupational Safety and Health Office for technical guidance.

f. Give special consideration to cleaning light fixtures, increasing the wattage and painting walls a lighter color when upgrading the lighting in the facility.

5. If additional information is needed about the industrial hygiene survey or air sample

Non-Responsive

CF:
NBG-AVN-SH
State Occupational Health Office, P. O. BOX 5218, Austin, TX 78763-5218.
State Safety Manager, P. O. BOX 5218, Austin, TX 78763-5218.

Encl
as

Industrial Hygiene Baseline Survey Report
For
Texas Army National Guard
(TXARNG)

At
Irving Armory
1007 O'Connor Road
Dallas, Texas

Prepared for:

Department of the Army and the Air Force
National Guard Bureau
Regional Industrial Hygiene Office
Region South
Airport Plaza Suite 1530
510 Plaza Drive
College Park, GA 30349

By
Non-Responsive

July 2, 2003

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- Scope of Work
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Appendices

A. References.
B. Laboratory Analytical Results.
C. Lab Chain of Custody.
D. Floor Layout and Photographs.
E. Indoor Firing Range Cleaning Guidance.

Executive Summary

An initial baseline industrial hygiene survey was conducted at the Irving Armory on 6 May 2003 as part of the Texas Army National Guard Occupational Health Program to identify potential health hazards in the workplace. The survey consisted of collecting lead wipe samples and bulk asbestos samples, conducting an illumination survey, a noise survey, and an evaluation of the Heating Ventilation and Air Conditioning System (HVAC) as it relates to indoor air quality.

The following table summarizes the survey findings and recommendations for each topic surveyed.

Topic	Summary of Findings	Recommendations
Lead Wipe Samples	<10 to 200 microgram per square foot.	No action.
Asbestos Bulk Samples	Pipe fitting thermal insulation contained 3% chrysotile.	Update the facility asbestos management plan to include the fitting insulation.
Noise Survey	Noise levels ranged from 40 to 56 dBA.	No action.
Illumination Survey	10 to 120 footcandles	No action.
HVAC/IAQ	No issues observed or documented.	No action.

SUBJECT: Industrial Hygiene Initial Baseline Survey of the Irving Armory in Dallas, Texas on 6 May 2003

BACKGROUND:

Introduction. At the request of Non-Responsive of the National Guard Bureau Region South Industrial Hygiene Office, an initial baseline industrial hygiene survey was performed at the Irving Armory in Dallas, Texas. Non-Responsive Industrial Hygiene Technician for the Texas Army National Guard and Non-Responsive contract Industrial Hygienist, Tammer Sciences, Inc. conducted the survey on 6 May 2003. The purpose of the survey was to perform an initial baseline industrial hygiene survey to evaluate potential health hazards present at the armory.

Site Description. The armory building is a one-story structure that was constructed in 1960. The facility houses an administrative office areas, a kitchen, a mess hall, training or class rooms, a drill hall, several supply rooms, and a converted indoor firing range area used for storage. According to Mr. Threatt, the indoor firing range was never used as a firing range. One full time employee work at this armory and approximately 63 part time individual attend drill weekends. A copy of the floor layout and photos are included in Appendix D.

Scope of Work. The work included collecting wipe samples for lead, bulk samples for suspect asbestos containing building material, illumination levels, noise readings, and an evaluation of the ventilation system as it pertains to indoor air quality.

Methodology Lead wipe samples were collected from surfaces that showed signs of lead contamination in Armories that have a renovated, inactive, or closed indoor firing range (IFR). The samples were collected accordance to instructions published by Region South National Guard Bureau, which required the use of unscented baby wipes to wipe one square foot of surface. Samples were then placed in a sealed plastic bag and sent for analysis to EMSL laboratory, which is an American Industrial Hygiene Association (AIHA) Accredited laboratory. Asbestos bulk samples were collected from suspect building materials that were grouped based on similarity of composition. Bulk sample collection was minimally destructive and samples were collected from inconspicuous areas. Bulk samples were also collected from suspect friable and damaged building material. Each bulk sample was placed in a sealed bag and sent to EMSL laboratory for analysis. A photograph of the sampled material and area were also taken. Noise readings were measured using a SPER Scientific Sound Level Meter Model; 840019 Serial Number 0174519, with a calibration date of July 2, 2002. All noise measurement were area readings. Illumination readings were collected using a Western Schlumberger light meter Serial 8384. Illumination readings were taken on work surfaces and approximately four feet from the floor.

FINDINGS and DISCUSSION:

The Point of Contact during the survey was Non-Responsive

Lead Wipe Samples: Nine wipe samples were collected from the converted indoor firing range area and other administrative areas as listed in the table below.

Sample Number	Sample Location	Micrograms of lead (ug) per square foot
IRV001	Top of shelves in firing range area.	78
IRV002	Floor area in front of trap.	43
IRV003	Top of light fixture in firing range.	88
IRV004	Top of refrigerator in kitchen.	<10
IRV005	Top of bulletin board in the drill or assembly hall.	200
IRV006	Top of communication router in admin. Office.	<10
IRV007	Floor in drill hall in front of the roll top road.	<10
IRV008	Floor in drill hall left of the supply room.	<10
IRV009	Floor in drill hall right of the supply room.	<10
IRV010	Field blank	<10

The US Environmental Protection Agency (EPA), under a new standard issued in 2000, considers lead dust as a hazard if levels are greater than 40 micrograms of lead in dust per square foot on floors; 250 micrograms of lead in dust per square foot on interior window sills and 400 parts per million (ppm) of lead in bare soil in children's play areas or 1200 ppm average for bare soil in the rest of the yard. This standard is a major effort by the EPA to identify dangerous levels of lead in paint, dust and soil in order to protect children from lead poisoning. The National Guard Bureau recommends a limit of 200 micrograms per square foot for surface contamination. The laboratory report and chain of custody forms are attached in Appendices B and C.

Asbestos Suspect Building Material: Two types of building materials were identified as potentially containing asbestos. The identified types included 2x4 feet ceiling tiles, and pipe thermal insulation. A total of four bulk samples were collected randomly from the identified materials. The table below lists the samples collected and the results:

Sample #	Description	% Asbestos Type
IRV01A	Pipe thermal insulation joint compounds.	None.
IRV02A	Pipe thermal insulation straight run.	None.
IRV03A	2x4 foot Ceiling tile.	None.
IRV04A	Pipe thermal insulation joint compounds.	3% Chrysotile

The laboratory report and chain of custody forms are attached in Appendices B and C.

Noise Survey Area noise readings were collected in the various surveyed areas within the armory and reported as a range. The Table below lists the noise reading ranges as recorded on the day of the survey:

Area	Reading in Decibels on the A-Scale (dBA)
Supply Room/Converted Firing Range	40 – 50
Drill Hall	48 – 50
Administrative Office	54 – 56
Storage Area	40 – 45
Classroom	45 – 48
Office #2 with Window AC unit on	60 – 65

All readings are well below the Occupational Safety and Health Administration (OSHA) regulated limit of 90 dBA and the Army recommended limit of 85 dBA.

Illumination Survey Lighting levels throughout the Armory ranged between 10 foot-candles to 100 foot-candles. Specific readings were as follows:

Area	Reading in Foot-candles
Supply Room/Converted Firing Range	10 – 120
Drill Hall	20 – 30
Administrative Office	40 – 70
Storage Area	20 – 30
Classroom	60 – 100
Office #2	40 – 60

All readings are within the Army Design Guide (DG415-2) minimum illumination level of 50 foot-candle for office area and 20 foot-candles for parts storage/supply. The

American National Standard Institute (ANSI) recommends a minimum illumination level of 50 to 100 foot-candles for office work, 20 to 50 for general lighting. Luminance depends on various factors including the task to be performed, the age of the individual, and the surroundings. Luminance of 50 to 100 foot-candles is recommended for performance of visual tasks of medium contrast or small size such as reading pencil handwriting and poorly printed or reproduced material. Depending on the type of display, background luminance of 30 to 60 foot-candles is recommended for VDT work. Replacing light bulbs with higher wattage will increase lighting levels. Replacing burnt out light bulbs and cleaning the light fixture should improve the lighting levels.

Heating Ventilating and Air Conditioning (HVAC) The Heating Ventilating and Air-Conditioning (HVAC) System for the Armory consisted individual gas heated units and window air conditioners. No outside makeup air capability is available. However, all windows can be opened. No other complaints of indoor air quality issues were documented or communicated with the POC.

Recommendation:

Update the facility asbestos plan to include the pipe thermal insulation fittings as containing asbestos.

Technical Assistance: For technical assistance regarding information found in this report

Non-Responsive

APPENDIX A

APPENDIX A

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

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

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

Army Regulation (AR) 11-34, The Army Respiratory Protection Program, 1990

Army Regulation (AR) 40-5, Preventative Medicine, 15 October 1990.

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

National Fire Protection Association (NFPA) No. 30, Standard for Flammable and Combustibles Liquid Code, 1996.

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

NGR 385-10, Army National Guard Safety and Occupational Health Program, 29 December 1989.

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

Title 29, Code Of Federal Regulations (CFR), 1999, revision, Part 1910, Occupational Safety and Health Standards.

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

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

APPENDIX B

EMSL Analytical

3 Cooper St., Westmont, NJ 08108

Phone: (856) 858-4800 Fax: (856) 858-4571 Email: westmont@emsl.com

Attn: Non-Responsive

Fax:

Project:

Customer ID: TS00
Customer PO:
Received: 05/12/03 11:50 AM

EMSL Order: 200304982
EMSL Project ID:

Lead in Wipes by Flame AAS (SW 846, 7420)

Client Sample Description	Lab ID	Analyzed	Area Sampled	Lead Concentration
IRV 001	0001		144 in²	78.0 µg/ft²
IRV 002	0002		144 in²	43.0 µg/ft²
IRV 003	0003		144 in²	88.0 µg/ft²
IRV 004	0004		144 in²	<10.0 µg/ft²
IRV 005	0005		144 in²	200.0 µg/ft²
IRV 006	0006		144 in²	<10.0 µg/ft²
IRV 007	0007		144 in²	<10.0 µg/ft²
IRV 008	0008		144 in²	<10.0 µg/ft²
IRV 009	0009		144 in²	<10.0 µg/ft²
IRV 010	0010		144 in²	<10.0 µg/ft²

Non-Responsive

The QC data associated with the above results included in this report meet the recovery and precision requirements established by the AIHA, unless specifically noted as otherwise in the narrative section.

ACCREDITATIONS: AIHA Environmental Lead Laboratory Accredited Program # 100154

Date Printed: 5/23/03 5:38:16 PM

Page 1 of 1

EMSL Analytical, Inc.
107 Haddon Ave. Westmont, NJ 08108
Phone: (856) 858-4800 Fax: (856) 858-4960 Email: [illegible]@EMSL.com

Attn: [redacted]
Fax:
Project

Customer ID: TS80
Customer PO:
Received: 05/12/03 2:35 PM
EMSL Order: 040307587
EMSL Project ID:
Analysis Date: 5/19/03

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Treatment	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
IRV01A 040307587-0001	IRVING/DALLAS	Grey Fibrous Heterogeneous	Teased	2% Cellulose 50% Min. Wool	48% Non-fibrous (other)	None Detected
IRV02A 040307587-0002	IRVING/DALLAS	Yellow Fibrous Heterogeneous	Teased	<1% Cellulose 90% Min. Wool	10% Non-fibrous (other)	None Detected
IRV03A 040307587-0003	IRVING/DALLAS	Brown Fibrous Heterogeneous	Teased	50% Cellulose	50% Non-fibrous (other)	None Detected
IRV04A 040307587-0004	IRVING/DALLAS	Grey Fibrous Heterogeneous	Teased	2% Cellulose 50% Min. Wool	45% Non-fibrous (other)	3% Chrysotile

[redacted]

[redacted]

[illegible] This report may not be reproduced, except in full, without written approval by EMSL Analytical, Inc. [illegible]
Analysis performed by EMSL Westmont (NVLAP #101048-0), NY ELAP 10872

PLM-1

THIS IS THE LAST PAGE OF THE REPORT.

APPENDIX C

EMSL ANALYTICAL — CHAIN OF CUSTODY — 200324962 — LEAD

Revised 7/1/99

EMSL Rep:

DATE: 5/8/03

Third party billing requires written authorization from third party

Your Company Name: Tommer Sciences, Inc.

Street: 3744 Lawrence Dr

Box #:

City/State: Naperville, IL Zip: 60564

EMSL-Bill to: Same as previous

Street:

Box #:

City/State: Zip:

Phone Results to:
Name:
Telephone #:
Project Name/Number:

[redacted]

Order #:

MATRIX	METHOD	INSTRUMENT	mdls	TAT
Lead Chips *	SW846-7420 or AOAC 5.009 (974.02)	Flame Atomic Absorption	0.01% ++	144hrs
Lead Wastewater	SW846-7420	Flame Atomic Absorption	0.4 mg/l water 60 mg/kg (ppm) soil	
Lead Soil +	or SW846-6010	ICP	0.1 mg/l water 10 mg/kg (ppm) soil	
Lead in Air **	NIOSH 7082	Flame Atomic Absorption	5 ug/filter	
	or NIOSH 7300	ICP	3.0 ug/filter	
Lead in Wipe	SW846-7420	Flame Atomic Absorption	10 ug/wipe Same 72 hrs noted	144 hrs AP
	or SW846-6010	ICP	3.0 ug/wipe	
TCLP Lead **	SW846-1311/7420	Flame Atomic Absorption	0.4 mg/l (ppm)	
	or SW846-6010	ICP	0.1 mg/l (ppm)	
Lead in Air ***	NIOSH 7105	Graphite Furnace Atomic Absorption	0.03 ug/filter	
Lead Wastewater	SW846-7421	Graphite Furnace Atomic Absorption	0.003 mg/l (ppm) water	
Lead Soil +			0.3 mg/kg (ppm) soil	
Lead in Drinking Water (check state Certification Requirements)	EPA 239.2	Graphite Furnace Atomic Absorption	0.003 mg/l (ppm)	
Total Dust	NIOSH 0500-0600	Gravimetric Reduction	0.0001g	

TAT (Turnaround) - 3 hours, 6 hours, Please call ahead to schedule.
12 hours (must arrive by 11:00 a.m).
24 hours (1 day), 48 hours (2 days), 72 hours, 96 hours (3 days), 120 hours (4 days), 144 + hours (6-10 days)
*, **, ***, ****, +, ++ Please Refer to Price Quote

SAMPLE #	LOCATION	Air volume, L Area, in²	LAB #
DA-5001	DALLAS 5	144 in²	
DA-5002			
DA-5003			
DA-5004			

Relinquished By: (Person) [redacted]

Date: 5/8/03 [redacted]

Page 1 of 4

EMSL ANALYTICAL
Revised 7/1/09

CHAIN OF CUSTODY

LEAD

SAMPLE #	LOCATION	Air volume, L Area, in²	LAB #
DAL 5005	DALLAS #5	144 in2	
DAL 5006			
DAL 5007			
DAL 5008			
DAL 5009			
DAL 5010			
DAL 5011			
DAL 5012			
⇒ SEPERATE REPORT ⇐			
IRV 001	IRVING / DALLAS	144 in2	
IRV 002			
IRV 003			
IRV 004			
IRV 005			
IRV 006			
IRV 009			
IRV 008			
IRV 009			
IRV 010			
IRV 011			
IRV 012			
⇒ SEPERATE REPORT ⇐			
DAL 2001	DALLAS # 2	144 in2	
DAL 2002			
DAL 2003			
DAL 2004			
DAL 2005			
DAL 2006			
DAL 2007			
DAL 2008			
⇒ SEPERATE REPORT ⇐			
DAL 4001	DALLAS # 4	144 in2	
DAL 4002			
DAL 4003			

Relinquished By: (Person) [redacted] Received at EMSL By: [redacted]

Date 5/8/03 Date

Note: Please duplicate this form and use additional sheets if necessary.

Page 2 of 4

041030758 7

EMSL Analytical, Inc.
Revised 07/07/99

CHAIN OF CUSTODY

Asbestos

EMSL Rep:

Your Company Name: Tammer Sciences, Inc.
Street: 3944 Lawrence Dr.
Box #:
City/State: Naperville, IL Zip: 60564

EMSL-Bill to: Same as Shipping
Third Party Billing requires written authorization from third party
Street:
Box #:
City/State: Zip:

Phone Results to:
Name:
Telephone #:
Project Name/Number:

[redacted]

MATRIX			TURNAROUND			
☐ Air	☐ Floor Tile	☐ Soil	☐ 3 hrs	☐ 6 Hours	☐ Same Day or 12 Hours*	☐ 24 Hours 1 day
☑ Bulk	☐ Drinking Water	☐ Dust	☐ 48 Hours 2 days	☐ 72 Hours 3 days	☐ 96 Hours 4 days	☐ 120 Hours 5 Days
☐ Wipe	☐ Wastewater	☐ Micro-Vac	☑ 144+ hours 6-10 Days			

TEM AIR 3 hours, 6 hours. Please call ahead to schedule. There is a premium charge for 3 hour tat, please call 1-800-220-3675 for price prior to sending samples. You will be asked to sign and authorization form for this service. 12 hours (must arrive by 11:00 a.m Mon - Fri.). Please Refer to Price Quote

PCM - Air
☐ NIOSH 7400
☐ OSHA
☐ Other:

PLM - Bulk
☑ EPA 600/R-93/116
☐ EPA Point Count
☐ NY Stratified Point Count
☐ PLM NOB (Gravimetric) NY 198.1
☐ Other:

SEM Air or Bulk
☐ Qualitative
☐ Quantitative

TEM AIR
☐ AHERA
☐ NIOSH 7402
☐ EPA Level II

TEM BULK/misc
☐ Drop Mount (Qualitative)
☐ Chatfield
☐ TEM NOB (Gravimetric) NY 198.4

TEM WATER
☐ Wastewater
☐ Drinking Water EPA 100.1
☐ Water - NY Wastewater
☐ Water-NY Drinking Water

TEM MICROVAC / WIPE
☐ ASTM D 5755-95 quantitative method

XRD
☐ Asbestos
☐ Silica

OTHER
☐

SAMPLE NUMBER	LOCATION	VOLUME (If Applicable)
DAL501A	DALLAS # 5	N/A
DAL502A		

Client Sample # (s):
Total Samples #:

Relinquished: [redacted] 5/8/03 Time: PM

Received: Time:

Fedex

Page 1 of 3

040307587

EMSL Analytical, Inc.
Revised 07/01/99

CHAIN OF CUSTODY

Asbestos

SAMPLE NUMBER	LOCATION	VOLUME (If Applicable)
DAL 503A	DALLAS # 5	N/A
DAL 504A		↓
DAL 505A		↓
→ # SEPERATE REPORT #		←
IRV01A	IRVING/DALLAS	N/A
IRV02A	↓	↓
IRV03A	↓	↓
IRV04A	↓	↓
→ # SEPERATE REPORT #		←
DAL201A	DALLAS # 2	N/A
DAL202A	↓	↓
DAL203A	↓	↓
→ # SEPERATE REPORT #		←
DAL401A	DALLAS # 4	N/A
DAL402A	↓	↓
DAL403A	↓	↓
DAL404A	↓	↓
DAL405A	↓	↓
DAL406A	↓	↓
DAL407A	↓	↓
DAL408A	↓	↓
→ # SEPERATE REPORT #		←
DAL301A	DALLAS # 3	N/A
DAL302A	↓	↓
DAL303A	↓	↓
#	SEPERATE REPORT #	←

Page 2 of 3

2

0403017587

EMSL Analytical, Inc.
Revised 11/03/99

CHAIN OF CUSTODY

Asbestos

SAMPLE NUMBER	LOCATION	VOLUME (If Applicable)
FW01A	FORT WORTH # 2	N/A
FW02A	↓	↓
FW03A	↓	↓
FW04A	↓	↓
→ SEPERATE REPORTS BE		←

Page 3 of 3

APPENDIX D