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-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

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.
 - Title 29 Code of Federal Regulation (CFR), Part 1910.1025 Lead.
 - k. Title 40 Code of Federal Regulation (CFR), Part 745.227.

General.

May, 2018

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

3. General.

- 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 scaled 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.

Findings,

a. <u>Lead Wipe Samples:</u> 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.

- Asbestos Suspect Building Material; Based in the build date, 1988 and visual inspection, no ACBM was identified or tested during the current survey.
- Noise Survey: No noise Hazardous areas were identified or tested on the day of the survey.
- d. <u>Illumination Survey</u> 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 wartage 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.

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)
- 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)



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.

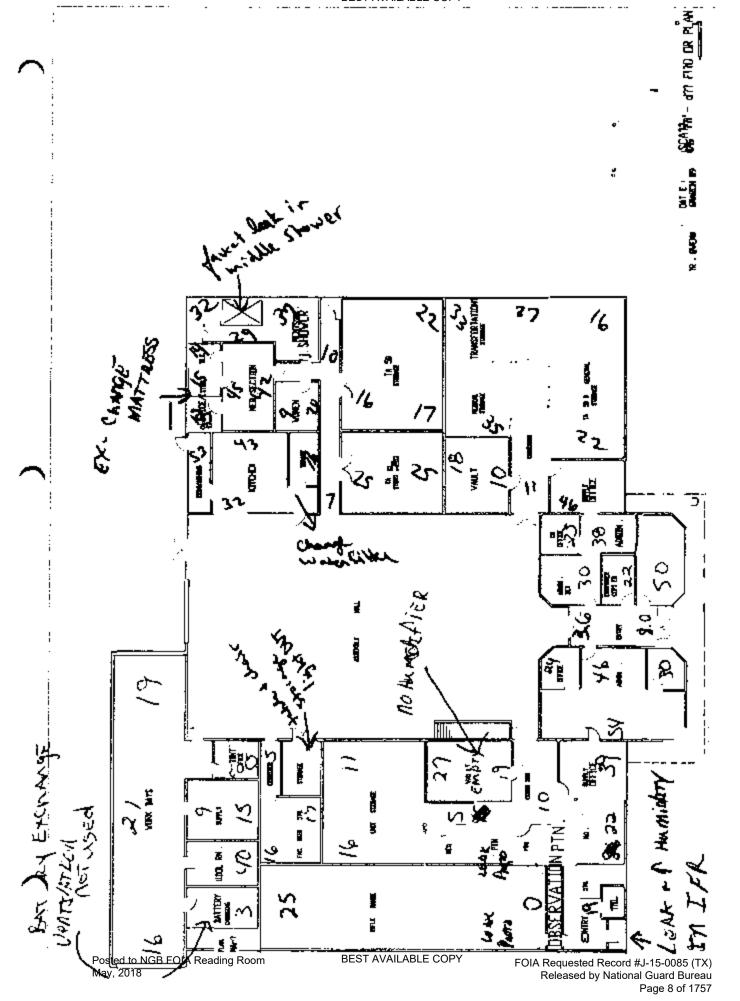
as

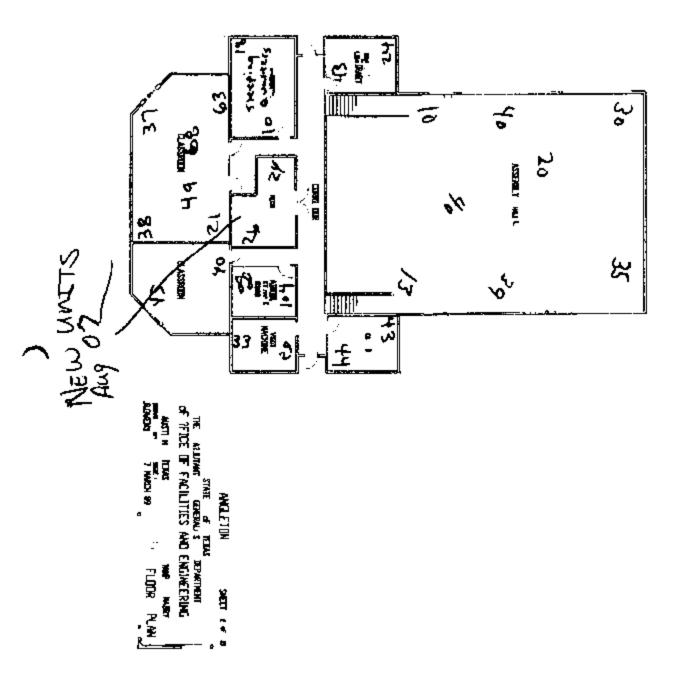
Appendix A

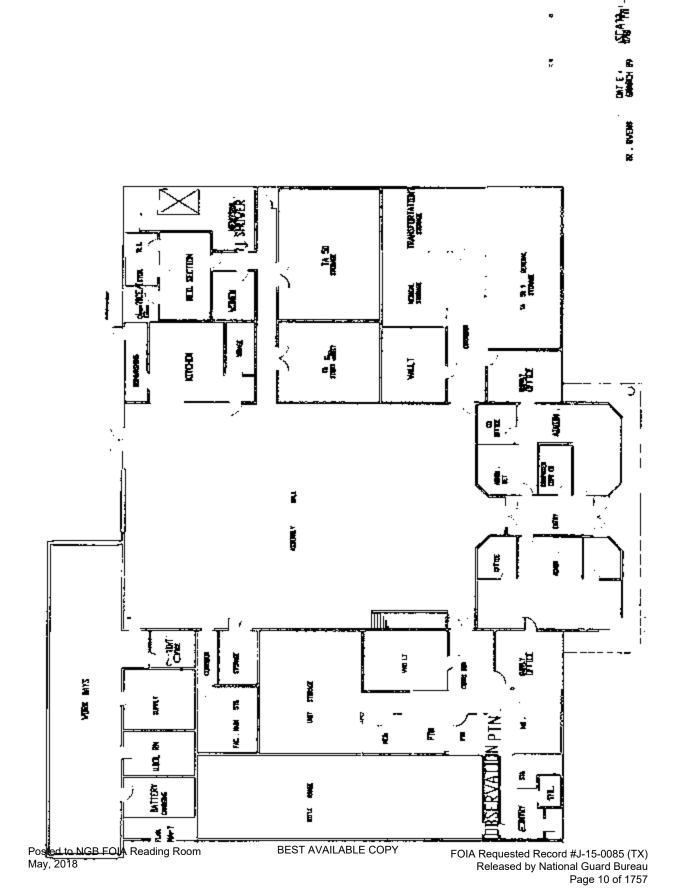
Photographs and Floor Layout

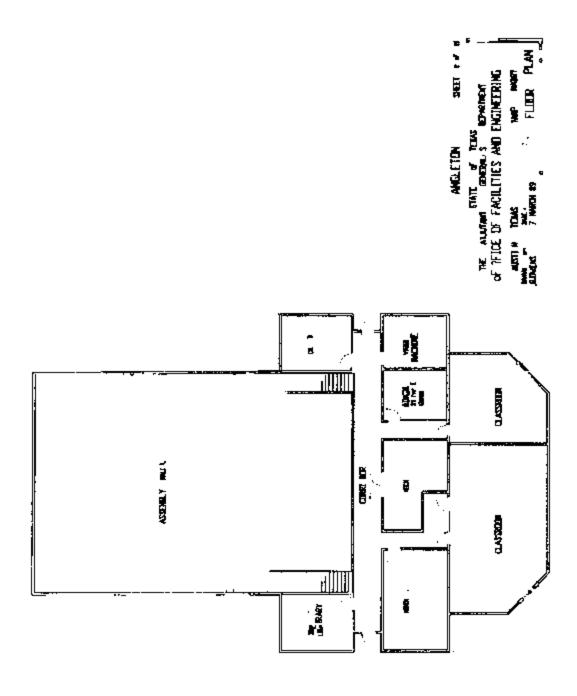
Angleton Armory

	H+ 215		
Angleton Armory	Drill Hall	Kitchen	Mechanical Room
10 10 10 10 10 10 10 10 10 10 10 10 10 1			
Angleton Armory	Supply Room	Replace Mattress in Locker Areas	Indoor Range
Indoor Range	Indoor Range Water leak	Rear Mechanics Bay	Matar Pool









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.

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

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 of 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.

- 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 hydiene survey or air sample.

Non-Responsible.

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



June 16, 2004

Table of Contents

Executive Summary	Page 1
Subject	Page 2
Background	
Int-oduction	
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. 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 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.

Торіс	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 poise source was identified.	No action.	
Illumination Survey	10 to 75 foolcandles	No action.	
нуаслао	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:

Region South Industrial Hygiene Office, an initial baseline industrial hygiene survey was performed at the Angleton Armory in Angleton, Texas.

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.

<u>Scope of Work.</u> 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

<u>Lead Wipe Samples:</u> 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.

May, 2018

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, einder 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.

<u>Noise Survey:</u> 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.	1025
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

Angleton Armory

Survey Date: 25 March 2004

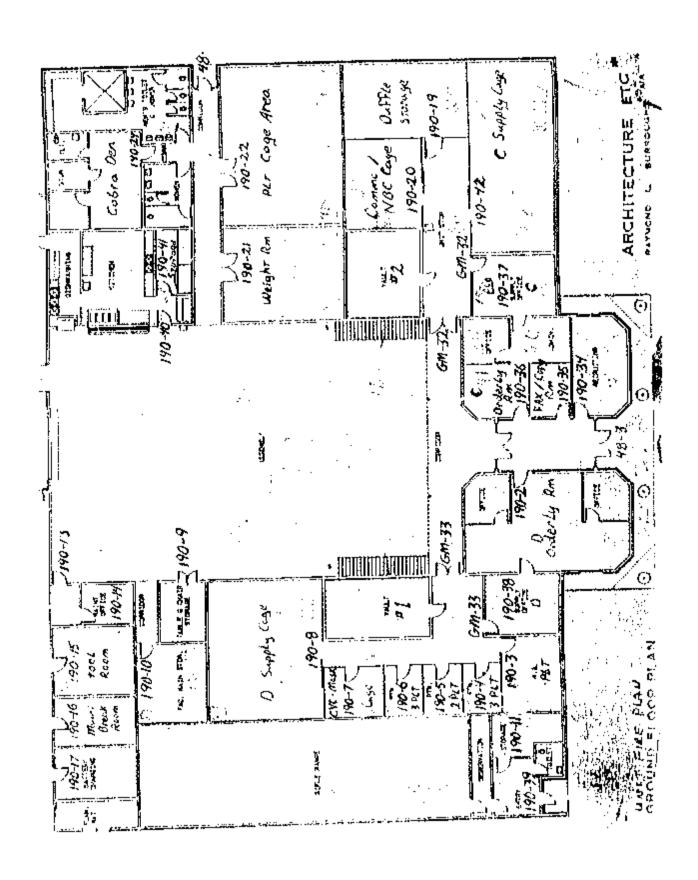
furnaces with individual rooftop cooling units. No other complaints of indoor air quality issues were documented or communicated with the POC.

Recommendation:

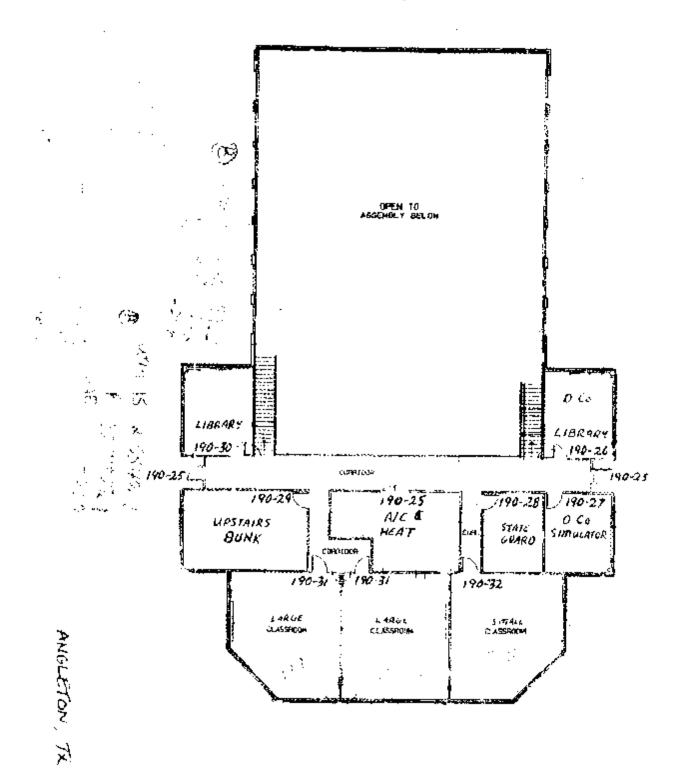
Clean and decontaminate the firing range in accordance to NG PAM 385-15 specifications.

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



2nd FLOOR



3

APPENDIX B

EMSL Analytical

3 Cooper St., Westmort, NJ 96108

Phone: (858) 838-4160 Fax: (858) 858-9551 Email: skauffman@emsl.com

Phone: (630) 369-7958



Adr:

Non-Responsive

Customer ID:

n.

Customer PO: Received:

03/30/04 10:13 AM

Fax.

Project Angleton, TX

EMSL Order: EMSL Proj:

rder: 290403340

TS80

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

Chem Sample 1	Descripsion	Lab ID	Analysed	Areo Sampled	Lord Concentration
ANDT	Results for these wipe samples do not meet the EPA stanciards for sample matrix and are not recognized under the NLLAP accreditation program	0001	4/13/04	fi/a	14.0 ugrwipe
ANO2		0002	4/13/04	n/a	<10.0 µg/wipe
ANGS		9003	4/13/04	n/a	2ā 0 µg/wipe
4N04		0004	4/13/04	r/a	<18.0 µg/wipe
ANOS		0005	4/13/04	n/a	<10.0 jigrwipe
ANOS		000	4/13/04	n/æ	18.0 pg/wipo
ANG7		0007	4/13/04	n/a:	110.0 рд/жірю
ANOS		0009	4/13/04	n/a	20.0 µg/wipe
ANOS	AND THE PROPERTY OF THE PROPER	0009	4/13/04	n/ta	10.0 µg/wipe
AN10	than the later to the later than the later to the later than the l	0010	4/13/04	n/a	12.0 µg/wipe
AN11		0011	4/13/04	n/a	<10.0 ug/wipe
AN12	10 Total Control of the Control of t	0012	4/13/04	n/ø	14.0 ug/wipe
AN13	**************************************	0013	4/13/04	n/a	94.0 ug/wipe
AN14		0014	4/13/04	n/a	<10.0 µg/wipe
AN15	######################################	9015	4/13/04	n/a	23.0 pg/wipe
AN16		0016	4/13/04	n/a	150.0 ygwipe
AN17	HERO-RECORD PROPERTY AND ADDRESS OF THE PROPERTY ADDRE	0017	4/13/04	u/s	96.0 pg/wipe
AN18		C018	4/13/04	n/a	56.0 µg/wipe
AN19	TENNENNENN TOTTOTOTOTOTOTOTOTOTOTOTOTOTOTOTOTOTO	0019	4/13/04	0/a	13.0 µg/wipe
ANŻÓ		0020	4/13/04	n/a	460.0 yg/wipe
AN21		0021	4/14/04	U/S	2300.0 µg/wipe

!

The OC data associated with the sample results included in the report riseal/this resovery and partition requirements entablished by the ARM, unless specifically included otherwise in the court entablished by the ARM, unless specifically included otherwise in 1990 control section. The last results contained within this report meet the regularisation of MELAC unless otherwise indicate.

COMENTATIONS: NUNCLAP: 04653, AIMA Environmental Lead Laboratory Alsproval Program, 100194

zie Printed; (114/04 9:18:26 AM

EMSL Analytical

3 Cooper St., Westerent, NJ 09108

Phone: (856) 858-4300 Fax: (858) 858-9561 Email: skauffman@emai.com



Ätint



Customer ID:

Phone: (630) 369-7956

Customer PO:

Received:

03/30/04 10:13 AM

Fatx:

Project: Angleton, TX

EMSL Order:

200403340

T\$80

EMSL Proj:

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

Cliens Sample Benediction	Lob W	Analyzed	Aroa Sampled	kend Concentration
ANZE	0022	4/14/04	n/a	22000.0 µg/wipe
AN23	0023	4/14/04	n/a	×10.0 µg/wipe
A/424	0024	4/14/04	9/a	170.0 µg/wipe
A/125	0025	4/14/04	Bid	220.0 µg/wipe
A3126	0026	4714/04	rýa	15000.0 µg/v/pe
ARE7	0027	4/14/04	Eu)	18000.0 µg/wipe
ANS	9028	4/14/04	D/a	14000.0 pg/wips
A7129	0029	4/14/04	n/a	4400.0 pg/wipe
et 190	0030	4/14/04	n/a	ээ.О удиміра



The QC data area coates with the sample regulas brouded in this report meet the recovery and produce requirements established by the AlthA, unless apportunity inclinated otherwise the recovery and produce established by the AlthA, unless apportunity inclinated otherwise the recovery and produce and the sample model.

ACTREDITATION S. N. I NELAP. DISSE. JUHA Environmental Land Laboratory Appraisal Programs (00194)

E Printed: #114/04 9:18:35 AM

Dana Sate.

APPENDIX C

me 326/6 / EMSL Represen	lative.	Project Name/No.:		
mapany Name: Topymer Sc	ionich, Lac.		Name of the Party of the State	
was 3744 Lawrence Pri	ve St	reet: <u>32.000</u>		to Inchesion.
5 mg - 128	1	508 2:	order	ar minute and
Susses Adjanille / Il	Zipi (Clife)	City-State:	Pochon	
Time Results to Same Non-	Responsi	Ve Telephone: VU	i-Respons	sive
MA FRIX	METHOD	INSTRUMENT	RL (Reporting Limit)	TAL
	SW346-7420, 30308 Mod. (AOAC (974-02)	Flame Atomic Absorption	(FDI 25 mm	A STATE OF THE STA
and "Kasteviller	SW846-7420	Flame Atomic Absorption	ira mgal water 40 mg kg (pr atr stol	
gal Seat t	or SW846-6010B	lCb.	0.1 mg/k water 10 mg/kg (pp m) sod	
The state of the s	NIOSH 7082 Med	Flame Atomic Absorption	4 ug filter	
ingle (d. 3). (St.)	or NIOSH 7300 Med.	ICP	3.0 ug filter	
e.d n Wise*	SW846-7420 (HUD) Appendix 14.2 Digest	Flame Atomic Absorption	10 ug wipe	1 3.50
Lies Wifner Typie	or SW846-6010B	ICF	3.0 ug/wipe	
TCUF Lead of	SW846-1311-7420	Flame Alegue Absorption	0.4 mg/l (pps) >	
\$3) W. Walle	or SW846-60 (0B	10.78	01 m63 (bla1)	
10 1 1 Carl (6) 1 8	CA Title 22 second 126	Flame Atomic Absorption	0.4 mgी (१९४१)	
, p. 1 w = 11	SW846-7420 or SW846-6019B	ICP	0.1 mg/((ppr)) = =	,,,4 <u>.</u>
Same of Air seas	NiOSH 7105 Mod.	Graphite Furnace Atomic Absorption	V.23 02 10.61	
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	SW346-7421	Graphic Furnace Atomic	0.003 mg/ () pm) water	:
Lord Seel or	-	Absorption	(i.j mg/kg (p x 1) soil	
en is Denising We at scheck state	PPA 239.2 / 2005.9	Graphite Furnace Atomic Absorption	0.003 mg/l (rpm)	A STATE OF THE STA
্ৰানু ব্যৱস্থান কৰে কিন্তেন্ত্ৰ সংক্ৰম কৰিছে	NIOSH 0500-0600	The manual state of the state o	10.0001g	
To T (Turnamenad)	Same day. 24 br -) D	av. 2 Days, 3 Days, 4 Days av. Picase Refer to Price Ouo	te	
SAMPLE#	→ If no bas is check	ed. non-ASTM is assumed LOCATION	Air volume I. Area, in	1.3434
A Cook I	Auch	on tx		17340-1
ANOI ANIZ	7737	. I	2/2/	17.1
77 Relincuished By: (Person)	Ion-Respons	Non-Responsi	Da 3: 3/24 Ve Date 2/24	tue.
Received a EMRL By	and the state of t	mand (el) (el v - man a - mandal de minimum -	Data	,
Received a EMSL By:		and the second s	necessary.	-
Note: Pi gi, the (obvidica) signing and reluquish	lease duplicate this form	and use additional sheets if	Gaussion reported on this chai	ह ह्योंब-राजी

EMSL ANALYTICAL

CHAIN OF CUSTODY

LOGO3340 LEAD

SAMPLE#	LOCATION	Air volume, L Area, in ²	LAB#
ANØ3	Angleton, TX		63340
AND4		Later and the second se	3
Carried Street Control of the Contro			į
5 66			1 6
199			/
A GAS			<u> </u>
			×,
170			Į.
			11
12			1=
7 13			
1 14			14.
			<u> </u>
177		<u>liliania</u>	
1 18			(1)
1 19			- 75
20			10
1 21			
1 22.			24
33			
34			<u> </u>
1 25			
1 796			1.4
1 91			2
3 28			2.
19			
N 30			
A A CONTRACT OF THE WORKSHIP OF THE CONTRACT O			
	lon-Responsive	Date: 3/26	104
	ion responsive	Date:	0/44
cerved at EMSL By:	Accounting	Date:	•

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

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

APPENDIX D



Photo #1: Armory front entrance.



Photo #2; East side of the armory.

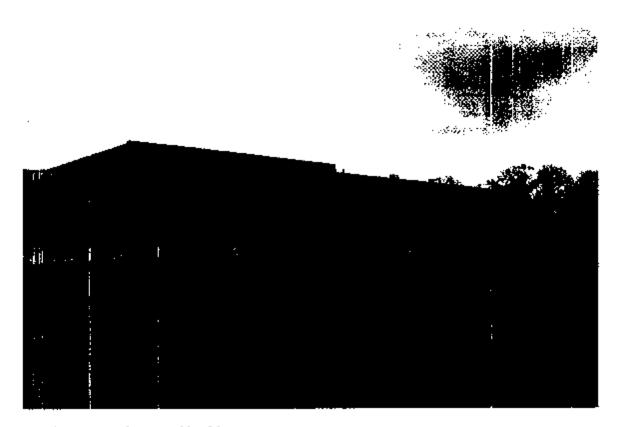


Photo #3: North or rear side of the armory.

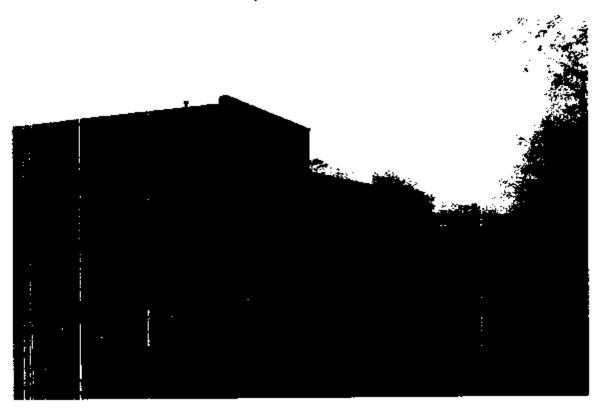


Photo #4: West side of the armory.



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 #3: Indoor firing range facing bullet trap.



Photo #9: Armory's kitchen.

BEST AVAILABLE COPY



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 78703.

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.
- 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.

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.
- The Point of Contact during the survey was Non-Responsive
- Non-Responsive ndustrial Hygiene Technician for the Texas Army National Guard conducted the sampling on 12 May 2006.

General.

- a. <u>Site Description</u>. 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. <u>Scope of Work.</u> 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.

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

Sample	Sample Locarion	Micrograms of lead (ug)
Number	Stariffe Excarent	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	Driff Half Floor at Indoor Range/ Supply Room	309
CP09	Indoor Range Floor Entrance	96
CPIO	Blank # [Below Recordable Limits
Sample	Sometal assista	Micrograms of lead (ug)
Number	Sample Location	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 # ! Arms Room Rack	77
CPAE5	B Company Supply Floor	46
CPAF6	B Company Supply Cabinet	140
CPAG7	B Company Arms Room Rack	37
СРАН8	B Company Arms Room Floor	182
CPAI9	Storage Cabinet (Upstairs RT Front Class Room)	1260
CPAJ10	Blank # 2	Below Recordable Limits
Sample	\$	Micrograms of lead (ug)
Number	Sample Location	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. <u>Lead Paint Samples:</u> 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. <u>Asbestos Suspect Building Material:</u> 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
CPASI	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. <u>Noise Survey</u> 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:

Агеа	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. <u>Illumination Survey</u> 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.

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



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 III

Project:

Cobb Park Amounty

Lab Order:

0605C77

Delivery Order:

Date Received:

5/22/2006 10:10 AM

Matrix:

Wipe

PO No:

	Laboratory	Client Sample	Hespits	Veits	Report	DF	Date	Dete	Aualyst
	ID	†D			Link		Collected	Analyzed	
_	0605C77-001A	CP 01	BRL	ug. Total	20	1	5/12/2006	5/23/2006	AO
	0605C77-002A	CP 02	BRL	ழது சீண்ப	20	1	5/12/2008	5/23/2006	AD
	0605C77-003A	CP 03	40	με, Total	20	1	5/12/2006	5/23/2006	AO
	0605C77-004A	CP 04	26	ug 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	ΑO
	0605C77-006A	CP 06	22	μg. Total	20	1	5/12/2006	5/23/2006	AO
	0605C77-007A	CP 07	23	pg, Total	20	1	5/12/2006	5/23/2006	AO
	0605C77-008A	CP 08	309	pg, Total	20	ì	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	CPAAI	40	μg, Total	10	1	5/12/2006	5/23/2006	AO
	0605C77-012A	CPAB2	BRL	pg, Total	20	ì	5/12/2006	5/23/2006	AO
	0605C77-013A	CPAC3	93	μ ε. Τοιεί	20	1	5/12/2006	5/23/2006	AO
	0605C77-014A	CPADM	77	ug, Total	20	\$	5/12/2006	5/23/2006	AO
	0605C77-015A	CPAE5	46	μ g. Total	20	†	5/12/2006	1/23/2006	AQ.
	0605C77-016A	CPAF6	140	pg, Total	20	1	5/12/2006	\$/23/2006	AO
	0605C77-017A	CPAG7	37	μg. Toral	50	Ţ	5/12/2006	\$/24/2006	AO
	0605C77-018A	CPAH8	182	μ g. Total	20	1	5/12/2006	5/24/2006	AO
	0605C77-019A	CPA19	1260	μg. Total	46	2.31	5/12/2006	5/24/2006	AO
	0605C77-020A	CPAJ10	BRL.	μ g. Total	20	1	5/12/2006	5/23/2006	OA
	0605C77-021A	CPTX 1	559	μ g. T otal	10	!	5/12/2006	5/24/2006	ΑD
	0605C77-022A	CPTX 2	135	µத, Тосы	20	3	5/12/2006	5/24/2006	AO
	0605C77-023A	CPTX 3	357	ug Total	20	3	5/12/2006	5/24/2006	AO
	0605C77-024A	CPTX 4	625	μ ą. Total	20	ŧ	5/12/2006	\$24/2006	AO
	0605C77-025A	CPTX 5	53	με, Total	20	t	5/12/2006	5/24/2006	AO
	0605C77-026A	CPTX 6	37	gg. Total	20	ŧ	5/12/2006	5/24/2006	AO
	0605C77-027A	CPTX 7	75	gg. Total	20	1	5/12/2006	5/14/1006	AO
	0605C77-028A	CPTX 8	58	ug. Total	20	1	5/12/2006	5/24/2006	ΛO
	0605C77-029A	CPTX 9	106000	μ α. Total	5000	250	5/12/2006	5/24/2006	AO
	0605C77-030A	CPTX 10	58	மது Total	20	1	5/12/2006	5/24/2006	ΛO

Qualifiers:

BRL - Not Detected at the Reporting Limit

DF - Dilution Factor

Analytical Environmental Services, Inc.

Date: 5/26/2006

TOTAL LEAD IN PAINT PAINT

CLIENT:

National Guard Bureau Region-South IH

Lab Order:

0605C76

Project:

Cobb Park Armory

Date Received:

5/22/2006 10:10 AM

Delivery Order:

Matrix:

Paint

PO No:

	عد ورن برن ورن بور							
Laboratory	Client Sample	Results	Units	Report	DF	Date	Date	Analyst
TD	D			Liak		Collected	Analyzed	
0605C76-001A	CP91	0.0280	wth	0.00973	1	5/12/2005	5/23/2006	VA
0605C76-002A	CPB2	BRL	with	0.00916	1	5/12/2006	5/23/2006	V۸
0605C76-003A	CP23	0.0399	w1%	0.00920	1	5/12/2006	5/73/2006	VA

Qualifiers:

9RJ. - Not Detected at the Reporting Limit

DF - Delution Factor



ANALYTICAL ENVIRONMENTAL SERVICES, INC.

Bulk Sample Summary Report

Client Name:

National Guard Bureau Region-South IH

Project Name: Project Number: COBB PARK 06

Cobb Park Armory

Lab ID# 102082-0

AES Job Number: 0605D36

Page 1 of 1

Client ID	AES ID	Location	Ast	esto	s Min	eral P	ercen	tage	Comments
			CH	AM	CR	AN	TR	AC	
CPAS1	0605D36 -001A	12" x 12" ceiling tile	ND	ND	ND	ND	ND	ND	paint included as binder sample - window caulk; chain of custody - celling tile
Layer: 1			!	į	-	i			!
CPAS2	0605D36 -002A	SGM window caulk	ND	ND	ND	ND	ND	ND	paint included as binder sample- ceiling tile; chain of custody: windo caulk
Layer: 1	;				1	:	i		1

Note: CH=chrysotile, AM=amostile, CR=crocidolite, AC=actinotite, 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/800/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:



Appendix B: Lab Chain of Custody

1			
	BULK SAMPL	E DATA	
Corum Ledges (of this form see USARIA TG		
NATIONAL GUARD BURBAU REGION	SOUTH SHOPPICE	Code! Point of C	anteci (name/AUTOVCI)
SIO PLAZA DRIVE, SUITE ISSU COLLEGE PARK, GA 30349	,	Non-F	Responsive
Sampled Installation		MDGF ARLO	
Samples Collected 8	pry Fr. WORTH, Tx Co	BBARRE OG	
Non-Responsive	A THE CONTE	Marc 5	vibbed
Description of Opera			
ARMORY W	/ConvERTED IFR	CORP	V
Asseciated Colephant	3 (be speci, %2)	1 CODE	s Park Aemory
Associated Air Sangi			
Yes No	as it yes, it	at samole numbers	
	Label Inform		
Trace Name	: 1:3H	'anuracturer	
Address			
	•	150S ATTACHED	
			:: a
Analysis Desired	LEAD		
Lab Use Sample	Constituents	, Donalds	
Only No.		Results	Restarks
a 1	Q WINDOW UNIT		
1	Q WALL ENTRANCE		
CPQ3	4Q F100R		
	ETCHEN COUNTER		
<u>icpos i K</u>	ITCHEN OFFICE DESK		
	RIII HALL FLOOR CENTER		
CP07 DRI	11 HALL Floor BAY DOOR !		:
Comments to Lac:			
	·		-
Analyst/Emzot-13/	Lab Use Only	; čate necalived	
Fracaduras Ferramed	ents:) Care recarred	-478 Recorred
The second of th	₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩		

20.	· ·				
	. For 1	BULK SAMP ne of time form see USAERE TO			
H andro					··
		COMDISTS COMPSES INC. LOTTING	Tab Cours	ent of Contact (nome/A	UTOVCI)
SIO PLAZA D COLUBGE PA	RIVE, SUITE 1530 LEK. GA 10349 C	•	N	on-Respor	nsiv
1 .					1
Sample	ARK NA	MORY Fr. WORTH TY C	obb thek ob		
Non-	Respon	sive 12 m	406	Cate anipped	
	tion or O	•		Location (BLCG/ARE).	ž
HRW	10 K A	W/ConvERTED IFF	Σ	COBB PARK ARM	DRY
USSESSION OF THE PERSON OF THE	Cumpi	Bints (be specific)			T
Assertas	en Air Sa				
Ya∉		. , , , ,	ist sample num		
		Label Infor	mation		
Trade Na		. FISH	-lanutai	Turer	
Address			HSDS At	rached	
				Yes ::	
Yuarysis		LEAD			
Lab Use Oniv	Sample No.	Constituents	Results	Remarks	
	CPO8	DRILL HALL FLOOR (RANGE Sy	dolv)	: ;	
		RANGE FLOOR ENTEAM			
	CPIÓ	Blank#1'			
\	<u> </u>	J J J J J J J J J J J J J J J J J J J			
/					
			<u> </u>		
]		
			1		
Comments	10 Lag:				-
		Lab Use O	717	-	
Analyst : ¿	maisi	Teviewed iv (Interior)		ecaived late Repo	rTec
-coceques		en t liments:			

3016

			į.		
	F	31	ILK SAMPLE	DATA	•
8	cor use	of this form sea	OSAESA TO 1	41; the propose	ent is 8586-W.
NATIONAL OIL	under STATE (COMO LECE CONTESE ON SOUTH BHOTPICE	including L		or Contact (name/AUTOVC)
SIN PLAZA DIU	VE. SUITE 1530	N SOUTH IN OSMCB		<u> </u>	_
Sampled	installation	7	Project Num		n-Responsi
COBB PA	RK ARM	ory Frworm	I'v Cop	BASEK NG	
Non-R	esponsi	Ve	12 MAY	ec (are Suipped
T	on at Oper		7		ocauon (SCCC/ARE)
ASSOCIACE	DRY U	Converte (be specific)	d IFR	. j	COBB PARIC ARMO
		- (DE STREET, DE)			
Assectate	a Air Samp	Jes	Fiye≰. ∟ist	sample number:	
Yes	No.		1-0; 1121	send (e timpet.	
		La	bei informat	ian	
Trage Name		ISN		danuractur	er.
Address	····				
with 449				ISDS ATTRO	nea
			•	☐ Ye	s 🗀 la
VUSIÁRIS D	esireo				,
	·	LEAD			
Coiv Can	No.	Constituen	:5	Results	Remarks
C	PAALS	supply #1 Flo	108	;	
1		APPLY # 1 Top			:
	DOA SIC	APPEY 44 1 100	WALL TOCKET		
		pply # 1 Arms R			
IC.	PADYDY	poly # HARMS ROOM	n Ruckl		
1			, h-,		
- 1	PAES B	COMPANY SUPP	14 - 100k		f
<u> cr</u>	1	Company Supp Company Suppl		· · · · · · · · · · · · · · · · · · ·	
<u> </u>	PAF6 B	Company Suppl	Y CABINET		
	PAGTBO		Y CABINET		
<u> </u>	PAGTBO	Company Suppl	Y CABINET		
Comments to	PAGTBO	Company Suppli Company Arms	Y CABINET Room Rad K		
	PAGTBO	Company Suppli Company Arms	Y CABINET Room Rad K	Late Recal	sericesi sit. Dev
Comments to	PAGTBO	Company Suppli Dompany Arms	Y CABINET Room Rad K		ved Lite Recorded

BULK SAMPLE DATA

Return Actives (complete address including Lip Code) Faunt of Contact (name/AUTOVC
NATIONAL GUARD BUREAU REGION SOUTH IN OFFICE
Sampled Installation (Figure Municola)
COBB PARK ARMORY Fr. WORTH, Tx COBB PARK OG
Non-Responsive Date Snipped
Description or Operation
Location (ALLG/AGEL)
ASSOCIATED CORPHENTS (be specific)
Assecuted Air Samples IT yes, list sample numbers
Tes No
Label Information
Trade Name "SN "Anstracturer
Aggress
1303 ATTACREO
Yes
Analysis Desired
LEAD
Constituents Results Remarks
CPAH8 B Company Arms Room Floor
PAIG STORAGE CARDIET UPSTATES RT FRONT CLASSICOOM
CPAJIO BLANK # 2
CASIO OSAICA AZ
Connents to Lap:
Lab Use Only
MajvsT; Cate Received late Reported
rocedures Personed Laments:

	BULK SAMP	LE DATA	
For use	of this form see USLEER A	141; the proposent	is ESHB-W.
REPLIET ACCURAGE (C	omplete outress including	Zio Come Faunt or	Contact (nome/AUTOYCI)
SIG PLAZA ORIVE, SUSTE 1386 COLLEGE PARK, GA 30849	SOOTH DEOFFEES	Non	-Responsiv
Sampleo Installation	J. (m) deser ist	Inder Inde	rivesponsiv
COBB PARK ALM	DRY FrWORTH TX C	obb frex od	
Non-Responsive	y Date Cone	CIRC Date	Suibbed
See special of Object	1 /2 m/	406	i
	/Converted IFR	Loca	tion (BEIG/REEL)
Asseciated Complain	is (be specific)	<u> </u>	
Assertated Air Samp	as it yes, .	ST SEMOLE numbers	
Trace Name	Label Imform	nation 'ARRUTACTURE'	
	Ì	ama ac ut ar	1
Address		450S ATTACNE	
	•	Yes	:o
Analysis Westred	:		
Lao Use i Sagore i	LEAN		
Only No.	Constituents	Results	Remarks
CPTYLING	unge Floor Back Stap	:	:
CPTX2 R	AME FLOOR CENTER		
CPTX3 R	MATE FRONT LEFT VIEWER	g Wall	
1 1-	ME FRONT KT VIEWONG WA		
,	ME LET COTTER CAR (FILE)		
	ME LEFT BOTTOM WAIN		
CPTXTIRA	ME RTTOPWAIL(R	END	
Comments to Lab:	The 1st for Walling	ICEAN !	
ARTUET :	Lab Use On		
inalyst, impiliar	Reviewed By (imposity)	Care Receive	d late Reported
מאריבריים בייים מאריבריים	Liments:		

SLICK SAMPE TOATA

	orm 300:USAEZA TG 141;		573-10.
Raturn Address (complate d	norses uncluding lip C	piz/ Passet of Com	aci (numa/AUTOVCI)
NATIONAL GUARD BURBAU REGION SOUTH HI OFFIC HID PLAZA DRIVE, SUITE 130 COLLEGE PAIK, GA 2046		Non-Res	ponsive
Samples Installation	Project Number	ARLOC	
COBB PARK ARMORY FT	WORTH, TX COBB F	hex old L	
Non-Responsive	12 MAY C	6 Date Shi	spec :
Description or Operation		Location	(BELG/AREL)
ARMORY W/Cons	VERTED LFR		
Associated Complaints (be apa	et fler		
Asseciation Air Samples	ir yes, sist se	MD:e numbers	
Yes No		-	
	Label Information		
Trage Name	. :SN	- Manuacturer	
Addrasi		'ISOS ATTACNED	
		∏Yes	
the state of the s	. DA		
Only No. Co	mstituents	Results	Remarks
CPTX8 RAME R	T CENTER CASE DES	k	
PTX9 RAME OU	ERHEAD DEFIECTOR		
CPTICO BLAN	K #3 -	·	
1			
Comments to Lap:			
	•		<u> </u>
	Lab Use Oniv		
maivst/immilia/ Review	req 3v : intotals)	Cate Recaived	13TE RECOFTED
Proceduras Pertombed			

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client GANG3		Work One	ler Number 0605 677
Checklist completed by Non-Respon	sive		
Carrier name: FedEx UPS Courier Client	US Mail 👱 Otl	her	
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?	of Yes —	No	Not Present
Container/Temp Blank temperature in compliance? (4º2-2	JY Yes 👱	No	
Cooler #1 Angist Cooler #2 Cooler #3	Cooler #4	Co	ooler#5 Cooler #6
Chain of custody present?	Yes 👱	No _	
vain 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 s	submitted 👱	Yes	No
Water - pH acceptable upon receipt?	Yes _	No	Not Applicable 🗹
Adjusted?	Che	cked by	
Sample Condition: Good _/ Other(Explain)			MARKATA AND AND AND AND AND AND AND AND AND AN
(For diffusive samples or AIHA lead) Is a known blank inclu	ded? Yes	N	ło

Page 53 of 1757

e 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: 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.

jot 1

			BULK	SAMPL =	DATA			
	?or	use of the	s. form 3ee: USA	Ed 10	141; the prop	onent is	85HB-60.	
Return	ACCITASS	(comp late	coorese inci	ucing Li	o Code / Po	ent or Co	intact (name/AUT)	TYCIT)
SIO PLAZA	OVARO BUREAU I DRIVE, SAFTE (13) ARK, GA 30349	մահագետաստրուլա Միքա	IFFACE					
Sample	o installa	Dori	i rroi	ect Num	Tar		Respon	5 \
COBB	Park An	mnosi F	T. WORTH TX		BARK 06	ARLUL		
3 220CJB	Respons		Date	è Làilec	SOINER UG	Date 30	litroes	
			16	2 MAY	06		:	
	KICK OF C					Location	n (BLIG/AGE)	-
HRW	JORY	W/Co	NVERTED .	IFR				
71345014	om combi	aints (be ;	medijis)					
Associa	ma Air Si	MDies	17.7	es .ie	Samole numb			
Ye			,	was 1121	- Samule, Mind	ers		_
			Labei	Informa	tion			·
Trace Na	ime	· <u>·</u>	SSN	1100	'lanu rac	rurer		
Acaress								
					ISDS AT	acnec		
						Yes	; ;o	
YuarAsia	nestrad	احيط	Ω.					
Lab Use	Sample		PAINT					
Only	No.	!	Constituents		Results	1	Remarks	
	CPB1	HHC:	2/112 BRN	PADOT (APSTATRS R	2		
	CPB2	HHC 2	/112 WAT BA	ant WP	STATES R	R		
	CPB3	FRONT	DOOR EN	TO ANY	5			-
		·			<u> </u>			
						<u>-</u>		
<u> </u>						1		_
<u> </u>	1	·						_
-unments	10 1 201							
	w cau:							
			1		ن گرد. پرسیست شانند چ نی ده ۱۳۰۰			
mai vst / iz	== <u>=</u> ==3/	Fevi	Lab U wed žv : inset	<u>عددی</u> دکنی	; Čate Rec	Devis	1 -376 Recorted	
rocedures	-97-25-0	a 1	ents:		1		İ	_

Auglytical Environmental Services, Inc.

Date: 26-May-06

CLIENT:

National Guard Bureau Region-South IH

Project:

Cobb Park Armory

Lab Order:

0605076

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 GANGS		Work Orde	r Number <u> </u>
Checklist completed by Silver	sive	Market Market Avenue	
Carrier name: FedEx UPS Courier Client U	\$ Mail 🖊 Othe	т	
Shipping container/cooler in good condition?	Yes 👱	No _	Not Present
Custody seals intact on shipping container/cooler?	Yes	νо	Not Present 👱
Custody seals intact on sample bottles?	Yes	No	Not Present 🗾
Container/Temp Blank temperature in compliance? (4°C+27	FYes <u>✓</u>	No _	
Cooler #1 Aug. J Cooler #2 Cooler #3	Cooler #4	Co	ooler#5 Cooler #6
Chain of custody present?	Yes 👱	No	
hain of custody signed when relinquished and received?	Yes ·	No 🟒	
Chain of custody agrees with sample labels?	Yes 🔟	No	
Samples in proper container/bottle?	Yes V	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?	Ycs	No 🗾	
Proceed with Standard TAT as per project history?	Yes 🗹	No	Not Applicable
Water - VOA vials have zero headspace? No VOA vials s	ubmitted 🟒	Yes _	No
Water - pH acceptable upon receipt?	Yes	No _	Not Applicable 🗹
Adjusted?	Che	cked by	
Sample Condition: Good _/ Other(Explain)			
(For diffusive samples or AIHA lead) Is a known blank inclu-	ded? Yes	·	No

See Case Narrative for resolution of the Non-Conformance.

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

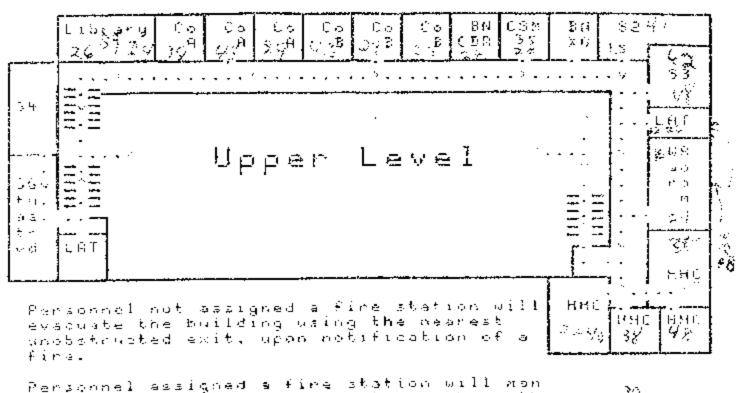
104

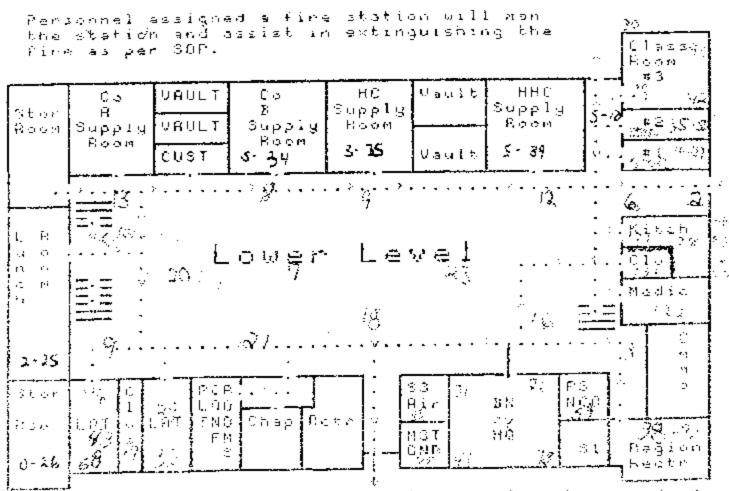
•			•	٠.						
			301	LX SAMP	LE DAT	A				
	rae	730 OF 122.		USAERA T	; 14I; t	ys brob	anent.	is 8588-10.		
Ratur.	i Accress	(COMO LETTE	adarses i	neLucing	Lip Con	פין נפ	ter or	Contact (no	TOTAL A STREET	T 1
510 PLAZA	. Guard Bureau i Orive, Suite i si Park, ga 30349	LEGION SOUTH THO	FFICE .		-	•				
						N	on-	Resp	ons	IV
	es installa		[]	LOISCE ME	MCGC					
LOBB	ARK AR	MORY F	- Worth	Ty C	OBB AS	ek 06				
Non-R	esponsive	ay T	- 1	jate Colle	CLAC			Deddive		
				12 MA	N DO			;		
1 ^	aden or U		,	_	,	.]	LOCAL	ion (BLG/)	12F2 :	
HRN	NORY	W/Cor	VERTE	d IFR						
ASSOCIA	ted Long	aints (ba a	pacifiz,			<u>-</u>				
<u></u>										
	Dec Air Sa	moles		r /es, i	ST Samo	ie numo	ers		·	
Ye	s XINO									
7		***	Lat	el Inform	ration		•			;
Trage N	ame		::SN			denurac:	רפר		····	1
Aggress										- 1
Voru e23					-]	ISDS ATT	acneo		···	ᅥ
, r				,			Yes	;; _o		- 1
Analysis	Destrea			<u> </u>	1		•			_
		AS	BEST	3S - P	1.m			-		- [
Use Only	Sample No.		onstituent		1	esults	-			-
					1			Rema	rks	
**************************************	CPASI	12 X1	2 "Cextx	ng TIL	E	Ė		:		-
	CPAS21	<u>56M W</u>	Indow Ca	w/K/R	R Dou	(ho				7
;			,				1		···	7
										-
										_
				1						7
							ì			-
Comments	יםגי מז:						i i			
										1
								·		1
ARBIVST/E	========	- igyran	eq Ev : i	Use Oni		are dec	Q juan	, 172 E	ecortec	1
	i ientame:	1	-			, no.		1 -316 70		1
	. ಸರ್ವದಲಾಕೀ	,	Liments:		<i></i>					

Appendix C

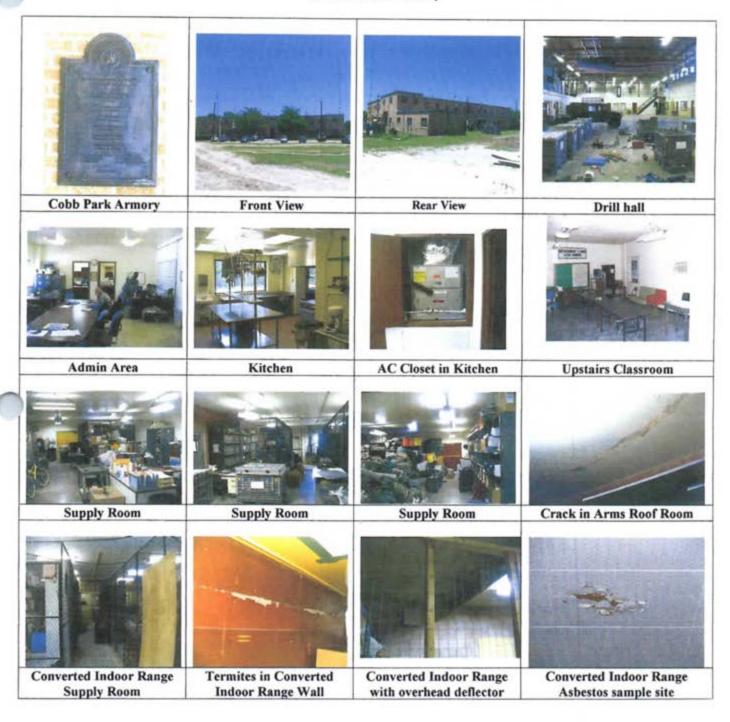
Photographs and Floor Layout.

2-112 Armor Evacuation Plan





Cobb Park 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

December 17, 2003

MEMORANDUM FOR: ADJUTANT GENERAL TX ARNG, ATTN.: State Occupational Health Office, P. O. 8OX 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.

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

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)
- 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.I, 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



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 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.

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.
- 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-Respon Industrial Hygienist.

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

4. Facility Description. This facility houses Detachment 1 of Company B 3th 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	

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.

Findings.

May, 2018

- 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. <u>Supply Room</u> 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. <u>Illumination survey</u> 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. <u>Drill Floor</u> – 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.

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

- G. <u>Inactive Firing Range</u> 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. <u>Kitchen</u> 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

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

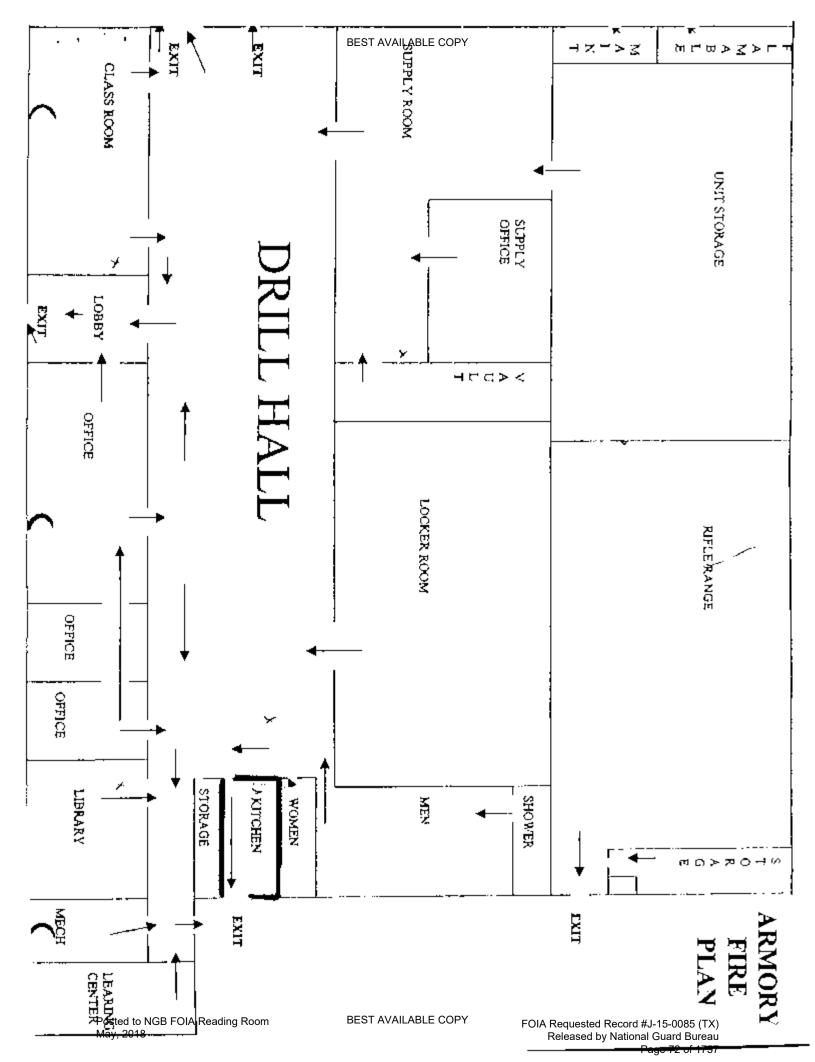
Sample No.	Location	Type Analysis	Micrograms /cubic ft ug/m3
A-01	Drill Fl., Overhead door	Lead	<10.0
A-02	Orill Fl. Center of Floor	Lead	12.0
A-03	Drill FI., near kitchen storage	Lead	<10.0
A-04	Kitchen, at entrance	Lead	13.0
A-05	Blank	Lead	<10.0
A-06	Orderly Room, Supply Vent	Lead	10.0
A-07	IFR, Bullet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

Posted to NGB FOIA Reading Room

May, 2018

BEST AVAILABLE COPY

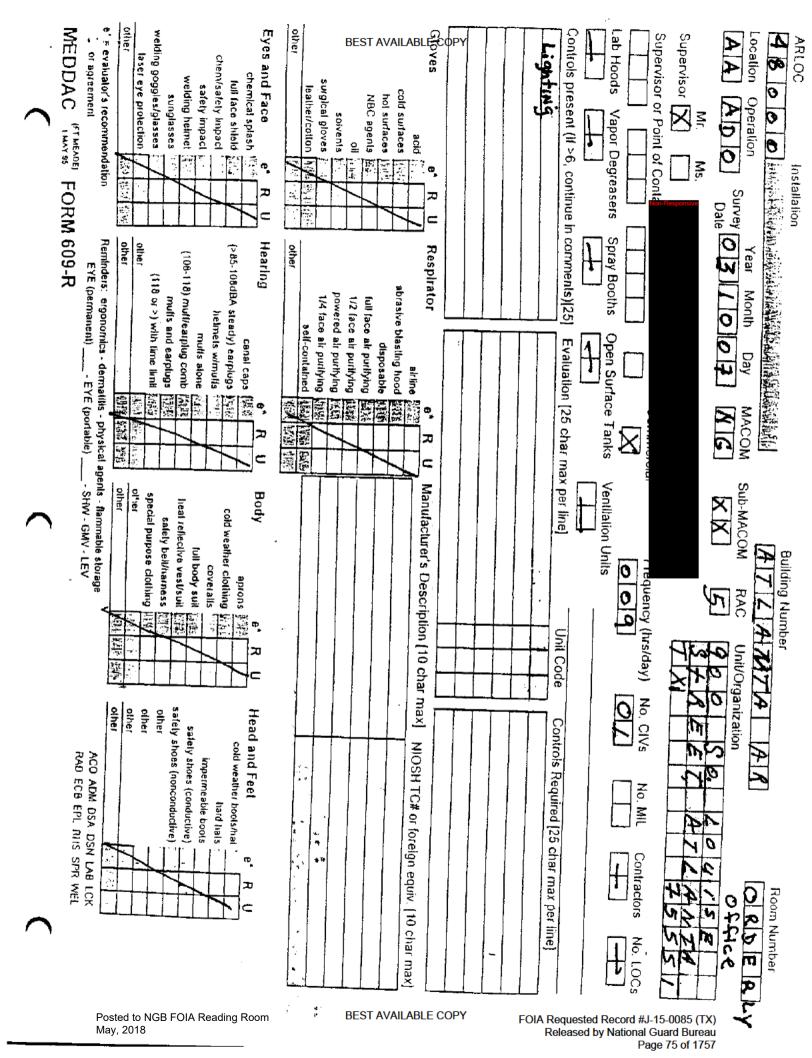
APPENDIX A

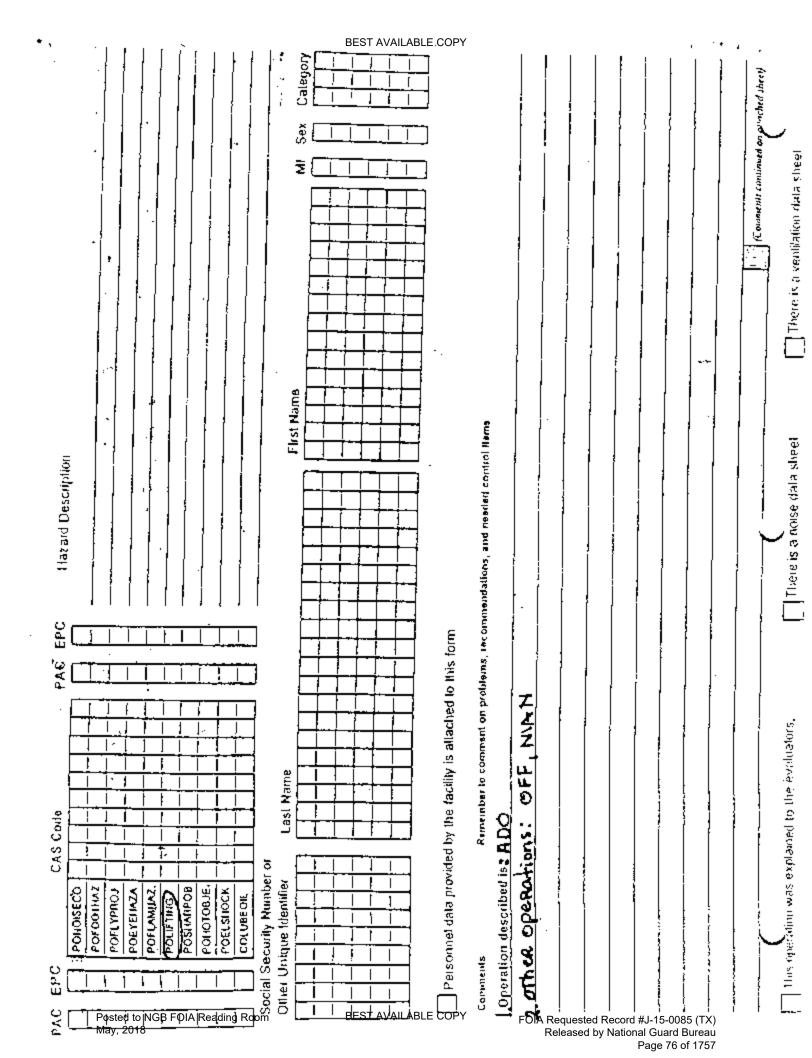


BEST AVAILABLE COPY

APPENDIX B

APPENDIX C





햙 other BEST AVAILABEE Controls present (if >6, continue in comments)[25] e" = evaluator's recommendation Eyes and Face MEDDAC, "IMPES FORM 609-R Supervisor 🔀 welding goggles/glasses ab Hoods Supervisor or Point of Conta -ocation ARLOC or agreement laser eye protection Chenvisalely impact chemical splash welding helmet surgical gloves full face shield safely impact bather/cotton cold surfaces Operation NBC agents sunglasses hot surfaces DH9 Vapor Degreasers solvents acid 오 (元) (1) Μs · 新州公司的中国出版 œ, Survey Þ \overline{x} Spray Booths Hearing Reminders: ergonomics - dermatitis - physical agents - flammable storage other other other (>85-108dBA steady) earplugs Respirator (108-118) mult/earplug comb EYE (permanent)_ (118 or >) with time limit abrasive blasting hood 智慧 Month 1/4 face air purifying powered air purifying mults and earplugs 1/2 face air purifyling full face air purifying THE PROPERTY OF THE CONTRACT O helmets w/mutts self-contained Open Surface mutts alone Evaluation [25 char max per line] canal caps disposable atrline EYE (portable) MACOM * 3 75 の記録 \mathbf{z} J C Ventilation Units Manufacturer's Description [10 char max] - SHW - GMV - LEV of'ser Body special purpose clothing heal reflective vest/suit cold weather clothing safely bell/harness full body suit Building Numbe 00 Frequency (hrs/day) coveralls aprons RAC W カハナル Unit Code Unit/Organization æ No. CIVs other safely shoes (nonconductive) other olher Head and Feet Controls Required [25 char max per line] salely shoes (conductive) NIOSH TC# or foreign equiv. [10 char max cold wealher boots/hat RAD ECB EPL RIIS SPR WEI ACO ADM DSA. DSN LAB LCK Impermeable boots No. MIL hard hats Contractors Room Number No. LOCs MMC **BEST AVAILABLE COPY** FOIA Requested Record #J-15-0085 (TX) Released by National Guard Bureau Posted to NGB FOIA Reading Room

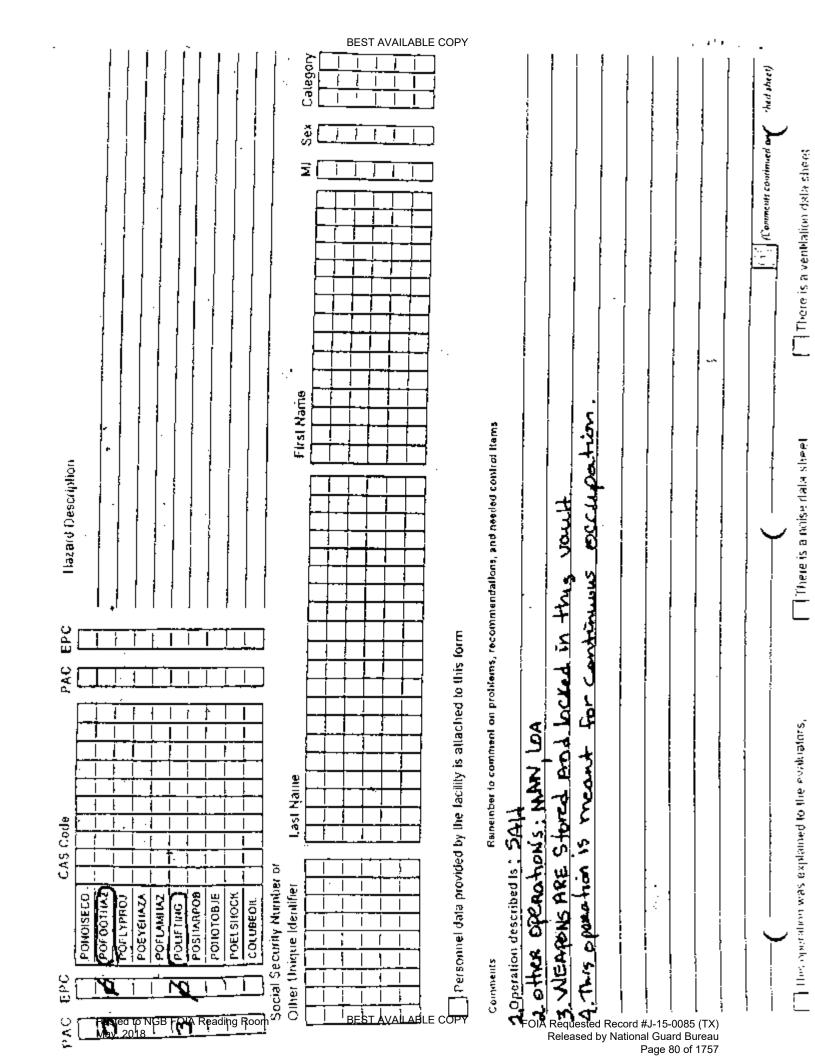
Page 77 of 1757

May, 2018

Petroleum distillates petroleum spirits Imineral spiritump Naphty.	lifrst Name Mi Sex Calegory	by the facility is attached to this form Remember to comment on problems, recommendations, and needed control tems.		There is a funce (fully vise)
Code	Last Name	Personnel data provided by the facility is attached to this form needs Remember to comment on problems, recome cration described is : Dt+P Startage and A		n was explained to the example of
PONOISECO POEVEINZA POEVEINZA POEVEINZA POSIARPOB POSIARPOB	ODELSHOCK OURLY Number or pue Identifier	Personnel dala provided by II Acculments Rom Rom	FOIA Requested Record Released by Nation	#J-15-0085 (TX)

HHIMS INDUSTRIAL HYGIENE SUKVEY FURM

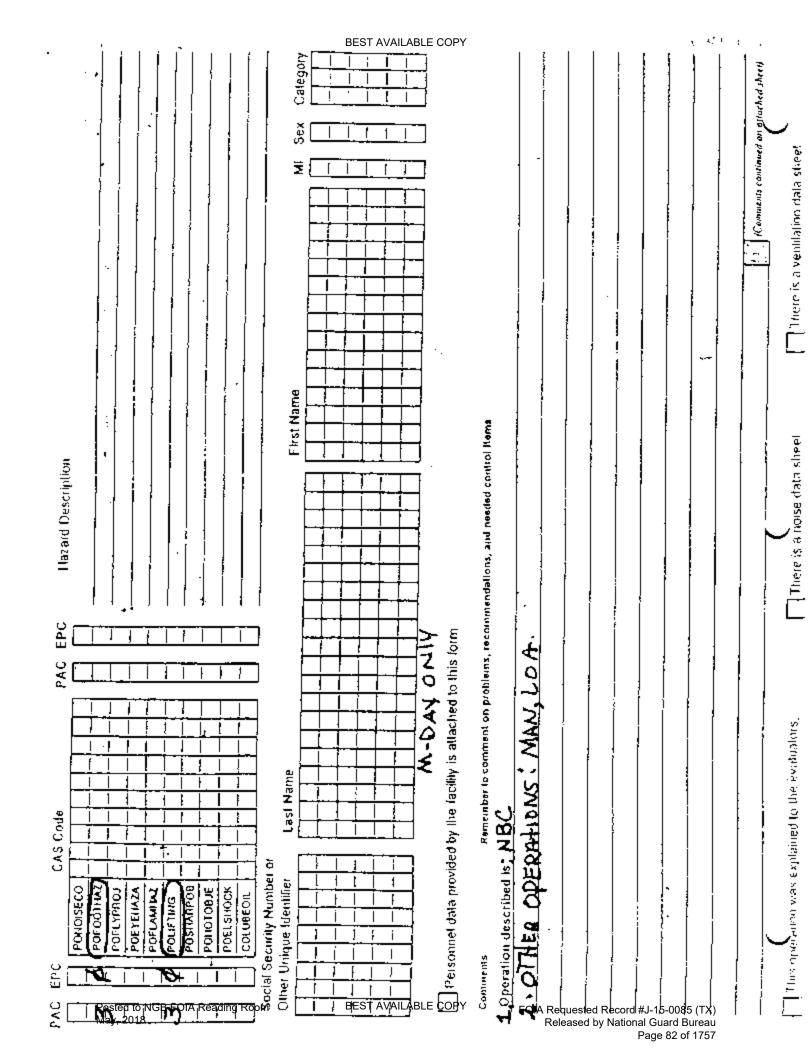
chemical splash till chemical splash till face shield chemisafety impact safety impact welding helmet sunglasses welding goggles/glasses glasses/glasses/glasses/glasses/glasses/glasses/glasses/glasses/glasses/glasses/glasses/glasses/glass	CC COMPANY AND	ARLOC Installation ARLOC Installation ARLOC Installation Year Month SIAIN Survey Date Mr. Ms. Supervisor X Date Supervisor or Point of Cont Supervisor Of Point of Cont Controls present (if >6, continue in comments)[25] Lights ARLOC Year Month Year Month Date O 3 1 6
R U Hearing canal caps cold weather ctothing hard hals impermeable boots safety shoes (nonconductive) safety shoes (nonconductive) safety shoes (nonconductive) colher other o	Respirator or alrino abrasive blasting hood disposable full face air purifying powered sit purifying 1/4 face air purifying 1/4 face air purifying solf-contained other or R U Manufacturer's Description [10 char max] NIOSHTC# or to	Building Number Room N. Day MACOM Sub-MACOM RAC Unit/Organization NOTE TO THE TOTAL STATE OF THE CONTROL CO
Posted to NGB FOIA Reading Roo May, 2018	max	FOIA Requested Record #J-15-0085 (12) Released by National Guard Bureau Page 79 of 1757

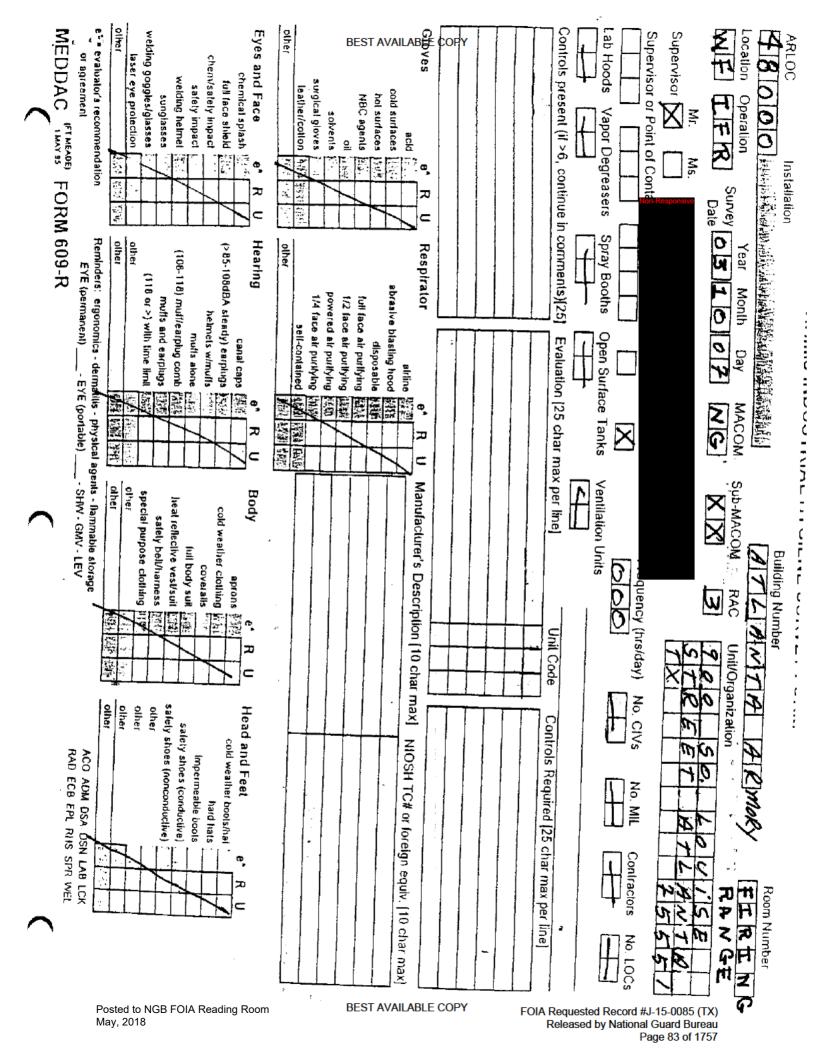


e* * evaluator's recommendation MEDDAC FIMENDE FORM 609-R welding goggles/glasses other Eyes and Face BEST AVAILAB Mr. Supervisor 💢 Controls present (if >6, continue in comments)(25) Lab Hoods or agreement Supervisor or Point of Cont Location ARLOC laser eye protection Chenifsafely Impact chemical splash welding helmet full face shield surgical gloves safely impact leather/cotton cold surfaces sunglasses NBC agents hol surfaces Operation NBC solvents Vapor Degreasers acid <u>Q</u>. Installation Ø Survey 0 3 2 0 0 7 3 Reminders: ergonomics - dermatitls - physical agents - frammable storage other ol her Hearing Spray Booths olher (>85-108dBA steady) earplugs Respirator (108-118) mult/earplug comb EYE (permanent) (118 or >) with time limit abrasive blasting hood powered air purthylag Month muffs and earplugs 1/4 face air purifying 1/2 face air puritying full face air purifying helmets wimutts החוואו ואטטSTRIAL HYGIENE SURVEY FORM self-contained mults alone canal caps Open Surface Tanks Evaluation [25 char max per line] disposable - EYE (portable) atrline 185 185 Z € MACOM Z X - SHW - GMV - LEV other of ler Ventilation Units Manufacturer's Description [10 char max] Sub-MACOM special purpose clothing Body heat reflective vest/suit cold weather clothing with salety belt/harness full body suit **Building Number** coveralls 0 e e quency (hrs/day) RAC 4 LANTA Unit Code Unit/Organization No. CIVs ÷, Olher other safely shoes (nonconductive) other Head and Feet Controls Required [25 char max per line] safely shoes (conductive) NIOSH TC# or foreign equiv. [10 char max] cold weather boots/hat M A R MORY RAD ECB EPL RIIS SPR WEL ACO ADM DSA. DSN LAB LCK impermeable boots No. MIL 0 hard hals e, Contractors J ROOM Room Number No. LOCs BEST AVAILABLE COPY Posted to NGB FOIA Reading Room **FOIA Requested Record** Requested Record #J-15-0085 (TX) Released by National Guard Bureau

Page 81 of 1757

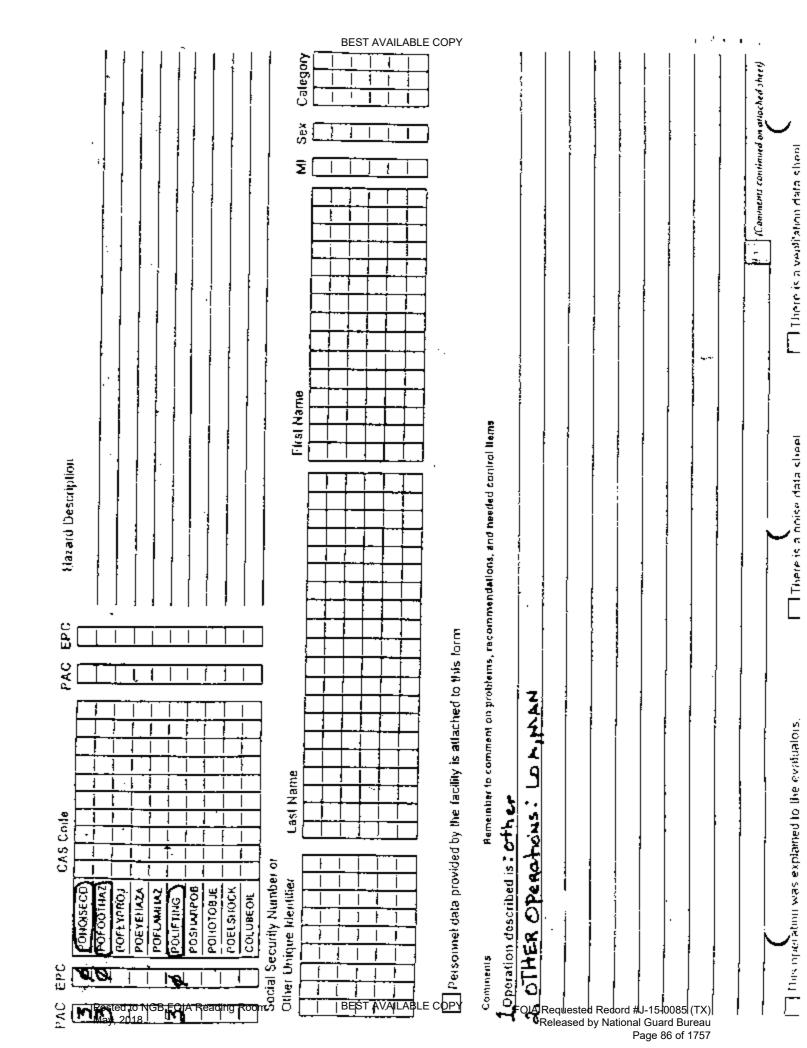
May, 2018





		MI Sex Calegory	ABLE COPY		There is a ventilation data street
PAC EPC Hazard Description		First Name	by the facility is attached to this form Remember to comment on problems, recommendations, and needed control tiems CER GHBS: SAH, NRW, LOM		There is & Jise data sheet
PAC EPC CAS Code	Poeted to NGB FOIA Realding Poet Stillock Poet Stillock Poet Stillock Poet Stillock May, 2016	Social Security Number or Solid Security Number of	Personnel data provided Comments Operation described is . T	PIA Requested Record #J-15 Released by National Gua	(XX)

<u> </u>	chemical splash (2.6.) full face shield (2.6.) chemical splash (2.6.) full face shield (2.6.) chemical splash (2.6.) full face shield (2.6.) chemical splash (2.6.) safely impact (1.6.) welding helmet (1.6.) sunglasses (1.6.) welding goggles/glasses (1.6.) welding helmet (1.6.) sunglasses (1.6.) welding helmet (1.6.) welding helmet (1.6.) chemical splash (2.6.) (1.	cold surfaces [15] hot surfaces [15] hot surfaces [15] NBC agents [15] solvents surgical gloves leather/cotton [15]	ARLOC ARLOC ARLOC Installation Year Month OTH Date Supervisor Point of Contact Telephone Number Lab Hoods Controls present (if >6, contlinue in comments)[25]
	Canal caps (Respirator altine abrasive blasting hood disposable full face air purifying 1/2 face air purifying powered air purifying 1/4 face air purifying self-contained other	Building Number Building Number Building Number Building Number Building Number Building Number BUIT L A W17 A COM RAC Unit/Org X X Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y
	olther olther ACO ADM DSA DSN LAB LCK RAD ECB EPL RIIS SPR WEL Posted to NGB FOIA Reading Room May, 2018	NIOSH TC# or foreign equiv. [10 char max]	Room Number Room



. , . . ,

APPENDIX D

Posted to NGB FOIA Reading Room May, 2018

Kenn- PYI

PRATRAUQUARTERS DEPARTMENTS OF THE ARMY AND THE AIR FORCE Washington, DC 20319-1600 31 January 1994

NG PAH (AR) 385-15/ ANGPAM 01-101

Saiply

QUIDELINES FOR CONVERTING INDOOR FIRING RANGES TO OTHER USES

signmenty. That is a new paraphiet. This guidance prescribes policy, susponsibilities, and procedures on how to convert lead-contaminant indoor firing ranges. ID Office Decision.

Applicability. This guidence applies to all persons responsible for the operation of Affry Matienal Guard (ARNG) and Air National Guard (ANG) indoor firing ranges. As no requisition-publishes san foreses all sit-uations that might evine, the tollowing is written in a broad scope and is intended to be interpreted as to the MTENT of the law by health professionals.

Supplementation. Supplementation of this guidarea is prohibited without prior approval from Chief, Namonal Guard Bureau (NGB-AVN-St)

impact on New Manning System. This guidance does not contain information that affects the New Marring Bystem.

interior changes, interior changes are not official unless thay are authenticated by the Chief. Administrativa Services. Users will destroy interim onlinges on their expiration date unless sooner superseded or rescinded. 14.00

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

Osstribution. Osstribution of this publication is made In accordance with the requirements on DA Form 12-DI-E

CONTENTS (Lineal by paragraph numbers)

•	Para
Ридозе	1
Hajarances	2
Explanation of abbreviations and lenns	3
Policy and procedures	4
Goal	5
Background	•
Wips Semple Media	7
Wise Sampling Protocol	8
Range Cleaning Instructions	9
Cleaning Stored Contaminated Equipment	10
Contaminated Sand and Lead Waste	11
Medical Surveillance	12
Worker Education	13
Personal Protective Equipment	14
Point of Contact	15

Appendices

. . . .

- A. Sampling Strategy for Collection of Wipe Samples
- 9. Interpretation of Sample Results (Print to Ceaning)
- C. Interpretation of Sample Results (After Cleaning)
 D. OSHA Instruction CPL 2-2.208
- E. Where to Purchase Sample Media and Containers
- F. AEHA Form B-R (Bulk Sample Data)
- G. Instructions to Complete AENA Form 8-P.
- N. Examples of Computation of Lead Level from Wide Samply Results
- 1. Supporting Laboratories and Areas Served

Glossery

1. Putpess

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

- 2. References Related publications are listed below.
- DOD! 6053.7 (Department of Defense Occupational Salety and Health (OSH) Program).
- b. AR 11-34 (The Army Respiratory Protection Program),
 - c. AR 40-5 (Preventive Medicine).
- NOR (AR) 385-15 (Policy, Responsibilities, and Procedures for Inspection/Evaluation and Use of ARKG Indoor Firing Ranges),
- a. 18 MED MIZ (Occupational and Environmental Heath Repiretory Protection Program).
- f. USAEHA TO 141 (Industrial Hygiene Alt - Sampling and Bulk Sampling Instructions).
 - Title 39, Code of Faderel Requisitors (CFR) revision, Part 1918 (Occupational Safety and Health Standards),

or behaviory 1694

. . . .

NG Pam (AR) 085-18/ANG PAM 91-101

APPENDIX B INTERPRETATION OF SAMPLE RESULTS (PRIOR TO CLEANING)

6-1 200 microgramming it or LESS if an ample require are 200 microgramming it or less, the range cent be converted and/or seed for any purpose.

b.2 AETWEEN 301 and 200,000 micrograms/ eq.ft.

Parigo must be decontrationable. Commune with cleaning instructions listed in paragraph 15. Semple results will be used to establish a best-line. The baseline sample results will be used to ensure the 75 percent reduction is achieved.

u-3 CYER 200,000 microgrammed to Your sample media may not be capable of collecting additional lead dust, and results that are above too too interegrammed it should be considered auspect. Larger concentrations of lead dust may exist on suffaces tested other than results indicate. If the initial sampling results are above 800,000 microgrammed it, the range should be cleaned by shifter HEPA vacuuming and/or and wiping to establish a baseline. After the observing procedure is completed, resempling should occur until sample misults are under the 200,000 micrograms/sq it timit.

bit high sample results may exist due to personnel waiting or moving equipment/vehicles over the range aurisons souring the lend dust to be "ground" into the substraum. 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 O INTERPRETATION OF BAMPLE RESULTS (AFTER CLEANING)

C-1 200 interograms/sq ft or UESS if all sample results are less than 200 micrograms/sq it, the range can be convened another used for any purpose little is cost of lead-free later paint is applied. The point color must contrast the color of the present substratum.

C-2 ABOVE 200 micrograms/aq ti
As a minimum, a 75 percent reduction should occur
from your initial sample results or the samples should
be under the 200 microgram/aq ti level. If all sample
results meet this criteria, a contrasting color of teadfree latex paint must be applied before the area is yritered for other purposes. The room can only be used
as a springle area. Sturage of kitchen equipment and
used is prohibited. The room cannot be used for a
child care or nursely area. If sample results are not

below the 75 percent reduction, a more thorough cleaning of the range is required along with resampling until orderla are met.

PLEASE NOTE, that it your original wipe sample results were, i.e., 175,000 upon it then you would have to reduce the lead level below 13,125 upon it. This sould meet the 75 percent reduction criteries, however, the le an enormous amount of lead dust and care should be taken in sensure is heavy coal of paint seats the lead dust. It is unknown at this time smether or not the remaining amount of lead dust will allow the lates paint to adhered to the substitution. If the paint paeds, the to the floor and it crushed over a period of time, it will create another respirable lead fazard. If this happens, content your Regional industrial Projects Office for signs of positing paint. Paint office convented range for signs of positing paint. Paint office on the shalyand for lead content. DO NOT IGNORE PEELING PAINT IN A OCHVENTED INDOOR PIRING HANGS.

BEST AVAILABLE COPY

APPENDIX E

P. 001

OCT-23-2003(THV)

3019375701

P. 001

18/23/2003 18:15

3019375701

EMSL ANALYTICAL

PAGE 01/12

EMSL Analytical, Inc.

10763 Selimore Avenue, Belleville, MD 20703

Phone: (301) 937-0700 Fég: (391) 997-9701

ÉMSL

Atin:

Fûx

on-Responsiv

Customer iD: Customer PO: USA50B 1449-03W

Received:

10/23/03 9:15 AM

EMSL ORDER

190305721

EMSL Project (D:

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

Client Sample l	Doseripsen	tal ID	An aly; od	Area Sampisa	Land Connante de	ion
A-01	Drill floor front of over deer	0001	19/23/2003	see lue	<10.0 µ/	ù.
A-02	Drill floor center of floor	9002	10/23/2009	144 in ³	12.0 µV	M ⁴
A-63	Orill floor near kitchen sit m	1003	10/23/2003	144 int	410.0 p	it ^a
A-04	(Clichen @ entrance	3004	1B/23/2003	144 ln²	13.0 y	₩ª
A-05	Blank	4098	10/23/2005	tvia	₹10.0 μ	/wipe
A-08	Orderly hm, supply vent	0006	10/23/2003	144 In ^a	19.0 д	W1
A-07	FR builet back stop	0007	10/23/2003	144 in²	67000.0	n'
A-08	IFR front of buller back atop	2008	10/23/2003	£44 17"	7200.0 p	/¶*
A-08	iFR tööt wali nest enVesit	0009	10/23/2003	144 in*	180.0	ıı.
A-10	IFR - blenk	0010	10/23/2003	rýa	21.0	wipe

or other approved signatory

/23/2003 6:08:34 PM



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.

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. <u>Site Description.</u> 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. <u>Scope of Work.</u> 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 scaled 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. <u>Lead Wipe Samples:</u> 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. <u>Asbestos Suspect Building Material:</u> 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. <u>Illumination Survey</u> 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 huminance 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 wartage 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. <u>Heating Ventilating and Air Conditioning (HVAC)</u>: 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)
- 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)



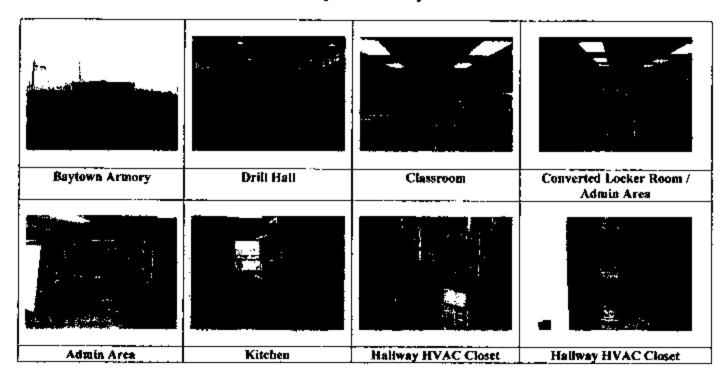
CF: NGB-ARS-IHSE

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

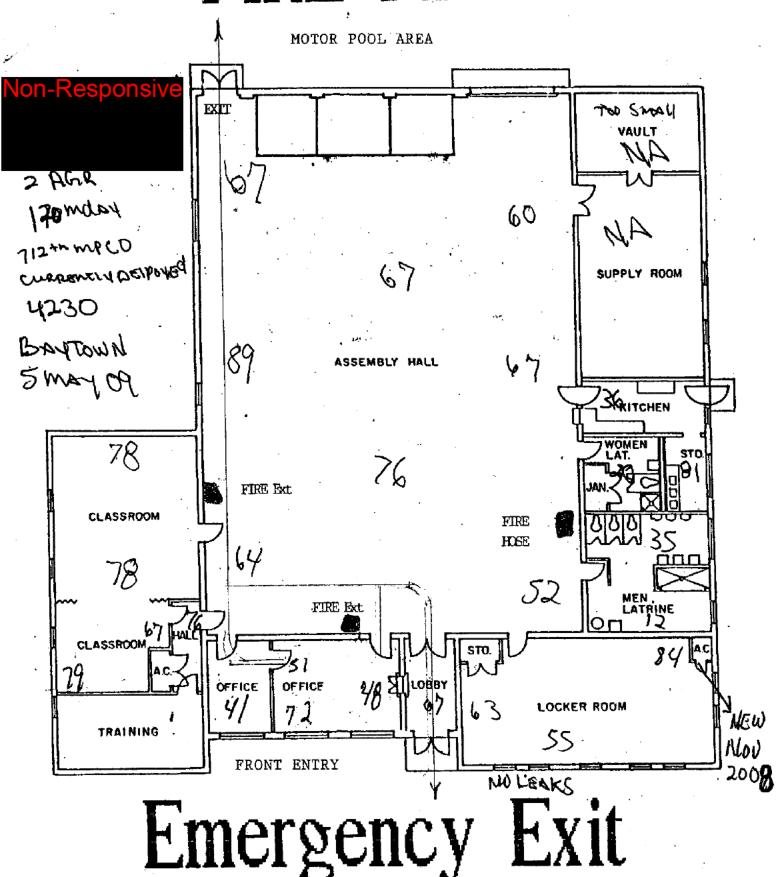
ENCL.

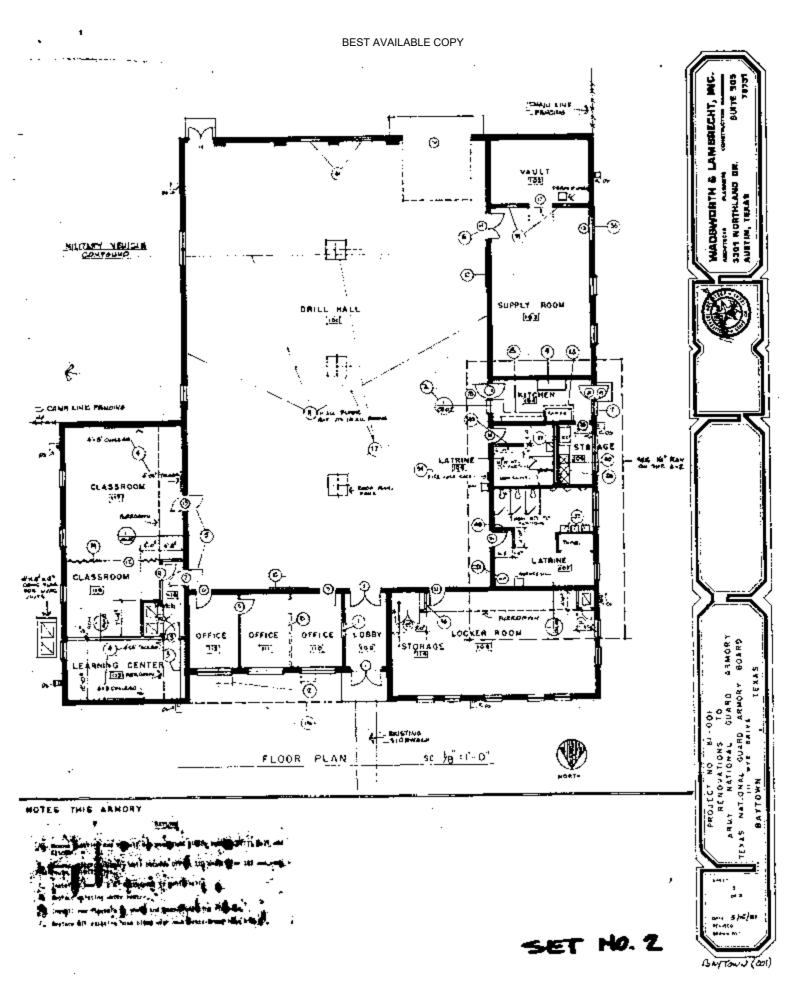
as

Baytown Armory



BEST AVALABLE COPY





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-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.
- 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.
- NGR Pam 420-15, Guidelines and Procedures for Rehabilitation and Conversion of Indoor Firing Ranges, 3 November 2006.
- 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.
- Industrial Ventilation, 25th, 2004, American Conference of Governmental Industrial Hygienist, Cincinnati, Ohio.
- Title 29 Code of Federal Regulation (CFR), Part 1910.1025 Lead.
- 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



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. <u>Site Description.</u> 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. <u>Scope of Work.</u> 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.

 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 bazard 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	12×12 inch Floor Tile	None Detected	

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

- Noise Survey: No noise Hazardous areas were identified or recorded on the day of the survey.
- d. <u>Illumination Survey</u> 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

NGB-ARS-IHSE (40-5f)

10 October 2007

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

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.

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....
- 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
- 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)

Non-Responsive

BEST AVAILABLE COPY

NGB-ARS-IHSE (40-5f)

10 October 2007

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

Baytown, Texas 77520



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

BEST AVAILABLE COPY

Appendix A: Laboratory Analytical Results.



Analytical Environmental Services, Inc.

September 19, 2007



RE: Bay Town, TX

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 total pages (including cover letter).

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

Sincerely,



Analytical Environmental Services, Inc.

Date: 9/12/2007

LEAD ON WIPES (N9100/7082)

N7082

CLIENT:

National Guard Bureau Region-South (H.

Lab Order:

0709786

Project:

Bay Town, TX

Date Received: 9/13/2007 12:00 PM

Delivery Order:

Matrix:

Wipe

PO No:

Laboratory 10	Client Sample ID	Results	Units	Report Limiz.	DF	Date Collected	Date Apalyzed	Agatyst
0709786-301A	B79701	BRL	μg. Fotal	20	1	9/7/2007	9/14/2007	1.J.
0709786-002A	BT9702	BRL.	μg, lotal	20	Ļ	977-2007	9/14/2007	JY
0709786-003A	BT9703	BRL	ag. Total	20	1	9/7/2007	9/14/3067	γı
02 09786- 004A	B79704	BRL	μg, Total	20	1	9/7/2007	9/14/2007	17.
070 9 786-005A	819705	21	ug, Fotal	20	t	9/7/2007	9/14/2007	
0709786-006A	BT9706	21	og Total	20	1	9/7 2007	9/14/2007	71
0709786-907A	879707	142	ид, Тогаі	20	i	9/7/2007	9/14/2007	ЛÝ
079 9786-008A	B179708	223	ру, Тотаь	20	l	9/7/2007	9/14/2007	JY JY

Qualifiers:

BR1 - Not Delected at the Reporting Limit -

DF - Otiotion Factor

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client GA Bruy		Work Ord	ler Number	0709786						
Non-Responsive Checklist completed by		1/13/0-	7							
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//3/	/o¥/es			∠						
Container/Temp Blank temperature in compliance? (4°C±2)	+Yes _レ	No								
Cooler #1 Cooler #2 Cooler #3	Cooler #4	Co	oler#5	Cooler #6						
Chain of custody present?										
Chain of custody signed when relinquished and received?	Yes _ XM	_ ollow								
Chain of custody agrees with sample labels?	Yes V	No								
Samples in proper container/bottle?	Yes	No								
Sample containers intact?	Yes _	No _								
Sufficient sample volume for indicated test?	Yes _									
All samples received within holding time?	Yes _	No								
Was TAT marked on the COC?	Yes	No L								
Proceed with Standard TAT as per project history?	Yes 🗹	No _	Not Applicab	le						
Water - VOA vials have zero headspace? No VOA vials su	ıbmitted	Yes _	No	_						
Water - pH acceptable upon receipt?	Yes _	No	Not Applicable	e						
Adjusted?	Che	ecked by								
Adjusted? Checked by Sample Condition: Good V Other(Explain)										
For diffusive samples or AIHA lead) is a known blank included? Yes										

See Case Narrative for resolution of the Non-Conformance.

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

 $[\]verb|L|| Quality|| Assurance \verb|Checklists|| Procedures Sign-Otf Templates \verb|Checklists|| Sample Receipt Checklists|| Sample Receipt Checklists|| Chec$

BEST AVAILABLE COPY

Analytical Environmental Services. Inc.

Date: 17-Sep-07

CLIENT:

National Guard Bureau Region-South [H

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

rvlap

Lab ID# 102082-0

AES Job Number: 0709839 Wednesday, September 19, 2007

Page 1 of 1

Client ID	AES ID	Location	As	besto:	s Mine	erat P	ercen	tage	Comments
			CH	AM	CR	AN	TR	AC	
BTASB 1	0709839- Cla 001A	ssrom floor Tile (12x12)	ND	ND	ND	ND	ND	ND	
Layer: 1	!								

Note: CH=chrysotile, AM=arnosite, 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 files 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 Ashestos 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:



Appendix B: Lab Chain of Custody

For use of this form see	USAESA TG 14	I; the prop	onent i	#5#5-W.
NATIONAL GUARD SUREAU REGION SOUTH IN OFFICE 110 PLAZA DRIVE, SUITE 1300 COLLEGE PARK, GA. 20349	nervæng lip	Code	lon-F	Responsi
Sampled Institute	roject Numbi			
BAY TOWN , TX	BT97	_		
Non-Responsive	iate Collected	1	Date 3	OIPPEG
	1 Sep 0-	7		Sep 07
ARMORY W/O IFR (Associated complaints (in many)	Fals	. `	LOCATIO	n (BLIG/KREL)
Associated Complaints (be specific)	- 001100 -	up)	ARM	0 RY
Assuciated Air Samples .	T Yes, list s	amo le numo	ars	
<u> </u>				
Trage Name Lat	el Information			
		'lanurac:	gree.	
doress		I HSDS ATT	SCDBd	
			Yes ·	<u>_</u> ∷o
malysis Desired			· ·	
an Use Sample			•	
Only No. Constituents		Results		Remarks
BT9701 BLANK		:		
BT9701 Admin Suppl	d		<u> </u>	
BT9703 Admin MATA	RTI			
BIGNOY KITCHEN CON				
BT9705 DRZII HAII FLOOR	No all		- 1	
BT9706 Supply Floor	SOUPPIN			
BT9707 VALLY WPNS				
		•		
	espo	$ \Pi S $) n - n
Non-Re		MSI	VC	كمك
		Care Rec		Late Reported

	For :	SULK SAMI	TG 747. +	nest is been
ř.		Commission of the Commission o	7.00 0000	
SIO PLAZ	AL GUARD BUREAU R LA DRIVE, SUITE 1530 E PARK, GA 30349		No	n-Responsive
	ed installat	oon Project N	lumper	
	Town.	TZ AT9	7 7	
	n-Res	nonsive		Data Snipped
		13ep	07	10 Sep 07
AR	m ory	W/O IFR (FOLL	10.24	ocation (all grades)
Assec:	ated Comple	unts (be specific)	iom -ap	
ASSEC:	ated Air Sai	spies if yes, :	ST Samole number	3
	~ ~~			
Trace :	Vame	Label Infor		
	· .		· anuracru	rer
dares		,	- ASDS ATTAC	cnea
	•	•	·	es 🗀 🗀
ustası	s Desired			
!!		LENd		
an Use Only	No.	Constituents	Results	Remarks
	B7976	8 VAULT FLOOR		
		3901 11001		
		1		
mmeor:	5 10 1 20	Jon Dean		
		Non-Respon	nsive	0
				>
		Lab Use On		
	772 TT 2 137	Reviewed By (Smithald)	LATE TECH	. ven
ilvsT/į	matilis) S Partorma	1	Care Rece	. ved 1378 Recorded

BULK SAMPLE DATA

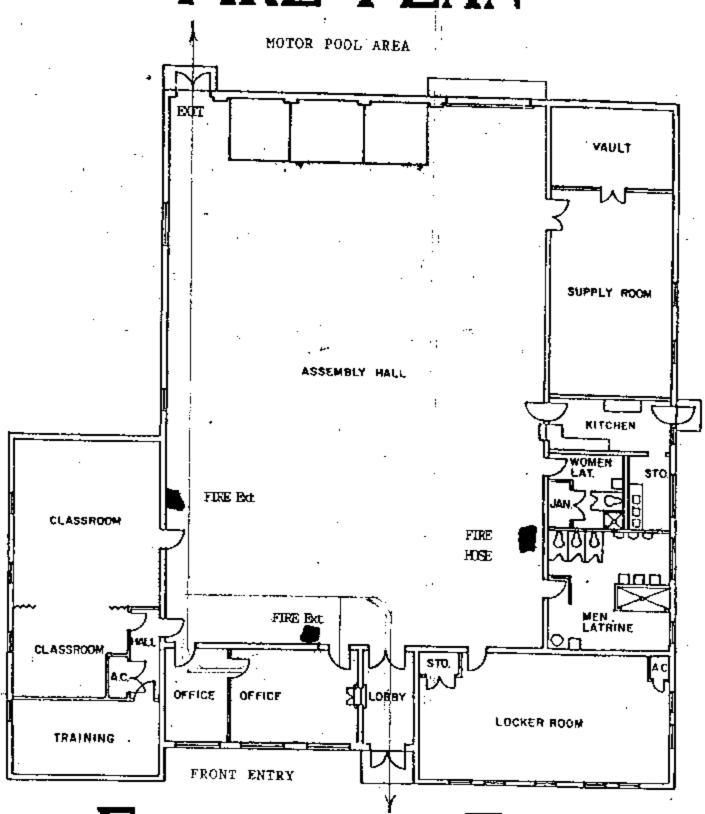
For use of this form see USAREA TO 141; the proponent is HOHB-LD.

Return Address	(Antolista antong inglishing	Zin Code Proper or	
1	(complete ocurses uncluding	Non	Responsive
NATIONAL GUARD BUREAU REC 510 PLAZA DRIVE, SUITE 1530 COLLEGE PARK, GA 30349	ORN SOUTH IN OFFICE		responsive
		į.	
Sampled Installati	an Project N	נחספר	
BAY LOWN,	1X BT9	7	
Samples Collected		ected Date	oulobed
Non-Resp	onsive 7 5 %	. 1	C- AAm
}			Sepul
	12	1 \ \ \ \	non BELG, AREA
HRMORY	W/O TEXTO	low-up) Ar	more
Associated Compile	ints (be specific)		
			•
Associated Air Sai	ncies); yes. :	ist samola numbers	
Yes No	, , ,		
Trade Name	Label Infor	والمراوي والمراوي والمراوي والمراوات والمراوات والمراوات والمراوات والمراوات والمراوات والمراوات والمراوات	
глафе малле	: ::SN	'anuracturer	
	4		
Adaress		MSDS Attached	
	•	Yes	T. No.
			<u></u>
Andlysis Desired	و مشاور پیشند بیشت میشود. در برای این موطوع با بیشت که این این با این با این بیشت بیشت که بیشت که این بیشت که		والمرابع
· ·			
,	ASPESTAS - PIN) .	
	ASBESTOS - PLW		
	ASBESTOS - PLW Constituents	Results	Remarks
Lao Use Sample Oniv No.	Constituents	Results	Remarks
Lao Use Sample	Constituents	Results	Remarks
Lao Use Sample Oniv No.	Constituents	Results	Remarks :
Lao Use Sample Oniv No.	Constituents	Results	Remarks
Lao Use Sample Oniv No.	Constituents 1 Classroom Floor	Results	Remarks
Lao Use Sample Oniv No.	Constituents 1 Classroom Floor	Results	Remarks
Lao Use Sample Oniv No.	Constituents 1 Classroom Floor	Results	Remarks
Lao Use Sample Oniv No.	Constituents 1 Classroom Floor	Results	Remarks
Lao Use Sample Oniv No.	Constituents 1 Classroom Floor	Results	Remarks
Lao Use Sample Oniv No.	Constituents 1 Classroom Floor	Results	Remarks
Lab Use Sample Only No. BTASA	Constituents 1 Classroom Floor	Results	Remarks
Lao Use Sample Oniv No.	Constituents 1 Classroom Floor	Results	Remarks
Lab Use Sample Only No. BTASA	Constituents 1 Classroom Floor	Results	Remarks
Lab Use Sample Only No. BTASA	Constituents 1 Class Room Floor	Results FEIE (12XI2)	Remarks
Lab Use Sample Only No. BTASA	Constituents 1 Classroom Floor	Results FEIE (12X12)	
Comments to Lap:	Constituents Class Room Floor Lab Use Class Lab Use Clas	Results TEIE (12X12)	
Camments to Lap:	Constituents 1 Class Room Floor / Lab Use Class Lab Use Class Lab Use Class Lab Use Class Constituents	Results TEIE (12X12)	

Appendix C

Photographs and Floor Layout.

FIRE PLAN



Emergency

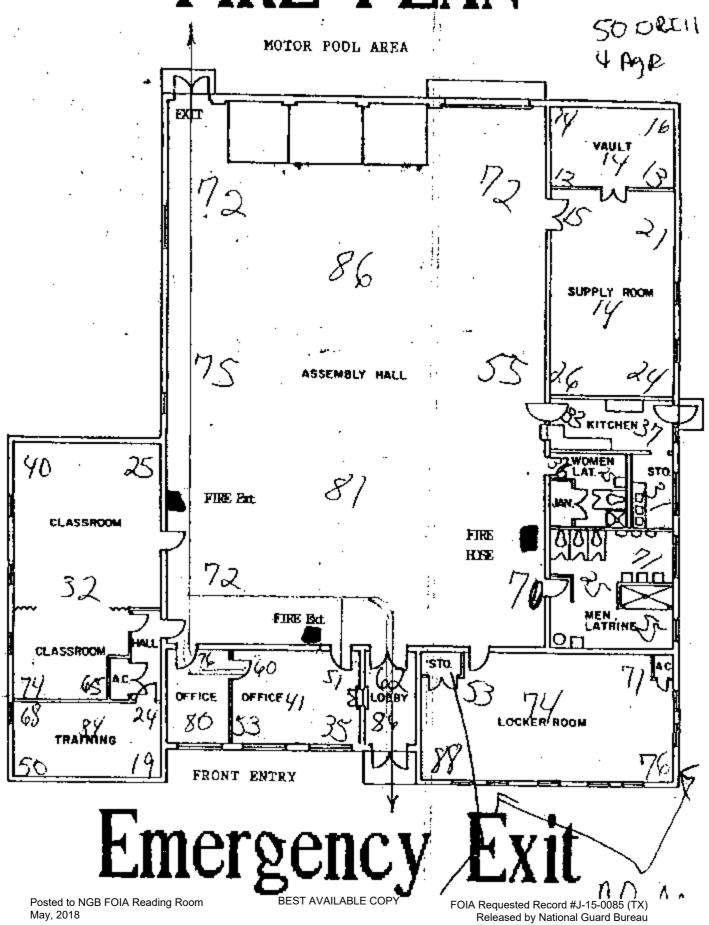
Posted to NGB FOIA Reading Room

BEST AVAILABLE CO.

May, 2018

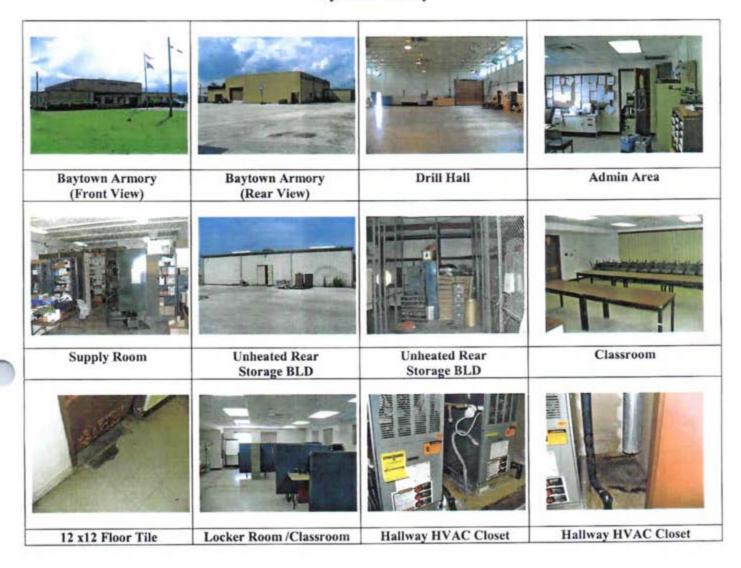
FOIA Requested Record #J

FOIA Requested Record #J-15-0085 (TX) Released by National Guard Bureau Page 116 of 1757 FIRE PLAN



Page 117 of 1757

Baytown 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 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.

References.

- 1

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

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-Responsiver Cake RD, Fayetteville, GA, conducted the survey.
- Findings. All Health Hazard information are on the survey findings of the report. (See enclosure 1)
- 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.

Non-Responsive peded about the industrial hygiene survey or air sample.

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

May, 2018



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



CONTENTS

1.0	TN.	TRO	DU	CTIO	Ν
1.0	. 11.		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	.,	• •

- 2.0 INSTRUMENTATION
- 3.0 FINDINGS
- 4.0 REFERENCES
 - Artachment 1 HHIM Forms
 - Attachment 2 Laboratory Reports: Deactivated Indoor Firing Range 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

Humination

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 morths 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	Builet backstop	1310000ug
15	Floor in from 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	2lug_

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	2lug

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)	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, fight 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 builts out at Capt. Broussard Office. Consideration should be given to provide supplemental lighting at the computer deaks that were below the recommended standard and to replace burned out builts. 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.



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 wellventilated 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.

zını	DL	18	1

b not mendelory; huwever, nondisclosur, mny result in untimely provided of proper medicul monthories

this information is to provide histories of exposure for any states worker. in this information is excited and monthly and monthly and managed of this should be a hand described as the control of the state of th Title 6 U.S. Code, Section 301; Executive Order 9397 authorizes the use of your Social Security Number as a identification number. The purpose

· PRIVACY ALT STATEMENT

PERSONNEL DATA SECTION 6. 4. REMARKS STUUSER 2 BAYT BAYT GRAZAH ..

· Posted to NGB FOIA Reading Room May, 2018

BEST AVAILABLE COPY

FOIA Requested Record #J-15-0085 (Tx

Released by National Guard Bureau

Page 134 of 1757

BEST AVAILABLE COPY

_	_	_	_	_	
	•.			_	

Disciosurs of your Social Security Rumber is and mandalory; however, nondisciosure, may result in entimely prove to proper medicul mandrories

this information is to provide historian of exposure (of it receives the of this information is to identify and montios data relating each DA civilien amployee express to a hezordnus arotheres or operation. The nas in Title 5 U.S. Cods. Section 301; Exscutive Order 9397 authorizes the use of your Social Security Number at a identification number. The purpose

· BRIAYCA YEL SLY LERIFYA

while it conjudes for love persob others

<u> 2 ECLION 2</u>

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

Peleased by National Guard Bureau
Page 13501797 3 2 3

May, 2018

ATAG JENNOZRES SECTION 6. . 1. C. REMARKS C RESULTS SAMPLE 34YT GRAZAH . **BEST AVAILABLE COPY** Posted to NGB FOIA Reading Room

Page 136 of 1757

. .

ture		

Disciosure of your Social Security Number is and mandelony; however, nondisciosur, may result in antimely provision of proper medical muniforms.

Title 8 U.S. Code, Section 301; Exsecutive Order 9397 cultarizes the use of your Social Security Number as a lentification number. The purposet of this information is to provide histories of exposure foreign and monitor date region. The use of this information is to provide histories of exposure foreign market.

· PRIVACY ALT STATEMENT

1961 5 with strung obout the same obout the stand obout a with a stand obout to with the stand obout to be sufficient to the standard of the standard of the standard with now with way, and with enough of the standard of th

COMIMENTS IA de blank sheet of peper if necessary

Z NOLLOBS

Non-Responsive

PERSONNEL DATA

SECTION 6.

4. HEMARKS	e sesuriz	BUGMAZ 4	ORAZAH .
			,
		<u> </u>	
~~ ~~~		4	
		**	
		4194	

Posted to NGB FOIA Reading Room May, 2018

BEST AVAILABLE COPY

-

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

Victoral Guard Bureau Page 1376MØ67£7.51

				BEST	AVAILABLE CO	PY				
	 	 					به مود م ستوسید در /del>	 -		
	· -·· -···									
				·						
					1		````			· \
							225			
	<u> </u>									
	i				··				3	7
		ــــ للــــ	14 % gr	iset	+		A			
TON 10 53.07	AC OF EPC	سحدت كالشائك	47.90	ν ₆ υ	1707	14	5 was of court	Sack		1
PECONNELLORGE					RULTION	10 08	AZAH .d		\$200 \$45	
DA: MEDICAL		!								
							ATAO YAOTUBVY	1 OA	72VH - + NOIL	2EC
								7	NBC AGENTS	
<u> </u>	1000	12	ne&trente			7	VELDING HELMET		COLD SURFACES	
SECUDIO 201	ONVIERAS		SAFETY BELT		HELMETS		-טרר דאקב אובנם	Ħ	HCT SURFACES	
	MAPERMEA!		COVERALLS	<u> </u>	CANAL CAPS	/	HEMICAL/SAFETY	4	SOLVENTS .	
	TAH DRAM	7	2NOR9A	-	297UM	, , , , , , , , , , , , , , , , , , ,	CHEMICAL/SPLASH	Ħ	110	
7·= 4 100	4/043H -9	A\A	S, BODY	W/H	4. HEARING	A/R	3. EYES/FACE	<u></u>	GIDA	
			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			0/8	3 EV52/24CE	A/A	Z. GLOVES	
							goor	דואם ו	ABRASIVE BLAS	
								ø	SELF-CONTAINE	
								VAIRU	POWERED AIR P	
									FULL FACE AIR	
									W FACE AIR PUR	
								MINATI	DISPOSABLE	
÷.a	00 01	HSOIN			RENUTSARU	NAM			T. RESPIRATOR	
				378Y	TED: V-VAVIEY	ROCH	AE EGUIPMENT (K+KI	117231	D. PERSONAL PRO	
						T-	T			7
	· · · · · · · · · · · · · · · · · · ·									
	-						·			
1604			1-05	 		+	-/		1	
SUTATE .	1 0		L CUNTROL	(3	• UNIT CODI	1 2	6. EVALUATION	LNE	C. CONTROLS PRES	
		Non-Resp	oonsive				101201110113	7,42	3366 \$ 1002400 -	
			STVILIN	, RO	tAUJAV3 d	-	- AJAO	3	TAG YBVRUZ .E	
<u></u>							- ATAG	BNE	ECTION 3. SU	5
					L VENTIL	-	s	NNAT	. OPEN SURFACE	_
2-1008 YARG	, 'p	CE BAYS	NAMBTHIAM	٠,	283	ZABR	. P. VAPOR DEÇ		SGOOH BAJ	
_						_	T ATAG DNIH	3AT2	ECTION 2. IH	ন
-3H10 ON -0	(s)o	אס רס	(5) 8	отэй	ם. אם כמאדאי	-	ה. אס אור		(C) A13 (N) 'W	1
	EDUÉNCY IN	я з .। ——	DAR .	н —	Non-Res	spo	USIA6 P38MUM M	0.001	J. TELEPHONE/AL	
- Non-Responsi	I. SUPE		30	100/1				on.	9- MACON/CODE	
		/ ,								-
				~2/1	o trum	Cho.	primer 1.1	le i	chine (VQ)	- \
MOITGIE	X	الممدم / ولك	_8/ッフ8	J -79						
	L DESCH	hrs/do	4A/	05/4	OITAR390 .	<u>ينا .</u> د.	44	 2	ם רסלעזוטאוכם	
ord Operations	~ ~36₩ΛΝ	ארםפיחא .	X18 "		WAN WAS NO	<u>م منا</u>	IATENI .d	3 d	* ARLOC	
on open deux	Z X38MUN		to the total	X/F	<u>e</u> .	:	e		1. ARLOC	7
	NGB FOIA R	eading Room	to In If	¥/ ∕ € BEST	WIHIS SOL MINE CO	PY	ATAG DIH9AR EOIA Begueste	DOM:	1. ARLOC	

. *t*

974134	43	!S
--------	----	----

Disciosars of your Social Security Number is not mendelory; housever, nondisciosars, may result in entimely provided of proper mendent monitoring

Tills 5 U.S. Cods, Serion 301; Exsecutive Order 9397 suthorizes the use of your Social Security Number as a licentification number. The purpuse of this information is to identify and monitor deta regular each DA civilian employer exposed to a hazardous muriplace or operation. The use of this information is to provide histories of exposure foreign worker.

· PRIVACY ACT STATEMENT

(a) Service At the finds then the stand of the land of

Non-Responsive

PERSONNEL DATA

SECTION 6.

4. BEMARKS	STJUESA 2	E SAMPLE TYPE	GRAZAH
		:=	
·			
i – – – – – – – – – – – – – – – – – – –			

Posted to NGB FOIA Reading Room May, 2018

BEST AVAILABLE COPY

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

YLWasphin Maring Guard Diviseu Page 139 of 1941.235

(For use of this form, see HHUM User's Incirueflone.)

Page 140 of 1757

3 /	-	-	u 3	
•-	***	•	40	ΙS

Disciosure of your Social Security Number is not mendelory; however, nondisciosure may result in entimely provided of proper mericul monitories

Tills 5 U.S. Cods. Section 301: Exsecutive Order 9397 suthorizes the use of your Social Security Number as a licentification number. The purpuse of this information is to identify and monitor data relating each DA civilion employer exposed to a hazardnus murkpiece ut operation. The use of this information is to provide histories of exposure for any given morker.

· PRIVACY ACT STATEMENT

(B) No house of the blank engel of peper H recently place of the blank engel of peper H recently place of the blank engel of peper H recently place of the blank engel of peper H recently place of the blank engel of peper H recently place of the blank engel of peper H recently place of the blank engel of peper H recently place of the blank engel of peper H recently place of the blank engel of peper H recently place of the blank engel of peper H recently place of the blank engel of the

Non-Responsive

ATABANSE DERSONNEL DATA

TYPE

C RESULTS

C RESULTS

A REMARKS

A

Posted to NGB FOIA Reading Room May, 2018

BEST AVAILABLE COPY

. .

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

Released by National Guard Bureau Page 141 of 1757 / 1775

32	ži.			BES	F AVA ILABLE C C	DY					
	į										
		. 4							<u> </u>		
									<u> </u>		
									ļ		
	·~	+.		· - -			he:				
	+										
	·	!-		-		_			ļ		
								7	†·		
	<u> </u>	= 1	de	2/1/	genno w	2 m	Make condition	mas	-	TON	00
A MEDICIAL SCONMENDED CONMENDED	15 %	G .5		,	ESCRIPTION	0 084			30	303 SA:	THE RESERVE
							АТАО ҮЯОТИЭУИ	I □RA	ZVH L	·\$ NOI_	LDES
1					1				STN	ABC VCE	
3		7	HEET BELFECT			7	WELDING HELMET	7	RFACES	מסרם פת	
· · · · · · ·	SAFETY/NONC	1	SAFETY BELT/	1	HELMETS	7	FULL FACE SHIELD	7	FACES	AU2 TOP	र्ग
. SEDHS TOU	SAFETY COND	1	FULL BODY SUIT	/	SAAD JANAD	7	CHEMICAL/SAFETY	1	. 5.	POLVENT	S
, 21008 3	IMPERMEABLE		COVERALLS		EARPLUGS	/	TOPETY/IMPACT			110	
7	STAH DRAH		ZNORA		RUFFS	/	CHEMICALISPLASH	1		GIDA	1
1. = i	6. HEAD/FOO	A/A	S. BODY	A/A	4. HEARING	A\A	3. EYES/FACE	A/R	SES	צי פרסו	
2.0 TAX	2			-	S. UNIT CODE S. S		C	TECTI:	ROTARIA	PERSON 1. RESI DISPOS W. FACE W. FACE	P
					D. EVALUAT	_	ATAU	/	U2 -	VAUS .	
2-1008 YA	. dec .b	- sa	MAINTENANCE BA		289 VENTIL	REASI	D. VAPOR DEG		SOUDS SURFACE	. LAB H	
	: 'D[e]	אם רםכ	v ·c /c1·	10:21	NO CONTRA		ATAG DNIH	ATZ	1	CLION	
	מחבמכג ואש ש		DAR	\cop/		spo		0001	HONE/AL	TELEPH	·ſ
-11.2	THIRDS30	ME SIN	14 . T		Le Soument	المتار	JATZNI .d #	PAN 30	TION/COI	1. ARLOG	्र इन् (
		Peadin	Room	DE C	T-AVAII ABLE CO	DEV.	ATAG DIH9AR		1	כבוטא	35
May,	2018	rcaumg	INCRERSE, INCREMENTALINOS I	ENT C	ACT STATEM	ין הידי נגיצט	FOIA Requeste Released	by Natio	onal Guard Page 142	d Bureau	,

Analytical Environmental Services, Inc.

Date: 3/11/2004

TOTAL LEAD IN WIPE SAMPLES N7082

CLIENT:

Lab Order:

0403374

Project: Project No: Beaumont, TX Armory

Date Received:

3/8/2004 11:00:0

Beaumont, TX A

Matrix:

Wipe

PO No:

SSS Analyst:

Laboratory ID	Client Sample ID	Results	Units	MDL	DF	Date Collected	Date Analyzed
0403374-001A	l	BRL	μg, Total	2.83	ı	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	l	1/13/2004	3/10/2004
0403374-006A	6	BRL	μg, Total	2.83	l	1/13/2004	3/10/2004
0403374-007A	7	23.0	μg, Total	2.83	L	1/13/2004	3/10/2004
0403374-008A	8	BRL	μg, Total	2.83	l	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

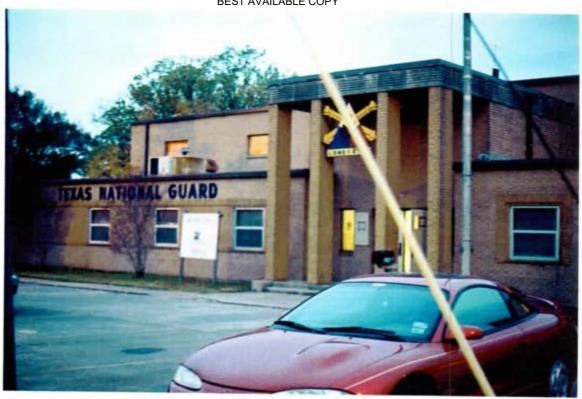
Laboratory ID	Client Sample ID	Results	Units	MDL	DF	Date Collected	Date Analyzed
0403373-001A	10	119	μg, Total	2.83	I	1/13/2004	3/10/2004
0403373-002A	11	260	μg, Total	2.83	1	1/13/2004	3/10/2004
0403373-003A	12	192	μg, Total	2.83	1	1/13/2004	3/10/2004
0403373-004A	13	643	μg, Total	2.83	1	1/13/2004	3/10/2004
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	E	1/14/2004	3/10/2004
0403373-008A	17	545	μg, Total	2.83	t	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	l	1/14/2004	3/10/2004

Qualifiers:

MDL - Method Detection Limit

ND - Not Detected at the Reporting Limit

DF - Dilution Factor



BEAUMONT, TX ARMORY



Posted to NGB FOIA Reading Room May, 2018

BEST AVAILABLE COPY

FOIA Requested Record #J-15-0085 (TX) Released by National Guard Bureau Page 145 of 1757



DRILL HALL



Posted to NGB FOIA Reading Room May, 2018



IFR FRONT VIEW

IFR, REAR VIEW



Posted to NGB FOIA Reading Room May, 2018

BEST AVAILABLE COPY

FOIA Requested Record #J-15-0085 (TX) Released by National Guard Bureau Page 147 of 1757



IFR, BULLET BACKSTOP

IFR, BULLET FRAGMENTS



Posted to NGB FOIA Reading Room May, 2018



A/C-HEATING UNIT

A/C-HEATING UNIT FILTER



May, 2018

FOIA Requested Record #J-15-0085 (TX) Released by National Guard Bureau Page 149 of 1757



A/C OUTLET, CLASSROOM

A/C OULET, OFFICE



Posted to NGB FOIA Reading Room May, 2018

BEST AVAILABLE COPY

BEST AVAILABLE COPY



MOTOR POOL

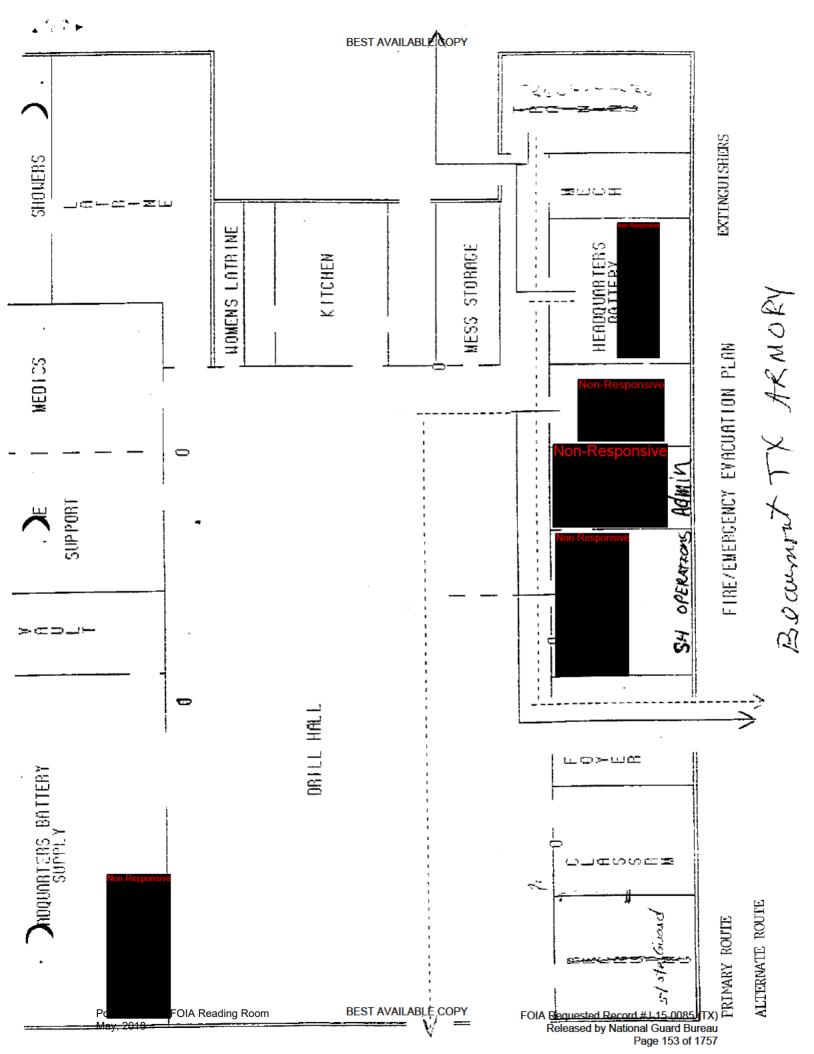


Posted to NGB FOIA Reading Room May, 2018

BEST AVAILABLE COPY



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

General.

- a. <u>Site Description</u>. 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. <u>Scope of Wark.</u> 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. <u>Lead Wipe Samples:</u> 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 try 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.

- 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.
- Noise Survey: No noise Hazardous areas were identified or tested on the day of the survey.
- d. <u>Illumination Survey</u> Evaluated lighting levels within the Armory ranged between 1 to 117 foot-candles.

Beaumont Annory	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 frost-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 waitage 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 layour 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)



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.

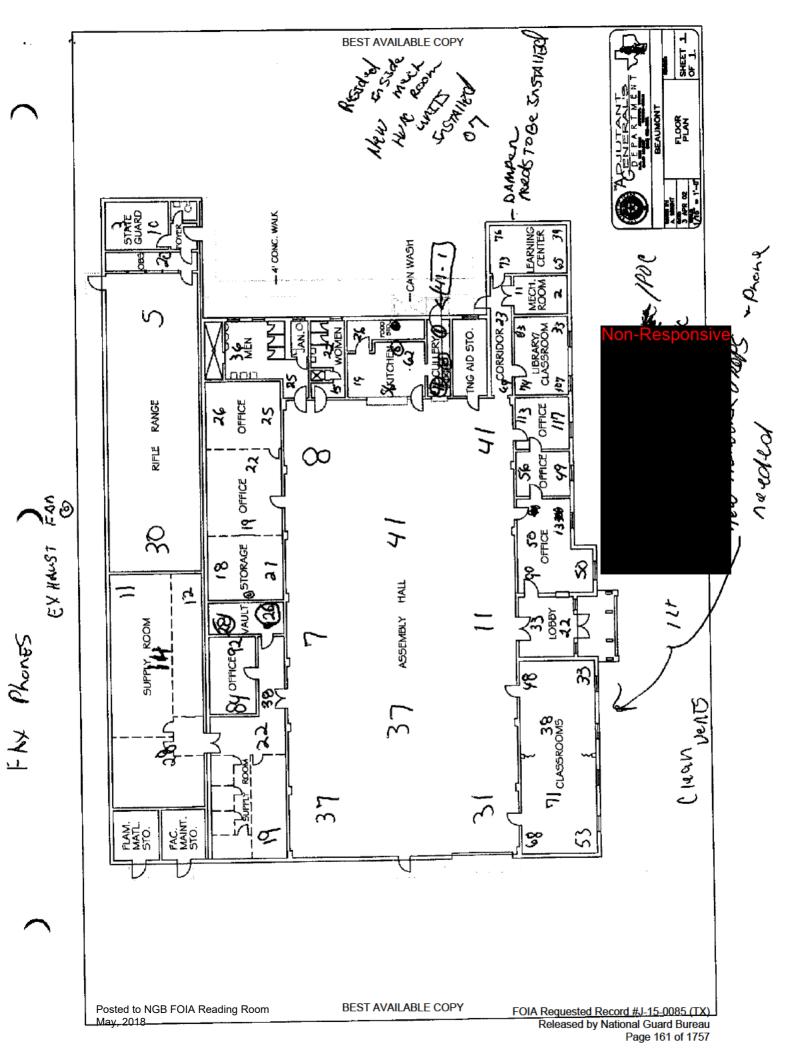
as

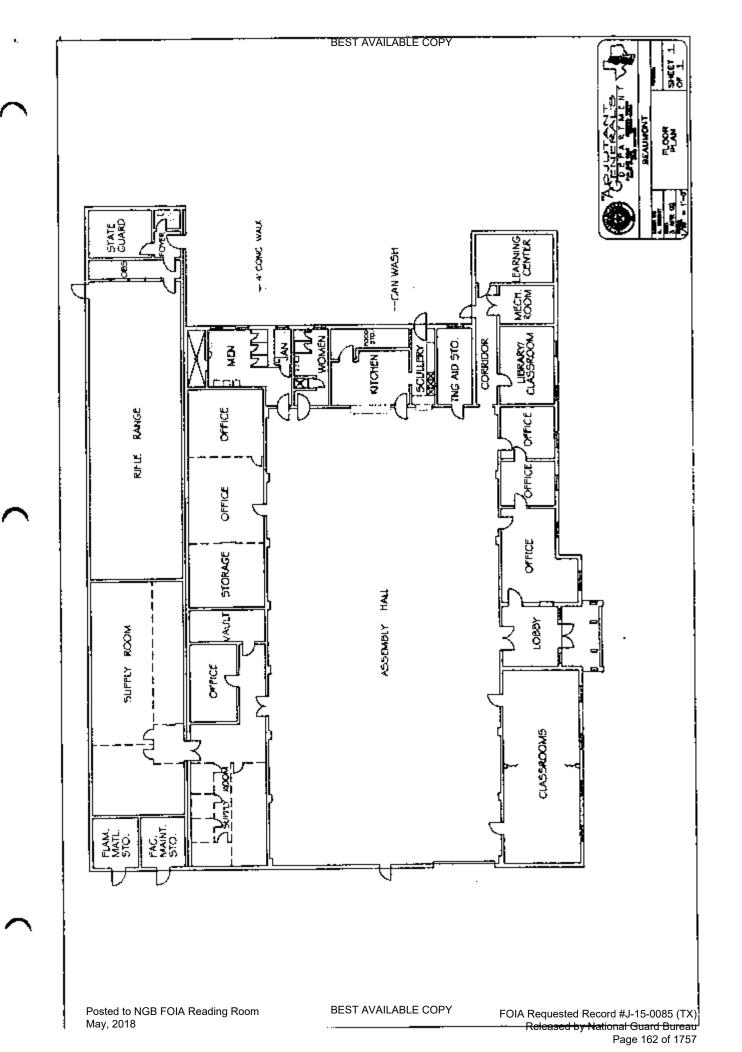
Appendix A

Photographs and Floor Layout

Beaumont Armory

Beaumont Armory	Beaumout Armory	Mechanical Room	Indoor Range
er executa ∰ (i			
Supply Room	FRG Items on Supply Room Floor		







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

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.
- The Point of Contact during the survey was Non-Responsive
- Non-Responsive Industrial Hygiene Technician for the Texas Army National Guard conducted the survey on 01 June 2009.

General.

- a. <u>Site Description</u>. 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. <u>Scope of Work.</u> 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 Goard 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 (AtHA) 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. <u>Lead Wipe Samples:</u> 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 teduce 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. <u>Ashestos Suspect Building Material</u>: Various types of building materials were identified as potentially containing ashestos. 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 Detroted

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

BEST AVAILABLE COPY

d. <u>Illumination Survey</u> 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 builts or fixtures are in need of repair. Replacing light bulbs with higher warrage 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

e. 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

Lab Order:

0906J03

Project:

Beaumount, TX Armory

Date Received: 6/24/2009 9:55 AM

Delivery Order:

Matrix:

Paint

PO No:

J.aboratory	Client Sample	Results	Units	Report DF	Date	Date	Analyst
110	ID			Limit.	Collected	Analyzed	
0906103-001A	BMT 62	3.99	141%6	0 139 14 26	6/1/2009	6/26/2009	AZS
0906303-002A	BMT 63	BRL	WI%	0.00898 1	6/1/2009	6/26/2009	AZS

Qualiflers:

BRY - Not Delegted at the Reporting 1 unit

DF - Difusion Factor

Results are blank corrected where applicable

BEST AVAILABLE COPY



ANALYTICAL ENVIRONMENTAL SERVICES, INC.

Bulk Sample Summary Report

National Guard Bureau Region-South IH

AES Job Number:

0906191

Page 1 of 1

Client Name: Project Name:

Armory w/ IFR

Project Number: BMT-0609

Client ID	AES ID	Location	Ast	estos	Mine	ral Po	rcent	tage	Comments
MOUTE ID	72010		СН	AM	CR	AN		AC	
BMT 61	0906191- 001A	H2O Heater Pipe	ND	ND	ND	ND	ND	ND	Paint included as binder
Layer: 1 BMT 61	0906191- 001A	H2O Heater Pipe	ND	ND	ND	ND	ND	ND	
Layer: 2						<u> </u>	<u>L</u> .	<u>.</u>	

Note: CH=chrysotile, AM=amosite, CR=crocklolife, AC=actinolite, TR=tremolite, AN=anthophylita For comments on the samples, see the individual analysis sheets.

PLM is not consistently reliable in detecting small concentrations of asbestos in floor tiles and similar nontriable 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 Potentized 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 "Mathod for the Octormination of Asbestos in Bulk Building Materials, EPA/600/R-93/118, 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

Appendix B: Lab Chain of Custody

BULBESTAVALABLE COPY

For use of this form see: USAEHA TG 141:

Kenuch	AGGTESS	(00-01-00-0		•		ent 14 H	
NATIONAL C SIO PLAZA D COLLEGE PA	GUARD BUREAU RE BLIVE, SUTTE 1530 LEK, GA 30349	GION SOUTH EH OFFICE	rsas including	ito Coda.	No	n-Re	sponsive"
1	ı installatı		Project Nu	Moer	1	ARLOC	
BEAU	TUNOWI	TX ARMO	RY BMT-01	- 09			
Şamptes	Collected	3v	Uate Colle	CLAC.	1	are Snip	icec
Non-	Respon	sive	1 June	7 9	1	•	•
	edon on Ob		·	<u> </u>		18 Jur	(BESG/AREX)
AR	MOR	W/IF	2_				
Associa	ted Compla	ints (be spec	fla)	·	7 1	ACLIVOR	Y MALE LATRANE
	ac Air Sai	ncles	it yes, si	ST SAMO!	e number	2	
Ye	3 XINO						
īrage Na			Label Inform	ation			
tigge M			: XSN	145	anuraciu	rer	
Address				1 '45	OS ATTO	cnea :	· ·
			•		□r.		
Anaiysis	Vesired					<u> </u>	
		<u> </u>	EAd				
Lab Usa Oniv	No.	Cans	tituents	Re	suits		Remarks
	BMT 62	PRETAT CHIEF	PIPE LATRONE		:		
	BMT63	PARINT CHEP	BRESTAJ /IAW				
			1 .			1 .	
						1 .	
	<u> </u>						
	<u> </u>						
Comments	: 10 <u>-20</u> ;						
			Lab Use Oni	v			
mna ryst / f	media	i ev i ewed	žv (imamais)		ate Reca	e.ved j	iste Reported
Arscegure	s Performe	·a	тепт:	1		<u> </u>	
			•				- 1

ABBA Fermie-A 1 Cat 94

0906 191

BULK SAMPLE DATA For use of this form sea: USAEAR TG 141; the proponent is HEBB-10. Raturn Activess (complete actives including Lio Code) lon-Responsiv NATIONAL GUARD BURBAU REGION SOUTH HIS OFFICE SIGPLAZA DRIVE, SUTTE 1530 COLLEGE PARK, GA 10349 Samples installation Project Number BEAUMOUNT IX ARMORY BMT-0609 Samples Collected By Date Snipped 1 June 09 18 June 09 Description of Operation Location (SEG/AREA) ARMORY W/ IFR ARMONY HOO HEATER Associated Complaints (be specific) Associated Air Samples ir yes, list samole numbers Yes 区No Label Information Trace Name ::SN Manuracturer Address VISDS ATTACHED Yes _∷_` Analysis Desires ASBESTOS - PLM Lab Use Sample Constituents Only Results No. Remarks H20 HEATER PIPE BM761 Comments to Lap: ك Use Oniv AndivsT/interiol/ Laistean i vi Dawelver Care Received iste Recortac Arocaduras Fartormed JamenTE:

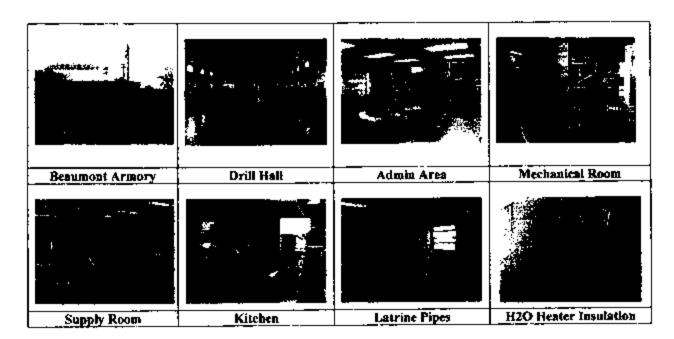
AEHA Form 6-R | Car 84

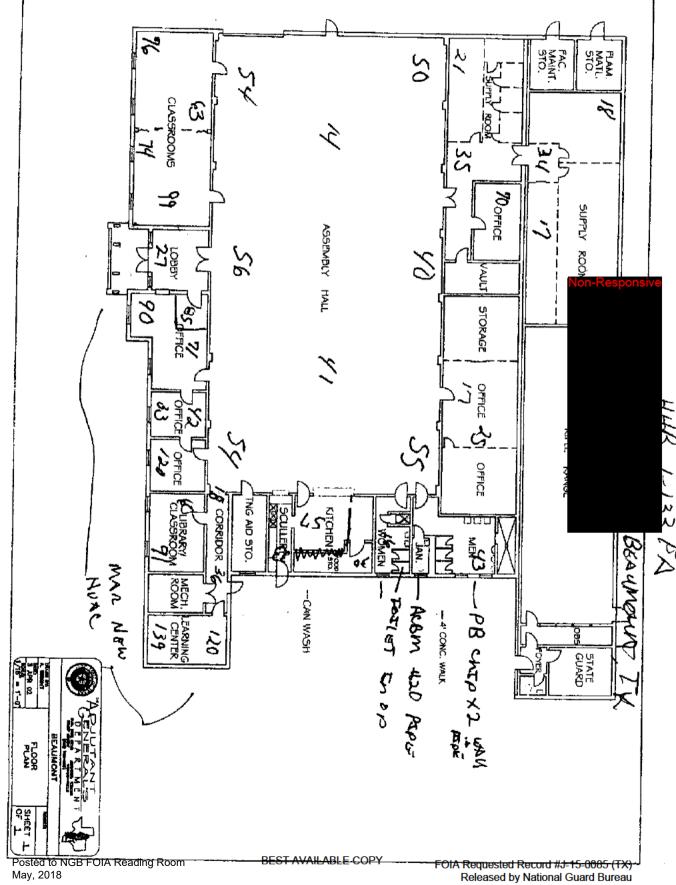
Reproces AEHA Form 8. 1 Oct 80 which is gospiete.

BEACH DEMINISTRATION OF Y

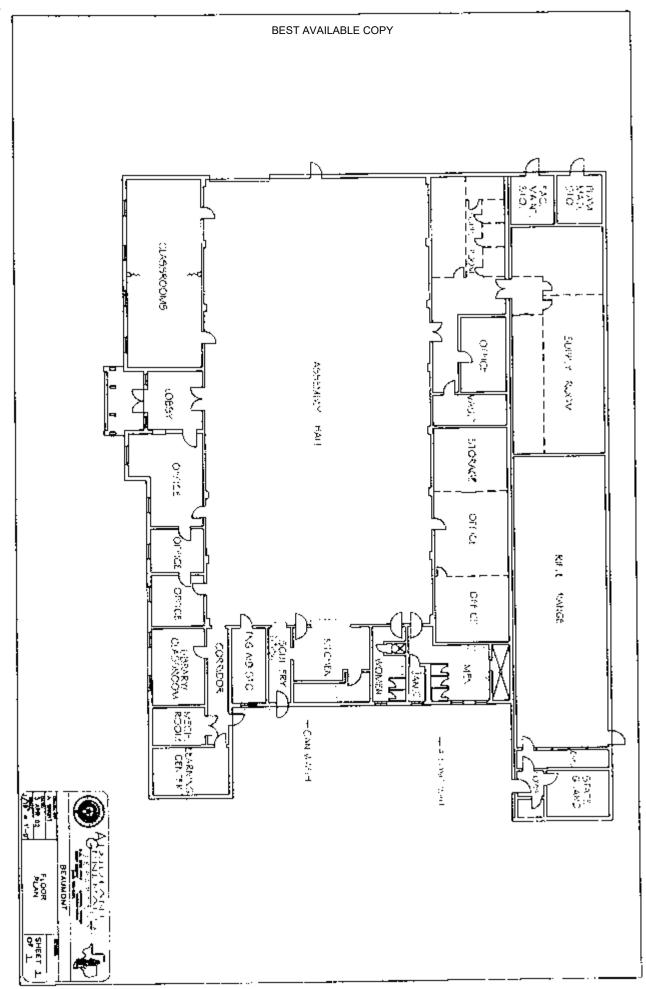
Photographs and Floor Layout

Beaumont Armory





Page 174 of 1757



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-S! 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.

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.
- I. Report of June 30, 2004, Industrial Hygiene Survey, Tammer Sciences INC, 3744 Lawrence Dr., Naperville, IL.

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

Recommendations.

- a. Follow all recommendations made in reference 1.1., 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 of reference 1.1, 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

The sample of the industrial hygiene survey or air sample of the industrial

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



June 24, 2004

Table of Contents

Executive Summary	Page 1
Subject	Page 2
Background	Page 2
Introduction	J
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	
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.

Survey Date: 13 April 2004

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.

Торіс	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.
НУАСЛАО	No issues observed or documented.	No action.

Survey Date: 13 April 2004

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. 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.

<u>Site Description.</u> 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.

<u>Scope of Work.</u> 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.

May, 2018

Survey Date: 13 April 2004

FINDINGS and DISCUSSION:

The Point of Contact during the survey was



<u>Lead Wipe Samples:</u> 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.

<u>Noise Survey:</u> 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.

<u>Illumination Survey</u> 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.

Big Spring Armory

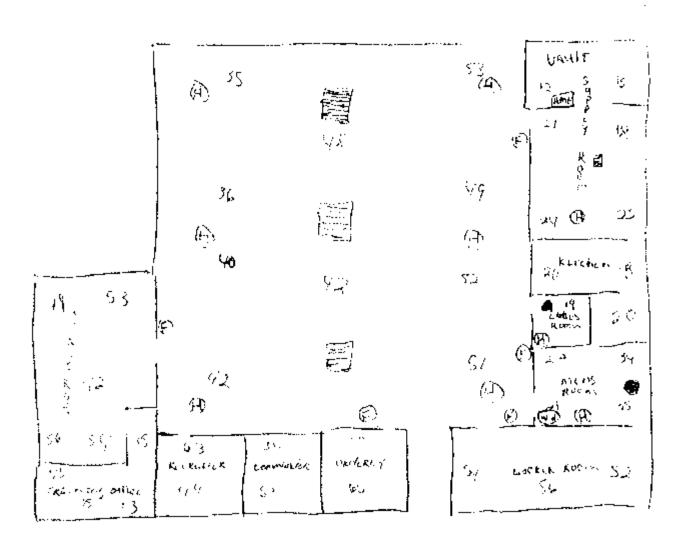
Survey Date: 13 April 2004

Technical Assistance: For technical assistance regarding information found in this report

Non-Responsive

APPENDIX A

823 Strait IX



Waft

APPENDIX B

EMSL Analytical

3 Cooper St., Westmont, NJ 88108

Phone: (858) 658-4800 Fax: (856) 858-8551 Email: skauftnan@emai.com





Non-Responsive

Customer ID: Customer PO: Received: TS80

04/22/04 1:43 PM

Fax:
Project: Big Springs

EMSL Order: EMSL Proj: 200404877

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

Client Sample Description		Lab ID	Analyzed	Area Sampled	Lend Concentration
BSP 01	Results for these wipe samples do not meet the EPA standards for sample matrix and are not recognized under the NULAP accreditation program	0001	5/6/04	144 in²	14.0 µg/R*
BSP 02		0002	5/6/04	144 in²	14.0 µg/ft'
BSP 03		0003	5/6/04	144 in²	14.0 µg/ft²
BSP 04		0004	5/6/04	144 in²	28.0 կց/և։
BSP 05		0005	5/6/04	144 in³	<10.0 µg/ft²
BSP 06		0006	5/6/04	144 in²	52.0 թգ/11²
6SP 07		0007	5/6/04	144 in²	19.0 µg/ft²
BSP 08		0008	5/6/04	144 in'	13.0 pg/H³
8SP 09		0009	5/6/04	144 in²	87.0 µg/k²
8SP 10		0010	5/6/04	144 m²	<10.0 µg/ft³
6SP 11		0011	5/6/04	144 in²	<10.0 µg/ft²
8SP 12		0012	5/6/04	144 in³	<10.0 µg/ft²



The CIC data associated with the sample results included in this report ment the recovery and preclash requirements astabashed by the AlhA, unless specifically endicated eitherwise in the comment section. The test results contained within this report ment the requirements of NELAC unless otherwise noted. This report relates only to those items tested. Unless offerwise noted. This report relates only to those items tested. Unless offerwise noted. This report relates only to those items tested. Unless

CHERRYATIONS: NUNELAP, 04553, ARIA Environmental Land Laboratory Approvis Program; 100184

6/04 4:15:25 PM

EMSL Analytical, Inc.

107 Hadeon Avo., Westmank NJ 08198



Atin:

Fax:

Project:

on-Responsiv

Customer ID: Customar PO: TS80

Received:

04/22/04 12:31 PM

EMSL Order:

040407154

EMSL Proj:

4/30/04 Analysis Date:

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized **Light Microscopy**

				Non-As	bestos	Asbestos
Sample	Location	Appearance	Trasiment	% Fibrous	% Non-Fibrous	% Type
BSP A018 049407154-0004		Gray Fibrous Heterogeneous	Teased	60% Celiulose 20% Glass	20% Non-fibrous (other)	None Detected
BSP A02B-Tile		Gray Non-Fibrous Heterogeneous	Dissolved		100% Non-fibrous (other)	None Detected
BSP A028-Mastic 049407164-0004		Black Non-Fibrous Heterogeneous	Dissolved		97% Non-fibrous (other)	3% Chrysotlie
BSP A03B 040407154-0002		Brown Non-Fibrous Helerogeneous	Ashed		100% Non-fibrous (pihar)	None Datected

Out to magnification initiatives inherent in PLM, aspector fipers in placements below the respondence capablety of PLM may not be respected. Symptom reported as <1% or rises determine additions learning by TEM to confirm advector quantities. The adopt learning report relates only to the there sector and may not be reproduced in any form visiting the expression additional features in the production of CEMS. Annihola, inc. EMSL is backles is similar to the copie of people. EMSL board as Explainable to reproduce a described as an expressional relations in the copies and responsibility of the client. The test results contained within this report ment he requirements of NELAC unless bifurnism noted.

Annihola professional by EMSL Westmann (SNLAP Wichiplas-I), NY ELAP 10872

APPENDIX C

EMSL ANALYTICAL Date: EMSL Represen	native:	Project Name/No.:	P.O.#:	
Company Name: Tamaler S	classes Inc	EMSL-Bill to:	ms as mail to	
Company Name: 19 molec 3	CHECKS AND CO	ii et		
Succes 3744 LAWTENZE [) (11) ()	Box #:		
80x ±:		Box ₹:	7.0	
City/State: Naperville D		City/State:		-
Phone Results to: (Name)	n-Resp	onsive		
Fax Results to: (Name)	METHOD	INSTRUMENT	Limit)	1.7.1
Leed-Chip:	SW846-7420, 3050B Mod. / AOAC (974.02)	Flame Atomic Absorption	G.01%	
Lead Wastewater	SW846-7420	Flame Atomic Absorption	0.4 mg/l water 40 mg/kg (pr m) soit	-
Lead Soil	or SW846-6010B	ICP	0.1 mg/kg (prm) soil	
Lord in All ***	NIOSH 7082 Mod.	Flame Atomic Absorption	4 ug/filter	
Long as All The	or NIOSH 7300 Mod.	ICP	3.0 ug/filter	
Leed in Wips* ASTM	SW846-7420 / HCD Appendix 14.2 Digest	Fluine Atomic Absorption	10 ug/wipe	Roolina
List Wifter Type ———————————————————————————————————	or SW846-6010B	ICP	3.0 ug/wipe	
		Flame Atomic Absorption	0.4 mg/l (pprs)	1
TCP Leed "*	SW846-1311/7420 or SW846-60+03	ICP	6.1 mg/l (opm)	
STIC Lead Culturia : *	CA Title 22 sent tat	Fleme Asomic Absorption	0.4 mg/l (ppin)	
	SW846-7420 or SW846-6010B	TCP	0.1 mg/l (ppm)	
Ledin Artis	NTOSH 7105 Mod.	Graphite Furnace Atomic Absorption	0.03 ug/filter	
Lead Westewater	SW846-7421	Graphite Furnace Atomic	0.003 mg/l (ppro) water	8
Lead Soil -		Absorption	ios (meg) galgas E.0	1
	EPA 239.2 / 200.9	Craphite Furnace Atomic Absorption	0.005 mg/l (ppm)	
Level in Drinking We er (check state Conditions Requirements)	NIOSH 0500-0600		0.0001g	Lisa St.
T/ T (Turnaround)	- Same day, 24 hr - 1 D	Gravimetric Reduction Day, 2 Days, 3 Days, 4 Days # Please Refer to Price Que		
SA MPLE#	◆1f no box is check	led, non-ASIM is assumed LOCATION	Air volume, L Area, in ³	5
00000	Bin	Spanes	144	14172
25007			Date 41	19/01
@ Relinquished By: (Person)	Non-Re	sponsive	Date:	
Received at EMSL By:			Date: V/	14/4
Received at EMSL By:		n and use additional sheets if	'necessary. afomstica reported on this cha	

2000477

LEAD CHAIN OF CUSTODY EMSL ANALYTICAL LABR Air volume, L LOCATION SA MPLE# Area, in² 64877 7 34 Non-Responsive @ Relinquished By: (Person)

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

The individual signing and relinquishing these samples to the laboratory antests to the occuracy of the information reported to this chain of custody.

Lend Chain Nov 2001 w STLC.doc

Received at EMSL By:

Received at EMEL By:

4halay

Date:

-	Revised 07/07/99	, Inc.				
dSL Rep:				Third Pa from Chi	nty Billing resoires w respecty	witten authorization
	. 474	HELDINGES DAL	EMSL-Bill to		e as well b	71
rest:	-		Street:			
	<u> 3744 La</u>	wrence Drive	Box #:			and the second s
X #s		D Zip: 6052		***************************************		Zip
ty/State:	Noberville		E-B-ov		Non-Resp	onsive
one Recul: me: leptrane #:		-Resp	onsi			
oject. eme/Numb	er:		ALULUS AND			
	MATRIX			TURN	AROUND	
- Broadbarn and state of the	**************************************			O é Hours	O Same Day	O 24 Hours
Air	☐ Fi sor Tile	□ Seil	□ 3 hrs	The Executa	er 12 Rours	1 day
Bulk	D inking Water	C Dost	☐ 48 Hours	☐ 72 Hours	🖸 96 Hours	120 Hours
			2 days El 144+ hours	3 days . K. 10 There	4 days	-
Wipe	Wastewater 174, 6 hours, Piesse call about 6 22 Du soher to sign and authorit	Miero-Vac			880-220-3575 for pri	ice prior to scooling
"RG Air		TEM AIR			TEM WATER	_
CM - Air NEOSH OSHA Ocher:	7400	TEM AIR AHER NIOSE EPA L	A 1 7402		Wastewate Drinking V Water - N	r Vater EPA 100.1 Y Wastewater
NOSH OSHA Oher:	apor.	TEM BUL	A 1 7402 evel II .K/misc fount (Qualitative	e)	Wastewate Drinking V Water - NY Water-NY TEM MICRO ASTM D: Quantitat	er Water EPA 100.1 Y Wastewater Drinking Water EVAC/WIPE
NOSH OSHA OSHA OSHE: LM Bei PPA 60 EPA PO NY Str	5 0/R-93/116 int Count tified Point Count	TEM BUL Drop M Chatfie	A 1 7402 evel II .K/misc fount (Qualitative		Wastewate Drinking V Water - NY Water-NY TEM MICRO ASTM D quantities XRD Asbestos	Water EPA 100.1 Y Wastewater 'Drinking Water EVAC / WIPE 5755-95 ive method
NEOSH OSHA OSHET: LM_Bei EPA 60 EPA 70 NY Stra PLM N Other:	k 0/R-93/116 int Count tiffed Point Count OB (Grav metric) NY 1	TEM BUI Drop M Chatfie	A 1 7402 evel II K/misc fount (Qualitative eld IOB (Gravimetric	e) NY 198.4	Wastewate Drinking V Water - NY Water-NY TEM MICRO ASTIM D. cusation XRD Asbestos Silica	Water EPA 100.1 Y Wastewater Drinking Water EVAC/WIPE 5755-95 ive meshod
NOSH OSHA OSHA OSHE: LM_Bei PPA 60 PPA 60 PPA NY Stre PLM N Other: EM Air o	S O/R-93/116 int Count tified Point Count OB (Grav metric) NY 1 r Bulk	TEM BUL Drop M Chatfie TEM N	A 1 7402 evel II K/misc fount (Qualitative old tOB (Gravimetric) ACCEPTED	e) NY 198.4	Wastewate Drinking V Water - NY Water-NY TEM MUCRO ASTIM D. Cusation XRD Asbestos Silica	Water EPA 100.1 Y Wastewater Drinking Water EVAC / WIPE 5755-95 ive method
NEOSHA OCHET: LM_Bei PPA 60 PPA 60 PPA NY Stre PLM N Other: EM Air o	k 0/R-93/116 int Count tiffed Point Count (OB (Grav metric) NY 1 r Bulk tive	TEM BUL Drop M Chatfie TEM N	A 1 7402 evel II K/misc fount (Qualitative eld IOB (Gravimetric	e) NY 198.4	Wastewate Drinking V Water - NY Water-NY TEM MICRO ASTIM D. Quantitat XRD Asbestos Silica	Water EPA 100.1 Y Wastewater Drinking Water EVAC/WIPE 5755-95 ive meshod
NOSH OSHA OSHA OSHE: LM_Bei PPA 60 PPA 60 PPA NY Stre PLM N Other: EM Air o	k 0/R-93/116 int Count tiffed Point Count (OB (Grav metric) NY 1 r Bulk tive	TEM BUL Drop M Chatfie TEM N SAMPLE FOR AN	A 17402 evel U K/misc fount (Qualitative eld 10B (Gravimetric ACCEPTE) ALYSIS BY	e) NY 198.4	Wastewate Drinking V Water - NY Water-NY TEM MUCRO ASTM D Quantita XRD Asbestos Silica OTHER	Water EPA 100.1 Y Wastewater Drinking Water EVAC/WIPE 5755-95 ive meshod
NOSH OSHA OSHA OSHA OSHA OSHA PEPA 60 PEPA 60 PEPA 70 PLM N Other: EM Air o Quantita S	k 0/R-93/116 int Count tiffed Point Count OB (Grav metric) T Bulk tive attive AMPLE NUMBER	TEM BUL Drop M Chatfid TEM N SAMPLE FOR AN	A 17402 evel II K/misc fount (Qualitative eld IOB (Gravimetric ALYSIS BY	e) NY 198.4	Wastewate Drinking V Water - NY Water-NY TEM MUCRO ASTM D Quantita XRD Asbestos Silica OTHER	Water EPA 100.1 Y Wastewater Drinking Water EVAC / WIPE 5735-95 tive method
NOSH OSHA OSHA OSHA OSHA OSHA PEPA 60 PEPA 60 PEPA 70 PLM N Other: EM Air o Quantita S	k 0/R-93/116 int Count tiffed Point Count OB (Grav metric) r Bulk tive	TEM BUL Drop M Chatfid TEM N SAMPLE FOR AN	A 17402 evel U K/misc fount (Qualitative eld 10B (Gravimetric ACCEPTE) ALYSIS BY	e) NY 198.4	Wastewate Drinking V Water - NY Water-NY TEM MUCRO ASTM D Quantita XRD Asbestos Silica OTHER	Water EPA 100.1 Y Wastewater Drinking Water EVAC / WIPE 5735-95 tive method
NOSH OSHA OSHA OSHA OSHA OSHA PEPA 60 PEPA 60 PEPA 70 PLM N Other: EM Air o Quantita S	k 0/R-93/116 int Count tiffed Point Count OB (Grav metric) T Bulk tive attive AMPLE NUMBER	TEM BUL Drop M Chatfid TEM N SAMPLE FOR AN	A 17402 evel U K/misc Sount (Qualitative old ROB (Gravimetric ACCEPTE) A (YSTS BY HATYTEAL LOCATION) NY 198.4	Wastewate Drinking V Water - NY Water-NY TEM MUCRO ASTM Daguarities XRD Asbestos Silica OTHER	Water EPA 100.1 Y Wastewater Drinking Water EVAC / WIPE 5735-95 tive method
NOSH OSHA OSHA OSHA OSHA OSHA CHAR EPA FO NY Stra PLM N Other: EM Air o Qualita Quantita	int Count tiffed Point Count OB (Grav metric) T Bulk tive AMFLE NUMBER SP API B	TEM BUL Drop M Chatfie TEM N SAMPLE FOR AN EMSL A	A 17402 evel U K/misc fount (Qualitative eld 10B (Gravimetric ACCEPTE) ALYSIS BY) NY 198.4	Wastewate Drinking V Water - NY Water-NY TEM MUCRO ASTM D Quantita XRD Asbestos Silica OTHER	Water EPA 100.1 Y Wastewater Drinking Water EVAC / WIPE 5735-95 tive method
NOSH OSHA OSHA OSHA OSHA OSHA PEPA 60 PEPA 60 PEPA 70 PLM N Other: EM Air o Quantita S	int Count tiffed Point Count OB (Grav metric) T Bulk tive AMPLE NUMBER SP APIB	TEM BUL Drop M Chatfie TEM N SAMPLE FOR AN EASL A	A 17402 evel U K/misc fount (Qualitative old IOB (Gravimetric ACCEPTE) ACYSTS BY HATYTICAL LOCATION) NY 198.4	Wasiewate Drinking V Water - NY Water-NY TEM MUCRO ASTM D quantita XRD Asbestos Silica OTHER VOLUM	Water EPA 100.1 Y Wastewater Drinking Water EVAC / WIPE 5735-95 tive method
MOSH OSHA OSHA OSHA OSHA OSHA OSHA EPA 60 EPA Po NY Stra PLM N Other: EM Air o Qualita Quantita S	int Count tiffed Point Count OB (Grav metric) T Bulk tive AMPLE NUMBER SP APIB	TEM BUL Drop M Chatfie TEM N SAMPLE FOR AN EMSL A	A 17402 evel U K/misc fount (Qualitative old IOB (Gravimetric ACCEPTE) ACYSTS BY HATYTICAL LOCATION) NY 198.4	Wasiewate Drinking V Water - NY Water-NY TEM MUCRO ASTM D quantita XRD Asbestos Silica OTHER VOLUM	Water EPA 100.1 Y Wastewater Drinking Water EVAC / WIPE 5735-95 tive method

BEST AVAILABLE COPY

APPENDIX D

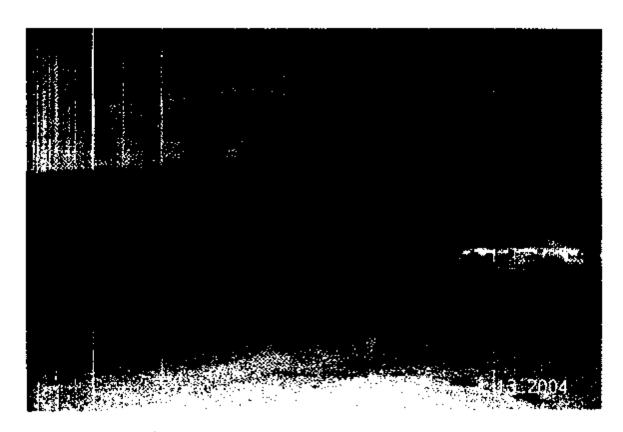


Photo #1: Armory front entrance.



Photo #2: East side of the armory.



Photo #3: South west corner of the armory.



Photo #4: South east side of the armory.

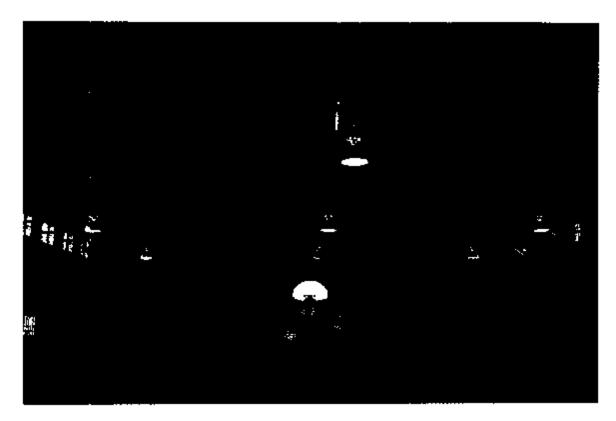


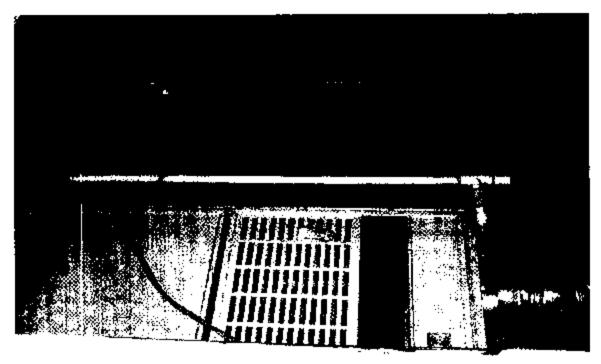
Photo #5: Drill hall facing south.



Photo #6: Drill hall facing south east.



Photo#7: Armory's kitchen showing the stove and refrigerator.



4, 13, 2004

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

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
- Non-Responsive Industrial Hygiene Technician for the Texas Army National Guard conducted the survey on 22 January 2008.

3. General.

- 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.
- 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 Wine 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 contain lead levels at or above 0.06 % by weight or 600 (ppm) are considered a hazard.

- b. Ashestos 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.
- Noise Survey: No noise Hazardous areas were identified or recorded on the day of the survey.
- d. <u>Illumination Survey</u> Evaluated lighting levels within the Armory ranged between 3 to 91 foot-candles.

Brenbara 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 wanage 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.

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)
- 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.

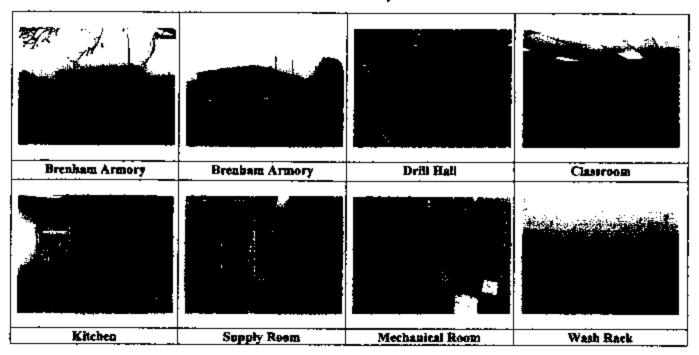
ENCL.

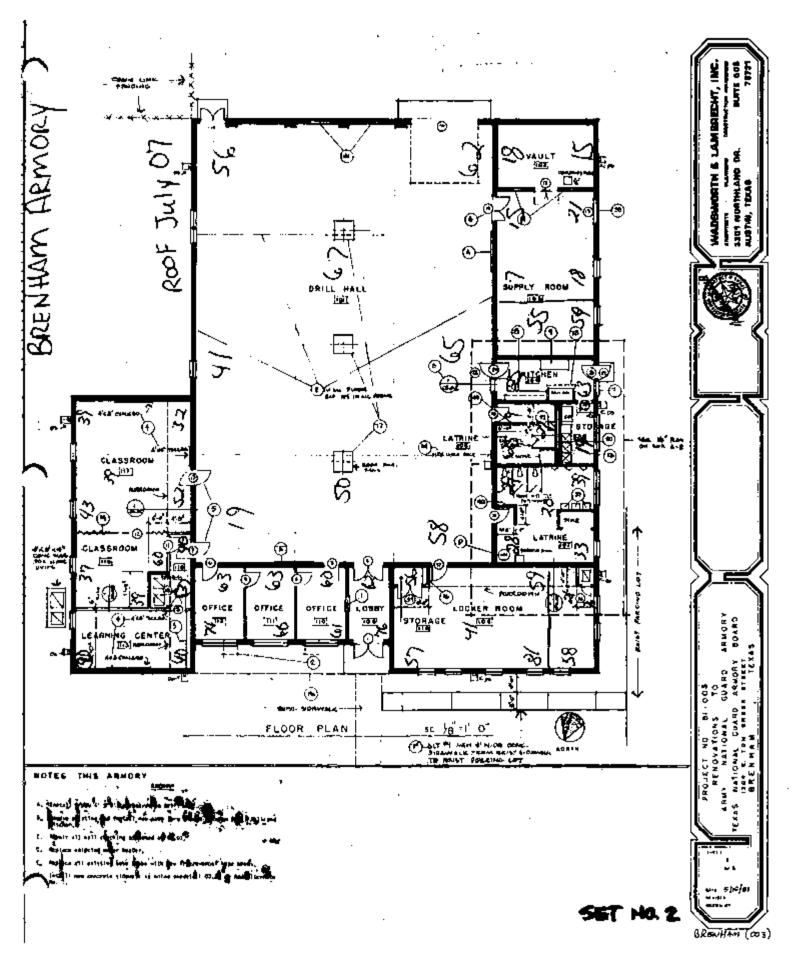
as

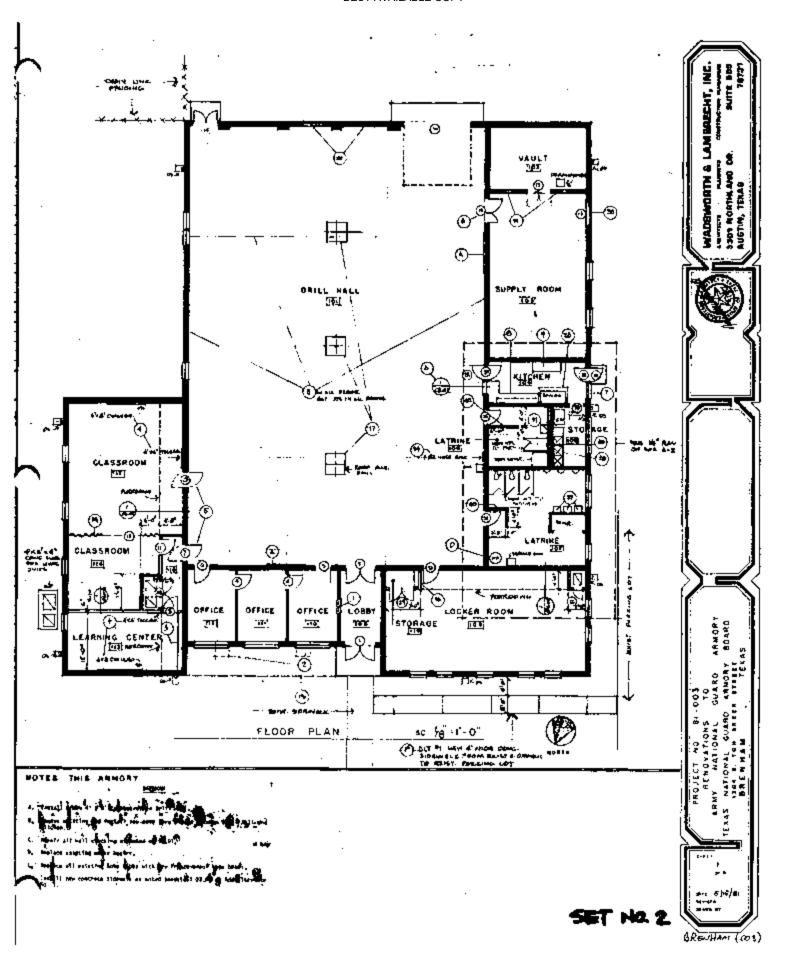
Appendix A

Photographs and Floor Layout

Brenham Armory







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.

- 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 (TLVs) for 2001, American Conference of Governmental Industrial Hygienists (ACGIH), Cincinnati, Ohio.
- Industrial Ventilation, 23rd Edition, American Conference of Governmental Industrial Hygienist, Cincinnati, Ohio.
- USAEHA TG-141, November 1997, Guidelines for Air Sampling and Bulk sample Collection.

May, 2018

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.
- I. Report of July 14, 2004, Industrial Hygiene Survey, Tammer Sciences INC, 3744 Lawrence Dr., Naperville, IL.

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.
- 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 1.1., 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 of reference 1.1, 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.

- 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.



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



July 12, 2004

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 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.

Survey Date: 08 June 2004

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.

Торіс	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.

Brenham Armory

Survey Date: 08 June 2004

SUBJECT: Industrial Hygiene Initial Baseline Survey of the Brenham Armory in Brenham, Texas on 8 June 2004

BACKGROUND:

Region South Industrial Hygiene Office, an initial baseline industrial hygiene survey was performed at the Brenham Armory in Brenham, Texas.

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.

<u>Site Description.</u> 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.

<u>Scope of Work.</u> 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.

BEST AVAILABLE COPY

May, 2018

FINDINGS and DISCUSSION:

The Point of Contact during the survey was Non-Responsive

<u>Lead Wipe Samples:</u> 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.

May, 2018

Survey Date: 08 June 2004

<u>Noise Survey:</u> 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.

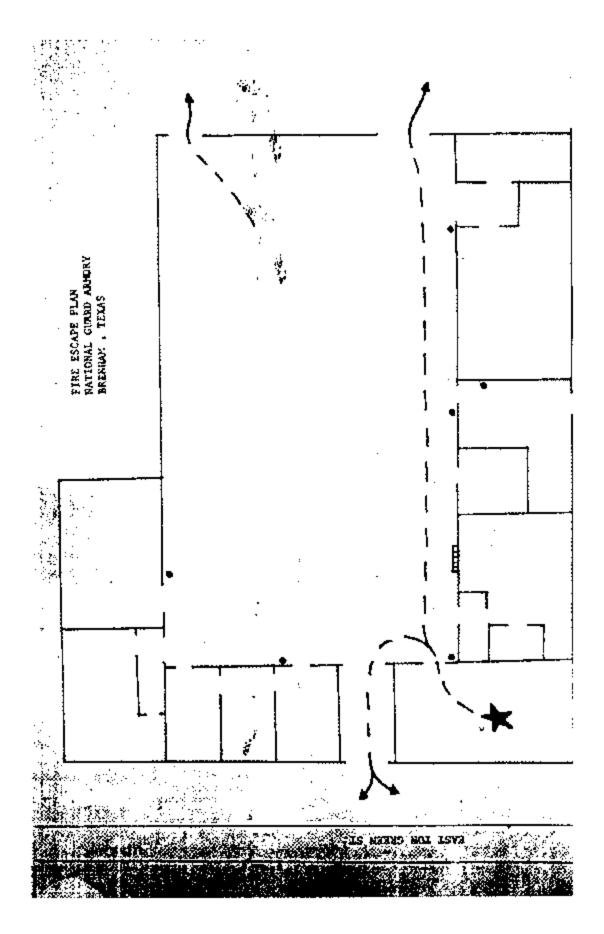
Recommendation:

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 08193

Phone: (856) 658-4800 Fax: (856) 858-6551 Email: skaultman@email.com



Attn:

Fax:

Project. Brenham

on-Responsiv

Customer ID: TS80

Customer PO: Received:

06/14/04 11:22 AM

EMSt. Order:

200407155

EMSt. Proj:

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

Client Sample Description		Lab (i) Analyzed		Area Sampled	Le ad 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.	9901	6/25/04	nia	<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/мре
BRE 06		0006	6/25/04	n/a	31.0 µg/wpe
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



The QC data associated with the sample results included in this report meal the recovery and precision requirements established by the AHNA, unless specifically indicated consumer in the comment section. The fest results configured widow this report mean tim requirements of NELAC unless otherwise noted. This report results only to those terms texted. Unless otherwise noted, the results in this report have not been blank corrected.

ACCREDITATIONS: NJ-NELAP: 0.1653, ABHA Environmental Lead Leboratory Approval Program: 100194

Date Printed: 6/28/04 11:21:46 AM

EMSL Analytical, Inc.

197 Victorian Ayu., Viretowa, NJ 08198



Attn

Fax

Project

Non-Responsive

Customer ID: Customer PO: TS60

Received:

06/15/04 9:19 AM

EMSL Order:

040410800

EMSI. Prof:

Analysis Date: 6/23/04

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			_	Non-Asbestos			Asbestos	
Sample	Location	Appearance	Trealment	%	Fibrous	% Non-Fibrous	% Type	
BRE A01-Tile		Tan Non-Fibrous Heterogeneous	Dissolved			108% Non-fibrous (other)	None Detected	
BRE A01-Mastic		Black Non-Fibrous Heterogeneous	Dissoived			98% Non-fibrous (other)	2% Chrysotile	
BRE A02 Cess rosez-dob2	Andrew Control of the	Gray/White Fibrous Heterogeneous	Teased	40% 40%		20% Non-fibrous (other)	None Detected	
BRE A03 04841/450-3003		Brown Non-Fibrous Heterogeneous	Ashed			100% Non-fibrous (other)	None Detected	

Analyst(s)

Non-Responsive

Due to recognification lambstones innerest in PLM, astitution fabors in dimensional busins into resolution capability of PLM may not be detected. Sentines reported as <1% or normal detected only resolution additional testing by YEM to confirm subsidies quantities. The above test resolut related only to the fluring field and may not be reproducted in any forth to confirm subsidies, quantities. The above test resolution and related and may not be reproducted in any forth reportation and related testing in a substance of the first testing in the confirmation of the cast of analysis. EMSL been no responsibility for sample collection advises of the first testing in the reportation and use of their results are the reportation. This left treatment of the cast of the results are the reportation of the cast of the results are the responsibility of the date. This left treatment of the cast of the results are the responsibility of the date.

PLM-1

THIS IS THE LAST PAGE OF THE REPORT.

APPENDIX C

Jate EMSL Represe	ntative:	Project Name/No.:	P.().#:	
ompany Name: Tameter S	ciences, Inc.	EMSL Bill to:	me cos well to	
Sheet 3744 Laurence	Stive St	reet:		
Hex *	hedden of the	Bex #.	A CONTRACTOR OF	
Chystole Napaville TI	7106564	City/State:	Zip:	MARKON / · · · Million
Phone Results to Name)	n-Resp	onsive		
Fax Results to: (Nune)	ii i toop	CHOIVE		
MATRIX	METHOD	INSTRUMENT	RL (Reporting Limit)	TAT
Cond Tiligo"	SW846-7420, 3050B Mod. / AOAC (974.92)	Flame Atomic Absorption	1200	
Legit Var ersiter	5W846-7420	Flame Atomic Absorption	0.4 mg/l water 40 mg/kg (ppm) soil	Į
Load Soil	or SW846-6010B	ICP	0.1 mg/kg (ppm) soil	
and at An her	NIOSH 7082 Mod.	Plame Atomic Absorption	4 ug/filter	
	or NIOSH 7300 Med.	ICP	3.0 ug/filter	
Lead in Wino* D-ASTM	SW846-7420 / HUD Appendix 14.2 Digest.	Flame Atomic Absorption	10 ug/wipe	Rostin
List Wipe Type	rs SW846-6010B	ICP	3.9 ug/wipe	
fCLP Lend **	SW846-1311/ 7420	Flame Atomic Absorption	0.4 mg/l (ppr-1)	
ICLA MASI	or SW846-6010B	KCP	0.1 w8:1 (bhs.).	
STLC Lead -Cst/rmic) #	CA Title 22 scenze/	Flame Atomic Absorption	0.4 mg/l (ppsn)	200
2120 Cras Separate	SW846-7420 or SW846-6010B	HCP	0.1 mg/1 (ppr1)	
	NIOSH 7105 Med.	Graphite Furnace Atomic	0.03 ng/ritter	-2
Lond in Air ****	110011	Absorption		
Lead Wadewater	SW846-7421	Graphite Fernace Atomic Absorption	(1.003 mg3) (13m £00.1)	# 9.
Lead Soil 9		Absorption	lios (mcq) g/gm 8.01	
Lead in Drinking We er (check state Constitution Requirems 48)	EPA 239.2 / 200.9	Graphite Furnace Atomic Absorption	0.003 mg/l (ppm)	
	NIOSH 0500-0600	Gravimetric Reduction ay, 2 Days, 3 Days, 4 Days # Please Rufe: to Price Oue	0.0001g 5 Days, 6-10 Days	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
T/ T (Tutnatound)			te	1~
AND THE RESIDENCE OF THE PARTY	→ if no hox is checke	ed, non-ASIM is assumed LOCATION	Air volume. L	LAB#
SA MPLE#	2	LUMN X NORT	Area, in ²	
BREWI - BREI	8			67/15-1-L
2/ 28 Relinguished By: (Person)	Non-Re	esponsiv	Date: 40/1	0/44
Received at EMEL By	14011-140	Soponsiv	Date:	17/01 Q
Received at EMSL By:		and a consequent with the property of the contract and th	Dete:	w-quantum and even
	lease duplicate this form	and use additional sheets if	necessary.	n afailiteach
Note: I	ing there expendes in the labora	gory attests to the accuracy of the h	nformation repeated on this char	E THE COMMUNEY

.	magna ducking	EMSL Analytical, Inc.		USTODY	To the		
	Envised 07/07/99	u, tuc			(IS	80)	
MSL Rep				Third Pi from thi	ery Billing resoires w	rrisen authericade	
-	my Name: Tommer	Server Inc	EMSL-Bill to		e can mail t	<u> </u>	
tens Camba			Street:				
den Wi	3144	awience Dive	Box #:				
incression in the second	Mays: ville	D Zip: 601	4 City/State:			Zip:	
Thone Resul	te to:				7 1 3 1		
** ##(#);		n-Resp	onsi\	/e			
Triephone #: Project		•					
is me/Yumb				TIDA	AROUND		
	MATRIX	1		LOM	TARCOTTA		
() Ar	☐ Fi or Tile	□ Soil	□ 3 brs	C 6 Hours	or 12 Hours'	24 Hours	
Q ^e Balla	Drinking Water	☐ Dust	48 Hours	72 Hours	☐ 96 Hours 4 days	(1) 120 Hous 5 Days	
O Wipe		☐ Micro-Vac	TA 146 hours	6-10 Davi		and the second	
EM AIR. J E	Wastewater herr, 5 hour, Please call abou- li be eaker to rigo and author	to sekudule. There is a pr	remium charge for 3 bo ce. 12 hours (must arriv	or tat, please call 1- ve by 11:80 a.m Me	#04-220-3573 for pr n = Fri), Please Reli	nt to Price Coote	
elishes and	THE DE BARRET OF THE				TEM WATER		
'CM Air		TEM AD			Wasiewate	•	
NOSH	7400		H 7402		Drinking V	Vater EPA 10	
OSHA			evel II			Y Wasterwater	
Other:		Live	50.50		Water-N¥	Drieking W.	
	•	TEM BU	t W/mire		TEM MICRO	VAD WIP	
IM Bal	k 	Denn N	Mount (Oualitative	9	ASIM ID		
MEPA 6	10/3-93/116	21 462	MORNI (Samura	,	_cuamita:	ove medical	
PAPA Po	int Count	A Chay	iold .		was was		
	nified Point Count	CO'TAN!	VOB/(Gravimetric	NY 198.4	XRD College	संस्कृतः स्टब्स	
PLMN	IOB (Grav metric) NY	198.1 MS	LYS, EPTED		Sibea	₩9	
Other:		ANA	12/5 40		2	. 45	
SEM AU C	r Ealk	• •	11/100		OTHER.		
Quelita	tive		"46 /Mn				
Quantit	ati vC	TEM BU G Drop I Charles 198.1 ENS (ANA					
3	AMPLE NUMBER		LOCATION		VOLUM	E (if Appliesb	
	. /						
			-20 m A-6		1	' 2.	
Cileat Sampi			BRE AP	->	otal Samples #:	OM	
Religion is he 6	Non-	Respo	nsive	6/10/0	4 Time:	+ 11	
المستقومة ا					Time:		
ile rcived :				***			
			-				
			G I	E.			
				\cup			
			72		, - · / ***		

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.

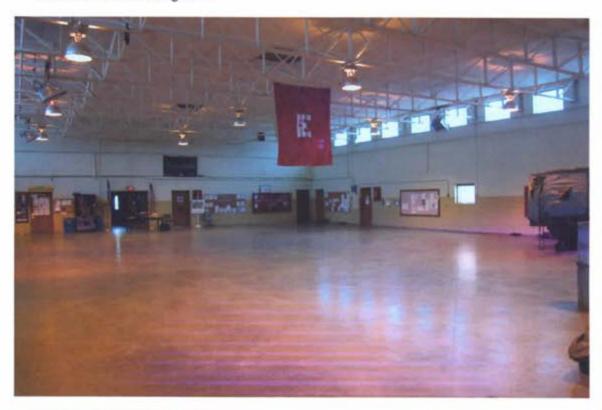


Photo #6: Drill hall facing north.

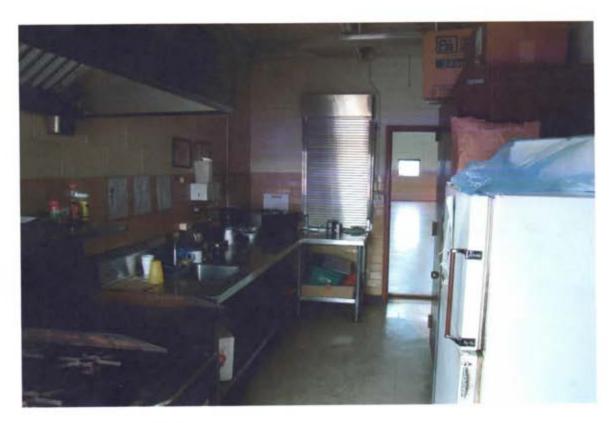


Photo #7: Armory's kitchen.

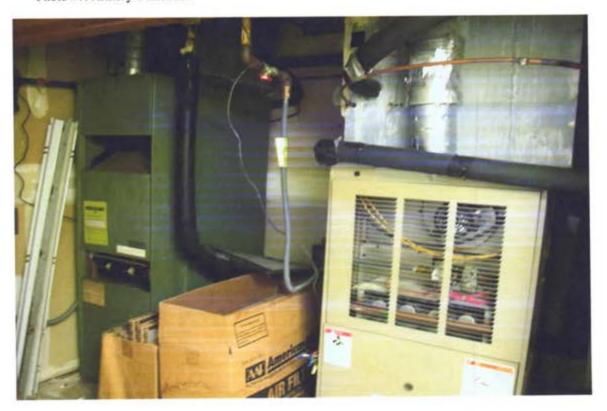


Photo #8: Armory's furnace room.

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.

- 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.
- I. Report of July 14, 2004, Industrial Hygiene Survey, Tammer Sciences INC, 3744 Lawrence Dr., Naperville, IL.

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 of reference 1.1, 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.

- 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.



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



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 3
Illumination Survey	Page 4
Heating Ventilating and Air Conditioning (HVAC)	
Recommendations	Page 4

Appendices

- A. Floor Layout and illumination levels.
- B. Laboratory Analytical Results.
- C. Lab Chain of Custody.
- D. Photographs.

Survey Date: 08 June 2004

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.
НVАСЛАQ	No issues observed or documented.	No action.

Survey Date: 08 June 2004

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 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.

<u>Site Description.</u> 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.

<u>Scope of Work.</u> 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

<u>Lead Wipe Samples:</u> 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 cabin	<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.

<u>Illumination Survey</u> Lighting levels throughout the Armory ranged between 20 footcandles 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

Bryan Armory

Classrooms.

Drill Hall.

Storage.

Kitchen.

Supply Rooms.

Administrative Offices.

Reading in Foot-candles

40 - 125

50 - 110

60 - 85

20 - 60

30 - 45

65 - 100

Survey Date: 08 June 2004

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.

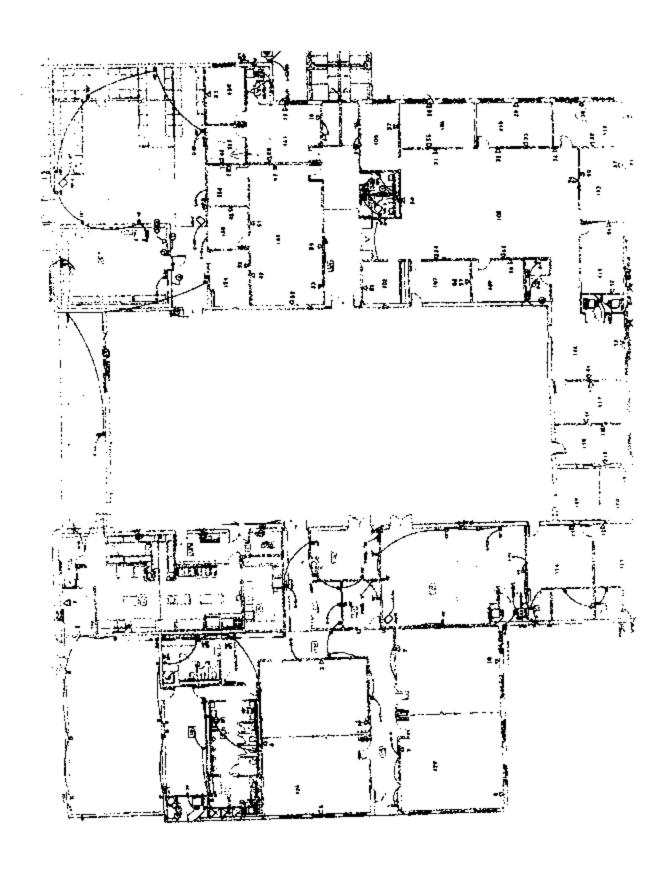
Recommendation:

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 98188

Fax: (856) 858-9551 Email: skauffman@emal.com



Attn:

Fax:

Project

Ion-Responsiv

T\$60 Customer (D:

Customer PO: Received:

06/14/04 11:22 AM

EMSL Order: EMSL Proj.

200407154

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

Clions Sample De	zeriptlen	Lab ID	Analyzed	Aron Sampled	Lend Concentration
BRY 01	Results for these wipe samples do not meet the EPA standards for sample maints and are not recognized under the NLLAP accreditation program	0601	6/28/04	ก/อ	<10.0 µg/wipe
BRY 02		0002	6/28/04	n/a	<10.0 µg/wipe
3RY 03		0003	6/28/04	n/a	<10.0 µg/wipe
BRY 04		0004	5/28/04	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 μ g /wipe
BRY 07		0007	8/28/04	n/a	<10.0 µg/wipe
964 08		0008	6/28/04	n/a	19.0 µg/wipe
BRY 09		0009	6/26/04	n/a	<10.0 µg/wipe
BRY 10		0010	6/28/04	n/a	<10.0 µg/wipe
BRY 11		0011	5/28/04	n/a	<10.0 µg/wipe



Re-QC data associated with the sample mautis included in this report meet the recovery and precision requirements established by the AHA unless specifically indicated otherwise in the committed section. The feat results contained within this report need the requirements of NELAC unless otherwise noted. This report relates only to those florms tested. Unless otherwise solled, the results in this report have not been blank connected.

ACCREDITATIONS: NUNELAP: 04883. ARIA Environmental Land Laboratory Approval Program: 100194

Date Printed: 6/28/04 11:24:40 AM

APPENDIX C

Date: EMSL Represent	ative:	Project Name/No.	P.D.#;	remark the harmon
Company Jame: Tammer Sc	iences. Inc	EMSL-Bill to:	me to many to	
Sheer 3144 Langence D	five St	rect:		
80x 9:		30x #:		
City State Nepasyile II	Zin:18564 (City/State:	Z-p:	K. P. ST. ST. ST. ST. ST. ST. ST. ST. ST. ST
Finne Results to: Name)	า-Resp	onsive		
Har Results to: (Name)	METHOD	INSTRUMENT	RL (Reporting	TAI
Land Chips.	SW846-7420, 3050H Mod. (AOAC (974-02)	Flame Atomic Absorption	0.01% **	
ent Wastempter	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 7982 Mod.	Flame Atomic Absorption	4 ug/filte: 3.0 ug/filter	1
	or NIOSH 7300 Mod.		10 ug/wipe	
Lead in Wine* Z-ASTM	SW846-7420 / HUD Appendix 14.2 Digest.	Flame Atomic Absorption		Routum
-bon ASTM	or SW846-6010B	KP .	3.0 ng/wipe	100
TCLP Lext **	SW846 1311/7420	Flame Atomic Absorption	0,4 mg3 (ppr3	
1	or SW846-6010B	ICP	0.1 mg/l (pprs)	
STLC Load Cablema 1 #	CA Title 22 68391.091/ SW846-7420	Flame Atomic Absorption	0,4 mgA (ppn)	
	or SW846-6010B	ICP.	0.1 mg/l (ppm)	
Lead in Air Amer	NIOSH 7105 Mod.	Graphite Furnace Atomic Absorption	0.03 ug/filter	
(cal Wasiewatti	SW846-7421	Graphite Furnace Atomic Absorption	0.003 mg/kg (ppm) water 0.3 mg/kg (ppm) soil	
Lost Soil -			0.3 mg/kg (3 m/y son	
Load in Drucing We er (check state	EPA 239.27200.9	Graphite Furnace Atomic Absorption	0.003 mg/) (trpm)	5
Certification Regiment (48) Total Dust	NIOSH 0506-0600	and an all and actives the	0.0001g	
Tr T (Ternaround)	Same day, 24 hr - 1 Di	ay, 2 Days, 3 Days, 4 Days in Please Refer to Price Que	ite	2
SA «PLE#	↑If no box is check	ed, non-ASTM to assumed LOCATION	Air volume. L Area, in ²	N LAB#
				D 7/54-1
BRYGI - BRY II				
@ Relinquished By: (Person)	Non-Resp	onsive	Date: 6/1/2	dog.
Received at EMSL By:			Date:	-70
Received at EMSL By:	And the second s	and use additional sheets if	t nemerory	

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.

- 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.
- Report dated 2 July 2003, Industrial Hygiene Survey, Tamar Sciences, Inc., Naperville, IL.

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 of reference 1.1, 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.
- 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



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



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	
Asbestos Suspect Building Material	
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.

Survey Date: 6 May 2003

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

Survey Date: 6 May 2003

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.

<u>Site Description.</u> 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.

<u>Scope of Work.</u> 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. 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

<u>Lead Wipe Samples:</u> 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		
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		
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		
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.

Survey Date: 6 May 2003

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.

<u>Noise Survey</u> 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.

Survey Date: 6 May 2003

<u>Illumination Survey</u> 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 microhiological growth sources. No other complaints of indoor air quality issues were documented or communicated with the POC.

<u>Emergency Exits</u> 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.

Dallas #5 Armory

Survey Date: 6 May 2003

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.
- 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

BEST AVAILABLE COPY

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

BEST AVAILABLE COPY

APPENDIX B

EMSL Analytical

3 Geoper St., Westment, NJ 98198





Fax:

Project:



TSBO

Customer PO:

05/12/03 11:50 AM

EMSL Order: EMSL Project ID: 201304961

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

Lati 10	Analyzai	Area Samplad	Lend Conceptation
0001	6/28/03	144 in*	39000.0 µg/ft
0002	5/23/03	144 In ³	1200,0 µg/ft³
0003	5/23/03	144 In ²	180.0 µg/ñ*
0004	5/23/03	144 In ²	74.0 µg/īt²
0005	5/23/03	144 kg*	240.0 yg/f*
9006	5/23/03	144 32	1500,0 pg/f2
0007	5/23/03	144 in²	500.0 yg/YP
9908	5/23/03	144 kt	100,0 אַפַּיון
0000	5/23/03	144 h²	76.0 µg/ff
0010	5/23/03	144 ht²	110,0 µg4?
0011	5/23/03	144 in*	7.80.0 µg77 .
0012	5/23/03	144 kr²	19.0 pg/ft [*]
	0002 0004 0005 0006 0007 0008 0008 0009	0001 6/24/03 0002 5/23/03 0009 5/23/03 0004 5/23/03 0005 5/23/03 0006 5/23/03 0007 5/23/03 0008 5/23/03 0009 5/23/03 0010 5/23/03	0001 8/29/03 144 in² 0002 5/23/03 144 in² 0009 5/23/03 144 in² 0004 5/23/03 144 in² 0006 5/23/03 144 in² 0006 5/23/03 144 in² 0007 5/23/03 144 in² 0008 5/23/03 144 in² 0009 5/23/03 144 in² 0010 5/23/03 144 in² 0011 5/23/03 144 in²



I be Of self-responsed with the exception records included in the repeat meet, the recovery and precision repulsively as established by the All St. Letters separately before a concrete in

MEDITATIONS: AltiA Coveramental Lead Loberatory Acquired Program of (10) 192

Printed: 5/27/03 10:19:39 AM

Page 1 of 1

EMSL Analytical, Inc.

107 Haddon Ave., Wastmont, NJ 04108

Phono: (889) 858-1800 Fax: (869) 664-4780 Emph; assegoi@EMSL.com



Ann:

Fax

Project

Non-Responsive

Customer ID:

TS80

Customer PO:

05/12/03 2:35 FM

EMSL Order: EMSL Project IO: 040307689

Analysis Date:

5/20/2003

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

					Non-Asbestos		As <u>bestna</u>
Sample	Location	Арровияное	Treatment	%	Fibrous	% Non-Filmous	% Туре
DAL SOIA TR E	DALLAS #5	Gray Non-Fibrous Hoteropeneous	Tenned			100% Non-fibroist (other)	None Detected
DAL FOLK MASTIC	DALLAS #5	Yollow Fibrosa Halprogenskills	Teantid Distributed	2:	% Colulosa	98% Nan-Abrous (ether)	None Detector
DAL EDZA	DALLAS FO	Brown Non-Fibrous Haterogeneous	Teased			100% Non-fibrous (other)	None Detected
DAL 503A Geographeras	DALLAS#5	GrayWhite Filmus Heterogeneous	Treased		% Celulona % Glass	76% Non-fibroum (other)	None Detected
DAL SOAA	24 2A.I.MQ	GenyWhite Fibrous Heterogonopus	Toosed	-	%, Cellulose % Hoir	8055 Non-ffaraus (other)	8% Chrysodio
DAL SUSA capatana anat	DALLAS#5	Yollow#White Fibrous Heterogenations	Touned	90	/k Gloss	10% Non-fibrous (other)	None Detected

Non-Responsive

Non-Responsive

If Jishim combined in this protection is a malifestration of samples which rest in reference. Brook on 1921 models control in premiserable and an income of the protection of

PLM-

THIS IS THE LAST PAGE OF THE REPORT.

BEST AVAILABLE COPY

APPENDIX C

Revised 77/98			 	···	DATE: 5/8/63	Third party billing regul	cau weltio	U selforisation
- Company	2mme	er Scie	V Sciences, Inc.: Lawrence Or Street:		Same are previous			
Straet: <u>3</u> Bax#:	744	Lawre	ALE OF		Box #:			
	persi.	lle , 1	2_ Zlp: 6	0564	City/State:			Zip:
Phone Results to: Name:	lo	n-F	Res	DC	nsive	•		
Calophone #: Project					Perchase			
rojeci Kame/Numbor:					Order#:			
MATRIX	<u></u>	- MILT	HOD.	1N	STRUMENT	mdls		TAT
and Chips*	~ \ ~	W848-742 OAC 5-006	O or 3		Alomic Absorption	0.01% ++		44Krs
end Wastowster	S	WR48_742)		Atomic Absorption	0.4 mg/kg (ppm) soil		, , , , , , , , , , , , , , , , , , ,
Lead Soli +	0	r SW846-6		ICP		0,1 mg/l water 10 mg/kg (ppm) soil		~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~
Lead in Air**	N	OSH 708	Necessial Control		Atomic Absorption	5 upfiler	- F	- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1
	0	NIOSH 7	300	ICP		3.0 ug/filter		- 1 m (1114)
oski in Wips	\	W048-742		Flame.	Alomic Absorption	10 uptwipe Same 72	40 11	44 6/5A2
	٥	r SVV846-8	·	KZP		3.0 ug/wipe		aces and the same
TCLP Load **	S	WE46-131	1/7420	Flame	Atomic Absorption	0.4 трл (ррт)		
	1 -	r 5W846-6		ICP		0.1 mg/l (ppm)		7. 2. T. T. T. S. 184
oad in Nin i beo.	1	IIOSH 710	5	Absorp	te Furnace Atomic tion	0.03 ug/विकेश	1	Jan Barry Pier
Lead Wasto water		W846-742	<u>। विश्वतिकारी के लिए</u> 1		te Furnace Atomic	0,003 mg/l (ppm) we		
Lead Soil +						0,3 mg/kg (ppm) soil		
Load in Dehilding Water (chec	K E	PA 239.2	ments to		le Furnaco Alomic	0.003 mg/l (ppm)		
atate Certification Requirements Total Dust		1105H 050	0-0600		retric Reduction	0.0001g		
TAT (Turneround) - 2 hours, 12 hours (must errive by 11 24 hours (1day), 48 hours (2	6 hour: :00 a.m :days),	, Pigero o), 72 hours, 9	all shead to i			hours (G-10 days)		
SAMPLE #		HIRO COX		LOCAT	TION	Air volume, L Area, in ²		LAB#
DATE: 2001			DALLA	<u> </u>		144 in 2	64	2961-1
-014C 9002			<u> </u>					t.
ORC 5003			~					7
OPC 5004 Reinquished By; (Porso	i N	on	-Re	esp	onsi	/ e		<i>y</i>
Date: 5/8/03				•				1-G
Color By Color Belging many and the West	Note: I	Please du	olicate this s	osm end	use additional shee	rts if necessary.	٠ _	144

ovised -7/1/99		, , , , , , , , , , , , , , , , , , ,	/
SAMPLE#	LOGATION	Air volume, L Aree, in [‡]	LAB#
SAL 5005	DAUAS#5	144 inz	64941.5
.D.Rts. 5006			
DAT-5007		· · · · · · · · · · · · · · · · · · ·	. 2
Offic. 500B	 		· · · · · · · · · · · · · · · · · · ·
DAL 5001			1
DAL SOLD	 	<u></u>	l-
DAL SOIL	1	<u> </u>	
DAL 5012	.	<u> </u>	- Ł
→ 4-3EV	PHE REPORT 4		<u> </u>
TRY DOI	JRVING/DALLAS	144 4 2	
3RY002		[<i>/</i>]	
TRY 003	 		
XRV 004			
IRV 005			
IRV OOL	T - (
TRY 007			
T2V008			
FRV 009	7		
TEVOID	T		
IRV OIL			
IRV DIZ	¥		
⇒ #- 3€	GEASET Y	`	de
DAL-2001	DALLASHZ	144 mc	
DAL 2002	<u> </u>	2	
DAL 2003			
DR-2004	<u> </u>		
DAY 2005	<u> </u>		· · · · · · · · · · · · · · · · · · ·
DFC-2006			
<u> </u>		 	
0A = 2008	\	. #	
* > <u> </u>		A -	
8AL 400)	Dauns #4	144 m2	
DA1-4002	 	<u> </u>	· ·
DAL4003	_ 	. 4	<u> </u>
	·		
Sulinguished By; (Person) Kar	- H - KAWAR Received at EMS	SLBy: (Velox	- · ·
5/8(03	Deze	Ω_0	1x 110 1
Note: Please duplicate this for	n end use additional sheets if neces	Sery.	a-6-4
·			
		1/2 2	044
1410 255 9 151 255 1.1 1455 1.55		' "7" -	O (

040307589



EMSI. Analytical, Inc. Revised 07/37/99 CHAIN OF CUSTODY

Asbestos

KMSL Rep:				Jon Hird p	Dilling requires w sarty	riciem authorization
Your Company	Name: Tammer	Sciences Inc.	EMSL-Bill to Street:	·		
Street:	3744 Lau	scence Dr.	ou as	_ 5 %	me as f	hippins
Box#:	**		Bex #:			11
City/State:	Naperville	71 74p: 60 Sta	City/States			^{Zepe}
		•	Pax Results t	o:		
Phone Results Name:	TO:	Resp				
Telephone //4		.17 c 2h	01191	V		
Project Name/Number		•				
14300011000			_	TURNA	ROUND	_
<u> </u>	MATRIX	1				
☐ Air	☐ Floor Tile	□ Soil	□ 3 hrs	□ 6 Hours	☐ Same Day or 12 Boars*	□ 24 Hours 1 day
Bulk	☐ Drinking Water	□ Dust	3 43 Hours	72 Hours	☐ 96 Hours 4 days	☐ 120 Hours 5 Days
	F7 992-1	☐ Micro-Vac	2 days 1971 44+ hours	3 days 6-10 Days	_	·
Wipe	Wasternator 5 September Call about to			on the second of BOA	0-228-3675 for pel	ee prior to sociding
samples. You will	o, 6 hours, Pieur call about to he sphed to sign and authorize	tion form for this service.	12 hours (ether stre	- 1,	•	
PCM - Air		TEM AIR		T	EM WATER	
NIOSI 17	400	☐ AHERA		Ę	Wastewale	e Vator EPA 100.1
AIIZO 📋		☐ NIOSH ☐ EPA Le		È		Wasiewater
Cther:		_ mrk	40117	Ē		Drinking Water
				_		
PLM Bolk		TEM BULL		_	ASTM D	VAC / WIPE
EPA 600	/R-93/116	. Though was	umt (Qualitative	, L		ive merland
BPA Poin		Chatfiel				
	fierl Point Count)B (Gravimetrie) NY 1984 <i>A</i> F	Asbestos	•
PLM NO	B (Gravianetric) NY 19		•	<u>ַ</u>	Silica	
SEM Air or	Bujk			_		-
Qualitati				9	OTHER	
Quanti ati						
24	MPLENUMBER		LOCATION		VOLUM	E (if Applicable)
	,	Nove				W)/#
	L501A	UHUL	4s + 5			1 7/1
/ Dr	11.502 A					
Client Sample					गे Sampleı ∜ः	
Reito quisbe:1:	Non-Re	sponsiv	C Nate:	5/8/03	Jimet	<u>PM</u>
[træjyeds			Date:		Time:	
	4			\mathcal{L}	age 1 o	13 1
				r	age + u	5

O40307589



EMSC Analytical, Inc.

CHAIN OF CUSTODY

as he stee

SAMPLE MURDICE	LOCATION	VOLUMN (If Applicable)
DAL 508A)	DALLAS # 5	NA
		<u> </u>
5AL 504A		<i>y</i>
10AL 505A	SEPERATE REPORT 4-	
	JENING DALLAS	N/A
IRVOIA	2	 -
IRVO2A		 (
T.5003Þ	\ - \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	
TRV64A	December 14	<u> </u>
	RATE REPURT OF	N/A
091201A	DALLAS # 2	
DPL302A	 	
DHC203A		· *
> 4 SEPE	 	1 74
ML401A	DALLAS # 4	N/A
0f.402A		
MH-4031A		
DHL404A	<u> </u>	 /
D:AC 405 A		
OAL 406A	<u> </u>	
DAL407A		
CAL 108A	· · · · · · · · · · · · · · · · · · ·	<u> </u>
	SEPERATE BEPORT &	-
DAL 301A	DALLAS# 3	N/A_
DAL 302 A	ζ	2
DA)-303 A	3,	
¥4-	SEPERATE REPORT # =	
	1	

Page 2 x 3 ,

040307589



EMST. Analytical, Inc. Revised 07/87/99

CHAIN OF CUSTODY

Maria

ALMPLE YOMBER	LOCATION	VOIAME (H Applicable)
FUOLA	TORT WORTH # Z	N/A
FW02A		<u> </u>
		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
Fw039	1	130
FW04A	RATE BEPORTS &	2
2-3 Sere	KAKE BEFORE	
		<u> </u>
		
		-
	<u> </u>	
		<u> </u>
ļ <u></u>		· ·
		-
	<u> </u>	
	<u> </u>	
	<u></u>	
<u> </u>		
	<u> </u>	
	-	
		
		· -
		
		<u> </u>

Page 3 of 3 4

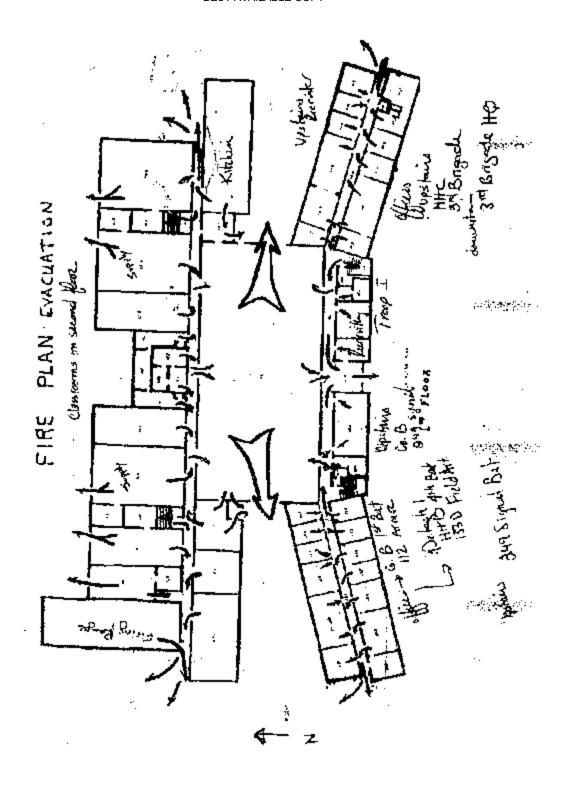
APPENDIX D

1775 California Crossing Road, Dailas, Texas

SALLIS 5

i	
1	
ì	
•	
	7
	4

Auto Attendent Numbers: 972-4	554 0340.	255	272.554- 0380. 0351. 1613. 0084. 0318. 0488. 0066. 0189. 0475. 1742	188, OGSS, CASO, C	475, 1003				
	P. SPELANT C. S. S.	Š	and King	KERKER	NAME AND THE SECOND OF THE PANK.	HXMIK	9	DIT HOS	TO MEHAPION OF
	1	ŀ	Т	1,1	THE PERSON NAMED IN	Ī) હા <u>.</u>	÷ C3:	21 Day (2007) Lift 100
The state of the s	<u> </u>				DESTINATION AND INC.	100		£3	CONTRACTOR (CAMPACA)
PANDOEN, DAVID	2	2		1000			1	0	10-1
BERG, RÖd≦R1	3	Ŗ	BOK 61	O-1100	MULK CUPORDE	2		222	
LONGORUS STEVS	714	Š	Section	(2.P) AUS	7	78		ארייא דדוווו	
MONITOR KINDSON	8	1304	Acting 1994CO	AGE	COCO CONTRACTOR OF THE COCO COCO COCO COCO COCO COCO COCO CO	TXT CALL		CAT FOR	The second secon
TOPE OF SECURITY	<u></u>	į	241 (4049) 1-2	OP1 H-04.		LIJO	3	COLOR	A-Cay
NAME OF THE PERSON OF THE PERS	199	1	1	0000	SECRETAL MARKET	081	1251	186	404
TOTAL SECTION AND INC.				100	CORPORATION OF THE PROPERTY OF	3	RST	FRECO	ACM
THE PERSON AND THE PE		ŀ		403	HEDALOO TURS L.	y S	2	SUPPLY NODE:	ı
WALLEY REGINETIN	<u> </u>				Transfer Court	2012	ì	A PARTY AND A STATE OF	POLITAGE V
Vector	į	13.12	BOZ 24T	АВЯ	1025		y		
HOSMENON JEBBE	Xes.	8	SOMES	CONTROL	CRANDHEAD, MICHAEL R.	Š	┪	0000	
BAY, JOE	3	ö	-	OP AGR	LEPARO LLOYDE.	3GT	Ē	BUTT THE CITY	
	I		•		CA 1413 40	POLICE	6	- Service	REKARA.
WALL BOTH FIRE	•		31 F 8 1, 8 1, 10.	4.4			1	1	
OF THE ROOM		£961	BOC CPS	(SP) WOAT	COMMANDER	5	т	Š	
DEGEN YORK	782	1310	25 30E	60Ph AGR	RENEGRAL TERRY L	3FC	ŝ	Halico	- NEW
	1	ŀ		160	Daberty Roov		2	OND RM	M-Day
MANEY, JAMES			-	200	St Control of the	200	т	SUPPLY NUCK	MOA
ASSEST SA CITYCER	8	4	W81 5-1		SOPREME SHAPE		т		074
HHC 3D BRIGADE		ž	当のでは、一般などのでは、1900年の	Service Co.	BUPALY ROOM		5		
CHANNER ORIGINA	5	ž	60.00		OMS #10	100	EXT	EXT. CONTRACT.	PENARKS
		ŀ	_		BL BYOND WANTED	IOM.	13461	DEPLOYED	HOSE
MAY MANDAL C.	ķ			0.54		Ę,	1	SEC. CHES	TECH
BALISHWEN WALL AND A	301		DIPPLIES NAME				т	SHOP OPPICE	
TEP I 124 CAVIDATE	Ы		TO THE PARTY OF	THE WINDS			$\overline{}$	740 000	
DURT, JASON T	5	7	TROOP COA						
CHATCH LANGER VOLAR	Ķ	1340	SHICO	AGR	RECRUITINES	TAK	EXT	OUTTROS	
Carry description of the Control of		7,0	Act of Print Park	COLUMN COLUMN	HECKEON CLASSY W.	P\$4	188	ROTO	972-556-0305 (VF-00)
	۱		200		XXXX JAMES W.	982	133	ARRINGO	CONTROL (NE DOL)
AND	1	Ì	1	-	SPECIAL STURMON H JA	ű	Г	COKHH	972- 553 -0347
PEDITION DATE		ļ	Ç	700	SHIPCHESON, LEVEL C.	BGT	OT.	COMPLE	972-444-8838
PACE A SUCCESSION	1	2				388		ARYCOAN ING	972-544 BPOA (3XT 1928)
a postorono e di Soli e	2000	1	SHIPSAINS	900		W 18	ECT	* CONTRACTOR **	A STATE OF THE SECOND STAT
		1	Т	ACSET NUMBER		3	*	ALACKISOR ALACKISOR	
to De Colonia	3		6607.91	100	To other Date Hell & OND (OHLY)			Den 133, hear had beings, del 33	Selab Adel 33
Market Park Comment of the Comment o		į	- 1	and the	To rece 2 Box cabr			Old 110, hear two demps, And 1	:
THE PERSON NAMED IN	3		Т		274			See property of the latest of	paralight from
CALLANAN XAM X	Ž,		~1					The Part of Street Street	
SWASSART, JERRHETER A.	9GT	ž	DET 4 PRINCES	3				10 mm m m m	UT: 15th
CONF ROOM	1	1		2					
LINE DRICH	1365	ŝ	FT/8-010	Gilba	COR INTO AN ANT.			Transfer of the least]
College Awarths:	1997 to 0	ž			SHOT HAPE I GO BY JUST AND KIN TAKE:			7	
Colling Long Distances	4	2	have against the major mathematical forth		ONS AND			17-49-44-1 (CCT.	- Hors
Volta Nat.	2				DEN COURSE #1412-762-1468, New York, Gra Dally Meride	HOOP, GALES	The Manager		



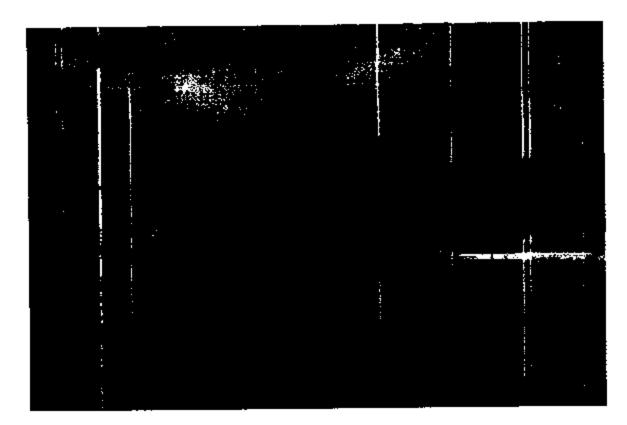


Photo 1: Dallas #5 Armory Front Entrance.

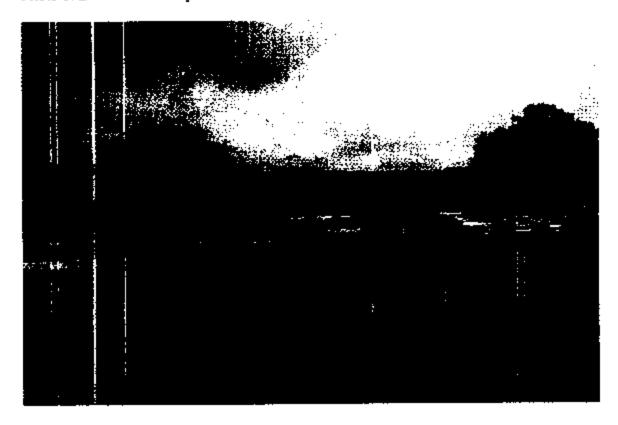


Photo 2: Dallas #5 Armory Front Entrance.

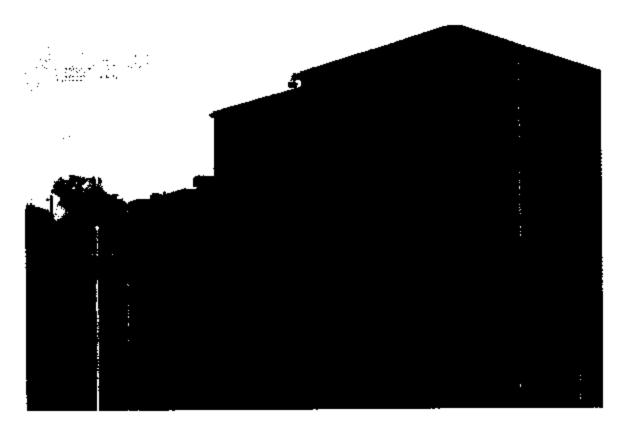


Photo 3: Armory west side

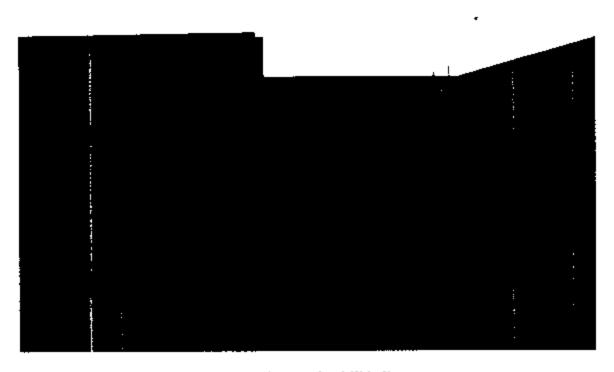


Photo 4: Outside showing the roll top door to the drill hall.

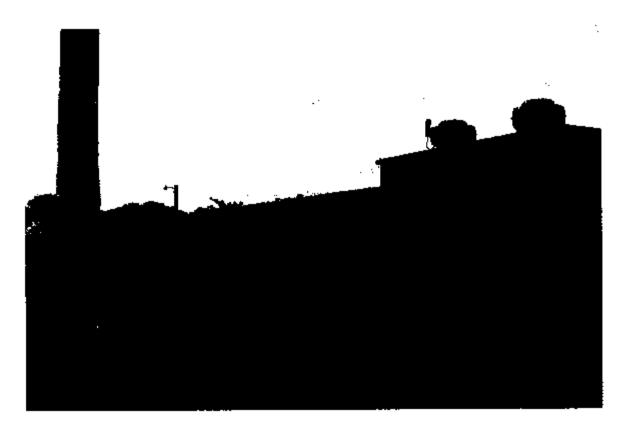


Photo 5: Rear end of the armory showing the firing range end.



Photo 6: East end of the Armory.

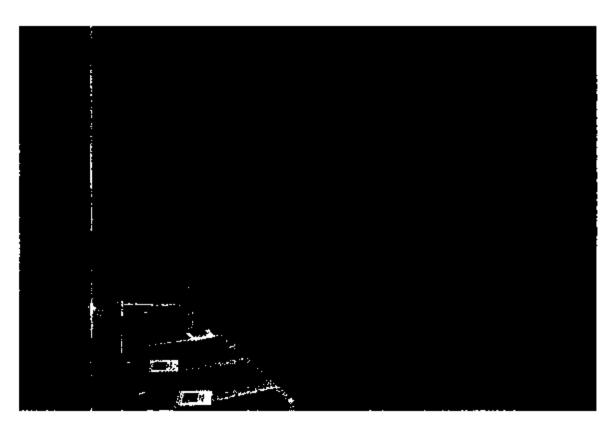


Photo 7: Inside of the Converted Indoor Firing Range showing the items stored.

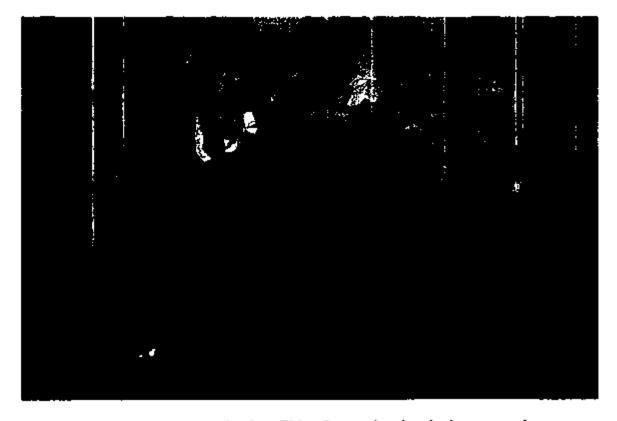


Photo 8: Inside of the Converted Indoor Firing Range showing the items stored.

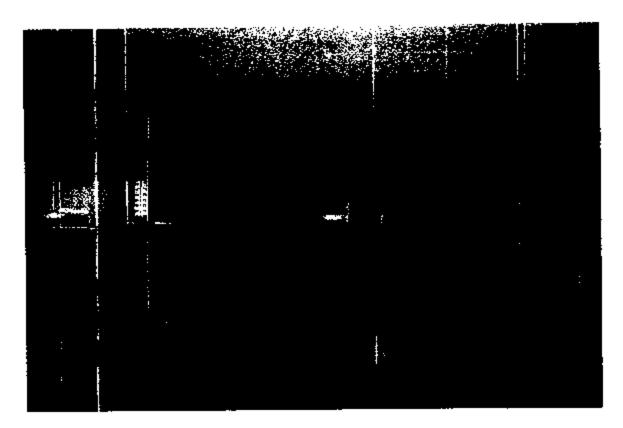


Photo 9: Stored items in the converted firing range...

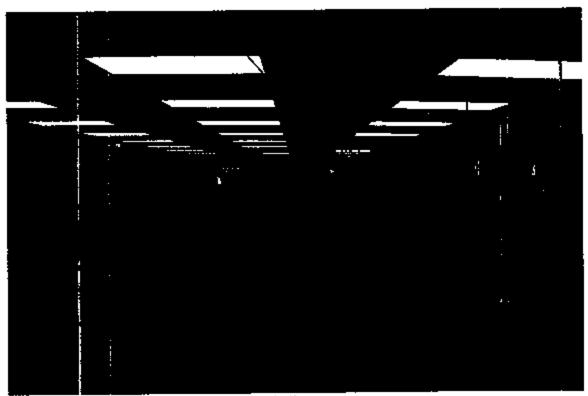


Photo 10: Armory newly renovated mess hall .



Photo 11: Armory kitchen.



Photo 12: Mechanical Closet in the mess hall.

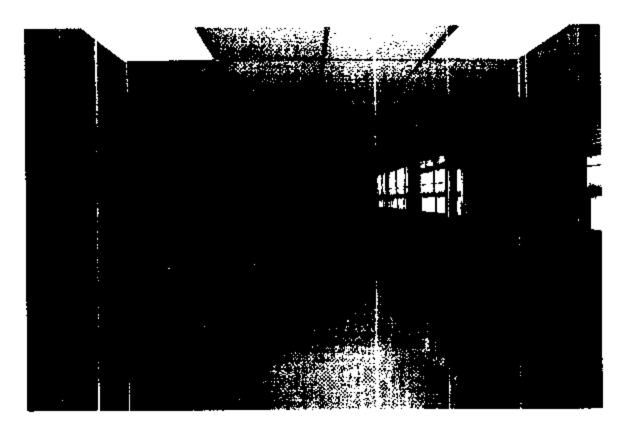


Photo 13: Training class rooms.

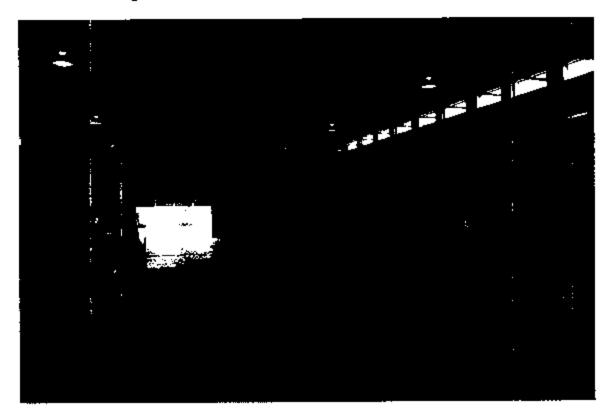


Photo 14: Drill or Assembly Hall.



Photo 15: Drill hall facing the east.

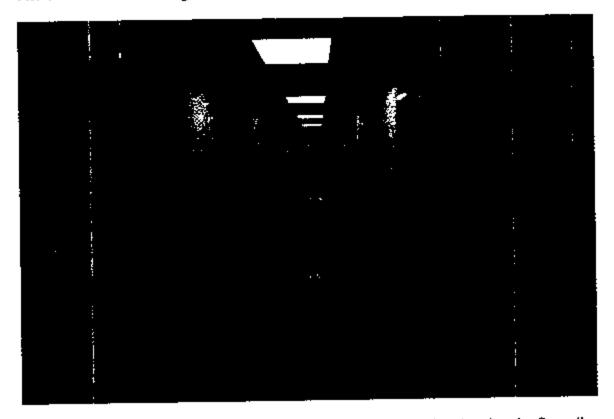


Photo 16: Photo of the hallway leading to the emergency exit. Also showing the floor tiles and baseboard.

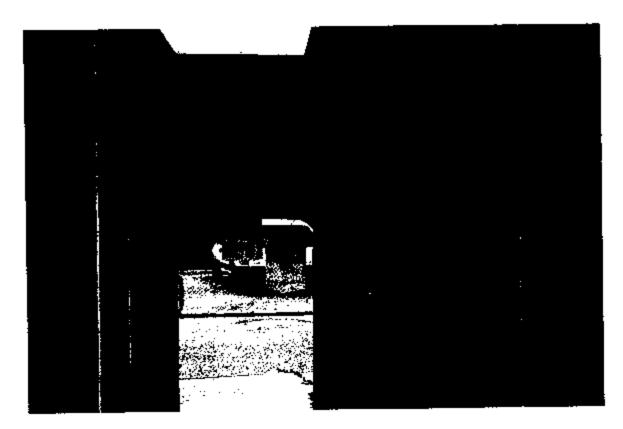


Photo 17: Locked Emergency Door.

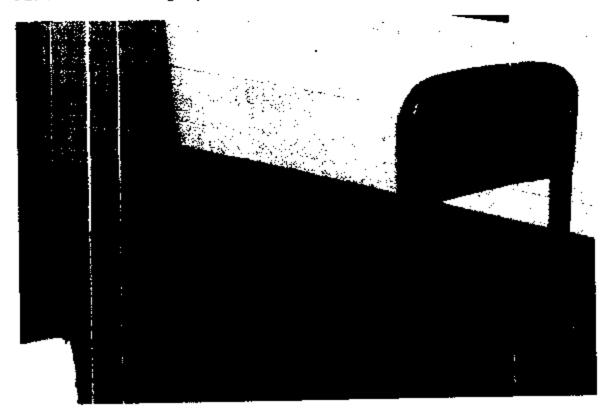


Photo 18: Air supply diffuser on the first floor of the administrative office area



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.

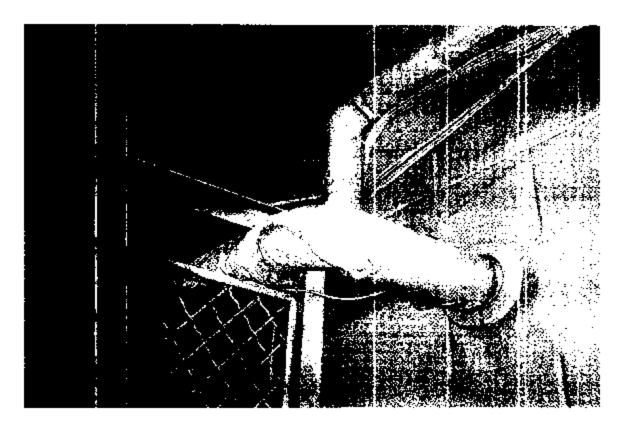


Photo 21: Pipe thermal insulation in the drill hall.

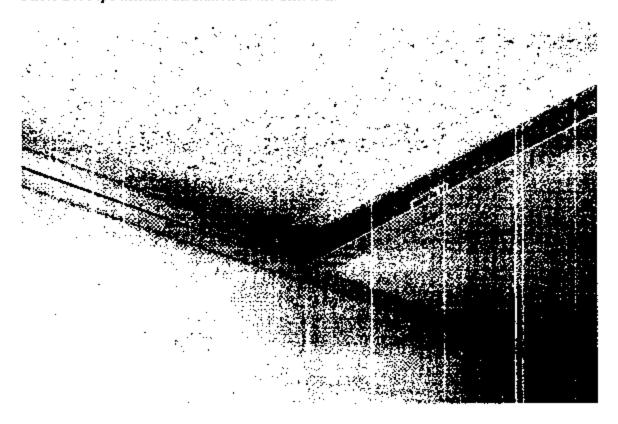


Photo 22: 2x4 ceiling tiles found throughout the armory.

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 White 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 1606477. 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 san pling. 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 plantic 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 Attacaments 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 bucketsized 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 hazerdous wane 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 disnurbed. 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 easier removal. Because of environmental concerns some states have restricted the use of TSP, and some manufacturers easier removal 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) 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 initiant.* Manufacturer's instructions Users of cleaning agents for leaded dust removal should follow manufacturer's instructions for the 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 cyewash facilities manufacturer's instructions. 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.
- b. Wet Desergent Wash Several types of detergents have been used to remove leaded dust. Those with a high phosphale content (containing at least 5 percent presidium phosphale, 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 should be located in or very near the work area. Consult manufacturer's directions for the use of other detergents.* Appropriate Cleaning Equipment- Because a detergent may be used to clean leaded dust from a variety of surfaces, several types of application equipment are needed, including cleaning solution spray bottles, wringer buckets, mops, variously sized hand sponges, brushes, and rags. Using the proper equipment on each surface is essential to the quality of the wet-wash process.
- (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 manufacturerspecified 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 polentially 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 bazard 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
 - 12. Single-Pass Wet Wash/HEPA Vacuum Some lead hazard control contractors have roundhead spray cleaner not removed by the wet wash. 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 wer 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 coaring 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 scaler 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 eleaning activities, workers should monitor the sheeting and immediately repair any holes or rips with 6-mil plastic and duet 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 rage 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 clearing. 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 Sereening 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 wipedust 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 recommunicating "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 wols 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 tate 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.

- References.
 - a. 385-10, Army Safety Program
 - b. OSHA Standards 29 CFR (Code of Federal Regulations), 1910.1025, Lead Standard
 - 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/m³ 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/m³ 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.

AES June 30, 2003

ANALYTICAL ENVIRONMENTAL SERVICES, INC.



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 _ii total pages (including cover letter).

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

Sincerely,



	INDUSTRIA						0'000181
For use of	f this form	see USA.	EHA TG 141	Code!	Point o	f Contac	L (name/AUTOVON)
ational Guard Bure	p <i>lete adares:</i> Sau Region Sc	s . <i>inclu</i> sith Tu	aing oip (Office	.oue1_	1	-	
510 Plaza Drive, Su	ite 1530		·		Associated Bulk Samples		
Samples Collected By	Date Co	lected	Date Shi	pped	\ <u></u>	Yes	∐ No
Non-Responsive	1350	n 03			Bulk S	ample No	
Project Number	Sampi	ed inst	allation	.63	-	ARLOC	
	CAL	:F, X3	ing D	ALIRS	IX		
Location (BLDG/AREA)		-	of Operation	on (ae	tails on	reverse.	
LAXING ARMORY ROOM	333 - N W-	- Met	hod of Co	liection			
Persons Exposed	8-in Hrs/Day					eltnes	IRUEY (LEAD)
Associated Complaints			te NONE i	ا رجعه آ	icaole)	,	
						· .	
Analysis Desired							
LEAD							
		Sar	npling Dat	ta			
Sample No.	11-cx			···		<u> </u>	ICK Blank
Pump No.	Acceyo						
Time On	1035						
Time Off	1635						
Total Time (min)	360 Man						
Flow Rate (LPM)	3.61.PM				·		
	1296L						3.1
Volume (Liters)	1276						
GA/BZ	Non-Responsive						*
Employee Name/ID							
Laboratory No.					<u> </u>		
<i></i>			Results			1 1	
≈ .			<i>,</i>				
						1	
					1		
¥							
<u> </u>							
T							
Comments to Lab:		•					
•	••				•		
,							
Palson de de de de de la	Reviewed		ab Use Or		te Recei	ved	Date Dispatched
inalyst (initials)	Verlener	. Dy (un					
A STUA Form D. P. 1 Det 94					····		

Reptaces AEHA Form 9, 1 Oct 80 which is obsolete.

BEST AVAILABLE COPY FOIA Requ

B-10 Relea

Calibration Information								
Pump No.	Calibratio Pre-use	n (L/min) 1000cc= Lagen	Rotometer Setting	Date				
	77.036	1031-036	36111119	Daile C				
400040	Aug. 363000/min	Aug. 3574 cc/mm		13 Jun 03				
	146,							
		, N	lame of Calibrato	OF NGB# C70902				
		Operation	KC UTTRAFIOW #	709				
Source of Co	ntaminant:	O PEI BUILLI						
	N.							
ings) Dust							
Operation Em	ployee(s) Perform:							
:				C				
Ventilation:	Loc	ai Exhaust	General Area	None				
	Barranal Dur	receive Equipment ()	·					
	rersonal Fro	otective Equipment (che	ek ij worm					
Respir	ratory Protective Equ	ripment Type:						
Protec	tive Clothing Typ	oe:						
Gloves	s Type:	l.'						
Goggie	es/Face Shield	•						
Ear P	rotection							
Other		\bar{\bar{\bar{\bar{\bar{\bar{\bar{						
	Field	Notes/Additional Gomm	nents					
		*						
	DUE TO REC	On STRUCTION, All	AREAS ARE DI	usty				
	All AREAS Sou	rueyed were not o	ccupied Due	To'				
	Sm. Attract	ANCE OF SLAMMER E	SONIAL TO ATOM	49				

	INDUST	RIAL HYT	TENE AT	R SAMPI	E DATA	,	0306	787
For use of	this for	m seë "USA	ERA" TG "1	41; the	proponen	t is HSR	B-LO.	
Return Address (com	olete addr	ess inclu	ding Zip	Code) .	Point of Contact (name /AUTOVON)			
Vational Guard Bure 510 Plaza Drive, Su	au Region	South IH	Office		Associated Bulk Samples			
College Park Ct 30 Samples Collected By	340 D-1-	Collected	I Date S	Brazes		Yes	No	
Non-Responsive		JUN 03	Date 3	vibbed	Bulk S	ample No	(s):	1
Project Number		pled Inst	allation		- 1	ARLOC		
-		JIF, XI	_	PALLAC	TX			
Location (BLDG/AREA)	Des	cription (of Opera	tion (de	ails on	reverse!		
ia Izna Armory Room	2002 - N	<u>A-</u>			•		·	
Persons Exposed		· Met		ollection		. ــ مرضده ساد ــ	11/1	الحمما
Associated Complaints		1	SOMPI	ing / Pc	257 648	SITNESU	irvey (LEAU
Vasociared combianits	(De apeci	J10) (800	THE BURE	rj appri	ioud be i			":
Analysis Desired								
LEAD			•					
		Sar	npiing D	ata				
Sample No.	2-cx							2-cx Blank
Pump No.	A00038							
Time On	1030	· ·						
_ Time Off	1630							
Total Time (min)	360 man							
Flow Rate (LPM)	3.5LA					1	1	
Volume (Liters)	1260 4							1
GA/BZ	Marketo -						1	
	Non-Responsive							
Employee Name/ID	<u>l</u>						 	10000
Laboratory No.	<u> </u>		Results			1	<u> </u>	
<u> </u>			RESULTS	 		<u> </u>	1	
*			<i></i>			<u> </u>		
					ļ			
-	-			<u> </u>			 	
·						1	ļ	
					1			
Comments to Lab:	<u> </u>	<u>' </u>	·.	<u> </u>			1	·····
	**							
		L	ab Use C	nly			· · · · · · · · · · · · · · · · · · ·	
halyst (initials)	Review	ed By (in:	itials)	Dat	e Receiv	ed	Date Dis	patched
		···.=·				1		

		BEST AVAILABLE COPY Calibration Informati	on	
- 11.	Calibratio		Rotometer	Date
Pump No.	Pre-Use	Post-Use	Setting	Date
A00038	A09 353400/MEN	Aug 3492 cc/min		13 Jun 03
	1.5%			
			Name of Calibrat SKC UTRAFIOW	or NGB# C70902
		Operation	SAC WITKATION	8 704
Source of Co	ontaminant:	<u> </u>		
1 = 43	D Dust			·
	5-61			
Operation &	mployee(s) Perform:			
Ventilation	- Loc	al Exhaust	General Area	None
	Personal Pro	otective Equipment (check if worm)	
Respi	ratory Protective Equ	lipment Type:		
	ctive Clothing Typ			
Glove		· · · · · · · · · · · · · · · · · · ·		
! =	es/Face Shield	Sw ;		
1 =	Protection	<i>&</i>		
Other	•	<u>`</u> b.		
	Fial	d Notes/AdditionalsG	/ comments	
	, leic	*		
[DUE TO REC	A, NOTTONATON OF	ALL ARFAS ARE S	ในราช
	All Areas su	rueyed were no	T occupied Dw	E TO
	S.M. ATTENO	Ance of summer	& Annual TRAEN	T 19

_	INDUSTRI						is usus		10101
For use of Beturn Address (comp	this form					oint el	Contact	(name/A	UTOVONI
Vational Guard Bure							,		
510 Plaza Drive, Su	ite 1530		OZZZOC.		7		ted Bulk		:5
College Dark Ch 30		Date Collected Date Shipped				لبحا	Yes [No	
Non-Responsive	1000	N.03				Bulk Sa	mple No(5):	
Troject Namber	4	ed Inst	٠,	~ î î ~		_	ARLOC		
		c.F. X3		Alla					
Location (BLDG/AREA)	MITTAL I	•	of Opera	tion (aetar	18 on 1	reverse/		1
Axing Armory ROOM	- NA	- Met	hod of C	oliect	ion ·		- .		
Persons Exposed		Page	SAMPI	ing/	Pos	BASE	ITNESA	RUEÝ	(LEAD)
Associated Complaints	(be specifi	ic) (sto	te NOWE	ıf aş	Plica	D LE /	.**.	, ; *. '	
Analysis Desired									
LEAD								·	
		Sar	npling D	ata				1	
Sample No.	3-CX							-	-0000000000
Pump No.	ADOYOU		· _						1000
Time On	1040	·							
Time Off	1640		1					<u> </u>	
Total Time (min)	360		-						
Flow Rate (LPM)	3.5LM							<u> </u>	
Volume (Liters)	1260L					10.0		<u> </u>	
GA/BZ	Non-Responsive				·				
Employee Name/1D						;	·		
Laboratory No.							<u> </u>	1	
1			Results				,	•	
		_		ļ	- }				
<u> </u>			- (
				 				 	
•				1			<u> </u>		
\$							1		
				 	-		 	1	
ī. /									
Comments to Lab:		•		•	•				
	•-							,	
⊘ ^{1/2}		L	ab Use	Only					·
nalyst (initials)	Reviewed				Date	Receiv	ed	Dате D	ispatched
AEHA Form 9.8 1 Oct 84									

PONSIVE Replaces A EHA Form 9, 1 Oct 80 which is obsolete.
BEST AVAILABLE COPY FOIA Requ
(1 2 年) B-10 Relea

Calibration Information								
Pump No.	Calibration Pre-Use	Post-Use	Rotometer Setting	Date				
POPECA	Aug 3580 cc/min	A19 3436 cc/m		13 Jun 03				
			· · · · · · · · · · · · · · · · · · ·					
*************			ama of Calibrat	05.16				
		Sk	C UTTRAFIOW +	or NGB# C70902 + 709				
		Operation						
Source of Co	Dust		-					
	ployee(s) Perform:							
Ventilation:	Loca	al Exhaust 🔲	General Area	None				
	Personal Pro	tective Equipment (chec	k if worm)					
Respir	ratory Protective Equ	ipment Type:						
	tive Clothing Type							
Gloves	з Туре:	<i>C</i> .						
☐ Goggle	es/Face Shield	. SE 6						
Ear Pr	rotection			•				
Other:		Ÿ						
	Field	Notes/Additional@Gomm	ents	<u></u>				
	S.M. ATTENDA	on Struction, All A veyed were not or	AREAS ARE DI CUPTED DUE	usty To				
Í	Non-Resp	onsive						

		RIAL HYC						6787
For use of	this for	n'see"USA	EHA TC 1	41; the I	roconen	t is HSRI	B-LO.	
Return Address (comp	lete addre	esș inclu	aing Zip	Code)	Loiùt ö	Contac	^L (name/AU.	τονοπή
<pre>fational Guard Bures 510 Plaza Drive, Sui</pre>	au Region	South IH	Office		Associated Bulk Samples			
Collogo Park, CA 303	140	oilected	Data S	nibbed.		Yes	∏ No ′	1
Non-Responsive	1	un 03	Daré 3	ubben	Bulk S	ample No	(s):	1
-	Sam	pled Inst	allation	_		ARLOC		
-	25	JIF XI	ing I	Dallas.	TX			
Location (BLDG/AREA)	Des	cription o	f Operat	ion (det	zils on	reverse)		
LA XXII ARMORY ROOM !		4-					<u> </u>	
Persons Exposed &	-mHrs/Da	Met	000 01 C	ollection	cim Raci	 Stracker	irvey (IFAN
Associated Complaints	<u> </u>	fie) (sto	te NONE	the mile	cable)	S ILTIE DU	IKUP 4 C	LUNU
Waancieren combinities	ive opeca	, , , , , , , , , , , , , , , , , , ,		عدديون رد				
Analysis Desired				-				
LEAD								
		San	noling D	ata			·	
Sample No.	4-CX							4cx Blank
Pump No.	A0032		<u> </u>				<u> </u>	
Time On	1045	-						
Time Off	1645					<u> </u>	<u> </u>	
Total Time (min)	360mm						ļ	
Flow Rate (LPM)	3.6 LPm					<u> </u>	<u> </u>	
Volume (Liters)	1296L						<u> </u>	
GA/BZ						<u> </u>	ļ	
Employee Name/ID	Non-Responsive				:	<u> </u>		
Laboratory No.						<u> </u>	<u> </u>	
A			Results					
		1	,					
*			<u> </u>					
					· - •			
•								
						1	ļ	
6								
Comments to Lab:								
•	••				•		•	
,		:						
O ,,			ab Use C	nly	e Receiv	ved T	Date Dis	ратслед
inalyst (initials)	Review	ed By (in	tials)	Бат	e verel			

AEHA Form 9-R, 1 Oct 84

Calibration Information								
Pump No.	Calibratio Pre-Use	n (L/min) /Conce / LETER	Rotometer Setting	Date				
100032	An3622 ec/man	A09 359/cc/m		13 Jun 03				
			4					

		Sk	E UITRAFION	or NGB# C.70902 # 709				
		Operation						
	D DuST			·				
Ventilation	: Loo	al Exhaust 🔲.	General Area	None				
	Personal Pro	otective Equipment <i>(chec</i>	k if worm)					
Respi	ratory Protective Equ	ipment Type:						
Prote	ctive Clothing Typ	e:						
Glove	s Type:	f						
	es/Face Shield							
☐ Ear P	rotection							
Other	*	8						
				· .				
	Field	Notes/Additional Gomm	ents					
	HII AREAS SWI S.M. ATTEND	onstruction. All a evered were not oc ance of summer A	cupied due	= To'				
	Non-Respon	nsive	170	_rn				

	INDUSTR	IAL HYĞ	LENEAL A	SAMPL	E DATA	٠	030	6787
For use of	f"this form	n'seë"USA	EHA" TG 14	11; the 1	proponen	t is HSH	B-LO.	
Peturn Address (com	plete addre	ess inclu	ding 🏭	Code) .	Point 9	Contac	it (name/Al	(NGVOTI
National Guard Bure 510 Plaza Drive, Su		South IH	Office		Associa	ted Bul	k Samples	
College Park Cl 30	3340	ollected	C Date Sh	ninned		Yes	No No	
Non-Responsive	133	ppcu	Bulk S	ample No	(s):			
	5am	pied inst	allation		- 1	ARLO		
	CA	TF XJ	tha it	DILLAS	TX			
Location (BLDG/AREA)	HAN Des	cription o	of Operat	ion (<i>det</i>	cils on	reverse.	<i>.</i>	1
AXENG ARMORY ROOM	145 - N	4-	nod of C	ollection				
Persons Exposed	B-10 Hrs/Da					e lines	iruey ((LEAD)
Associated Complaints		fic) (st	te NONE	if appli	cable)	· · · ·		:
•						• • •		
Analysis Desired							_	
LEAD				<u> </u>			-	
	Jer 4. 1	Sar	mpling Da	ata		l	1	5-CXBUNE
Sample No.	S-CX							SCOME
Pump No.	H00035						 	
Time On	1050						<u> </u>	
Time Off	1650					 		
Total Time (min)	360							
Flow Rate (LPM)	3.11.PM					 -		
Volume (Liters)	11161					 		
GA/BZ	Non-Responsive	9		· ·	,	 		
Employee Name/1D					· · · · · ·	 	_	*
Laboratory No.								
<u></u>	1		Results	·		1:		
ða			<u> </u>			<u> </u>		
					1	-		
- α								
<u> </u>								
		. •				1		
Comments to Lab:		,	·. · · · · · · · · · · · · · · · · · ·		·			
*			••					
,								
O ks			ab Use C	nly	Do = + 1		l Date Di	sparched
Analyst (initials)	Review	ed By (in	itials)	Dat	e Recei	vea	50,60,	200.41124
. Fire F O.B. 1.D 94					<u></u>			

PONSIVE Replaces AEHA Form 9. 1 Oct 80 which is obsolete.

61 24 0 > B-10 FOIA Rec

BEST AVAILABLE COPY Calibration Aformation									
Pump No.	Calibration Pre-Use	Post-Use	Rotometer Setting	Date					
A0003S	Pug 3594cc/mar	Aug 2559 cc/min		13 Jun 03					
		5	Name of Calibrat	OF MGB# C70902					
		Operation	NC SCHOOL S	7,00					
Operation Em	s were open s	al Exhaust SM ROENG INVENTOR Stective Equipment (cha	y of Equipme	None					
_	atory Protective Equ tive Clothing Type		·						
Gloves	Туре:								
	s/Face Shield								
	otection								
Other:			······································						
<u> </u>	Field Notes/Additional Comments								
	DUE TO REG All AREAS Sue	on Struction, All veyed were not a	AREAS ARE DI CCUPTED DUE	usty To hg					

						-	06787
f"this form	'see"USA	EHA TG	141; the	proponer	it is K.	5 <i>HB-LO</i> .	(ARTOVANI)
plete addre	ss incl	iding 21	p Code)	Louis 6		aci(name,	(KU1UVUN)
eau Region : Suite 1530	South IH	Office		ASSOCI	ated Bu	ılk Samp	les
0349 Date C	nilected	T Date	Shinned	-	Yes	No	•
13.7	10 D3		ompped	Bulk S	ample 1	:(2)ok	
		allation			ARL	ρÇ	
				TX	L		
Sus Desc	ription	of Oper	tion (de	tails on	revers	e)	į
MBOW - NA	\					••	
/	Me						·
	y Aqu	r samp	ling/f	OST BAS	s line:	survey	(LEAD)
s (be specij	fic) (st	ate NOM	if appl	icable)			
			 		<u></u>		·
		.					
1- 0 1		mpling I) ata		T		1 -04
			<u> </u>		-		60
19143				<u> </u>	 		
1125	•				<u> </u>		
1725							
					<u> </u>		
			,	•			
							3.1
10.10				1			
Non-Responsive				† , 			
 			 				
			<u> </u>				
·		Result	<u> </u>		T :		
1 1					<u> </u>		
							ĺ
+					+		
1				<u> </u>			
					1		
	•	٠.					
**		••					
							
				B		D=+0	Disparched
Reviewe	ed By (in	itials)	. Da	Te Kecei	ved	שופט	p. sparened
	G-CX 19143 1125 1725 340 341 Non-Response	plete address included Region South IH Suite 1530 Date Collected 13 July 03 Sampled Institute NATE, XI Sugar Description And Hrs/Day Act S (be specific) (state 1125 1725 360 3. LPM 1296L	This form see USAEHA To mplete address including 2d reau Region South IH Office Suite 1530 Date Collected Date 185000000000000000000000000000000000000	This form see USAEHA TO 141; the mplete address including 2tp Code) The Region South IH Office Suite 1530 Date Collected Date Shipped ISTANOS Sampled Installation CATF. XTNO DAMA Method of Collection B-M-Method of Collection ARE SAMPLING / P. S (be specific) (state NOW if apple Sampling Data G-CX 19143 1125 1725 360 3.118 Results Results	por this form see USAEHA TO 141; the propoper material region South IH Office Suite 1530 Date Collected Date Shipped Bulk S Sampled Installation Sampled Installation CALF, XING DAMAS, TX Description of Operation (details on NA- Method of Collection Are Sampling Data G-CX 14143 1125 340 3.166 Results Results	The second serious ser	of this form see USAERA TO 161; the propent is HSEE-LO. The propent is

m **9, 1 Oct 80 which is obsolete.** VAILABLE COPY FOIA Re **B-10** Re

		Calibration Information		
O No	Calibrat Pre-use	Ion (L/min) (000cc=) itep	Rotometer	Oate
Pump No.	Pre-use	Post-Use	Setting	- Oate
14143	Aug 3 loldocc/m	3550 cc/m		13 Jun 03
			·	
<u></u>				
			ame of Calibrat	FOT NGB # C70902
		Sł	C UTTRAFIOW	# 709
		Operation		
Source of Co	ntaminant:	-		.
LENI) Dust			
				
Operation En	nployee(s) Perform:	ı [*]	•	
W				
Ventilation:	· 🗀 ı	Local Exhaust	General Area	None
	Personal I	Protective Equipment (chec	k if worm)	
Respi	ratory Protective (Equipment Type:		
	ctive Clothing	•		
	•	()		
Glove				
Goggii	es/Face Shield			
Ear Pi	rotection			
Other	:	*		
	Fi	eld Notes/Additional@Comm	ents	
		10		
	DUE TO RE	= Construction, All 1	GREAS ARE [)usty
	All AREAS S	surveyed were not o	ccupied Dui	e ro'
	S.M. ATTER	ndance of summer p	Innual Train	TAG

INDUSTRIAL HYDERENE WARRESAMPLE DATA 0306787 For use of this form see USAEHA TG 141; the proponent is HSHB-LO. Return Address (complete address including tip Code) Point of Contact (name/AUTOVON) Vational Guard Bureau Region South IH Office Associated Bulk Samples 510 Plaza Drive, Suite 1530 □Yes Colloge Park, Ch 30349 Date Collected | Date Shipped on-Responsive Bulk Sample No(s): 13JUN 03 ARLOC Sampled Installation CALLE XING DALLAS Location (BLDG/AREA)Rom Description of Operation (details on reverse) CAXENA FRANCE RANGE HAILIA Method of Collection Associated Complaints (be specific) (state NONE if applicable) Analysis Desired LEAD Sampling Data Sample No. Pump No. Time On Time Off Total Time (min) Flow Rate (LPM) Volume (Liters) GA/BZ Employee Name/1D Laboratory No. Results Comments to Lab: Lab Use Only Date Dispatched Date Received Reviewed By (initials) inalyst (initials)

Non-Responsive

eptaces AEHA Form 9, 1 Oct 80 which is obsolete.
BEST AVAILABLE COPY
FOLA BOX

FOIA Requested Record #J-15-0085 (TX) Released by National Guard Bureau Page 307 of 1757

Pump No. Pre-Use Post-Use Rotometer Setting Date 14138 Ag 356Scc/m Aug=3544cc/m 13 July	
14138 Ag 3565cc/m Aug= 3544cc/m 13 Ju	
	(103
Name of Calibrator NGB# (SKC UTTRAflow # 709	70902
Operation	
Source of Contaminant:	
LEAD DUST	
Operation Employee(s) Perform:	
	1
Ventilation: Local Exhaust General Area	eno/
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	
HILLAREAS SUPPEYED WERE NOT ACCUPTED DUE TO'	
S.M. ATTENDED OF SUMMER DOWN TO ATTENDED	•

Posted to NGI May, 2018 rd #J-15-0085 (TX) tional Guard Bureau Page 308 of 1757

Analytical Environmental Services, Inc.

•	Sample Receipt Ch	ecklist	
CANGB			6/24/02 11:50
Client 97 V 0 D		Date and Ti	Non-Responsive
Work Order Number		Received	by .
Non-Respons Checklist completed by	Cate Clark	Reviewed b	W _ (Date)
	ourner name: FedEx UP:	S Courier	ClientOther
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 receive	ed? 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 1	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 J	No	
Cooler #1 Cooler #2 Cooler #3	_	Cooler#5	Cooler #6
	/OA vials submitted	_ Cooler#3 Yes	
Water - pH acceptable upon receipt?	Yes	No	Not Applicable
,		-	
Any No and/or NA (not applicable) response must be d	etailed in the comments section	on below:	
Client contacted Date of	ontacted:	Per	son contacted
Contacted by: Regard	ding		
Community			
Comments:			
-			
Corrective Action			
7			

BEATTAYALLA RELCASPY for

National Guard Bureau Region-South IH

WorkOrder:

0306787

Client Reference:

CAMP Xing Dallas TX

Analyte	Co	ncentration	Limit Detect		Test Method	Date Ana	-
	(og)	(mg/m²) (p	pm) (ug	<u>. </u>		1	_
Client ID: 1-CX	Lab ID: 001A	Date Sampled:	6/13/2003	Media: Filter	·	Air Vol.(L)): 12
Lead	<0.200 <	0.000154 -	0.2	NIOS	H 7300	06/25/2003	C
Client ID: 1CXBLANK	Lab ID: 002A	Date Sampled:	6/13/2003	Medla: Filter		Air Vol.(L)): N
Lead	<0.200	<u> </u>	0.2	NIOS	H 7300	08/25/2003	¢
Client ID: 2CX	Lab ID: 003A	Date Sampled:	6/13/2003	Medla: Filter		Air Vol.(L)): 12
Lead	<0.200 <	0.000159 -	0.2	NIOS	H 7300	08/25/2003	C
Client ID: 2CXBLANK	Lab ID: 004A	Date Sampled:	6/13/2003	Medla: Filter		Alr Vol(L)): N
Lead	<0.200		0.2	NIOS	H 7300	08/25/2003	С
Client ID: 3CX	Lab ID: 005A	Date Sampled:	6/13/2003	Media: Filter		Alt Val(L)); 12
Lead	<0,200 <	0.000159	0.2	зоіи	H 7300	06/25/2003	C
Client ID: 3CXBLANK	Lab ID: 006A	Date Sampled:	6/13/2003	Medla: Filter		Air Vol.(L)	r N
ead	<0.200		0.2	NIOS	H 7300	08/25/2003	С
Client ID: 4CX	Lab ID: 007A	Date Sampled:	6/13/2003	Media: Filter		Air Vol.(L)	12
ead	<0.200 <	0.000154 -	0.2	NIOS	H 7300	08/25/2003	Ċ
There ID: 4CXBLANK	الله الله D: 008A	Date Sampled:	6/13/2003	Media: Filter		Air Vol.(L)	; N,
ead	<0.200		0.2	ROIN	H 7300	08/28/2003	C
Olsent ID: 5CX	Lab ID: 009A	Date Sampled:	6/13/2003	Media: Filter		Air Vol.(L)	: 11
ead	<0.200 <	0.000179 -	0.2	NIOS	H 7300	06/26/2003	Ç
Titent ID: 5CXBLANK	Lab ID: 010A	Date Sampled:	6/13/2003	Media: Filter		Air Vol.(L)	: N
eed	<0.200	-	0.2	NIOS	H 7300	06/26/7003	Ç
Client ID: 6CX	Lab ID: 011A	Date Sampled:	6/13/2003	Media: Filter		Air Vol.(L)	: 12
ead	<0.200 <	0.000154 -	0.2	NIOS	H 7300	06/26/2003	Ç
Client ID: 6CXBLANK	Lab ID: 012A	Date Sampled:	6/13/2003	Media: Filter		Air Vol.(L)	ı: N.
ead	<0.200		0.2	NIOS	∺ 730 0	06/28/2003	С
Client ID: 7CX	D: 013A المها	Date Sampled:	6/13/2003	Medle: Filter		Air Vol.(L)): LZ
.ead	<0.200 <	0.000159	0.2	NIOS	H 7300	06/26/2003	С
Client ID: 7CXBLANK	<u> Lab ID:</u> 014А	Date Sampled:	6/13/2003	Media: Filter		Air Vol.(L)	: N
Lead	<0.200		0.2	NIOS	H 7300	08/26/2003	Ç

BEST MAILABLE ROPY

for

National Guard Bureau Region-South IH

WorkOrder:

0306787

Client Reference:

CA/IF Xing Dallas TX

Anslyte	Concentration	Limit of Qual Detection	Test Method	Date Analyzed /Applyst
	(ug) (mg/m²) (ppm)	(ug)	Mendo	/AUSI/18

⁽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).</p>
- --: 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.

- 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 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.
- I. 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)

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.
- 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 bygiene survey or air sample



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



August 16, 2004

Table of Contents

Executive Summary	Page 1
Subject	Page 2
Background	Page 2
Introduction 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.

Survey Date: 9 June 2004

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).

Survey Date: 9 June 2004

SUBJECT: Industrial Hygiene Ventilation Survey of the Camp Mabry Firing Range in Austin, Texas on 6 June 2004

BACKGROUND:

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.

<u>Scope of Work.</u> 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.

May, 2018

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		-	
		Summa	ry of Velocity N	leadines		
			Army National			
			Mabry Firing I			
		Canti	Austin, Texas	Cange		
			9 June 2004			
9984997 - 15048	a	12566600000 a 144	7 70010 200-7	** 11 5 .55000000000000	7. m. – "– Augstsääst	era ngayaran kepa
				S. 4217 (2012)		
Firing	Lanc#1	Lane #2	Lane #3	Lanc#4	Lane #5	Lane #6
Position	TABLE * I	1,401C #2		L2010 4 4	12016 43	1.815 40
Ртопо	85. 6/2	49	88	× ~325	29	
Kneeling		102 Sec.		200-200 84 222	24 24 C	37. mg
Standard Co.	2000000	18	4.00	202 00 14 5 KC	79	57 2-2
Lane Average	87	56	49	174	44	48
	经销售的第 000000000000000000000000000000000000		draksitirasyyn is lene. Namanan		Harris Marie Control	2018
		1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	anna kamatan da 1965 a 1		og Jan	F8 3
Firing	Lanc #1	Lanc#2	Lane ≠3	Lane #4	Lanc #5	1 476
Position	1.811C #1		Lane #3	Lane #4	1.4nc#3	Lanc#6
Prone 300	27	remonal #2	68 ***	Commence of the contract of th	11 × 44 (3)	65
Kneeling		117	13	2.4	38	. 13
Standing	16 ***	3.6	6.2	- 98	90	- 86
Lane Average	40	64	62	62	57	55
		7.7	Education Francisco	And the second s		
Firing Position	Lane#1	Lame #2	Lane #3	Lanc #4	Lane #5	1.anc #6
Prone &	85	62	52 88.83	60	77	64
Kneeling	50	88	79	142	132	77
Standing	316	84 / 22	36	188	108	- 80
Lane Average	84	78	52	130	106	74
		and the same of th	entral est de la contra	कितासम्हारक का साम्राज्य स	grade in the state of the state	
Firing Position	l.ane # l	Lane #2	Lane #3	Lane #4	Lane #5	Lane #6
Prone	90		63		67	· 33-77
Kneeling	[2] ×	26.20 S	108		120	90 00 8 1 40
Standing			80 2345	325 v. 325	107	4

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

BEST AVAILABLE COPY

Survey Date: 9 June 2004

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

BEST AVAILABLE COPY

APPENDIX A

REFERENCES

- American Conference of Governmental Industrial Hygienists (ACGIH), Industrial Ventilation, A Manual of Recommended Practice, 23rd Edition, 1998.
- American Conference of Governmental Industrial Hygienists (ACGIH), Threshold Limit Values for Chemical Substances and Physical Agents and Biological Indices for 2000.
- Army Regulations AR 40-5, Preventative Medicine, 15 October 1990.
- 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.
- National Guard Regulation (NGR) 385-15 Policy Responsibilities, and Procedures for Inspection/Evaluation and use of ARNG Indoor Firing Ranges, 18 September 2000.
- National Guard Pamphlet (NG PAM) 385-16, Guidelines for Convening 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
4 1 2004

			9 June 2004			
		1 11 12/12/17	· · · · · · · · · · · · · · · · · · ·	可有性 不動	要 学士 まっ	The second second
Firing Position	Lane #1	Lane #2	Lane#3	Lane #4	Lane#5	Lane #6
	0	П	88	69	33	0
	6	88	89	143	8	6
Prone	132	66	111	3	74	84
	104	26	42	1360	19	13
	97	34	88	94	45	[22
	94	31	109	25	0	19
Average		的图 建	アラ 機能が必			49
	137	87	77	2	2	26
	145	78	22	117	10	3
Kneeling	24	110	14	125	79	75
-	139	131	107	37	4	87
	111	153	105	65	23	0
	99	38	39 73-78 -22 -8/2 -	62	0	22
Average	104		35	81	8 23	37
	28	3	7	116	7	72
	83	77	0	114	151 19	100
Standing	123		21	73		120
	14	R	0	128 328	9 8 105	17
	80	<u> </u>	0			
·	52	5	6	133	22	33
Average		<u>1</u> 5				
Awazage	52		6	133 145	22	33 57
Firing	52		6	133 145	22 29	33 57
	52 (see 20	18	6 ∴± ^(A)	133 115	22	33 37
Firing	52 ************************************	18 Lane #2	6 ************************************	133 115 Lane #4	22 29 1.29 1.ane #5	33 57 Lane #6
Firing Position	52 ************************************	18 Lane #2 45	6 ************************************	133 115 Lanc #4	22 299 Lane #5 89 16 33	33 57 Lane #6
Firing	52 20 20 20 20 20 20 20 2	Lane #2 45	6 # # # # # # # # # # # # # # # # # # #	133 115 Lanc #4 3 80	22 39 Lane #5 89	33 - 37 Lane #6 - 85 - 35
Firing Position	52 20 20 20 20 20 20 20 2	Lane #2 45 14 77	6 	133 115 Lanc #4 3 80 84	22 299 Lane #5 89 16 33	33 57 Lane #6 85 35 63
Firing Position	52 20 1.ane #1 23 29 4 52	Lane #2 45 14 77 76 116 78	6 5.** Lane #3 90 88 2 88	133 135 Lane #4 3 80 84 42 110	22 39 1.ane #5 89 16 33 50 41 82	33 57 Lane #6 85 35 63 114 60 54
Firing Position	1.ane #1 23 29 4 52 44 9	Lane #2 45 14 77 76 116	6 5.** 2 88 111 52	133 135 Lane #4 3 80 84 42 110	1.ane #5 89 16 33 50 41	33 57 Lane #6 85 35 63 114 60
Firing Position Prone	1.ane #1 23 29 4 52 44 9	Lane #2 45 14 77 76 116 78	6 5, ** Lane #3 90 88 2 88 111 52	133 135 Lane #4 3 80 84 42 110	22 39 1.ane #5 89 16 33 50 41 82	33 57 Lane #6 85 35 63 114 60 54
Firing Position Prone	1.ane #1 23 29 4 52 44 9	Lane #2 45 14 77 76 116 78	6 5.** Lane #3 90 88 2 88 111 52	133 135 Lane #4 3 80 84 42 110 117	22 39 1.ane #5 89 16 33 50 41 82	33 57 Lane #6 85 35 63 114 60 54
Firing Position Prone	1.ane #1 23 29 4 52 44 9 105	Lane #2 45 14 77 76 116 78 32 158	6 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5.	133 135 Lane #4 3 80 84 42 110 117 87 12 0	22 39 Lane #5 89 16 33 50 41 82 82 87 1119 66	33 57 Lane #6 85 35 63 114 60 54 85 0
Firing Position Prone	1.ane #1 23 29 4 52 44 9 105	Lane #2 45 14 77 76 116 78 158 122	6 5. 4 5. 4 5. 4 5. 4 5. 4 5. 4 5. 4 5.	133 135 Lane #4 3 80 84 42 110 117 87 12	22 29 Lane #5 89 16 33 50 41 82 82 82 1119 66 0	33 57 Lane #6 85 35 63 114 60 54 85 0
Firing Position Prone	1.ane #1 23 29 4 52 44 9 105 15 116	18 Lane #2 45 14 77 76 116 78 158 122 138 111	6 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5.	133 135 Lane #4 3 80 84 42 110 117 87 12 0 4	22 39 Lane #5 89 16 33 50 41 82 82 84 1 119 66 0	33 57 Lane #6 85 35 63 114 60 54 85 0 0 29 14
Firing Position Prone Average Kneeling	1.ane #1 23 29 4 52 44 9 105 15 116 126 116 15	18 Lane #2 45 14 77 76 116 78 158 122 138 111 84	6 90 88 2 88 111 52 88 105 125 119 115 89 116	133 135 Lane #4 3 80 84 42 110 117 87 12 0 4 2	22 39 Lane #5 89 16 33 50 41 82 82 84 1 119 66 0 3 0	33 57 Lane #6 85 35 63 114 60 54 85 0 0 29 14 24
Firing Position Prone	1.ane #1 23 29 4 52 44 9 105 15 116 126 116 15	18 Lane #2 45 14 77 76 116 78 158 122 138 111 84	6 5 2 88 111 52 88 115 105 125 119 115 89 116	133 135 Lane #4 3 80 84 42 110 117 *******************************	22 39 Lane #5 89 16 33 50 41 82 34 1 119 66 0	33 57 Lane #6 85 35 63 114 60 54 85 0 0 29 14 24 0
Firing Position Prone Average Kneeling	1.ane #1 23 29 4 52 44 9 105 15 116 126 116 15	18 Lane #2 45 14 77 76 116 78 158 122 138 111	6 5 2 88 111 52 88 115 105 125 119 115 89 116	133 135 Lane #4 3 80 84 42 110 117 87 12 0 4 2 4 2	22 39 Lane #5 89 16 33 50 41 82 41 119 66 0 3 0	33 57 Lane #6 85 35 63 114 60 54 85 0 0 29 14 24 0
Firing Position Prone Average Kneeling	1.ane #1 23 29 4 52 44 9 105 15 116 126 116 15	18 Lane #2 45 14 77 76 116 78 122 138 111 84 2137 0 16	6 5 2 88 111 52 66 115 89 116 0 0	133 135 Lane #4 3 80 84 42 110 117 87 12 0 4 2 4 2 4 2	22 39 Lane #5 89 16 33 50 41 82 41 119 66 0 3 0 2 124 110	33 57 Lane #6 85 35 63 114 60 54 855 0 0 29 14 24 0
Firing Position Prone Average Kneeling	1.ane #1 23 29 4 52 44 9 105 15 116 126 116 15 23 2 0	18 Lane #2 45 14 77 76 116 78 158 122 138 111 84	6 5 2 88 111 52 88 115 105 125 119 115 89 116 0 0 B	133 135 Lane #4 3 80 84 42 110 117 887 12 0 4 2 4 2 4 2 112 103 98	22 39 Lane #5 89 16 33 50 41 82 34 1 119 66 0 3 0 2 124 110 120	33 57 Lane #6 85 35 63 114 60 54 85 0 0 29 14 24 0 • *** *** *** *** *** *** *** *** *** *
Firing Position Prone Average Kneeling	1.ane #1 23 29 4 52 44 9 105 15 116 126 116 15 23	18 Lane #2 45 14 77 76 116 78 123 138 111 84 2137 0 16 0 0	6 5 2 88 111 52 66 115 89 116 0 0 B 8	133 135 Lane #4 3 80 84 42 110 117 ***** 12 0 4 2 4 2 4 2 112 103 98 97	22 29 Lane #5 89 16 33 50 41 82 41 119 66 0 3 0 2124 110 120 29	33 57 Lane #6 85 35 63 114 60 54 \$55 0 0 29 14 24 0 • \$43 111 94
Firing Position Prone Average Kneeling	1.ane #1 23 29 4 52 44 9 105 15 116 126 116 15 23 2 0	18 Lane #2 45 14 77 76 116 78 158 122 138 111 84 113 0 16 0	6 5 2 88 111 52 88 115 105 125 119 115 89 116 0 0 B	133 135 Lane #4 3 80 84 42 110 117 887 12 0 4 2 4 2 4 2 112 103 98	22 39 Lane #5 89 16 33 50 41 82 34 1 119 66 0 3 0 2 124 110 120	33 57 Lane #6 85 35 63 114 60 54 855 0 0 29 14 24 0 • *** *** *** *** *** *** *** *** *** *

Table B-1 Velocity Readings for each Plane Texas Army National Guard Camp Mabry Firing Range Austin, Texas

			Austin, Texas 9 June 2004			
					1. 1/2	
Firing	Lane #1	Lane #2	Lane #3	Lane #4	Lanc #5	Lane #6
Position						
	95	88	13	86		41
	83	88	49	15		64
Prone	94 55	56	58	52	Lanc #5 83 86 68 81 65 86 77 122 92 142 167 127 134 132 112 146 84 83 104 121 108 Lanc #5 60 73 74 52 64 70 67 94 107 82 90 47 84 126 41 97 116 88 111 122	38
	102	47	62	73		37
	92	62	62	84		83 97
41	39 79		52	50		64
Average	77	153	108	123		96
	12	57	90	133		80
	52	83	31	165		75
Kneeling	27	103	83	111		87
	114	78	87	148		42
	46	120	102	153		99
Ayenge	50	88	79	A 142		77
A CONTRACT	116	103	53	155		116
	109	106	11	140		57
	103	58	55	199		122
Standing	157	8	6	198	Lane #5 83 86 68 81 65 86 77 122 92 142 167 127 134 132 112 146 84 83 104 121 108 Lane #5 60 73 74 52 64 70 70 82 90 47 84 126 41 97 116 88	79
	I41	125	35	226		92
	69	123	23	178		50
Average		84	 	188		80
H (
Firing Position	[,ane #]	Lane #2	Lane #3	Lanc #4	Lanc#5	1.ane #6
	87		37	i	60	<u> </u>
	91		45			
Ртопс	80		71			
FIGURE	83		54		52	
	77		69		64	
	117		76			
Average :	75.750	2000	63			2.5
	106		88	_	_	
	135		112			
Kneeling	122		103	_		
Kneeling	110		99			
					47	
	135	<u> </u>	114			
	105		112		84	
Average	105 121	K2,12 1,12	112 : 108 -		84 120	
Average	105 121 154	K.,	112 : 108 5 83		84 120 41	
Average	105 121 154 166	C	112 ; £08 5 83 101	. 2	84 126 41 97	
	105 121 154 166 170	K.,	112 ; £08 2 83 101 87		84 126 41 97 116	
Average Standing	105 121 154 166 170 152	Nz	112 : £08. 83 101 87 100		84 126 41 97 116 88	
	105 121 154 166 170 152 126	Nz 1-1	112 : £08. 83 101 87 100 45		84 120 41 97 116 88 111	
	105 121 154 166 170 152	S212	112 : £08. 83 101 87 100		84 120 41 97 116 88 111	

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.

- References.
- 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.
- I. Report of June 15, 2004, Industrial Hygiene Survey, Tammer Sciences INC, 3744 Lawrence Dr., Naperville, IL.

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)
- 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.

- 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



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



June 16, 2004

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	

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:

Region South Industrial Hygiene Office, an initial baseline industrial hygiene survey was performed at the Columbus Armory in Columbus, Texas.

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.

<u>Scope of Work.</u> 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



<u>Lead Wipe Samples:</u> 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, einder 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.
СМВ В04	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.

<u>Noise Survey:</u> 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.

<u>Illumination Survey</u> Lighting levels throughout the Armory ranged between 25 footcandles 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.

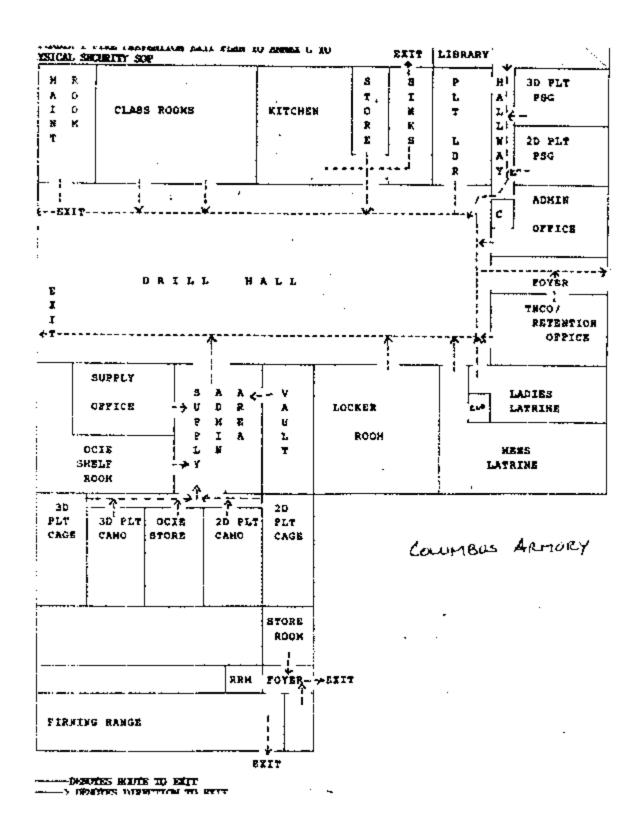
Recommendation:

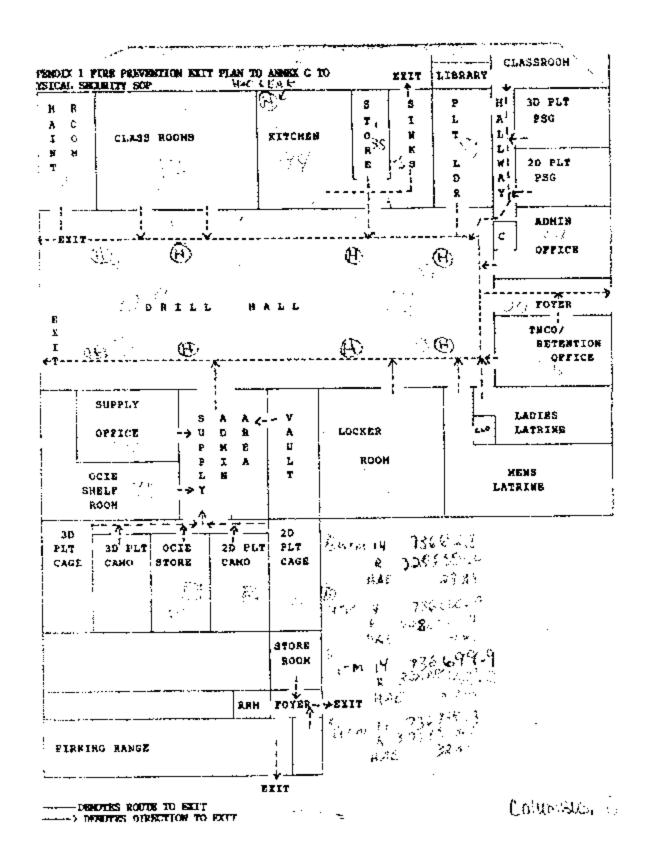
- 1. Clean and decontaminate the firing range in accordance to NG PAM 385-15 specifications.
- 2. Update the facility asbestos management plan to include the fitting insulation

Technical Assistance: For technical assistance regarding information found in this report

Non-Responsive

APPENDIX A





APPENDIX B

EMSL Analytical

3 Cooker St., Westmont, NJ 08108

Phone: (856) 858-4830 Fax: (856) 858-9651 Email: skauffman@emal.com



ABO

² 3Χ:



Customer ID: Customer PO:

TSBO

Received:

03/30/04 10:11 AM

EMSL Order:

200403344

EMSL Proj:

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

Citent Sample De	escription	Laò (D	Auglyzad	Area Sampled	Lead Concentration
CMBOT	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	п/2	<10.0 µg/wipe
CM 8 02		0002	4/14/04	n/a	sqlwfgq C.01>
CM 8 63		0003	4/14/04	n/a	<10.0 µg/wipe
CMB04		0004	4/14/04	r/a	<10.0 µg/wipe
CMB05		0005	4/14/04	1/a	16.0 µg/wipe
CMB05		0006	4/14/04	n/a	77.0 µg/wipe
CMBI)7		0007	4/14/04	nia	<10.0 µg/wipe
CMB08		0008	4/14/04	n/3	<10.0 µg/wipe
CM809		0009	4/14/04	n <i>s</i> a	18000.0 µg/wipe
CMB10		6010	4/14/04	n/a	15000.0 µg/wipe
CM811		6011	4/14/04	nta	14090.0 jig/wipe
CMB12		GO12	4/14/04	n/a	21000.0 µg/wipe
CMB13		0013	4/14/04	n/a	23000.0 µg/wipe
CMB14		GD14	4/14/04	n/a	5000.0 µg/wipe
CMB15		0015	4/14/04	n/a	110.0 µg/wipe
Сивте	**************************************	6016	4/14/04	n/a	85 Q 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		9019	4/14/04	n/a	14.0 µg/wipe
C%B20		0020	4/14/04	G\n	20.0 µg/wipe
CM621		0021	4/14/04	n/a	13.0 µg/w/pe
					, , ,

Non-Responsive

The CRC data was coaled with the sample results included in this report meet the recovery and precision requirements obtain the comment section. The test results contained within this report meet the requirements of NELAC unless otherwise social ALICAEDITATIONS NUMBER AND ARIA Several mental Lead Laboratory Approval Program, 100184

e Printed: /414/04 9:20:45 AM

EMSL Analytical

Project Columbus,TX

3 Cooper St., Westmont, NJ 06108

Phone: (856) 838-4830 Fax: (858) 858-9551 Emil: skaufinan@emsi.com



Attn:

Fax:

Non-Responsive

Customer (C):

TS80

Customer PO: Received:

03/30/04 10:11 AM

EMSL Order:

200403344

EMSL Proj:

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

Cliens Sample Description	Lab ID	Aunityted	Area Sampled	Lead Conscention
CMB22	0022	4/14/04	n/a	<10.0 ug/wipe
CM823	0023	4/14/04	n/a	<10.0 µg/mipe
CM924	0024	4/14/04	n/a	31.0 µg/wpe
CH 8 25	0025	4/14/04	n/a	39.0 µg/wipe
CM825	0026	4/14/04	n/a	870.0 ug/wipe
C##82/	0027	4/14/04	n/a	2900.0 µg/włpe
CMB2B	0028	4/14/04	n/a	<10.0 µg/wipe



Tigl: CC Gard also clashed right the sample results included in this report meet the recovery and precision reducements operated by the communities of the communities of the communities of the requirements of NELAC process otherwise noted.

Agriculturations: NJ-MSLAP: 04852, AIRA Conformental Lead Laboratory Approval Program. 190194

Printed: 474/04 9:20:54 AM

ناميموو

thill Analytical, Inc.

throughouter, Weiterest Hijasibs

have component for 1996 238-4889 Email: exignideMSL.com





FAX

Project

on-Responsi

Customer (D: Customer PO: T\$80

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**

				Non-As	Non-Asbestos		
Sample	Location	Appearance	Treatment	% Fibrous	% Non-Fibrous	% Турв	
CMB 901		White/Yellow	Teased	90% Min. Wool	10% Nan-librous (other)	None Detected	
(47)4年後,1-68次年		Fibrous Heterogeneous					
CM8 302		Brown	Teased		100% Non-fibrous (other)	None Detected	
29 540505 (BOS)		Non-Fibrous Heterogeneous					
CWB B03		Various	Tessed	2% Cellulose	98% Non-Morous (other)	None Detected	
049405581-0003		Fibrous Heterogeneous	Dissolved				
CMB BC4 TILE		White	Teased	***************************************	98% Non-fibrous (other)	2% Chrysotile	
ANDRONES WEST		Fibrous Hielerogeneous					
CMB 904 MASTO		Black	Teaséd		100% Non-fibrous (other)	<1% Chrysotile	
\$10.00 \$50 '-\$058		Fibrous Heteroganeous	Dissolved				
DMB 805		White/Brown	Teased	10% Celluiose	76% Non-fibrous (other)	None Detected	
\$10609 Y \$406		Fibrous Heterogeneous		20% Glass		HII 1945 on "	

Due to a superation included and employed in PLM assignment the superation of the superation of PLM may not be detected. Supplies repeated as a TS or none detected on a superation of PLM may not be detected. Supplies repeated as a TS or none detected on a superation of the superati

HEG ON EARS. I WESTERN DAVEAU \$107048-01, NY CLAP 19872

THIS IS THE LAST PAGE OF THE REPORT.

APPENDIX C

MU407344

EMSL ANALYTICAL	CHAIN OF (CUSTODY		MAD
W. N. C. G. M. C. FMSL Rencesen	talive		P.() #1.	
ampley Name: Tomosor Sc	remova Inc	EMSL-Bill to:	- per tale - tale recommendation - per tale - tale recommendation -	
nce 1244 awience Dr	ve s	reet:Salans	National Company of the second of the seco	economic (
		50x 8:	ocida tan arawa i monagan wasan sana arawa a	and a property of the second
Lysian Dispersits 1 I	Zip: 4056-1	City/State:	Zipi	
No.				
"Loss Results to: Name),	i-Kespo	IISIVE		
ne Results to: (Nime) MATRIX	METHOD	INSTRUMENT	RL (Recorting Limit)	TAT
o d Chapat	SW846-7420, 3050B Mod. 1 AOAC (974 02)	Flaps: Asimic Absorption	U(III)	
CONTRACT TO BE STORED	5W846-7420	Flame Alumic Absorption	0.4 mg/l water 40 mg/kg (pr.m) soil	
હતા ઉપયો	or SW846-6010B	KP	6.1 rog/) water 10 mg/kg (ppm) soil	
A STATE OF THE PROPERTY OF THE	NIOSH 7082 Mod	Fante Atomic Absorption	் புடி filter	
STER WELL	of NIDSH 7300 Med.	ICP	3.0 vg filter	
cad it Wipo* P-ASTM	SW846-7420 / HUD Appendix 14.7 Digest	Forme Atomic Absorption:	112 un wice	1
Wijer Paper ☐ non ASIM	or SW846-6010B	C.	3.9 ug/Wi96	partition of the following state of the follo
The second of th	SW846-1311: 7420	Flame Asomic Absorption),4 mg/1 (pp=1)	
ICLP Levil **	₩ SW 846-6910B	XP	0.1 mg/l (ppr 1)	
The Control of A	CA Trile 22 octo Ge '	Flame Atranic Absorption	0.4 mg/1 (pp.07) 🖁	
	5W846-7420 or SW846-6016B	ICP	0.1 mg/1(ppr1)	
- Constitution A State of St	NIOSII 7105 Mod.	Graphite Furnace Atomic Absorption	0.03 up filter	
A STATE OF THE PROPERTY OF THE	SW846-7421	Graphite Furnace Atomic	0.003 mg/l (ppm) water	
The state of the s		Abterption	0.3 mg/kg (p.n.1) sod &	<u> </u>
Load in Dranking We Wr (check state rend cales Regular mote)	EPA 239.2 - 200.9	Graphite Furnace Alonsic Absorption	0.003 mg/((pm)	Security in majority constraints A
Trape The	NIOSH 0500-0600	Gravimeiro Reduction	1 0.000 g	Land Commence with
T.T (Temaround)	老 泰斯 性毒疹 在由心心 一 ""	ay. 2 Days. 3 Days, 4 Days Please Refer to Price Quo	te	
	* If no bay is checke	d. non-ASTM is assumed	Air volume L	1\F3.4
SAMPLE #		LOCATION	Area in	to the second
, p. 17. seem else en frijke opgevoerseer om en en en en de derstelde de en en en en en de de en en en en en e	77	hus Tx	The state of the s	3344-1
CMBQI	Columi	1		7
CMBq2 Relincuished By: (Person)_	Non-R	ėsponsi	VE Date 3/26/	for
Received at EMFL By:		•	Date:	processor of the tention
Received at EMSL By:				
Note: P	of these souther to the protein	ory attests to the arcoracy of the in	Formation reported on this chain a	ଅନିକ୍ରୋକୀ ମଧ୍ୟର
Lord Chale, Roy 2031 or 571.C 600				dameters ministrations.

EMSL ANALYTICAL

CHAIN OF CUSTODY

LEAD

SA APLE#	LOCATION	Air volume, L Area, in ²	LA8#
CMB63	Columbus TX		63374-
2 Fa 12 154			
1 05			ſ
7 46			6
(0 7			
) Ø8			<u> </u>
1 13			4
1 10			1
11			
12			/L
/ /3			
14			1-17
15			1-0
16			1 /5
17			17
1 18			1/5
10			1 20
20	12.12.12.12.12.12.12.12.12.12.12.12.12.1		
21			1 7
22			7.5
28			1-2-
24			23
25			36
7.6			27
57			74
<u> </u>			
anni andre (The state of the s	
A STATE OF THE STA	lon-Respor	te: 3/3	6/04
Relinquished By: (Person)	ion-Kespor		Rolar
eceived at EMSL By:		4 uno month	Carlind To

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

(ii) The individual starting and relicquishing these samples to the laboratory attests to the accuracy of the information reported on this chain of custody.

Page 354 of 1757



CHAIN OF CUSTODY

Ashestas

EMSL Rep:	TAM	PEL SCIE	NCES	Third Purp from third		लांसका बाजीक्यांड्सं ५०
Yeur Compa Spreets		n-F		SDC	ns	sivo
licx#: City/Sate:						
Phone Result James						
Telephone fi Project Same Numb		- A SOLUTION OF THE STREET, ST	Audition CO	40000	,	
W	MATRIX	***************************************		TURNA	ROUND	
(J Ab	Ther Tile	□ Soil	O 3 hrs	□ 6 Hours	Same Day or 12 Hours*	24 Hours 1 day
ij Bok	☐ Drinking Water	☐ Dust ☐ Micro-Vac	1 48 Hours 2 days	☐ 72 Hours 3 days 6-10 Days ()	O % Hours Von-Respons	D 120 Hours IVO Days
IJ Wipe	Wastewater wrs, 6 hour . Piesse call aboad to iii be maker to sign and authoris		La Company of the Com	mane mineral male A	Frial, Pisase Rai	er prior to scaling. er in Price Cunte
∍quapies. You n	rill be nakee to sign and nuthorts	NUMBER OF STREET	. SE MORES (MUSICALITY	7		
CM - Air	7400	TEM AIR	A.		EM WATER Wastewate	er.
OSHA	72.00	☐ NIOSH	7402	בַ		Vater EPA 100. Y Wastewater
Other		☐ EPA Le	eyel II	Ļ		Drinking Wat:
					 MANA KATANDA	VAC/WIPE
PLM Bull	<u>k</u> 10/R-93/116	TEM BUL	K/misc SAM ount (Quality)	stis . [ASIM D	5755-95
***		Charten	I TUP	day, accep	Tra quantitat	(ve method
	int Count tified Point Count	TEM N	OB (Gravinichic)	MNY 1984 S	gro	
	OB (Grav metric) NY 1	98.1	ount (Qualitative ld EMS OB (Gravintethe)	TANK PILOT	Asbestos Silica	
Other: SEM Air of	r Knik				TAC	
Qualitat	fiva				THER	
1	AMPLE NUMBER		LOCATION		VOLUM	E (If Applicable)
OPAB !		Poles	bus, TX			
CHB:		C. 20, 1777				Andready or and delicer or an organized supplication of the same o
	2000 000		CMB QAS	Total	il Samples #:	E.
Client Sample Reliaquished:	F (8)	Respo	nsiv	126/04	Times	Pm
Received:	g.road			530	Time:	Shin
			Vien /	••••		
		V	7448			

APPENDIX D

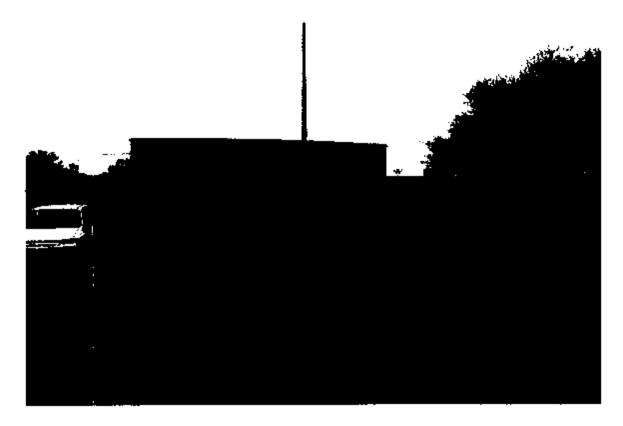


Photo #1: Armory front entrance.



Photo #2: Right side of the armory.



Photo #3: Rear of the armory.

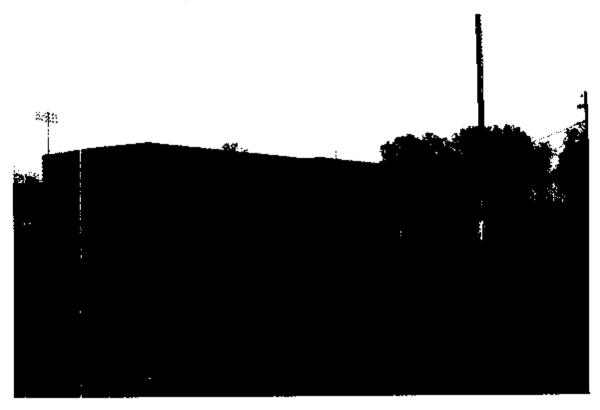


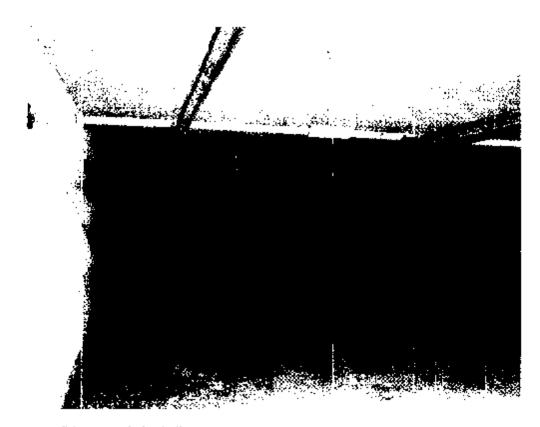
Photo #4: Left side of the armory showing the outside of the firing range.



Photo #5: Drill hall facing the rear.



Photo #6: Drill hall facing the entrance.



Photo#7: Indoor firing range facing bullet stop.

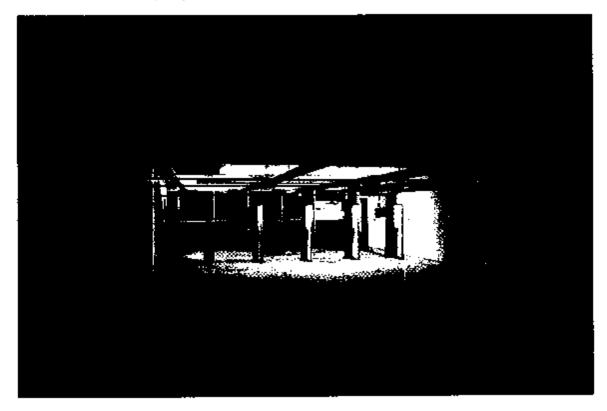


Photo #8: Indoor firing range facing the firing line.

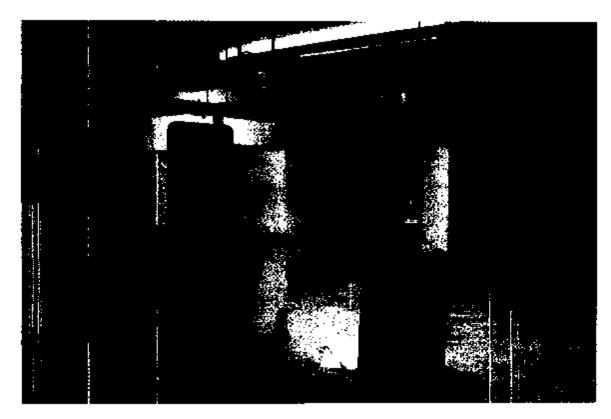


Photo #9; IFR showing the firing line position 2 where a wipe sample was collected.

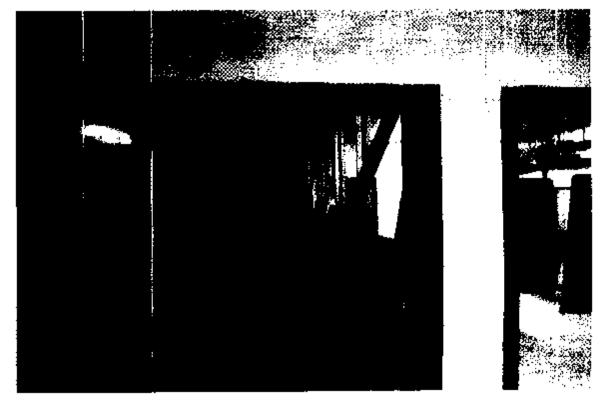


Photo #10: IFR observation deck used for storage.

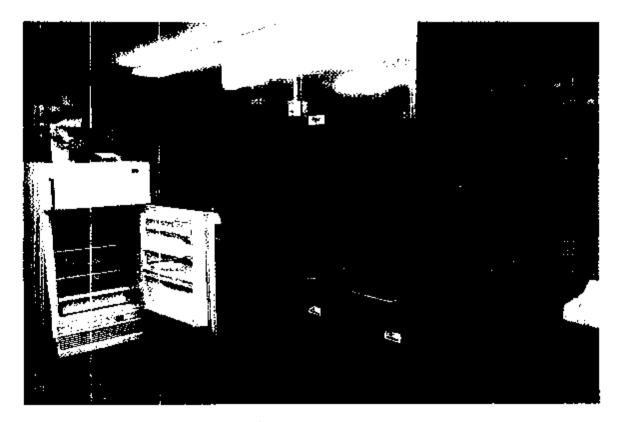


Photo #11: Armory's kitchen showing the stove.

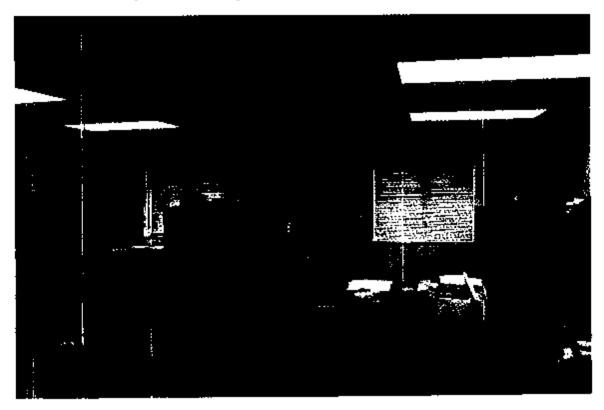


Photo #12: Armory's administrative office.

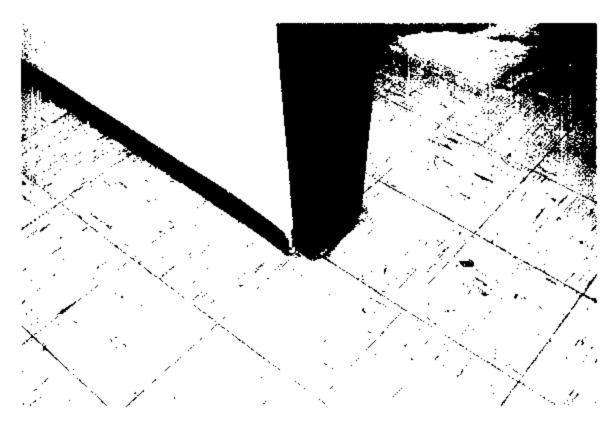


Photo #13; Armory's floor tiles.

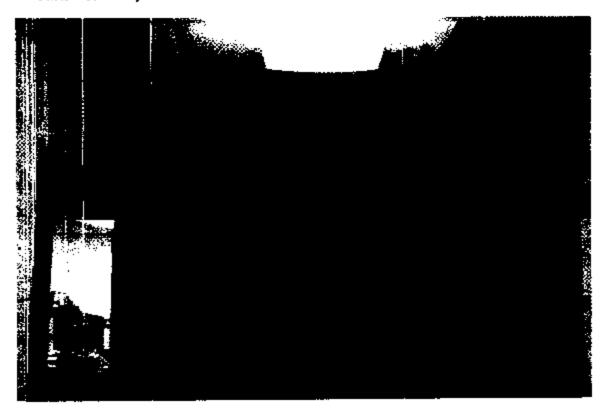


Photo #14: Water damaged ceiling tilss.



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.

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

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.
- 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.
 - 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.
 - 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.
 - 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



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	IN	TR	OD	ΠC	LIOI	٧
410			~/1/	~~		. 1

2.0 INSTRUMENTATION

3.0 FINDINGS

4.0 REFERENCES

Attachment 1 HHIM 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 (4th-133 FA) unit had been housed at the armory but the unit is been disbanded here and transferred to San Marcos. A new unit, 627th 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, ISG 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 cycstrain 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 bazard 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, 2 nd Rack From The Front, Floor & Rack Bottom	44ug	62ug/ft2		
46	Center Left Front Stack, 2 nd Rack From Left Wall, Floor & Rack Bottom				
47	Center Left Rear Stacks, 2nd Rack From Left Wall, Floor & Rack Bottom	33ug	47ug/ft2		
51	51 Blank				

Table 3

Sample Number	Sample Location	Results			
41	41 Rear Wall, 2 nd Rack From Left Wall, Floor & Rack Bottom				BRL
42	Rear Wall, 3 rd Rack From Left Wall, Floor & Rack Bottom	BRL	BRL		
43	Rear Wall, 4th Rack From Left Wall, Floor & Rack Bottom	DRL	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 bazard 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 Recruitor Office	29-82 (Avg. 50)	50-100
ADO 386th Supply NCO Office	20-31 (Avg. 27)	50-100
ADO 386 th 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, ISG 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.

-		JEMU	SHAPHIC DATA								
	. ARLOC 4	800	DO b. INSTA		BEST AVAILABLE	FOP	ti Tx firmy			PB2 97	110-
	d. LOCATION/CO	DOE	BO -	-	. OPERATIO	DN/CC		DG/RA	1. DES	EPIPTION -	
Ī			-								
	g. MACOM/CODE	NG									
	J. TELEPHONE/A	11/2000	ON NUMBER	-R	espons	SIV	BAC 3		. SUPER	-1157 5111111 1-1-1-1	12/0-
	m. NO CIV(5)	4_	n. NO		. NO CONTR		HAC		Access to the second	(Hn Per De)	407
5	ECTION 2.	H STA	FFING DATA	-			р.	NO LO	(C(S)	. 0. NO OTH	
	. LAB HOUDS		b. VAPOR DEG	REAS	FRS		. MAINTENANCE B	AYS _	d.	SPRAY BOO	
To	ECTION 3.				f. VENTIL			nonel.			
5			Y DATA / 12/12 -	•		- 1	Non-Res	ponsiv			
,	. SURVEY DA		11/1/2.	_	b. EVALUA	TOR	INITIALS,				
1	C.CONTHOLS PRE		d. EVALUATION	1	. UNIT COD	E	I. CUNTROLS REC	DUIRE	D I	9. STATUS	
K	19hting offer	a_	28-52; Ang 4	22	FC		50-100			Ludgt	_
5			 	-		f					
į.						·					: -
L						Ī					
	n. PERSONAL PRO	DTECT	IVE EQUIPMENT (H.R.	EQUI	RED: A-AVAIL	ABLE	,				
	I. RESPIRATO	A		MAI	NUFACTURER		i	NIOSH	IC NO	۶.	٠
	FACE AIR PU	RIFY									
	FACE AIR PU										
	FULL FACE ALL									,	
	POWERED AIR	PURIF	YING								ator
	SELF-CONTAIN	ED		-							-
	ABRASIVE BLA	STING	ноор								-
	2. GLOVES	R/A	3. EYES/FACE	R/A	4. HEARING	R/A	5. BODY	R/A	6. HEAD	FOOT	i = · =
	ACID	1	CHEMICAL/SPLASH	1	MUFFS	1	APRONS	1,	HARD HA		t:
	OIL	1	SAFETY/IMPACT	,	EARPLUGS		COVERALLS	1	V	BLE POOTS	*
	SOLVENTS .	1	CHEMICAL/SAFETY		CANAL CAPS		FULL BODY SUIT	1,			75.
	HCT SURFACES	/	FULL FACE SHIELD	_/_	HELMETS	1	SAFETY BELT/	1,	SAFETY/N TIVE SHO	ONDUCT SHO	
	COLD SURFACES	1	WELDING HELMET				HEAT PETTECT	1			ŗ.
FC	TIONA								<u> </u>		li .
	HAZ	ARD	INVENTORY DATA								
								-			-
	CAS CODE		b 4474			•		ŧ		SUR VEILL	AL
200	70 11 8	Hands	Eye stroin Conquit		ESCRIPTION			L. P	AC UI EPC	LYES OF	
_		ria nas	Lye silvin. Conquers	n pro	uc for evy	pen	od of time	1 >		0	
								Į			
				-				i		: 	
								t			
			194					1-			
-								1			
-		—-						1			
-								<u> </u>			
-								ĬĮ.			

s. HAZARD	BAMPLE BASTEAVAILABLE	COPY & RESULTS	d. REMARKS
	-		
			
			· · · · · · · · · · · · · · · · · · ·
			
	 		

SECTION 6.

PERSONNEL DATA

Non-Responsive -

Defre lows in Son Antonia as 14 Day

(a) Computer North court 6-7 has beg

(b) No bealth probles as of day of puring

· PRIVACY ACT STATEMENT

Title 6 U.S. Code. Section 30 l; Executive Order 9397 authorizes the use of your Social Security Humber as a identification number. The purpose of this information is to identify and monitor data relating each DA civilian employee exposed to a hazardom workplace or operation. The use of this information is to provide histories of exposure for any given morker.

Disclosure of your Social Security Number is not mandatary; however, nondisclosure may result in untimely provides of proper medical monitor

Signatu

	DEMO	OGRAPHIC DATA								
A. ARLOG "	10	5.625		BEST AVAILABL	E COM	Fisty Tx Among				
a. LOCATION	1-4-	3A , AA	ALLA	-41-		c. 6:	LOG/F	M NUMBE	Supply NO	Yno se
-5.	777	NCO		- 4 OPERAT	IONIC	DDE _ 5744	A.D	<u>8</u> 1, 08	SCRIPTION	
			-							
g. MACOM/CO	DENG	/ N.							Non-Respo	onsive
J. TELEPHONI		ON NUMBER	1-15	Respor		/ 		_ I. \$UPE	FVISC	
m. NO CIV(5)		n. NO					I. F	REQUENC	(Hister Day)	198
S ECTION 2.	IH STA	FFING DATA	Ξ-		AACI				- 0. NO OTHE	
. LAB HOU	_		÷	•						
- OPEN SURF		P. VAPOR DE	GREA	SFRS	-	C. MAINTENANCE E	AYS		S. SPRAY BOOT	
SECTION 3.				1. VENT	ILATI		•		5001	~·
a. SURVEY O		Y DATA	- -			Non-Re	spon	sive		
2. 30RVE+ [AIE	7/7/-		b. EVALU	ATOR	(INITIALS)				
C.CONTHOLS P		d. EVALUATION		. UNIT CO	DE	I. CONTROL HE		<u> </u>		
Lighting - 0)		17-28 Ary. 2		FC		50-100	SOINE	D	S. STATUS	
Lighting - Main			/	FC		20			modest	
11 Forige -of			2	Ec_		20			ASE F	
		13 22 119. 2		F-2	!				401	
h. PERSONAL P	BOTECT	IVE EQUIPMENT (K=)			1					•
I. RESPIRAT	TO A	Coolemen (Ma)		RED; A-AVAI NUFACTURER		īv i				
BLEAZOGZIG				MUPACIURES			M10SF	I C NO	F. 4	
FACE ALR										_
% FACE AIR I FULL FACE A							+			-
POWERED AL	RPURIF	YING						·		•
AIRLINE SELF-CONTAI										
ABRASIVE BL		HODA							·	•
2. GLOVES	R/A	3. EYES/FACE	R/A	4. HEARING	R/A	5. 800V				-
ACID		CHEMICAL/SPLASH		MUFFS	,	APRONS	R/A	6. HEAD	FOOT	Ý = ·z
011		SAFFTY/IMPACT		EARPLUGS		COVERALLS	-	<u>iMARD HA</u> I		iz M
SOLVENTS .		CHEMICAL/SAFETY		CANAL CAPS			- -		ABLE POOTS	1
COLD SURFACES		FULL PACE SHIELD		HELMETS	/	FULL BODY SUIT SAFETY BELT/ HARNESS	-	SAFETY C	OMBUCT SHOES	
NBC AGENTS	* 	WELDING HELMET				HEAT BEFLECT		TIYE SPE	:F.5	<u> </u>
ECTION 4.										<u>r</u>
——— нл	ZARD I	NVENTORY DATA								
	I		-							
. CAS CODE	1	h 114ma			•				SURVEILLAN	
POVDT	Hands			SCRIPTION			L. P.	C or EPC	HECONIME NO	: C
001 HAZ	Fall	Eye train. Computer	Work	to fresh English	eux	of time		>	No	
LIFTING	Hec							3	<i>~</i>	
	<u> </u>					<u>:</u>	: 	3	AO	
		1 40.7								
	 							<u></u> j	··· ····	
										 ··-
1						į.		Ī		

. HAZARD	THEST AVAILABLE COPYC RESULTS	d. REMARKS
		1
, '		
		1
*	· ÷ · .	
		<u> </u>
		1
		1
		
	MATE .	
		

SECTION 6.

PERSONNEL DATA

Ion-R	espons	sive		AGR
ļ .				
				
			T	

SECTION 7. COMMENTS (Add blank specifof paper if necessary)	2
O Hasbeen at this facility for 7 yrs 65 HO	R
Defore in Vitoria for your for for for the	
a monda Woll about the	
@ No headth problems now	17 - · 12 -
And back purey book in 2017 when nets	ned few stog

· PRIVACY ACT STATEMENT

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 haterdown 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 manifer

Signature

2 .

BEST AVAILABLE COPY

Analytical Environmental Services, Inc

Date:

26-Apr-12

Lab Order:

1204E80

Client:

Non-Responsive

Project:

Corpus Christi, TX Armory

Matrix: Wipe

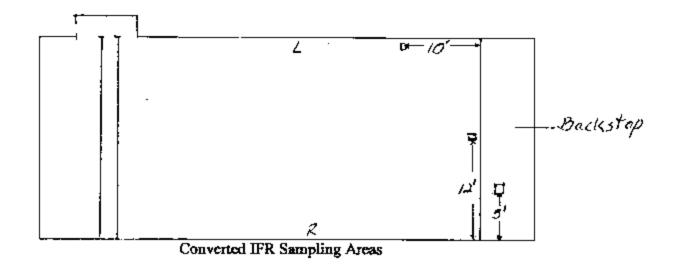
Date Received: 4/1

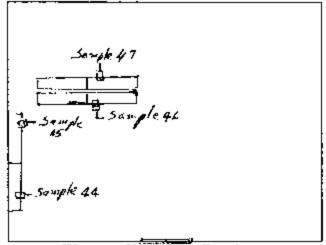
4/19/2012 2:23:00 PM

LEAD ON WIPES (N9100/7082)

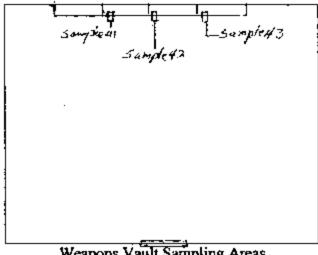
N7082

Laboratory ID	Client Sample ID	Result	Units	Reporting Limit	DF	Qual	Date Collected	Date Analyzed	Analyst
1204E80-001A	37	BRI.	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	l		04/13/2012	04/24/2012	MW
1204E80-007A	43	BRL	ug, Total	20	l		04/13/2012	04/24/2012	MW
1204E80-008A	44	63	ug, Total	20	l		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	l		04/13/2012	04/24/2012	MW
1204E80-011A	47	33	ug, Total	20	ı		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





Weapons Vault Sampling Areas 386だ Eル おん



Weapons Vault Sampling Areas
Bottery C 4/133 FA



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



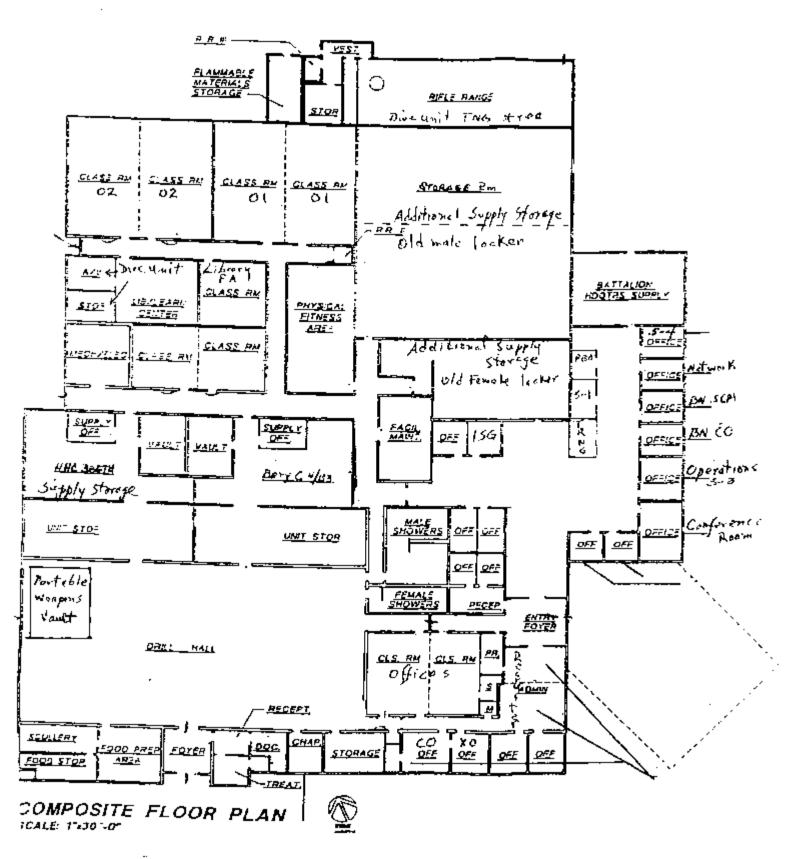
Sample, Weapons Vault, 133rd



Motor Pool



Motor Pool



Corpus Christi TX Armory
Posted to NGB FOIA Reading Room

BEST AVAILABLE COPY

FOIA Requested Record # FOIA Requested Record #J-15-0085 (TX) May, 2018

Released by National Guard Bureau Page 388 of 1757

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. 80X 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.

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.
- I. Report of June 15, 2004, Industrial Hygiene Survey, Tammer Sciences INC, 3744 Lawrence Dr., Naperville, IL.

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

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.



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



June 15, 2004

Table of Contents

Executive Summary	Page l
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. Floor Layout and illumination levels.
- B. Laboratory Analytical Results.C. Lab Chain of Custody.
- D. Photographs.

Survey Date: 24 March 2004

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.

Торіс	Summary of Findings	Recommendations	
IFR Lead Wipe Sample Results	<10 to 26microgram per square foot.	No action.	
Annory Lead Wipe Samples	<10 to 44 microgram per square foot.	No action.	
Ashestos Bulk Samples	No Suspect asbestos containing material identified.	No action.	
Noise Survey	No excessive noise source was identified.	No ection.	
Illumination Survey	25 to 90 footcandles	No action.	
НVАСЛАQ	No issues observed or documented.	No action.	

Survey Date: 24 March 2004

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.

<u>Site Description.</u> 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.

<u>Scope of Work.</u> 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

<u>Lead Wipe Samples:</u> 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.

Survey Date: 24 March 2004

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, einder 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.

<u>Noise Survey:</u> 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.

<u>Illumination Survey</u> 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 Hail.	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 Amory consisted of individual rooftop units. No other complaints of indoor air quality issues were documented or communicated with the POC.

May, 2018

Corpus Christi Armory

Survey Date: 24 March 2004

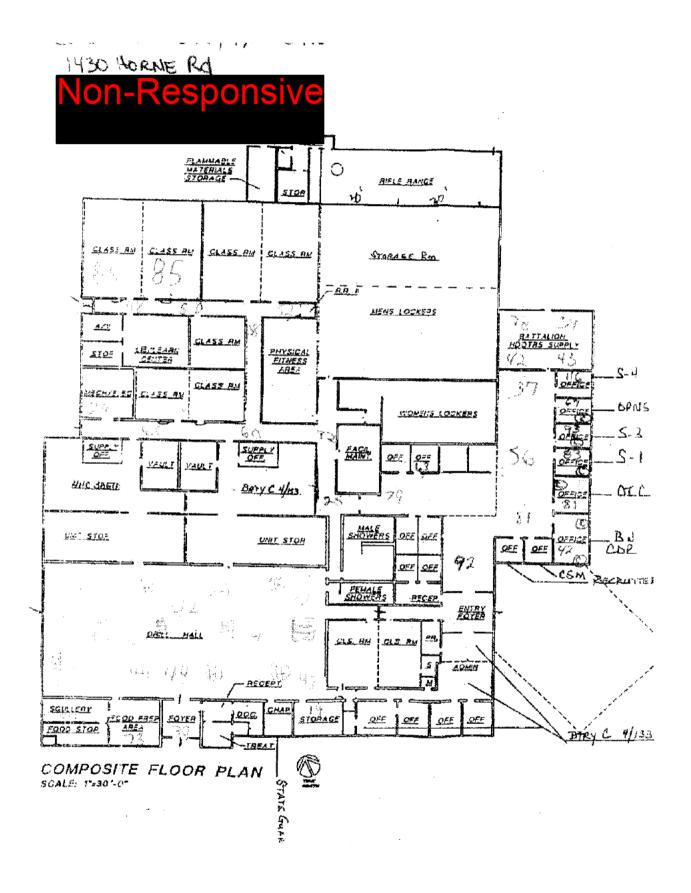
Recommendation:

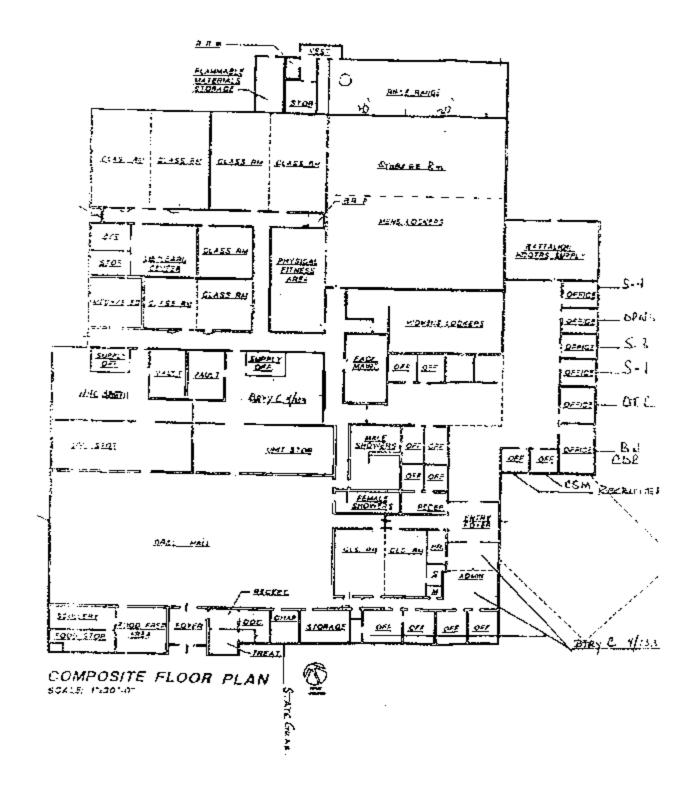
None.

Technical Assistance: For technical assistance regarding information found in this report

Non-Responsive

APPENDIX A





APPENDIX B

EMSL Analytical

3 Cooper St., Westmont, NJ 98106

Phone: (856) 256-4:00 Fax: (856) 858-9551 Email: skauffman@emai.com



Altn:

Fax:

Project: Corpus Christi, TX

Customer ID:

T580

Customer PO: Received:

03/30/04:10:12 AM

EMSL Order:

200403343

EMSL Proj:

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

Chent Sample I	Rescription	Lab ID	Auslyzed	Area Sampled	Lead Concentration
C(201	Résults for these who 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/wlpe
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/Mpc
CC05		2005	4/13/04	nla	<10.0 µg/wipe
CC 9 6		0006	4/13/04	n/a	44,0 µg/włpe
0007		0007	4/13/04	n/a	<10.0 µg/wipe
CC08		9008	4/13/04	n/a	33.0 µg/wipe
CC09		0009	4/13/04	n/a	#3.0 µg/wipe
CC10		0010	4/13/04	n/a	11.0 µg/wipe
CC11		0011	4/13/04	nfa	<10.0 µg/wipe
CC12		0012	4/13/04	n/a	<10.0 µg/wipe
GC13		0013	4/13/04	n/a	<10.0 µg/wipe
CC14		0014	4/13/04	n/a	<10.0: µg/wipe
CO15		0015	4/13/04	n/a	<10.0 µg/wipe
ÇC16		0016	4/13/04	n/a	eqiwiqu 0.01>
CC17		0017	4/13/04	n/a	<10.0 µg/w/pe
CGIS		0018	4/13/04	n/a	<10.0 ug/wipe
CC19		0019	4/13/04	n∕a	<10.0 µg/wipe
CC20		0020	4/13/04	. Na	<10.0 μg/wipe
CC21		0021	4/13/04	n/a	<10.0 µg/wipe

-Responsi

QC data are religied with the sample results included in this report meet the recovery and precision requirements established by the ARMs, unless specifically indicated otherwise in automatic ententies noted. REDITATIONS: NU-NELAP 04653; ABIA Emisonmental Lead Laboratory Approval Program, 100184.

inted: ##4/04 9:18:14 AM

EMSL Analytical

3 Cooper St., Westmont, NJ 06108



Attn.

Fax

Project:

Customer ID: Customer PQ: TS60

Received:

03/30/04 10:12 AM

EMSL Order.

200403343

EMSL Proj:

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

Lab !D	Analyzed	Area Sumploi	Lead Concentration
0022	4/13/04	n/a	<10.0 µg/wipe
9023	4/13/04	n/a	<10.0 µg/wipe
0024	4/13/04	n/a	<10.0 µg/wipa
0025	4/13/04	n/a	<10.0 µg/wipe
0026	4/13/04	ฟร	16.0 µg/wipe
9027	4/13/04	rva	17:0 µg/wipe
0028	4/13/04	ry'a	10.0 µg/wipe
CO29	4/13/04	n/a	26.0 µg/wipe
0030	4/13/04	n/s	<10.0 µg/wipe
	0022 9023 0024 0025 0026 0027 0028	0022 4/13/04 0023 4/13/04 0024 4/13/04 0025 4/13/04 0026 4/13/04 0027 4/13/04 0028 4/13/04 0029 4/13/04	0022 4/13/04 n/a 0023 4/13/04 n/a 0024 4/13/04 n/a 0025 4/13/04 n/a 0026 4/13/04 n/a 0027 4/13/04 n/a 0028 4/13/04 n/a 0029 4/13/04 n/a



ass obstad with the sample results included in this report meet the recovery and proposer requirements estatished by the APAA, unless specifically indicated observes in the last time. The test insults contained within this report shapt the requirements of MELAC unless committee order.

EDSTATIONS: RU-NELAP, 04859, ABHA Breitinnmental Lead Laboratory Appropriat Program, 100194

Printed: 6114/04 9:16:23 AM

APPENDIX C

EMSL ANALYTICAL	CHAIN OF	CUSTODY		LEAD
Hate 3/26/64 EMSL Represent	dative.	Project Name/No.:		
Compliny Name: Tammer Se	rences Inc.	EMSL-Bill to:		
Surer 1744 Lawrence Pri	ve. Si	reet:		
	t	30X =1.		Mark Servi Bay of
City State: Nyzrville I IC	zip: 60564 (City/State:	Zip:	
			500 4 1000	
Facine Results to: (Name)	III-RES	ponsive		wayning to specify
MATRIX	METHOD	F437 KONEDAY	Limit)	l '
and the same of th	5W 846-7420, 3050H	Flame Atomic Absorption	0.01%	gradigasparan virtur van avertik saassa is
1.20 1.5114°	Mod. / AOAC (974.02)	1 30110		
rad Wasteroter	SW846-7420	Fiame Atomic Absorption	0.4 mg/l water 40 mg/kg (ppm) soil	1
	or SW846-6010B	ICP	0.1 reg/l water	
head Seal m	19 311010-0/1100		:0 mg/kg (ppm) sod	
	NIOSH 7082 Med	Flame Atomic Absorption	4 ug-filter	
regroupe 660 - 168	or NIOSH 7300 Med.	ICP	3.0 ug filter	
	SW\$46-7420 / HUD (Flame Atomic Absorption	10 ug/wipe	Court of the
ale a Wige* Z -ASTM	Appendix 14.2 Digest		The state of the s	1
The Wiper Type	or \$W846-6010B	1CP	3.0 ug/wirs	
-Don ASTM	01 34040-00101			
fCLF Lago **	SW846-1311/7420	Flame Atomic Absorption	9.4 mg/l (ppr1)	
16.110 10000	or SW846-6010B	ICP	Oli mg/l (ppra)	
	CA Title 22 88261 126 7	Flame Atemic Absorption	0.4 mg ((ppm)	
ST C Load Cattleman #	5W846-7430		0.1 mg (ppri)	
The same state of the same sta	or SW846-6010B	iCP Annie	0,03 ug/filter	E F
Cood in Air ****	NIOSH 7105 Mod.	Graphite Furnace Atomic Absorption	3000	25 0
	SW846-7421	Graphite Furnace Atomic	0.003 mg/l (ppm) water	ESTRO)
tant Wastewater	34.400-1421	Absorption	0.3 mg/kg (perri) soil	
Leaf Soil -			Q., 111g. 45 Q.,	
	EPA 259.2 / 200.9	Graphite Furnace Atomic	0.003 mg/l (fp.m)	
Cond in Driving Water (check state Outsileation Requirements)		Absorption	0.0001g	70
To al Dass	NIOSH 0500-0600	Gravametric Reduction v. 2 Days. 3 Days. 4 Days.	5 Days, 6-10 Days	
T/ T (Ternaround)	新 香港 的现在 中市市大学、Harry かかし、美	A LICEOUS LANGE OF THE PARTY OF	ig.	
	* If no box is checke	d, non-ASTM is assumed LOCATION	Air volume 1.	LAB a
SA VIPLE#	Corpus	decisti	Area, in	61343 /_
<u>eco</u> /	Compas			<u> </u>
0002	1			7.
© Relincuished By: (Person)	Non-Re	sponsive	Date 3/24	167
*		openore	Date:	0/67
Received at EMSL By:			Deta:	
Received a EMSL By:		and an artificial and the most of	necessary.	
Note: Pl (6) The individual scaning and relimpishi	case duplicate this forming these samples to the laborat	and use; additional sheets if i	formation reported on this chair	ก ส ัง ของสัง
	-			AND THE RESERVE OF THE PARTY OF
Sout Chain New 2011 v STLC.doc				

EMSL ANALYTICAL

CHAIN OF CUSTODY

LEAD

SAMPLE#	LOCATION	Air volume, L Area, in ²	LAB#
CCR4	Clorpus Christi, TX		07345
(\$25			
) 06)	//_	
1 87			
\(\frac{\sigma_1}{\sigma_2}\)			•
09			1
10			10
1 11			4
12			14
1/3			
14			7/
1 15			
1 16			
17			1
18			/>
19			
120			1 2
1 21			>
22			<u>}</u>
23			J
			1 2
- 			+
1 26			1 2
127			1 7
72			
29			1
1 30			
<u> </u>			
			1
وسند چېد ويرد تستند به د د د د د د د د د د د د د د د د د د			
		Date: 3/26	104
Relinguished By: (Person)	Non-Responsive	Date: _3/26 Date:2/3	1/24
ocived at EMSL By:		Date:	1107
CERVEU & EAVILLE Dy.		Date:	

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

(2) 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.

- 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.
- 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.
- I. Report of July 14, 2004, Industrial Hygiene Survey, Tammer Sciences INC, 3744 Lawrence Dr., Naperville, IL.

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)
- 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 of reference 1.I, 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.

- 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.



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



July 08, 2004

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	
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.

Survey Date: 02 June 2004

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.

Торіс	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.
нvaслаQ	No issues observed or documented.	No action.

Survey Date: 02 June 2004

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 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.

<u>Site Description.</u> 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.

<u>Scope of Work.</u> 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

<u>Lead Wipe Samples:</u> 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.

Corsicana Armory

Survey Date: 02 June 2004

Technical Assistance: For technical assistance regarding information found in this report

Non-Responsive

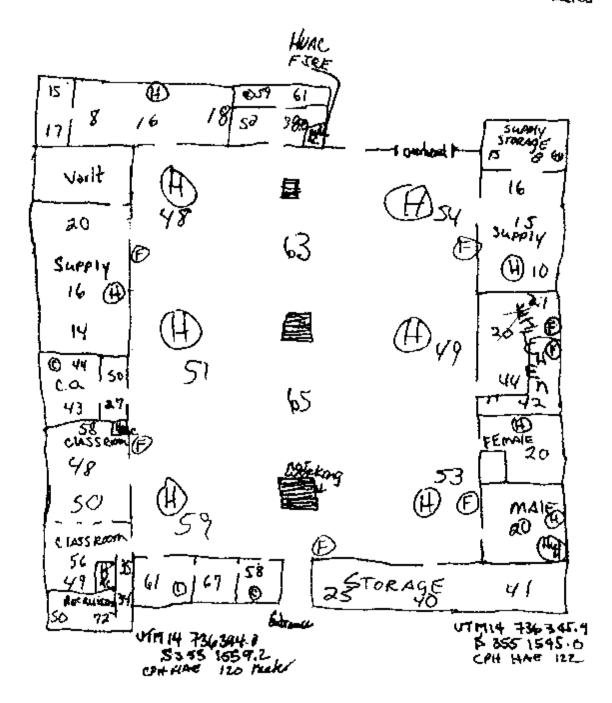
APPENDIX A

+100 Plan highting Readings (ft-co) GPS Coordinates

E - W

OTH 14 736454.8 \$355 1523.9 EPH HAE (20

4734390.0 \$355 (484.0 CPH THAT 125 MARLEY



BEST AVAILABLE COPY

APPENDIX B

EMSL Analytical

3 Cooper St., Wastmont, NJ 08108

Phone: (858) 858-4800 Fax: (856) 888-6661 Email: signifinan@email.com



Attn:

Customer ID: 1880 Customer PO:

06/07/04 1:19 PM

Fax:

Project: Consicana

Received: EMSL Order: EMSL Proj:

200406603

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

Citeri Sample De	escription	Lab (I)	Analyzed	Area Sampled	Levil Conceptration
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	nis	<10.0 µg/wipe
COR 02		0002	6/21/04	n/s	<10.0 µg/wipe
COR 03		0003	6/21/04	D/A	17.0 µg/wipe
COR 04		0004	6/21/04	n/a	<10.0 µg/wipe
COR 05		0005	5/21/04	n/a	<10.0 µg/wipe
COR 06		0008	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 pg/wipe
COR 09		0009	6/21/04	n /a	<10.0 µg/wipe
COR 10		0010	6/21/04	n/g	<10.0 µg/wipe



The OC sists associated with the sample results included in this report most the recovery and precision requirements astablished by the AFFA, unless specifically included in this report most section. The test results contained within the report most the requirements of NSLAC unless observed include. This report relates only to show flams feeled. Unless observed in this report have not been filters corrected.

ACCREDITATIONS: NJ-NELAP: 04652, AMA Environmental Land Laboratory Approval Program: 100194.

Date Printed: 6/21/04 4:55:14 PM

EMSL Analytical, Inc.

107 Haddon Ave., Westmort, NJ 08108

Phone: (856) 858-4900 Fax: (866) 858-4960 Email: nalegel@EMSL.com



Attn:

Fax:

Project:

Non-Responsive

Customer ID: TS80

Customer PO:

Received:

06/07/04 12:50 PM

EMSL Order:

040410192

EMSL Proj:

Analysis Date: 6/15/04

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos			Non-Asbestos		
Sample	Location	Appearance	Treatment	%	Fibrous	% Non-Fibrous	% Type	
CORAD1	Comicana	Tan	Teased	90%	Cellulose	20% Non-fibrous (other)	None Detected	
040410192-0001		Fébrous Heterogeneous						

Non-Responsive

Due to magnification (imbations inharent in PLM, sisbestos fibers in dimensions below the resolution capability of PLM may not be desected. Samples replated sex ***14 or none desected may require additional betting by TEM to confirm extension speculated. The above test report relates only to the forms tested and may not be reproduced in any form without the express writer apportulat of DMSL Analytics, firm, EMSL's liability is limited to the cost of analytics. EMSL bears no responsibility for nample objection activities or analytical method finishions integrated and an other of sex regulate method in the responsibility of the others. The less require method within this report mest this requirements of NELAC unless otherwise noted.

Anison performed by EMSL Westmont (NYLAP #101048-0), NY ELAP 10872

THE IS THE LAST PACE OF THE REPORT

APPENDIX C

Onto: EMSL Representation Company Name: Tammer S	ciences In	EMSL-Bill to:	me no mail to.	. Maria Mariana - Colombia
Street 3744 Lawrence 1	Sive S	reet:		
Day #1		Box #:		Printed - by - commenter on
City/State: Naperville Ti	710:60564	City/State:	Zip:	
Phone Results to: Name	n_Raen	oneiva		
	II-I (Gapi			
Fax Results to: (Name)	METHOD	INSTRUMENT	RL (Reporting Limit)	TAT
Land Chips*	SW846-7420, 3050B Mod. / AOAC (974.02)	Flame Atomic Absorption	0.01% ++	
end Wastev/arer	SW\$46-7420	Flame Atomic Absorption	0.4 mg/l water 40 mg/kg (ppm) soil	
Lead Scal =	or SW846-6010B	IC?	0.1 mg/l water 10 mg/kg (prm) soil	
Lend in Arana	NIOSH 7082 Mod.	Flame Atomic Absorption	4 ug/filter	
superior of Child	or NIOSH 7300 Mod.	1CP	3.0 ug/filter	
Lead in Wipe* ASTM	3W846-7420 / HUD Appendix 14.2 Digest.	Flame Atomic Absorption	10 ug/wipe	Mounin (
List Wipe Type	or SW846-6010B	ICP	3.0 ug/wipe	
TCLP Lead **	SW846-1311/ 7420	Flame Atomic Absorption	0.4 mg/l (ppm)	
SCUT Dead	or SW846-6010B	1Cb	O.i mgd (ppm)	
	CA Title 22 state (28 /	Flame Atomic Absorption	0.4 mg 1 (ppm)	
STACLES Cantings :	SW846-7420		Oll mg/l (ppri)	
	or SW846-6010B	Graphite Furnace Atomic	0.1 mg/t (ppr1) 0.03 ug/filter	5 2
Lead in Air ****	NIOSH 7105 Mod.	Absorption	0 0	2 8
Lead Westewner	SW846-7421	Graphite Furnace Atomic Absorption	0.003 mg/l (ppm) water t	<u> </u>
Leal Soil -	1		0.3 mg/kg (p:xm) soil	
Lead in Prinking Weser (check state.	EPA 239.2 / 200.9	Graphite Furnace Atomic Absorption	0.003 mg/l (ppm)	5 (8)
Conficeion Requierre (18) Total Dust	NIOSH 0500-0600	ti Danie Danie de la constante	0.0001g	10
Tr.T (Temaround)		ay, 2 Days, 3 Days, 4 Days Please Refer to Price Que	is reals on a real.	
	A IE on how is checke	G. BOR-MOLET 19 60-003110-00	Air volume, L	LA3 #
SAMPLE#		LOCATION	Area, in ²	
E-0 61	Coisise	3 M S		06863 F.
COR O				1021
@ Relinquished By: (Person)_	-Non-Respo	JIISIVE	Date: 6/5	704
Received at EMSL By:			Date:	
Received at EMSL By:		and use additional sheets if		

EMSL ANALYTICAL

CHAIN OF CUSTODY

LEAD

SAMPLE#	LOCATION	Air volume, L Area, in	LAB
	CORSICANA		66163
COR\$3	Concorchio.		
CORBY			F
05			
86			
07			:
68			
69			
10	<u> </u>		
			_
			
Angel April 1997 Control of the Cont			
	Andrew Andrews and the second and th		
The second of th			
The second secon			
			1
			
			_
			- 1027
Relinquished By: (Person)	Non-Responsiv	Date: 6/-	102
	torritooperior	Date: _ 4	<u>/. y</u>
ceived 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 ansats to the recursory of the information reporter on this chain of custody.

MSL Rep:				from this		ritten authorization
/our Comps Street:	ny Name: Tommer 5	perences. Dar	EMSL-Bill to Street:	T 504	e As nail t	<u> </u>
	<u> 3744 La</u>	twience Drive	Bex#:	****		
3ex#: City/State:	Nanadal I	IL Zip: 60516			PHO-18 1	Zíp:
ACT DATE:	10-9419101				Reference	1 10
hone Result Vame: Jelephone #: Project	Nor	n-Res	pons			
ome/Numb	MATRIX			TURN	AROUND	
J Air	□ Flor Tile:	[] Soll	□ 3 brs	O 6 Rours	C Same Day or 12 Hours*	24 Hours
V Bulk	Drinking Water	[] Dust	☐ 48 Hours	72 Hours	☐ 96 Hours	☐ 120 Hours
Jour			2 days	3 days	4 days	5 Days
) Wipe	☐ Wastewater urr, 6 hour . Please tall about	☐ Micro-Vac	2144+ hours	0-10 Days	00.000.3578 for net	o actor to wanties
PCM - Air	<u> </u>	TEM AIR			TEM WATER	-
NIOSH	7400	AHERA			Wastewate	r Vater EPA, 100
OSHA Other:		☐ NIOSH ☐ EPA Le			harmer and the same of the sam	Wastewater
Vuler.		hund and a second			Water-NY	Drinking Wate
		TEM BULE	Clastino		min miero	E MAC/WIPE
		1 14.792 196.22.20				
	•)	ASTM D	255-95
EPA 60	0/3-93/116	Drop Mo	unt (Qualitative)	ASTM D	
EPA 60	0/R-93/116 nt Count	Drop Mo	ont (Qualitative	•		255-95 ** method
EPA 60	0/3-93/116	Drop Mo Chatfield TEM NO	unt (Qualitative d 0B (Gravimetric)	NY 198.4		255-95
EPA Pot NY Strat PLM No Other:	0/3-93/116 Int Count tified Point Count OB (Gravimetric) NY 1	Drop Mo Chatfield TEM NO 198.1 SAMP L	ont (Qualitative) d OB (Gravimetric) ES ACCEPI	NY 198.4	ASTMD SO XRD Astellos	255-95 de method
EPA 60 EPA Poi NY Strat PLM No Other: GEM Air or	0/3-93/116 nt Count tified Point Count OB (Gray metric) NY 1	Drop Mo Chatfield TEM NO 198.1 SAMP L	unt (Qualitative) d DB (Gravimerzio) ES ACCEP1 ANALYSIS	NY 198.4 TED BY	ASTMD SO XRO XRO ASTERION	# method
EPA 60 EPA Poi NY Strat PLM NO Other:	0/3-93/116 nt Count tified Point Count OB (Grav metric) * Entk tive	Drop Mo Chatfield TEM NO 198.1 SAMP L	ont (Qualitative) d OB (Gravimetric) ES ACCEPI	NY 198.4 TED BY	ASTMD SO XRD Astellos	# method
EPA 600 EPA Poi NY Strat PLM No Other: GEM Air or Quantita	0/3-93/116 nt Count tified Point Count OB (Grav metric) * Entk tive	Drop Mo Chatfield TEM NO 198.1 SAMP L	unt (Qualitative) d DB (Gravimerzio) ES ACCEP1 ANALYSIS	NY 198.4 TED BY	ASIMD ASIMO ASIMO ASIMO OTHER	# method
EPA 600 EPA Poi NY Strat PLM No Other: SEM Air or Qualitat Quantita	0/3-93/116 Int Count tiffed Point Count OB (Gravinenic) NY 1 Finite tive tive	Drop Mo Chatfield TEM NO 198.1 SAMP L	unt (Qualitative) d DB (Gravimetrie) LES ACCEPT ANALYSIS ANALYTICA	NY 198.4 TED BY AL INC.	ASIMD ASIMO ASIMO ASIMO OTHER	255-95 the method
EPA 600 EPA Poi NY Strat PLM No Other: SEM Air or Qualitat Quantita	0/R-93/116 Int Count tified Point Count OB (Gravinetric) NY 1 Entk tive	Drop Mo Chatfield TEM NO 198.1 SAMP L	unt (Qualitative d DB (Gravimetrie) LES ACCEPI ANALYSIS ANALYTIC LOCATION	NY 198.4 TED BY AL INC.	ASIMD ASIMO ASIMO ASIMO OTHER	255-95 the method
EPA 600 EPA Poi NY Strat PLM No Other: GEM Air or Quantita So Co 1	nt Count iffed Point Count OB (Gravinetric) NY 1 Entlk five tive AMPLE NUMBER	Drop Mo Chatfield TEM NO SAMP L FOR A EMS L	ount (Qualitative of DB (Gravimetrio)) LES ACCEPT ANALYSIS I ANALYTICA LOCATION Co (S) Case	NY 1984 TED BY AL INC.	ASIMD ASIMO ASIMO ASIMO OTHER	255-95 te method
EPA 600 EPA Poi NY Strat PLM No Other: SEM Air or Qualitat Quantita So Con	nt Count tiffed Point Count OB (Gravimetric) NY 1 Emik tive tive AMPLE NUMBER 2. A. A.	Drop Mo Chatfield TEM NO 198.1 SAMP L	ount (Qualitative of DB (Gravimetrio)) LES ACCEPT ANALYSIS I ANALYTICA LOCATION Co (S) Case	NY 1984 TED BY AL INC.	ASIM D SO ASIM D AS	255-95 te method
EPA 600 EPA Poi NY Strat PLM No Other: GEM Air or Quantita So Co 1	nt Count tiffed Point Count OB (Gravimetric) NY 1 Emik tive tive AMPLE NUMBER 2. A. A.	Drop Mo Chatfield TEM NO SAMP L FOR A EMS L	ount (Qualitative of DB (Gravimetrio)) LES ACCEPT ANALYSIS I ANALYTICA LOCATION Co (S) Case	NY 198.4 IED BY AL INC.	ASTM D E (If Applicable)	

APPENDIX D



Photo #1: Armory front entrance.

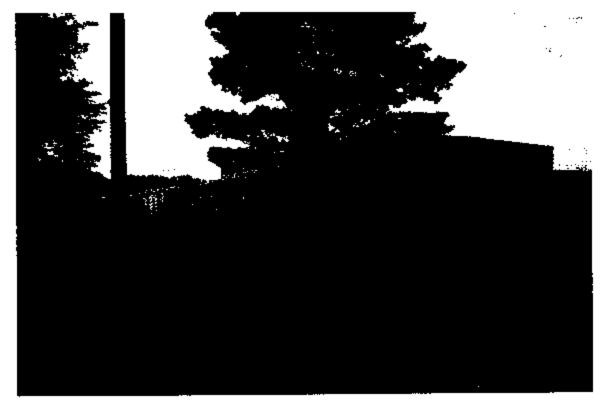


Photo #2: Armory's north cast side.

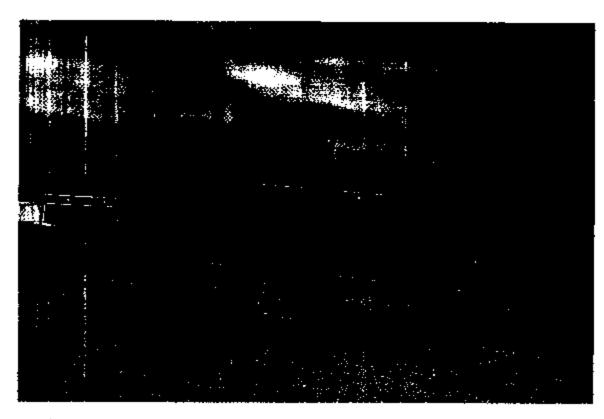


Photo #3: South east side of the armory.



Photo #4: South west side of the armory.



Photo #5: Northwest corner of armory.

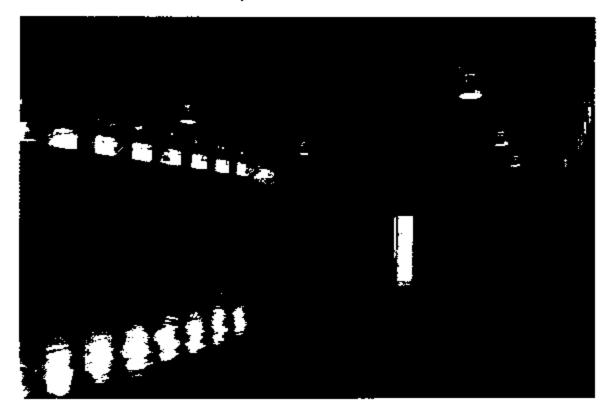


Photo #6: Drill hall facing south.



Photo #7: Drill hall facing north.

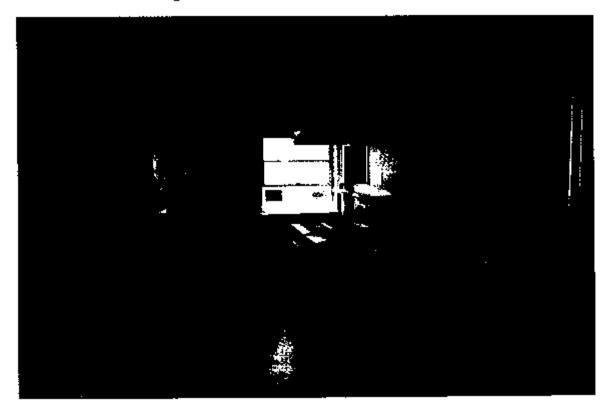


Photo #8: Armory's kitchen.



Photo #9: Furnace unit.

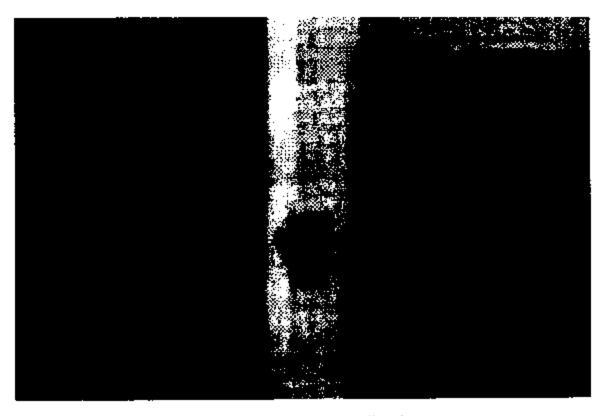


Photo #10: Pipe thermal insulation where bulk sample was collected,

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.
- 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.
- I. Report dated 2 July 2003, Industrial Hygiene Survey, Tamar Sciences, Inc., Naperville, IL.

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 of reference 1.I, 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



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



July 2, 2003

BEST AVAILABLE COPY

Table of Contents

Executive Summary	Page 1
Subject	Page 2
Background	Page 1
Int oduction	
Site Description	
Scope of Work	
Methodology	
Findings & Discussion	
Lead Wipe Samples	Page 3
Aspestos Suspect Building Material	Page :
Noise Survey	
Illumination Survey	Page :
Heating Ventilating and Air Conditioning (HVAC)	Page :
Recommendations	Page t

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 paseline 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.

Тэріс	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.

Survey Date: 7 May 2003

SUBJECT: Industrial Hygiene Initial Baseline Survey of the Dallas #2 Armory in Dallas, Texas on 7 May 2003

BACKGEOUND:

Region Scuth 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.

<u>Scope of Work.</u> 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 (IFF.). 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. photograp 1 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.

Survey Date: 7 May 2003

FINDINGS and DISCUSSION:

The Point of Contact during the survey was Non-Responsive

<u>Lead 'Wipe Samples:</u> 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 foct 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.

Report Date 2 July 2003

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

<u>Noise Survey</u> 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 Bleed ove'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.

<u>Illumination Survey</u> 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 Ser geant'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 storege/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

Survey Date: 7 May 2003

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 Anny 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

EMSU Analytical

2 Chaper St., We street, 6.J 99194

Phone: (858) 661-4800



Fax:

Project; Detts ##2

Ion-Responsive

Qualomer ID: Customer PO:

Received

05/12/03 11:50 AM

BMSL Order:

200304983

RMSL Project ID.

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

Client Sample Des viption	1.mb 11)	Analyzed	Area Sampled	Lead Concentration
DAIL 2001	0001	5/23/03	144 ln²	<10.0 mont
DAL 2002	0002	5/23/03	144 17	<10.0 µg/ft*
DAL 2003	0003	5/23/03	144 in²	<10.0 pg/fi²
DAL 2004	0004	5/23/03	144 in ^a	15.0 pg/ff
DAL 2006	0005	5/23/03	144 km²	<10.0 µg/ft²
DAL 2006	2006	5/23/03	144 kr²	48.0 µg/17*
DAL 2007	0007	5/23/03	144 kt²	15.0 µg/R*
DAL 2008	9006	5/23/03	144 kr²	<10.0 µg/ft*

Non-Responsive

REDIT/ TICNS: ARM Conscionation | And Librarian Approved Program, of 100184 Print d: N27/13 10:58:59 AM

EMSL Analytical, inc.

Fax:

107 Herkton Ave., Prompart, NJ 08106

Phone: (4/50) (55) 4800 Fas: (864) 658-4940 Emzel: 22/egel@EMSL.com





Cusiomer ID: TS8

Customer PO:

Received:

05/12/03 2:35 PM

EMBL Order:

040307501

EMSL Project ID: Anniyals Date:

5/21/2003

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

				Non-Asterdan		Asbostos
Sample	Location	Appearance	Treatment	% Fibrous	% Non-Fibrous	% Type
DALZ01A	DALLAS#2	Tars Filograph Homographous	Tossed	19% Min. Wool	80% Non-fibrow (other)	5% Chrysotile
DAL2SEA	DALLAS #2	Tan Fibrous Homograpous	Teased	15% Min. Wool	77% Kan-fibraus (other)	8% CinysolDe
DALZINA SYMPHOTOTIC	DVITV2 %3	Brown/Tari Fibrous Haterogencous	Tonced	100% Min. Wool		c1% Chrysotile

Non-Responsive

Non-Responsive

News performed by BOSE MARKET MAKEUR PROSCHECK, MY HI AR SCOTE

THIS IS THE LAST PAGE OF THE REPORT.

BEST AVAILABLE COPY

APPENDIX C

EMSL ANALYTICA	L CHA	IN OF CUSTODY	W1364963	LEAD
Street: 3	ommer Sciences. 1944 Lawrences. 1907: 12 Zip)r Street: Box #:	Third party billing requires within third party Science, case provide	
Phone Results to: Name: Telephone #: Project Name/Number:	lon-	Resp		
HATRIX	METHOD	INSTRUMENT	mdls	TAT
Lood Chipa')	SWB4R-7420 or AOAC 5.000 (974.02	Flamo Atomic Absorption	0.01% +-	144Krs
Lead Wastewater	SW846-7420	Flame Atomic Absorption	0.4 mg/l water	1
Cogo Primi Primi			50 mg/kg (pom) soil	
Lead Soll +	of SW816-5010	ICP	0,1 mg/i water 10 mg/kg (ppm) soil	1
March 18 8 28 10 C 17 Pp. 17	and the second s	Telling and the second telephone with the second se		The state of the s
Load in Air"	NIOSH 7082	Flame Atemic Absorption	5 ug/filter	
	or NIOSH 7300	ICP	3,0 ug/filter	
(cad in Weet	SW846-7120	Flamo Atomic Absorption	10 ugwipe Sows 72 M.	144 111-4-
	or SW846-6010	ICP	3.0 ug/w/pp	
The second section is a second section of the second	SW846-1311/7420	Flame Alomic Absorption	0.4 mg/l (ppm)	
TCLP Lead "	or SW846-6010	ICP	0.1 mc/l (ppm)	
The second secon			Separation of the second	Care Constant Control
Load in Air	NIOSH 7105	Grephite Furnaco Atomic Absorption	0,03 ug/filler	
Lead Waste water	SW848-7421	Graphita Furnaco Atomic	0.003 ing/l (ppm) water	31
Lead Soff +		Absorption	0.3 mg/kg (ppm) ani	-
Samuel Committee	k EP∧ 239.2	Graphile Furnace Alomic	0,003 mg/l (ppm)	- PH-P-P-P-P-P-P-P-P-P-P-P-P-P-P-P-P-P-P
Lead in Drir king Whiter (chec state Certaic iten Regularments		Absorption	The state of the s	1
Total Dest	NIOSH 0500-0600	Gravimetric Reduction	0.0001g	
TAT (Turns ound) - 3 hours, 12 hours (riust arrive by 11 24 hours (1 lay), 46 hours (2	:00 a.m), ? days), 72 hours, 96 hours	id to schedule. i (3 dayn), 120 hours(4 days), 144	+ hours (3-10 days)	
SAMPLE #		LOCATION	Air volume, L	LAB#
			Area, In ²	
DRL-5001	DA.	LAS 5	144-in2	
DAY 5002		_ \	 	
DAL 5003		_{		
OM - 5004- Ralinquist ed By, (Person	Non-	Resn	onsiv	/ e
Diste: 5/9/03				
				1 0 1

ZUTOY943 CHAIN OF CUSTODY LEAD EMSL ANALYTICAL Raylsed 771/09 LOCATION Air volume, L LAB# SAMPLE # Area, In2 144 m2 DALLAS#5 DAL 5005 DN-5006 F 002 - IAD 8002 - IAD DAL 5009 DAL 5010 DAL SOIL DAL 5012 4-SEVERATE REPORT 144 in 2 DRVING/DALLAS SELE IRV∞L JR1002 <u> TRV 003</u> XRV 004 IRV 005 TRY 006 FOO VAL IEV 008 IRV 009 IRV OID IRV OIL IRV 012 - JEPERATE REPORT DALLASH Z 144 mc 644431 DA1-2001 DAL 2002 DAL 2003 ۶ DAL 2004 DA- 2005 DA- 2006 7 DAL 2007 DA & 2008 SE PERATE REPORT 144 m-DALLAS DAL 4001 DA-4002 DAL4003 Relinquished Byr. (Person) 5/8/03 Note: Pease duplicate this form and use additional sheets if necessary. Page 2 0 6 4

San the second of the second o

040357591



BMSI, Analytical, Inc. Revised 07/07/90

CHAIN OF CUSTODY

Achestas

FMSL Rep: Your Company Name: Tammer Sc. Street: 3744 Lawre Box #: City/State: Nagarville -	Street Or. Box # Tap: (a) State City*	Bill to:	ime as =	hippins
Name: Telephone i : Project Name/Numiter:	n-Ke	spo	ns	
MATRIX		TURN	AROUND	
C Air Proor Tile	Soil 3 h		Same Day or 12 Hours*	1 day
Ch. Water 17 Manual Manual	Dust [] 481		☐ 96 Hours 4 days	☐ 128 Hours 5 Days
д ифе	No. 20. January	Sur I have dut missues call 1-5	108-120-3675 Fer pr	ce peter to socilling
TEM AIR, 3 h ceirs, 6 hours, Please call abend to scale morples. You will be esked to sign and settles institute	form for this service, 12 boses (ment errively 11:00 a.m Mar	· Fri.), Flowe Ref	r to Price Quate
PCM - Air	TEM AIR		TEM WATER	-
NIOSE 7400	ASTERNA		Wastewate	
OSFIA	☐ NIOSII 7402			Valor EPA 100.1 Y Wastewater
Other:	EPA Level II			Drinking Water
PLM Bu k FIN 630/R-93/116 EPA Point Count NY Stratified Point Count	_	alitative) vimetric) NY 198.4	ASTM D	OVAC/WIPE 5755-95 tive method
PLM NOB (Groviments) NY 198.	l		Asbestos	1
Other: SEM Air or Bulk			—	
Qualitative			OTHER	
Quanti ative				
SAMPLE NUMBER	LOC	ATION	VOLUM	NE ((F Appticable)
	DALLAS +			NA
0AL501A 0AL502A	DHULM'S			
ORCHOZA			C Samulas St	
CEent Samy le # (s)			TR testque tes later T	000
Relinquishe 1:	esponsiv	<u> </u>	Time:	<u>PM</u>
Received:		te:	Tioves	
4			<i>(</i>) 1	12 1
	Fedex		Page 1	cf _

U403675a1



EMSL Analytical Inc. Review (7/01/97

CHAIN OF CUSTODY

ich entes

EAMTLE MUMBER	LOCATION	VOLUME (If AppBeable)
()A~ 503A	DALLAS # 5	NA
ban 504A		<u> </u>
5A: 505A		47
~	SEPERATE REPORT 4-	4
IIIVOI A	IRVING/DALLAS	N/A
I0.007.A	2	<u> </u>
± ₹V03A		
JLF(VO4A	<u> </u>	<u>*</u>
56PE	RATE REPORT A	
5+∟2⊘(A	DALLAS # Z	N-/A
DI4L202.P		2
D-1-253A		· · · · · · · · · · · · · · · · · · ·
> 4 SEPE	PATE REPORT OF A	
DNC401A	DALLAS # 4	N/A_
01-402A		-
D114 403P		
DAL464A		
D 1 € 405 Λ		
ORL 406A	<u>; </u>	<u> </u>
A FQ#_+A ₁]		
DAL 108A	3	<u> </u>
<u> </u>	SEPERATE BEPORT	
JAN 301A	DAUASH 3	N/A
DAK 302 A	<u> </u>	
DA1-503A	1 - 3	*
	SEPERATE REPORT # =	

Page 2 of 3

ONO 201591



MMSL Analytical, Inc. Revises 07/07/99

CHAIN OF CUSTODY

ASSESS

\$AMPLI: NUMBER	LOCATION	VOLUME (II Applicable)
FNOLA	TORT WORTH # 2	N/A
FUI02A		
FLJ02A		\\
FWO4A	·	
C>> 5€PE	PARE REPORTS	
	<u> </u>	
·		
		
		
		
	<u> </u>	
		
	_	
		
		

Page 3:23 4

APPENDIX D



Photo 1: Dallas #2 Armory Front Entrance.



Photo 2: Dallas #2 Armory North Side.



Photo 3: Armory South Side.

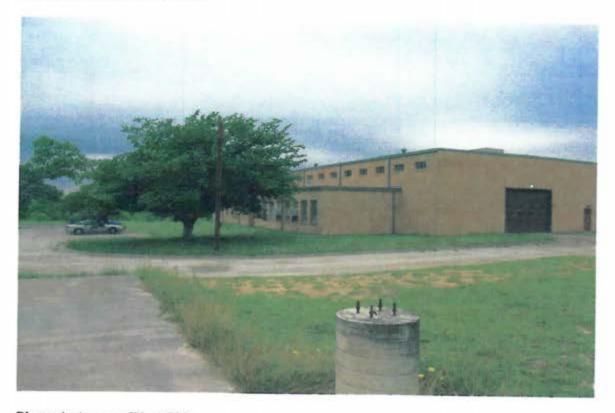


Photo 4: Armory West Side.



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.

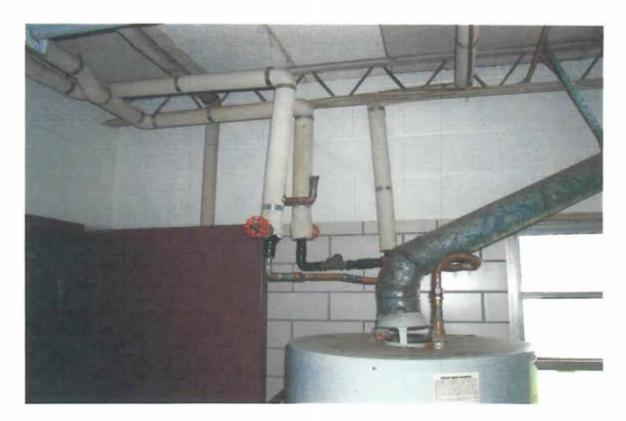


Photo 9: Hot water heater and the insulated hot water pipes.



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.

Salfal about motes 1 1800 Game Fores Salfan, Same First 200

THE PROPERTY !: TALKED MARKET !!

.). (Millett): This give is subjected the the independent of circultum of all presented strates of or Callett Supplied. This mainlying the hypertyry Balankowsk will be bounded to the Carrie, and my pilet current or supplied (i.e. order they family). This regulation for independent of the house that star, indicate Startes Compared with day what proving again learned on this property.

11 - 11 - 11 - 11

- processing the control of the oppolated by the arriver (presenter).

 All point and principles will be tark from reported as all fixed.

 All point and principles will be tark from reported as all fixed.

 All point and transfer officially will be smalled both;

 All the sent and transfer officially will be smalled both;

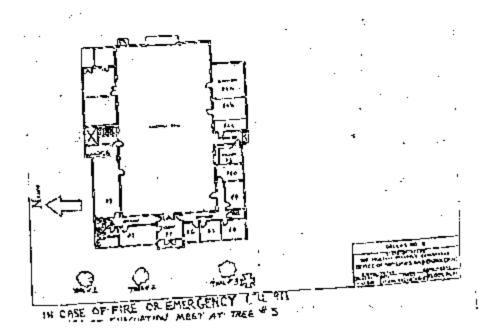
 All the sent and transfer officially will be smalled both.

 All the sent and transfer officially will be an all the smalled both of the start will be appeared to the first and the sent of th

. D. plat recommend the first Sweetle all profess the following specials should

- a. Sim employed does will be the project adealy, implement with the how him it we chepted blue explaintly at higher god, whichever applice.
 b. Fleath visities, expectly be streamed and high frequent spheroutly. Tertimately, rands, with home gradual plants.
 c. Rife corns, classify and approximate and freq of track, and first home plants.
 d. See that First requestions, and company symbols are provided many rady violagement, and successfully a few that following the company of the property of tracks.
 d. See that mighting and that often Plants is present in all secure of tracks.

- a. Stor the vision, and noted that first dispersament, from naments photon, (\$10), Address 15 per cup of name.
 b. But prevent and specified an one continue trians of the footness from installars in accompliance with the plan.
 b. But prevent and specifies at that 21 ms the book 25 de of rais strong to 12 that, an experience with the plant.
 c. But previous of \$1 ms to recovered and the surveyer of adjustment of 12 that, and 620 are important and adjustment for an experience of the survey of the best of the surveyer of the survey of the survey of the best of the survey of the



BEST AVAILABLE COPY

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. Manufact representations 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 phosphate; 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.

- 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 should be located in or very near the work area. Consult manufacturer's directions for the use of other detergents.* Appropriate Cleaning Equipment- Because a detergent may be used to clean leaded dust from a variety of surfaces, several types of application equipment are needed, including cleaning solution spray bottles, wringer buckets, mops, variously sized hand sponges, brushes, and rags. Using the proper equipment on each surface is essential to the quality of the wet-wash process.
- (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 floots 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 ane idotal 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.

4 . .

- 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 menitor the sheeting and immediately repair any holes or rips with 6-mil plastic and duct tupe.
- 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 fit al 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

ست ز ۰

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 ahatement 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 HEFA 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.

- 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.
- 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.
- 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.
- I. Report dated 2 July 2003, Industrial Hygiene Survey, Tamar Sciences, Inc., Naperville, IL.

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

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 of reference 1.i, 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



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



July 2, 2003

BEST AVAILABLE COPY

Table of Contents

Executive Summary	Page 1
Subject	
Background	
Introduction	Page
Site Description	
Scope of Work	
Methodology	
Findings & Discussion	
Lead Wipe Samples	Page 3
Aspestos 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.

Survey Date: 7 May 2003

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.

Тэріс	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.
Illuminatio 1 Survey	30 to 100 footcandles	No action.
НУАСЛАО	Wooden common air plenum in mechanical room.	Consider replacing the wood with metal.

Survey Date: 7 May 2003

SUBJECT: Industrial Hygiene Initial Baseline Survey of the Dallas #3 Armory in Dallas, Texas on 7 May 2003

BACKGEOUND:

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 #3 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 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.

<u>Scope of Work.</u> 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 (IFF). 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. photograp 1 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



<u>Lead 'Wipe Samples:</u> 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 ead 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.

Survey Date: 7 May 2003

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 armon, 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 Biring Range	45 50
Drill or Assembly Hall	58 – 60
Classroom: #1	45 – 47
Classrooms #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.

Survey Date: 7 May 2003

<u>Illumination Survey</u> 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
Classrooms #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 builts 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 ar 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.

Dallas #3 Armory

Survey Date: 7 May 2003

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, US Army Environmental Hygiene Agency (USAEHA), Industrial Hygiene Evaluatior, 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 61... We stement, FM 06106



Customér ID:

Customer PO: Received:

05/12/03 11:50 AM

EMSL Order: EMSL Project 1D: 200304966

Project: Dalla a #3

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

Mary Especia Decembrilan	Lab ID	Analysed	Area Sawaled	Concentration
Cliest Sample Destription DAL 2001	0001	5/23/03	144 ln²	16.0 pg#9
	0002	5/23/03	144 lm²	<10.0 µg/fi*
DAL 3003	0003	5/23/03	114 11	14.0 µg/te
	0004	5/23/03	144 W	<10.0 µg/f/²
DAL 3004	0005	5/23/93	144 in²	<10.0 µg/li*
DAL 3006	0006	5/23/00	144 in²	<10.0 µg/ft ²
OAL 3007	0007	3/23/03	144 hr²	400.0 µg/R*
DAL 3000	0000	5/23/03	144 In*	14000.0 HERE
DAL 3609	0008	5/23/03	144 in*	79.0 ugʻif ²
DAL 3610	0010	5/23/03	144 in*	810,0 ሰያቸው
DAL 3011	0011	5/23/03	144 tn²	78.9 upf?
DAL 3012	0012		144 in*	10.0 ug/f ^a
DAL 3013	0013		144 in'	<10,0 pq/ft ²
DAI: 3014	0014		144 in*	الروبر 10.0>
DAL 3015	0015		144 in³	دينية ط 10.0×



sufficient sensullis included in this respect evide, the recovery and principles requirement is appell shared by the PVISA. Littles appelled by indicate to deservine to

rints ct: 5/27/03 10:11:32 AM

May, 2018

EMSL Analytical, Inc.

107 Hadden Ave., Vestment, NJ 08108

Fex: (R8A) 858-4550 Phone: (856) 859-1800



Allm

Project:

TS60 Customer ID: Customer PO:

05/12/03 2:35 PM

Received: EMSL Order:

040307592

EMSL Project 10: Analysis Dain:

5/21/2003

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

						Mon-Ash	esto	<u> </u>	Ashmalos
		Арреагапов	Treetment	76	Fibrou	···	*	Non-Fibrous	% Typo
propio	Location	Stitute					_	One reon-librous (other)	Hone Detected
A) 301A FLOOR	DALLAS KO	YVIVIA Non-Fibrous	Distributed						
MEDICAL PLU		Homogeneous						100% Non-fibrous (nihos)	None Detected
DALSOIA GLIJH	DALLAS #3	Brown Non-Fibrous	Dissolved					JOUR MON-HOLDING AND A	
BUTTER OF THE STATE OF THE STAT		Hormoncous						100% Non-Ramus (other	None Determen
DAL302A COVEDASE	DAL AS 43	Pictori Non-Fibrous	Digsolved					Internal section of the section of t	_
Martines of State Control		Homogeneous_						100% Non-Rhmus (other	None Detected
DALECTA GLUE	DVT:7/2 4/3	Tan Non-Fibrox≉	Diszolved						Name Code
		Homogeneous	Disserved		45% C	atulare		20% Non-fibrous (athe	r) (40/13 Dellavium
DALEDDA	EN SALIACI	Waten/Gray	Lettera			ijn, Wool			
1547907393-0707		Fibrous Hotorogoneous							

-Responsi\

Resident amount of the Will Washington (MALAP & G124-C), NY CLAP MOTE

THIS IS THE LAST PAGE OF THE REPORT.

APPENDIX C

ox #: Ity/Stato No perceil Ity/Stato Project Inme/Nur. iber: ATRIX Sw Cond Waste water Sw Load Soil + Or	Science or a wrence or to the	DATE: 5/8/63 EMSL-Bill to: Street: Box #:	0.01% ++ 0.4 mg/l water 0.4 mg/lg (open) soil 0.1 mg/l water	
Wisod 7/189 ISL Ren: Our Company Ime: Incree : 3744 L Ity/Stato No parallel Ity/Stato Ity/Sta	Science or a wrence or to the	DATE: 5/8/03 EMSL-Bill to: Street: Box #: City/State: Fax Results to: SOODSI Order #: INSTRUMENT Flame Atomic Absorption Flame Atomic Absorption	Third purity bitting requires with from mixed purity Sound. GAS p (cv/ Lov): Third purity with a construction of the constru	TAT
ISL Reprison Formation of Second Works without and Second	METHOR MAC 5409 (974.02) MAG 5409 (974.02)	Street: Box #: City/State: Fax Results to: SOODSI Order #: INSTRUMENT Flame Atomic Absorption Flame Atomic Absorption	midls 0.01% ++ 0.4 mpl water 50 mplig (open) soil 0.1 mpl water	Zpc TAT
ur Company me: reet: 3744 L 3744 L sorie Results to: ame: slephore #: roject mine/Number: HATRIX ead Carps SW and Waste water and Soil + or	METHOR MAC 5409 (974.02) MAG 5409 (974.02)	Street: Box #: City/State: Fax Results to: SOODSI Order #: INSTRUMENT Flame Atomic Absorption Flame Atomic Absorption	midls 0.01% ++ 0.4 mpl water 50 mplig (open) soil 0.1 mpl water	Zpc TAT
tylstato No perville tylstato No perville topic topic f:	METHOR MAC 5409 (974.02) MAG 5409 (974.02)	Street: Box #: City/State: Fax Results to: SOODSI Order #: INSTRUMENT Flame Atomic Absorption Flame Atomic Absorption	nndis 0.01% ++ 0.4 mpf woler 30 mp/kg (epm) soil 0.1 mp/ waker	TAT 14463
wiff: tylStato No perville torne Results to: ame: deption: #: oject mine/Nur.iber: ATRIX SW and Califum SW and Waste water and Soil + or	METHOR MAC 5409 (974.02) MAG 5409 (974.02)	CHylstate: Fax Results to: SOOSI Order #: INSTRUMENT Flame Atomic Absorption Flame Atomic Absorption	0.01% ++ 0.4 mg/l water 0.4 mg/lg (open) soil 0.1 mg/l water	TAT 144hcs
tylstato No perville tylstato No perville topic topic f:	METHOR MAC 5409 (974.02) MAG 5409 (974.02)	CHylstate: Fax Results to: SOOSI Order #: INSTRUMENT Flame Atomic Absorption Flame Atomic Absorption	0.01% ++ 0.4 mg/l water 0.4 mg/lg (open) soil 0.1 mg/l water	TAT 144hcs
ione Results to: ume: dephone #:	METITOS W840-7420 or J OAC 5.009-(374.02) WB46-7420 SW849-6010	Figure Alomic Absorption	0.01% ++ 0.4 mg/l water 0.4 mg/lg (open) soil 0.1 mg/l water	TAT 144hcs
ame: elephone #: roject mme/Nurriber: **JATRIX** **SW **Add Califum / SW **SW *	METHOS W840-7420 or 2 DAC 5009-(974.02) WB46-7420 SW849-6010	INSTRUMENT Flame Atomic Absorption Flame Atomic Absorption	0.01% ++ 0.4 mg/l water 0.4 mg/lg (open) soil 0.1 mg/l water	144463
ead Carper) SW cool Worste water SY	W840-7420 or 2 OAC 5.009-(974.02) WB46-7420 SW849-6010	Flame Alomic Absorption Flame Alomic Absorption	0.4 mg/l woter 50 mg/kg (opm) soil 0.1 mg/l water	144463
ead Cather) SV AC Cond Worste water Card Soil + Or	W840-7420 or 2 OAC 5.009-(974.02) WB46-7420 SW849-6010	Flame Alomic Absorption Flame Alomic Absorption	0.4 mg/l woter 50 mg/kg (opm) soil 0.1 mg/l water	
and Waste water or or	OAC 5.099 (374.02) BRESTELLA SEE 1946 WD46-7420 SW846-6010	Flame Alomic Absorption	0.4 mg/l water 50 mg/kg (ppm) sei 0.1 mg/l water	
and Waste water Sr	WB46-7420 SW846-6010	Flame Alomic Abentation	0.4 mg/l water 50 mg/kg (ppm) sei 0.1 mg/l water	
end Soil + or	SW846-6010		0.1 mg/l water	.
G-MI GIOR .		ice.		1
			10 mg/kg (ppm) soll	P 89. 24
The state of Second State of the Second State		Flame Atomic Absorption	S up/filler	- 1
ead in Air*** 174	10311102		3.0 us/filter	
1.	r NIOSH 7300	ICP		وغواره فاساكرن
and a second	W840-7420	Flame Alemie Absorption	10 ugheipo Save 77 hts	144 1124
eavi in Wips	x SW848-6010	ICP .	3,0 ug/wipc	
	CHARLES TO BE WATER TO THE	and the second of	0.4 mg/l (ppmt)	A COUNTY OF THE PARTY OF THE PA
TCLP Load "	W848-1311/7420	Floma Alomic Absorption	0.1 mg/l (ppm)	+
Į.	x SW846-6010	ICP		
Lead in Air	MOSH 7105	Graphite Furnece Atomic Absorption	0,03 ug/filtor	1
The state of the s	PARTY AND	Graphia Furnace Alomic	0.003 mg/l (ppm) weter	**************************************
Lead Waste water	SW848-7421	Absorption	0.3 mg/kg (ppm) soli	
Load Soli +				
		Graphite Furnace Alomic	(mgq) Ngm 600,0	
Load in Drie king Water (chack state Cartification Roculements)	EPA 239.2	Absorption		
	NIOSH 0500-0600	Gravimetric Roduction	1 0.0001g	
TAT (Time ound) - 3 hours, 6 hours 12 hours (riust srive by 11:00 o.m	1. 72 hours, 96 hours (to echoqueo. 3 days), 120 hours(4 days), 14	14 + trours (5-10 days)	LAB#
SAMPLE#	HE PRIOR CLUXC	LOCATION	Air volume, L Area, in ²	LAB #
	— - , , ,	As 5	144 me	
DRL. 5001	DPALL			
DAL 5002		}		
DAL 5003		J.		
Relinquished By: (Person)			-M. D	•
Date: 5/0/03	Von	I-Res	spon	SIV

MSL MALYTICAL	CHAIN OF CUSTODY	Zurag	c LEAL
1 1899 × 1899		_	
	LOCATION	Air volume, L	LAB#
SAMPLE #	"	Area, in ²	
10. 4011	DALLASH 4	144 in*	
DAL 4004			
DRC 4006		- NE	
4	SEPERATE REPOR	144 m2	64966
NAC 3001	MALAS # 3	144	
DAL 3002			1
DA-3003		 -	7
DAL 3004		_	1
JAHL 3005			(
DR-L 3006			
500E JAC			
DAL 3008	+		
11AL 3009			
13AL 3010		{	$\frac{1}{I}$
DAL 3012			-} -;
JA- 3013			
1A2 3014			
1104 315	197	7 0- 2	
	SEPERMIE KEPOR		
	DAMAS #4	Dam Chi);
DAL40IP	1)100112 22 -1	"	
DAL402P	EDERATE REPORT	4	
- F-9			
			-
医结合性神经炎 医乳毒素 经股份			
and an area of the second	Doorbrai	et EMSL By:	n-Responsive
Relinguished By: (Person No	III KOSPOLISIVO.	at =3/5/-7-7-	
The state of the s	Late Late		SIMA IN
Date 1/8/03	form and use additional sheets if	necessary.	
Note: Hease outlined us	TELEPHONE TO A BEAUTIFUL COMME		
			3 2 4
			_ 1

04/03/07/392



EMSL Analytical, Inc. Revised 07/07/99

CHAIN OF CUSTODY

garante.

EMSL Rep:			Third Party from third p	Billing requires with	ien authorization
Your Company Name: Tammer Scie Street: 3744 Lawfen	nces Inc. ce Or.	_		me as S	rippins
<u></u>	7.1p: 60.56	_			Zip:
Phone Results to: Name: Telephone (:): Project	espon	Fax Results to:	-	n-Kesp	onsive
Name/Num ser:			TURN	AROUND	
MATRIX					G & Warra
☐ Air ☐ Floor Tile ☐	Soil	☐ 3 bra	[] 6 Hours	or 12 Hours*	1 day
G Roll Dentaling Water	Dest	1 48 Hours 2 days	72 Hours 3 days 6-10 Days	4 days	5 Days
☐ Wipe ☐ Wastewater ☐ TIM AIR, I hours, 6 hours, Please call about to school Tim Air, I hours, 6 hours, please call about to school Tim Air, I hours, 6 hours, please call and antiportention in	Micro-Vac			100-228-3673 for pt	ics prior to espelling
TIM AIR, 3 hours, 6 hours, Please call shead to school complex. You will be asked to sign and authorization in	orm for this survice	12 bours (must arriv	e by (Eron a.m (Ver	8 - RM**)* 1.16232 over	
margies. You was no success to a go.				TEM WATE	R
PCM - Ah	TEM AIR	Δ.		Westewate	ш —, , , , , ,
NIOSI 7400	II VIOSI	/1 I 7407		Drinking '	Water EPA 100.1
OSHA	HEPA L			Water - N	Y Wastewater
Other:	☐ Eby r	CACTI		Water-NY	Drinking Water
				TICM MICE	OVAC/WIPE
PLM Buk	TEM BU	K/misc Count (Qualitative	•}	ASTM D	5755-95
EPA 600/R-93/116	_			deserge	arive method
TEPA Point Count	Chatfi	ield NOB (Gravimetri	A NIV 198.4	XRD	
The NEW Stand Point Count		NOR (CHAIRICA)	L) (12 12 4	Asbestos	;
PLM 1 (OR (Gravimetric) NY 198.1	l .			☐ Silica	
Other				_	-
SEM Air or Bulk				OTHER	
Qualitative					
Quanti ative					
		LOCATION		VOL	IME (U Applicable)
SAMPLE NUMBER				Ì	N/X
CALSOIA	<u>DA</u>	UAS # 5			
DAT-502 A				l	
				Total Samples #	
Citent Sample # (s)		Date	5/8/0	3 Tiese	. PM
Religatione to Non-Respon	<u> </u>		<u> </u>		
Manage -		Date		Tlme	
Received:		····	<u> </u>	Λ.	12
				Page 1	1 of 2
	real	e>		V.	(7

00030759J



EMESL Analysical, Inc. Revised diviners

CHAIN OF CUSTODY

Achestos

- Acres M. Serrati SPD	LOCATION	VOLGMA (IT Applicable)
SAMPLE NUMBER	DALLAS # 5	NA
DAC SO3A	1	3
DAL 504A		7
CAL 505 A	Contract And	
·	SEPERATE REPORT S	N/A
TIVOI A	TEVING/DALLAS	
INVOSA		+ - <
# AEOVS IL		
ΣFN 04A	*	<u> </u>
> ¥ 5€P	GRATE REPURT A	N/A
D3L701A	DALLAS # 2	
DIYL202A	1	
01t-203A	4	
> d SEPE	AFRE REFORT & A	
DIKC 401A	DALLAS # 4	N/A
DF4-402A		 -
MHC 103A		-
DAC454A		
DITC 405 A		
)	
OM 406A		
AFOF-141	7	<u> </u>
CAL 108A	SEPERATE REPORT	1
&%	DALLAS# 3	N/A
<u> </u>		
245 FAC		-
DA1-303 A	ECCEPTE REPORT A	
*/	SEPERATE REPORT A	

Orl 2201249



EMIST, Analytical, for.

CHAIN OF CUSTODY

Asbestas

CANDIN PROPAGATOR	LOCATION	VOLUME (If Applicable)
SAMPLE MIMBER	TORT WORTH # 2	N/A
FN014	10-110-1	T
FU102 A	 	
FU03A	 	- - -
		<u> </u>
SEPE	PATE REPORTS	
		
	<u> </u>	
		
. _ 		
		
		- +

BEST AVAILABLE COPY

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.



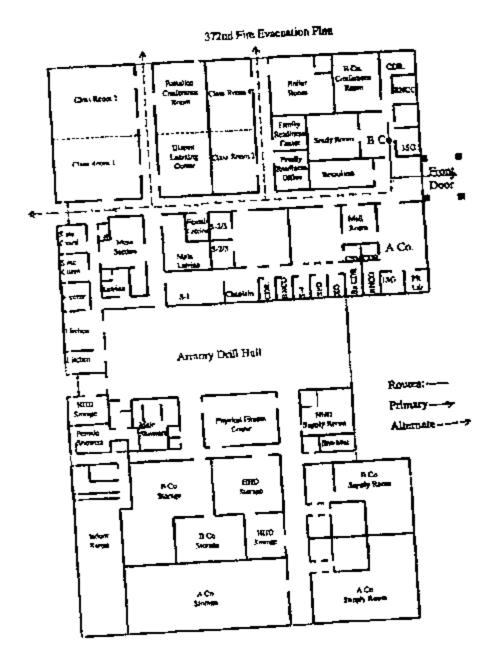
Photo 14: Air handlers in the mechanical room showing the wooden common plenum under the units.



Photo 15: Photo of the floor tiles and baseboard found throughout the administrative office



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 White 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 reoccuried 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 a stablished. 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

1. 1

- 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 masorry 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-jow 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 except for those that (1) were found not to have lead hazards and were properly separated except for those that (1) were found not to have lead hazards and were properly separated except for those that (1) were found not to have lead hazards and were properly separated except for those that (1) were found not to have lead hazards and were properly separated except for those that (1) were found not to have lead hazards and were properly separated except for those that (1) were found not to have lead hazards and were properly separated except for those that (1) were found not to have lead hazards and were properly separated except for those that (1) were found not to have lead hazards and were properly separated except for those that (1) were found not to have lead hazards and were properly separated except for work areas before the process began or (2) were never entered during the process.

1.

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 pro-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.

- 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 phosphate; 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 should be located in or very near the work area. Consult manufacturer's directions for the use of other detergents.* Appropriate Cleaning Equipmen:- Because a detergent may be used to clean leaded dust from a variety of surfaces, several types of application equipment are needed, including cleaning solution spray bottles, wringer buckets, mops, variously sized hand sponges, brushes, and rags. Using the proper equipment on each surface is essential to the quality of the wet-wash process.
 - (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 anexdotal 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 taked or vacuumed and placed in single 6-mil or double 4-nil 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 menitor 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 scalant 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 fir all 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 HEFA 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.

- 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.
- 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.
- 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.
- I. Report dated 2 July 2003, Industrial Hygiene Survey, Tamar Sciences, Inc., Naperville, IL.

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)
- 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.I, 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



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



July 2, 2003

BEST AVAILABLE COPY

Table of Contents

Executiv	ve Summary	Page l
Subject.		Page 2
Backgro	ouad	
I I	introduction	
S	Site Description	
S	Scope of Work	
7	Mc thodology	
Findings	s & Discussion	
L	Lead Wipe Samples	Page 3
A	As sestos Suspect Building Material	Page 3
	Paint Chip Samples	
R	Recommendations	Page 4

Appendices

- A. References.
- B. Laboratory Analytical Results.
- C. Lab Chain of Custody.
- D. Floor Layout and Photographs.

Survey Date: 7 May 2003

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.

Тэріс	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.

Survey Date: 7 May 2003

SUBJECT: Industrial Hygiene Initial Baseline Survey of the Dallas #4 Armory in Dallas, Texas on 7 May 2003

BACKGF.OUND:

Introduction. At the request of Non-Responsive of the National Guard Bureau Region Scuth 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.

<u>Site Description</u>. 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 suspec: 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 (IFK). 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 photograp of the sampled material and area were also taken.

Survey Date: 7 May 2003

FINDINGS and DISCUSSION:

The Point of Contact during the survey was



<u>Lead 'Wipe Samples:</u> 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.

Report Date 2 July 2003

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, 23th 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.

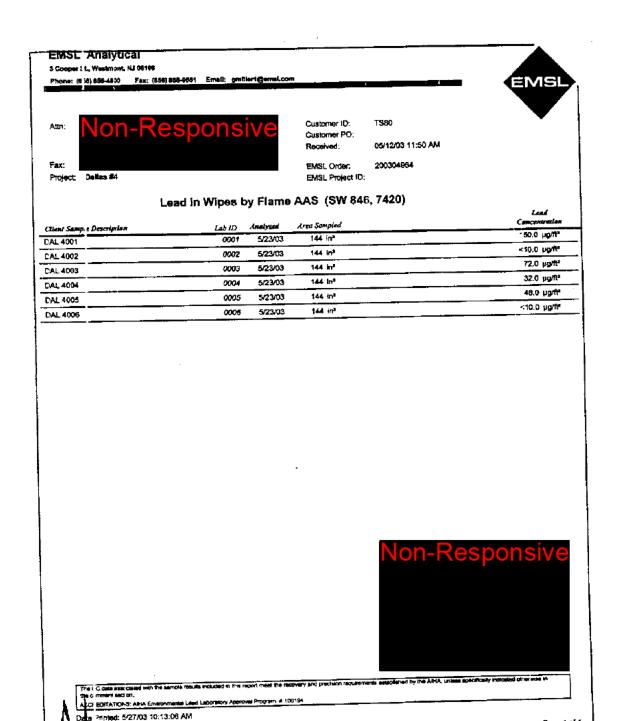
TB MED 303, The Army Industrial Hygiene Program, February 1985.

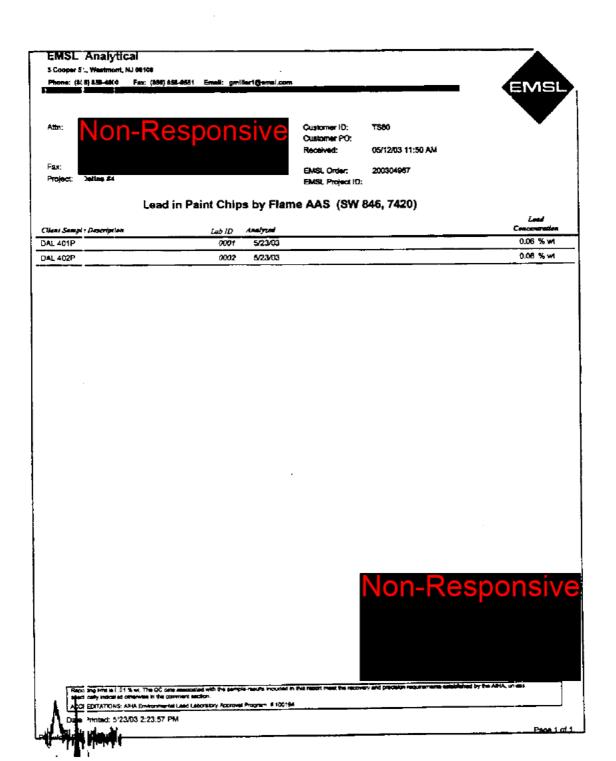
Title 29, Code Of Federal Regulations (CFR), 1999, revision, Part 1910, Occupational Safety and Health Standards.

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 /malytical, Inc.

107 Haddon Ave., Westmont, NJ 08108

Project:

Phone: (35) 656-4800 Fex: (856) 856-4980 Email: saleget@EMSL.com



Customer ID. T\$80

Customer PO: Received:

05/12/03 2:35 PM

EMSL Order:

040307590

EMSt. Project ID:

Analysis Date: 5/19/03

Asbectos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

					Non-Asbestos			Asbestos	
Semple	Location	Appearance	Treatment	% FI	brous	%	Non	-Fibrous	y₄ Type
DAL401A 640307390-000	DALLAS #4	Tan Fibrous Heterogeneous	Dissolved	30%	Callulose		70%	Non-fibrous (other)	None Detected
CAL402A 6-0007500-000	DALLAS #4	Brown Non-Fibrous Heterogeneous	Dissolved	2%	Cellulose		98%	Non-fibrous (other)	Nona Detected
CAL403A 6-0307590-002	DALLAS #4	Black Non-Fibrous Heterogeneous	Dissolved	<1%	Cettulose		100%	Non-fibrous (other)	None Detected
CAL404A 040307590-000	DALLAS#4	Brown Fibrous Heterogeneous	Teased	****	Cellulose Glass		25%	Nor-fibrous (other)	None Detected
DAL405A 040307590-000+	DALLAS #4	Brown Fibrous Heterogeneous	Teased	90%	Cellulose		10%	Non-fibrous (other)	None Detected
DAL408A 640307580-0001	DALLAS #4	Gray Fibrous Heterogeneous	Teased .		Cellulose Min. Webl		48%	Non-fibrous (other)	None Detected
CAL407A 080307580-000	DALLAS #4	Yellow Fibrous Heterogeneous	Tessed	<1% 90%	Cellulosa Min, Wool		10%	Non-fibrous (other)	None Detected
EAL408A 040307500-6001	DALLAS #4	Yallow Fibrous Heterogeneous	Tessed	90%	Min. Wool		10%	Non-fibrous (other)	None Detected

ed by EMSE Westmani (NVLAP #101048-0), NY ELAP 10872

May, 2018

APPENDIX C

EMSE Levice S	ANALYTI 7/1/98	CAL		CHAIN	OF CUSTODY	241364567	LEAD
				DATE: 5/8/	Circum (class) fracile.	eolissimelian esilin	
		72M	mmer Sciences, Inc., 14 Lawrence Or		Street: Box #:	Same an province	JS
Sax# City/S	at o :	Noper	ville,.	<u> </u>			2)p:
Phone Results to: Name: Teleptions #:		N	on-Responsi		sive		
Project Namel N	t Yember:				Order#:		
_	MATRIX		-46	THOS	INSTRUMENT	mdls	TAT
eed C			SW848-74	120 or 3 99+374.D2)	Flame Alomic Absorpti		1414krs
cod W	stewat ar		SW046-74	150 CTRISTERING	Flame Montic Absorpt	ion 0.4 mg/l water 50 mg/kg (ppm) soil	
Lood S			or SW846		ICP	0.1 mg/l weinr 10 mg/kg (ppm) soil	
Lest ir <i>i</i>	Atras		NIOSH 70		Flame Alomic Atsorpt	lon 5 ug/litter	A411
			or NIOSH		1CP	3.0 ug/litter	
Lead in	Wino	TOTAL STREET	SWB40-7	<u> </u>	Flame Alomic Absorpt	ion 10 ug/wipo Seres 72 Acs	144 6/3/4
		`	or SW846		iCP	3.0 ug/wipe	
TCLP L	eed **	**************************************	5W846-1	111/7420	Flame Alemic Absorpt	ion G.4 mg/i (ppm)	. V. GREEN S. AURE
			or SW646	-6 010	ICP	0.1 mg/l (ppm)	
Lead ir			NIOSH 71		, Graphite Furnaço Ator Absorption	1	
	astewatar	والغز مطنتها إ	SW048-7		Graphile Furnace Atol Absorption		
Lead S	rii +	-	1			0.3 mg/kg (ppm) self	
	Drinking Wolor (Micolon Requirem		EPA 239.	2	Graphile Furnace Alox Absorption		
Total C			NICSH 0		Gravimetric Reduction	0.0001g	
12 hou: 24 hou:	maround) - 3 ho s (must arrive b s (1day), 48 hou	y 11:00 a rs (2 day)	um). a), 72 hours	s, 96 hours (3 d		, 144 + hours (6-10 days)	
, ,	SAMPL				LOCATION	Air volume, L. Area, in ²	LAB#
<u> </u>	AL SOOL			DALLA	s 5	144-me	¢
	AL 5002			(
	AL 5003			7			
	AL 5004			<u> </u>			
Relinq	aished By; (Pe		Von	-Res	sponsiv	е	
Date:	5/8/6	/3 ·		1		a shaets if personary.	, , , , , , , , , , , , , , , , , , ,

200704964 LEAD CHAIN OF CUSTODY EMSL ANALYTICAL Revise 1 7/1/00 SAMPLE# LOCATION LAB# Air volume, L Area, In? 1) ALLAS#5 144 mz LAL 5005 13AL 5006 F007-1A3 BAL SOOS DAL 5009 1394 5010 1105 J.F. Dtc 5012 TRYING/DALLAS SEVERME 144 LZ 9 55. IRV 001 TRY 002 IRV 003 37RV 001 IRY 005 32V 006 FOO VAE TRYOOB IRV 009 IRVOID IRV OIL JRV 012 REPORT W 3 SEPERATE 144 mz ALLASH Z DML 2001 CAL ZOOZ DAL 2003 () AL 2004 ()AL ZOOS 1) AL 2006 1)AL 2007 0At 2008 EPERATE REPORT 144 h2 DALLAS # 4 CAL 4001 CAL-1002 DAL4003 Rollin aushed By; (Person) 21148 11 F HO Date 5/8/03 Note: Please duplicate this form and use additional sheets if necessary. Page 2 0 + 4

LOCATION		
LOCATION		
LOCATION		
i,	Air volume, L. Area, in ²	LAB#
DALLAS# 4	144 in-	649644
		<u>_</u>
***	- 5	
DALLAS # 3	144 m2	
		
	 	
		
	 	
	+ /	
/	 (
	\	
		
	/	
	\	
· 		
	4	
PRATE KEDAUT	g - Z	
<u> </u>	-	
DALLAS # 4	Dam-Chio:	
	4	
LAME REPORT &	<u> </u>	
		<u></u>
_		,
		i
	DRUGS # 3	DRUFE REPOST A-Z- DRUFE REPOST A-Z- DRUFS MA Paw Chip.

040307590



FMSI, Analytical, Inc. Revisal 07/07/99

CHAIN OF CUSTODY

Asbestes

Box #: City/St ite: EMSI. Rep: Taramer So Taramer S	Street	Bill for	ty Billing requires and inacty	
Phone Cerulis (p: Name: Telephone #: Project Name/Formbor:	-Respo	onsive		_
MATRIX		TURN	AROUND	
Air Floor Tile	Seel C3 hr		Sapre Day	1 day
Dy hour Dynamag was	Dist Cl 48 E 2 days Micro-Vac 197344	3 days - hours: 6-10 Days	1 96 Hours 4 days	□ 120 Hours 5 Days
TRM AL 1, 3 bears, 4 hours, Please call about to not an amplea. You will be noted to sign and confessional	schole. There is a premium charge form for this survice, 12 bours (o	Gur 3 hour tot, please entl 1- teat acrive by 11:00 a.m 500	1001-220-3675 for pri g - Poi _{tr}), Messes Ruf	ce prior in smilling rr to Price Quate
PCM - Air NIOSH 7400 OX:HA OX:HA OX:HE DE 'A 600/R-93/116 ET A Point Count NY Stratified Point Count PLM NOB (Gravinumic) Ot ser: SEM Air or Bulk Qualitative Quantitative	TEM AIR AHERA NOSH 7402 EPA Level II TEM BULK/mise Drop Mount (Qua Chatfield TEM NOB (Grav	ilitativo) imetric) NY 198.4	TEM WATES Westervate Drinking V Water - N' Water-NY TEM MICRO ASTM D quantita XRD Asbestins Silica OTHER	Natur EPA 100.1 Y Wastewater Drinking Water
SAMPLE NUMBER		AION	V (1/1/1)	18 /M
DAL-501A DAL-502.A	DALLAS #	<u> </u>		1-/10
Ction (isomple f (s) Residing Habrech Receiv d;	Respo		Times Times Page 1	<u>PM</u>

CY0507590 .



EMSE Analytical lat.

CHAIN OF CUSTODY

Asherina.

SAMPLE NUMBER	COCATION	VOLUME (IT Applicable
DAL 503A	DACLAS # 45	NA
BAL 504A		5
DB1 505 A		41
	SEPERATE REPORT 4	<=-
IRVOI A	TEVING DALAS	Ni/A
Levoz A	2	
IQV03A		<u> </u>
TERN 04A	4	*
> ¥- 5€P6	RATE REPORT OF	
BA L.ZzorA	DALLAS # 2	N/A
DALZ02.B		
DAL 203A		<u> </u>
4 SEPER	ATE REPORT OF A	
DOL 401A	DALLAS # 4	N/A
OAL 402 A		
8AL 403/A!		
DAL-404A	<u> </u>	
DAL 405 A		
ON: 406A		
DAL 407A		
DALTOBA	<u> </u>	<u> </u>
¥ × × × × × × × × × × × × × × × × × × ×	KEPERATE BEPORT	
50 L 30[A	DALLAS# 3	N/A
OH4 362 A	<u> </u>	 -
DAL-503A	<u></u>	· ·
	SEPERATE REPORT 4	Sep

Page 20/3,

040557590



RMSC Applythesi, Toc. Reneed #7/07/99

CHAIN OF CUSTORY

inie staa

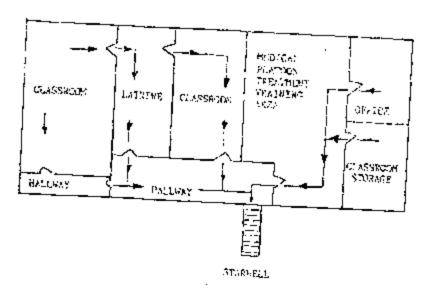
SAMPLE NIMBER	1.0CATION	VOLUME (If Applicable)
FWOIA	+02T WORTH # Z	N/A
rω62 Λ	<u> </u>	
1FW63A		<u> </u>
-w64A	1	· *
c 5€/€	PATE BEPORTS &	2
	}	
<u> </u>		
<u> </u>		<u>.</u> .
<u> </u>		
	<u> </u>	
	T	
	-	
	1	
		<u> </u>
	:	
<u> </u>	·· 	·- - ·-

Page 3 2 3 4

APPENDIX D

107% LILIYA DRISH WALL (198 MICOR) LATRINE RECURITERS TATRINE SOOUT CROSERLY -KITOKEN

FIRST TEGER FIRST TEGER



FIRZ IVACUATION PLAN SECOND FLOOR

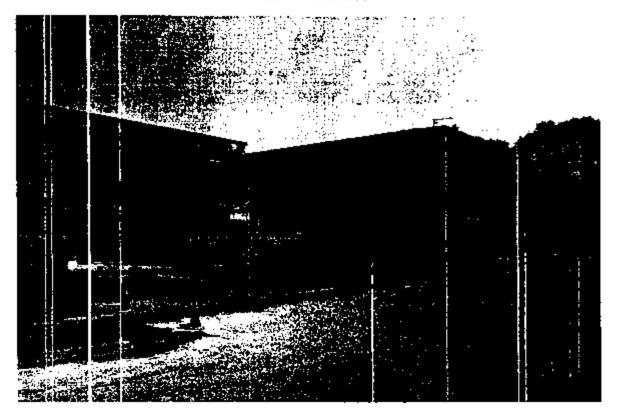


Photo 1: Dallas #4 Annory Front Entrance.

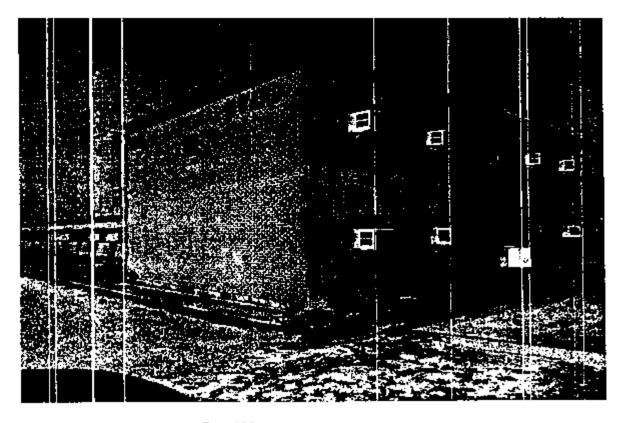


Photo 2: Dallas #2 Armory East Side.

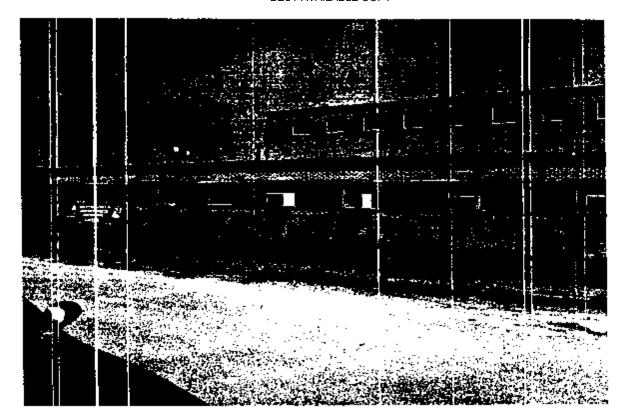


Photo 3: Armory West Side.

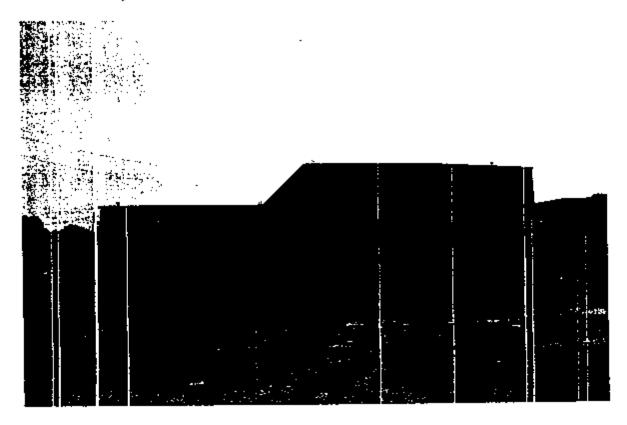


Photo 4: A mory North Side.

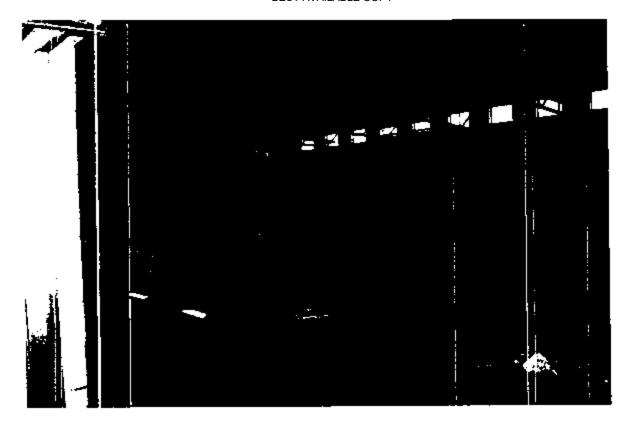


Photo 5: A mory's Drill or Assembly Hall.

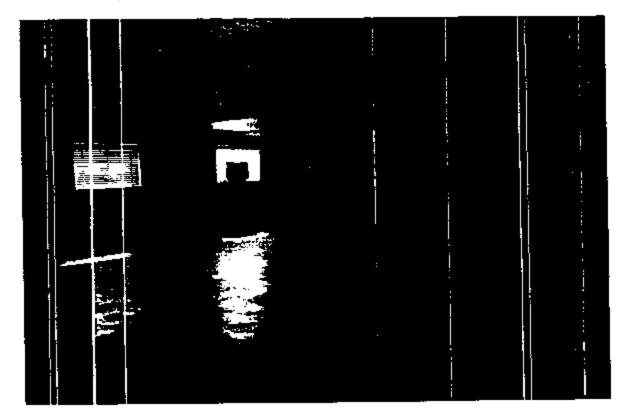


Photo 6: Second floor classroom showing baseboard.

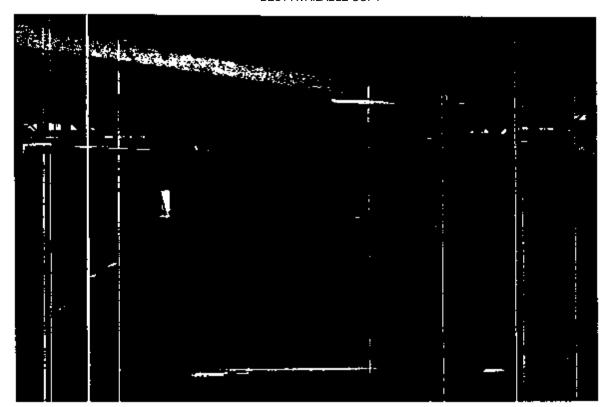


Photo 7: A mory drill or assembly hall facing west.

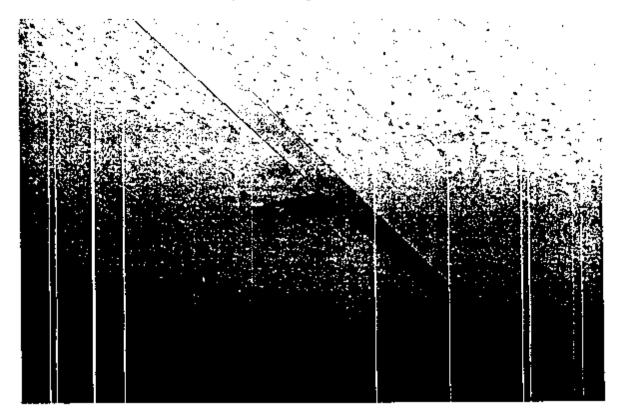


Photo 8: Coiling tile in Orderly Room.

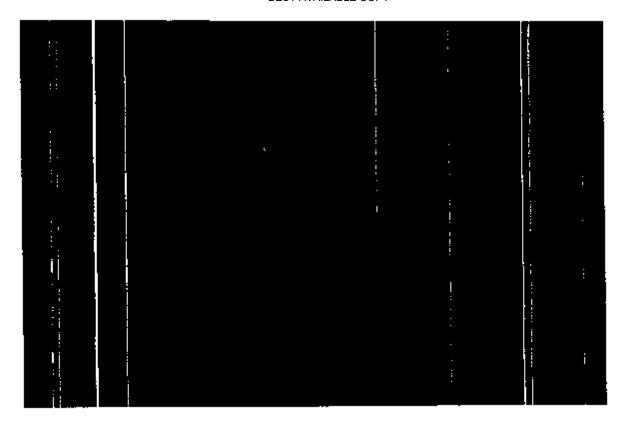


Photo 9: Buseboard and masking in classroom area.

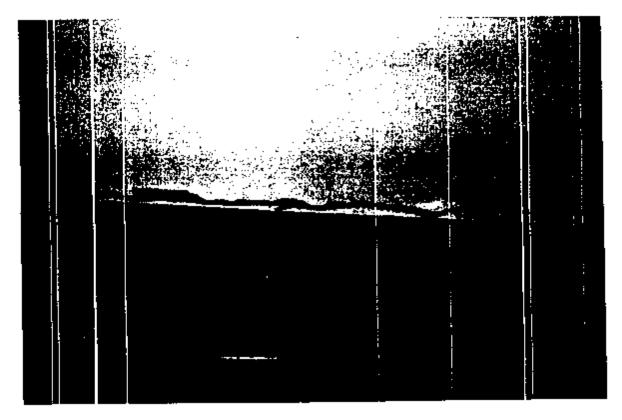


Photo 10: Ceiling tile in CDR Orderly Room.

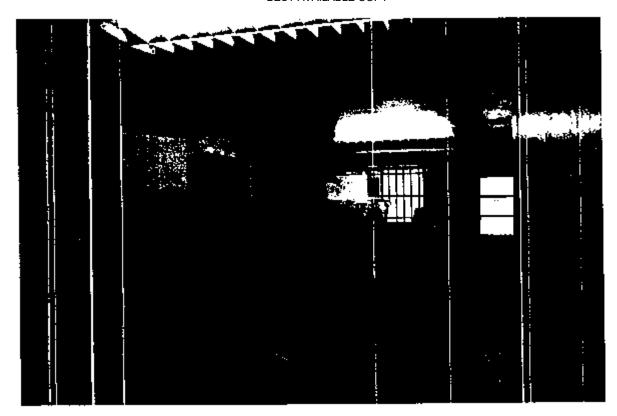


Photo 11: Kitchen.

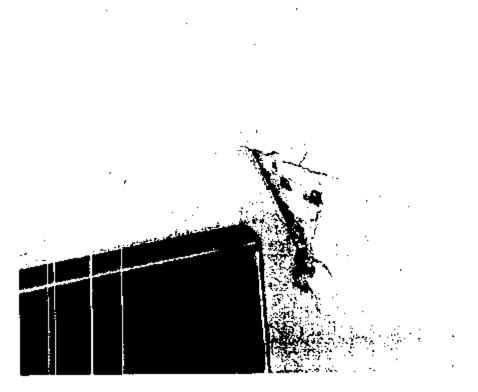


Photo 12: Suspect lead based paint on the kitchen's walls.

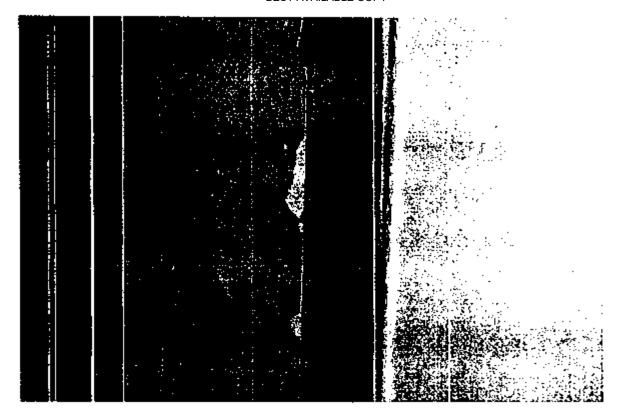


Photo 13: § uspect lead based paint on the kitchen's doors.

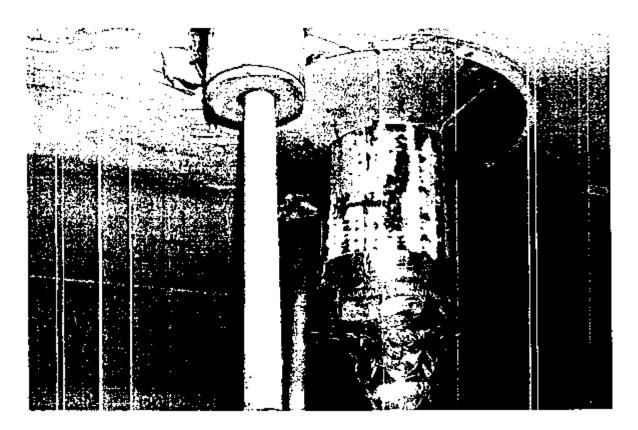


Photo 14: Thermal insulation found on the hot water system pipes.

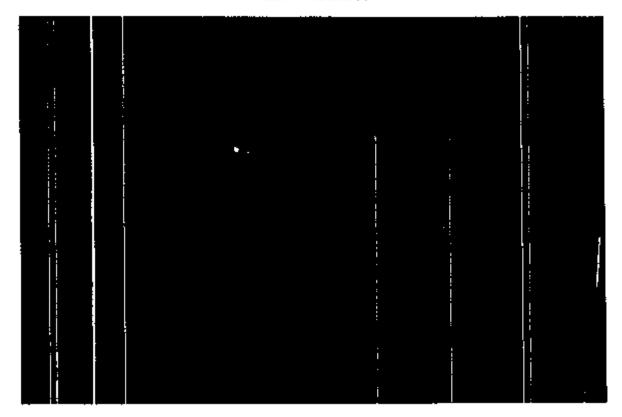


Photo 15: Thermal insulation found on the fire water supply pipe

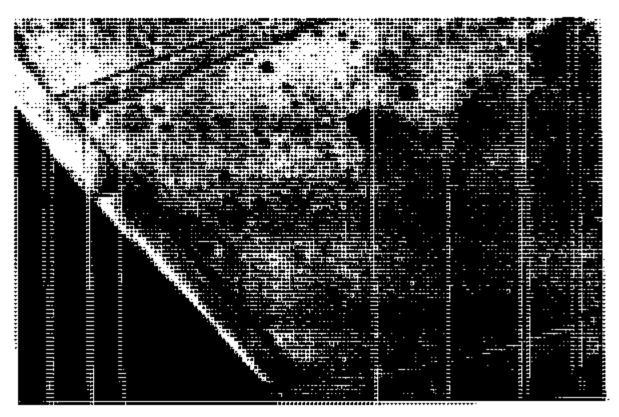


Photo 16: Ceiling tile found in the supply room



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
- Non-Responsive Industrial Hygiene Technician for the Texas Army National Guard conducted the sampling on 28 August 2009.

3. General.

- a. <u>Site Description</u>. 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. <u>Scope of Work.</u> 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 Burcau, which required the use of Ghost wipes or unscented baby wipes to wipe one square foot of surface. Samples were then placed in a scaled plastic bag and sent for analysis to an American Industrial Hygiene Association (AIHA) Accredited laboratory. Ashestos 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 scaled 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.

 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.

BEST AVAILABLE COPY

b. <u>Ashestos Suspect Building Material</u>: 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

- e. <u>Noise Survey:</u> No noise Hazardous areas were identified or recorded on the day of the survey.
- d. <u>Illumination Survey</u> Lighting levels throughout the Armory ranged between 06 foot-candles to 60 foot-candles. Specific readings were as follows:

Λrea	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. <u>Heating Ventilating and Air Conditioning (HVAC)</u> 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)
- 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)



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

BEST AVAILABLE COPY

Appendix A:

Laboratory Analytical Results.



ANALYTICAL ENVIRONMENTAL SERVICES, INC.

Bulk Sample Summary Report

National Guard Bureau Region-South IH

Project Name: Decatur, TX Armory

Project Number: DCA-809

Client Name:

MA(VQ

Lab ID# 102082-0

AES Job Number:

0909208

Page 1 of 1

Citent ID	AES ID	Location	Ast	Asbestos Mineral Percentage Comments					Comments
			СН	AM	CR	AN	TR	AC	
DCA-19	0909208-W 001A	indow Caulk	ND	ND	ND	ND	ND	ND	Paint included as binder
Layer: 1						ļ			İ

Note: CH=chrysotile, AM=amosite, CR=crockdolite, 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 cartified 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 Quelity Assurence 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/800/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

	بر السباب	REST AVAILAB	LE COPY	
	Pan u	BULK SAMP	LE DATA	090920
S	102 2	se of this form see USAETA T	5 141; the pro	conent is ASAB-10.
310 PLAZA DRIVE, COLLEGE PARK, GA	BURBAU RE SUITE 1530	COMPLETE CENTERS INCLUDING	Tin Com	Ion-Responsive
Sămpiec în		1 algert iss	nwier	
DECATUR	XTL	ARMORY DEA-	_ გი	
Non-R	est	onsive Late Colle	cied	Care Snipped
		1 28 Pu	9 09	2 SEP 09
Sescription		at a tion		Location (BESG/AREA)
ASSOCIATED	R_Y	WIFR		DECATUR, ARMORY
		mics (os spacific)		
Associated	Air Sai	TDIAS LT Van		
	⊠No	Manage 16 Agg 11	ST SAMOLE NUM	Ders
		Label Inform	ration	
Trace Name		, P. NSN	Wanura:	TUTO
Address				
VAR. 427			MSDS A	Tacned
	•	·		Yes ::o
Analysis De	irea	. ^		
		ASBESTOS - PLM		,
	incie	Constituents	Results	Remarks
20	A-19	window CAUK	11	:
		WITHOUT CHOOLE		
	<u> </u>			
		,		
	1			
	-			
				. 1
amments to	<u>-40:</u>			
		*		
	·	1 - 1 - 1		
naivstiinis		Lab Use On		ecs.ved 1376 Aecorted

ABHA Form o-R T Jat 34

Aracaduras Aeraarmed

Repraces AEHA-Form 8, 1 Oct 50 which is apporete.

: trnament

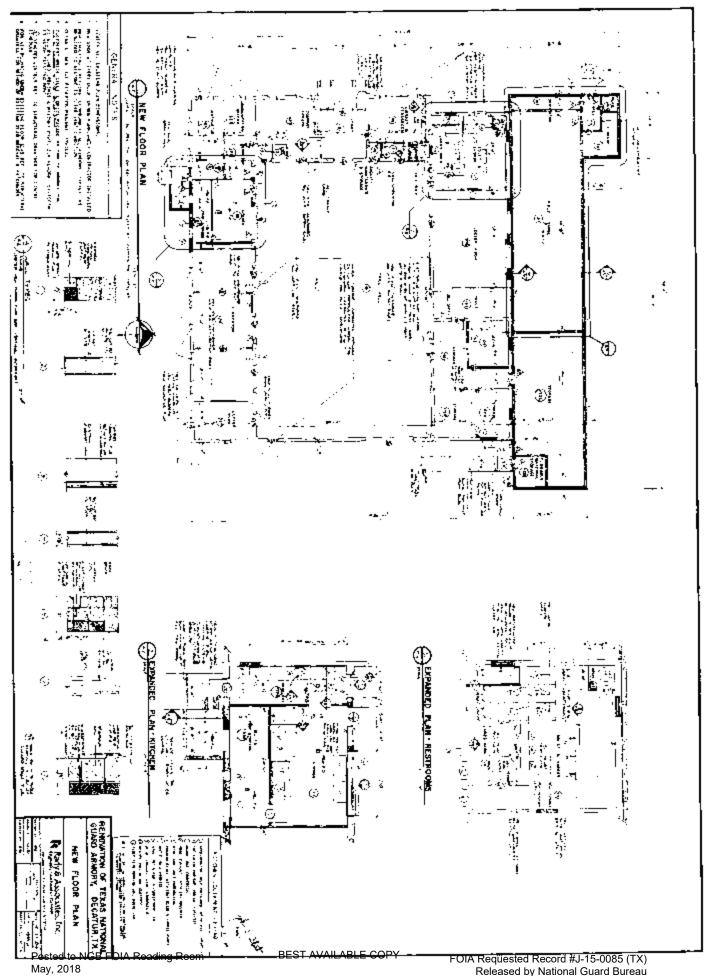
55 UPS

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



FOIA Requested Record #J-15-0085 (TX) Released by National Guard Bureau Page 583 of 1757

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), Cincinπati, 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.
- I. Report of June 15, 2004, Industrial Hygiene Survey, Tammer Sciences INC, 3744 Lawrence Dr., Naperville, IL.

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 of reference 1.1, 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.

- 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.



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



June 14, 2004

Table of Contents

Executive Summary	Page 1
Subject	Page 2
Background	Page 2
Introduction	2
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)	
Recommendations	Page 6

Appendices

- A. Floor Layout and illumination levels.
- B. Laboratory Analytical Results.
- C. Lab Chain of Custody.
- D. Photographs.

Survey Date: 23 March 2004

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.	
[][umination Survey	15 to 96 footcandles	No action.	
HVACЛAQ	No issues observed or documented.	No action.	

Survey Date: 23 March 2004

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.

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.

<u>Scope of Work.</u> 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

<u>Lead Wipe Samples:</u> 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

Survey Date: 23 March 2004

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, einder 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.

<u>Noise Survey:</u> 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.

Survey Date: 23 March 2004

<u>Heating Ventilating and Air Conditioning (HVAC)</u> 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.

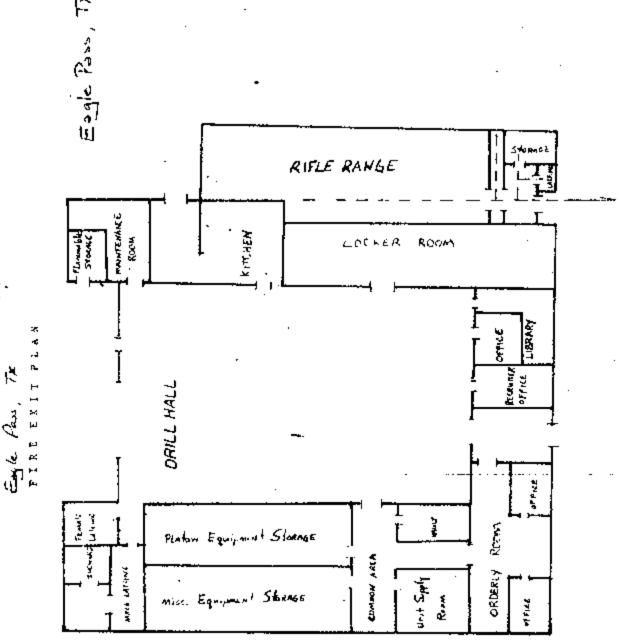
Recommendation:

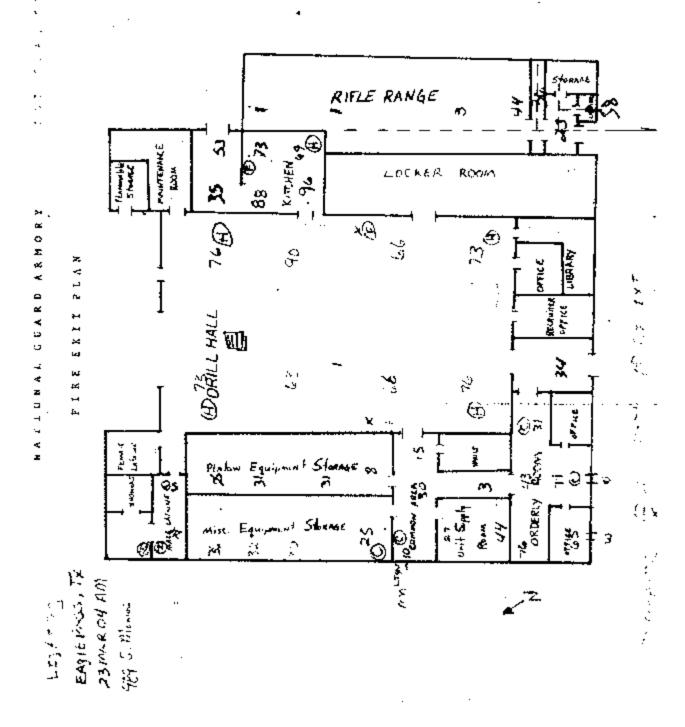
Clean and decontaminate the firing range in accordance to NG PAM 385-15 specifications.

Technical Assistance: For technical assistance regarding information found in this report

Non-Responsive

APPENDIX A





 $\langle \tilde{\psi} \rangle$

BEST AVAILABLE COPY

APPENDIX B

EMSL Analytical

3 Cooper St., Westmonf, NJ 08108

Phone: (498) 858-4400 Fax: (656) 856-6551 Email: skaufiman@emai.com



Attn:

Fax:



Customer ID: Customer PO: TS80

Received:

03/30/04 10:13 AM

EMSL Order: Project: Eagle Pass, TX

200403345

EMSL Proj:

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

Ctient Sample i	Description	Enti ID	Analyzed	Area Sampled	Lead Concentration
EPO1	Results for these wipe samples do not meet the EPA standards for sample matrix and are not recognized under the NiLiAP accreditation program	0001	4/14/04	n/a	33.0 удлејре
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	ni la	17.0 µg/wipe
EP05		0005	4/14/04	n/a	19.0 µg/wipe
EP06		0006	4/14/04	n/e	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	4714/04	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
E£14		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/wlpe
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	Mary Mary Mary Mary Mary Mary Mary Mary

in his southed with the earniple results included in this report majet the recovery and precision requirements established by the AIHA, unless specifically indicated otherwise in a social. The last regular contained within the report meet the requirements of MELAC criters otherwise noted.

REDITATIONS: NJ-NELAP: 04553, ABIA Environmental Leet Laboratory Approved Program: 100194.

Printed: 6414/04 9:15:11 AM

EMSL Analytical

Project: Eagle Pass, TX

3 Cooper St., Westmont, NJ 08108

Phone: (888) 858-4800 Fax: (866) 888-9561 Emell: skaultman@emsl.com





Customeř IO: T\$80 Customer PO:

03/30/04 10:13 AM

EMSL Order:

Received:

200403345

EMSL Proj:

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

Client Sample Description	Lab ID	Analyzed	Aren Sampled	Lead Concentration
EP22	0022	4/14/04	n/a	5900.0 µg/wipa
EP23	0023	4/14/04	n/a	11000.0 µg/wipe
EP24	0024	4/14/04	r/a	9600.0 µg/wlpe
EP25	0025	4/14/04	n/a	28.0 µg/wipe
EP26	0028	4714/04	n/a	21.0 µg/wipe
E ^p 27	0027	4/14/04	r/a	34.0 µg/wipe
EP28	0028	4/14/04	r/a	52.0 µg/wipe
EP29	0029	4/14/04	r/a	180,0 µg/wipe
EP30	0030	4/14/04	n/a	<10.0 µg/wipe



ed with the sample results included in the report meet the recovery and precision recoverments established as the testing of NELAC unless otherwise collect. EDITATIONS: NUMERAR: 04653, AHA Environmental Lead Laboratory Approval Program: 100194

riginal 4(14/04 9:15:20 AM

EMSL Analytical

3 Cooper St., Westmont, NJ 98108

Phone: (856) 858-4300 Fax: (858) 858-9551 Email: skiedfman@emal.com



Aile:

Fax:

Project:

Non-Responsive

Customer IO: Customer PO: Received: T\$80

÷.

03/30/04 10:13 AM

EMSL Order:

200403345

EMSL Proj

Pb by Flame Atomic Absorption

Cliest Sample Description	Lab ID	Analyzed	Conceptivation
SSW 11	0031	4/14/04	13000.0 mg/Kg
	0032	4/14/04	110.0 mg/Kg
·			

Non-Responsive

Optiostoci limit is 10 mg/kg. The test results contained within loss repost reset the requirements of NELAC critics of human inclind.

ACCREDITATIONS: MANSELAP: 04950, AINA Environmental Laud Laboratory Approval Property 100184

ale Printed: 4/14/04 9:15:01 AM

Dane 1 of 1

APPENDIX C

EMSL ANALYTICAL	CHAIN OF C	USTODY		EAD
- 17 6 10 Ch TOLET Danescon	ative:	Project Name/No.:	P.O #:	w
umpany Name: Tammer Sc.	indicate differ	EMSI-Bill to:	The second secon	- 16 1 PT-17
incen 1744 Lawrence Dry	Str	een <u>Same</u>	A STATE OF THE PROPERTY OF THE	· · · · · · · · · · · · · · · · · · ·
	P	ox 4:	and the second s	
Base Francisco Commence of the	20.6056A C	Sitv/State	Zip:	
City/State: Alignoville / II. From Results to: Name Non-	Responsiv	Telephone: NOT	ı-Responsı\	/e
	rtesponsiv	Fax #:		
Bay Results to: (Name)		INSTRUMENT	NC (Marie of marie	TAT
MAT KIA		Flame Atomia Absorption	Limit)	<u></u>
nd Chys.	SW846-7420, 3050B Mod. / AOAC (974.9Z)	Flame Atoms Absorption		
	SW346-7420	Flame Atomic Absorption	0.4 mg l water	
and Versewater			40 mg/kg (prm: 50)	
uead Soil ⊞	or SW846-6010B	(Cr	10 mg/kg (pr m) 500	
	NIOSH 7082 Mod	Flame Atomic Absorption	4 ug/filter	
A STATE OF THE STA	or NIOSH 7300 Mod.	ICP	3.0 ug/filter	
		Filame Atomic Absorption	Y 10 ue wice	130 Ja.
Lord to Wipe* Z-ASTM	SW846-7420 HUD Appendix 14.3 Digest	Finne Atomic Absorbates		1
Eliza Milma Tryba	The state of the s	TICI	3.0 ug/wipe	
☐-non ASTM	or SW846-6010B	13.7		
TCLP .coc 34	5W846-1311/7420	Flame Atomic Absorption	0,4 mg/1 (ppr 1)	
TCLP Load	or SW846-6019B	ICP	0.1 mg/l (pps 1)	
		Fiame Atomic Absorption	0.4 mg/I (pprs)	
STIC Lead Control *	CA Title 32 session/ 5W846-7420		0.1 mg/ltppr15	
	or \$W846-6010B	ICP		
i şad in Air ****	NIOSH 7105 Mod.	Graphite Furnace Atomic Absorption	0.03 ug/bleer	
	August Harry	Graphite Furnace Atomic	0.003 mg/((pm) water	r de
Load Wastervater	SW846-7421	Absorption	0.3 mg/kg (p:200) seg.	10
Lead Soil *			1 3	
	EPA 239.2 / 200.9	Graphita Furnace Atomia	0.003 mg/ ((pm) 23-	
cod in Ormaing Wester (check state	1	Absorption	0.0001g	There is a second secon
Treat Dist	NIOSH 0500-0600	v 2 Days, 3 Days, 4 Days	s, 5 Days, 6-10 Days	io-o
f) T (Ternaroung)	* ** ** *** **** * * * * * * * * * * *	# Please Refe- to Price Que	_{ike} ω	
	▲If no box is checke	ed. non-ASTM is assumed LOCATION	Air volume L	LASS
SAMPLE#	Forme F	200. TX	Area. in	6))45-1
EPOI		2	NA	7
EPO2			1 3/22	1.1
Relinquished By: (Person)	Non-Re	sponsive	Date: 3/24	42 1
			Date }	444
Received at EMSL By:			Date:	
Received at EMSL By:	and the second s	and use additional sheets if	necessary.	,
Note: P	lease duplicate this forming mese samples to the labora	and use additional sheets it tory attests to the securacy of the i	ntiormation reported on this cha	क्षा तर्व एए म्हलीपुर
				- 100 200 - 100 100 100 100 100 100 100 100 100

SAMPLE#	LOCATION	Air volume, L Area, in ²	LAB#
	6x8 Pau TX	· N/A	63345.4
EPQ4	636 Paw, TX		T
EPBS			t
706			7
\07			Y
7 08			1 4
7 09		- - /	6
\			1 1/
//		/	/1
7 12			13
13			14
\ 74			15
15			16
16			17_
7 77			19
/ 13			ñ
19			14
70			4
		7	J. J.
22			133
7 23			27
24			И
35			i e
26			177
23			28
298			24
-29		/	<u> </u>
30			21.
3/		W_	31-
32.	<u> </u>		
	lon-Responsive	Date: _3/	26/04
		Date:	130/04
Received at EMSL By:	and the second s	Date:	

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

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

BEST AVAILABLE COPY

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-S1 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.

- 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.
- I. Report of June 15, 2004, Industrial Hygiene Survey, Tammer Sciences INC, 3744 Lawrence Dr., Naperville, IL.

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. 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)
- 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.i, 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.

- 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



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



June 16, 2004

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. 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.

Торіс	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:

Region South Industrial Hygiene Office, an initial baseline industrial hygiene survey was performed at the El Campo Armory in El Campo, Texas.

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.

<u>Site Description.</u> 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.

<u>Scope of Work.</u> 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

<u>Lead Wipe Samples:</u> 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.

<u>Illumination Survey</u> 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:

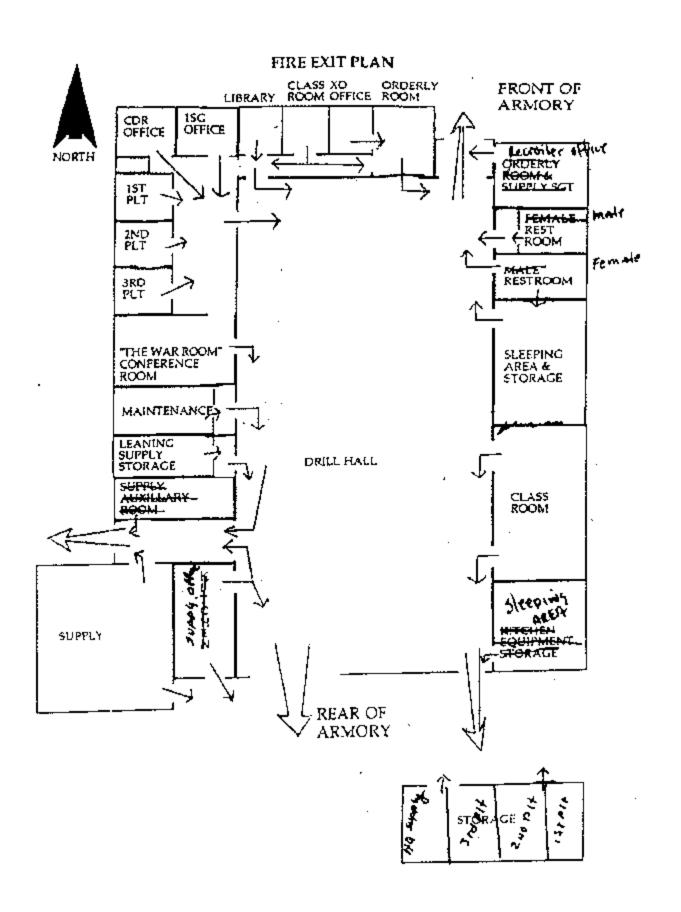
None.

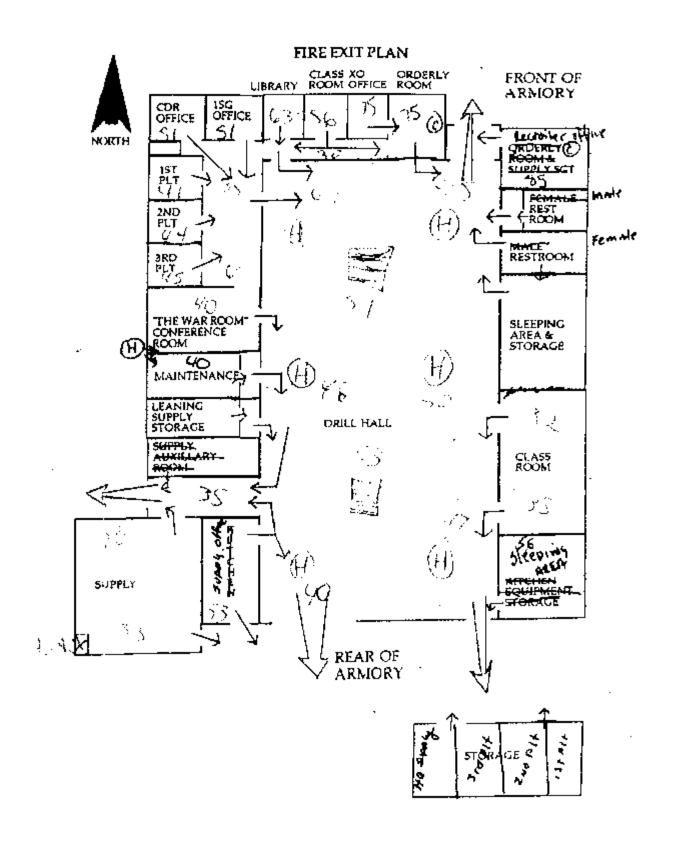
Technical Assistance: For technical assistance regarding information found in this report

Non-Responsive

BEST AVAILABLE COPY

APPENDIX A





BEST AVAILABLE COPY

APPENDIX B

EMSL Analytical

Project: El Campo, TX

Fax:

3 Copper St., Westmont, NJ 08108





Customer ID: Customer PO:

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 D	escription	Lab ID	Analytes	Arica Sampled	i.ess 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	8001	4/14/04	n/a	14.0 µg/wipe
EIC02		0002	4/14/04	rva	<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/whpe
EIC05		0005	4/14/04	n/a	<10.0 µg/wipe
EIC06		.0006	4/14/04	n/a	<10.0 µg/wipe
EłC07		0007	4/14/04	rı/a	<10.0 µg/wipe
EIC08		0008	4/14/04	n/a	<10.0 µg/wipe



The CCI data east costed with the sample results included in this report most the riscovery and precision in an ownershad on the report most the requirements of NELAC unless of ACI and ACI CENTRAL THREE PROPERTY OF THE PRO

Printed: #14/04 9:25:58 AM

BEST AVAILABLE COPY

BEST AVAILABLE COPY

APPENDIX C

200403342

EMSL ANALYTICAL	CHAIN OF	CUSTODY		LEAD
AREA MICOLO F EMSL Represer	lative:	Project Name No.:	P.O #:	encomment for 1990 to 19
ormany Name Tammer Se	Tences Inc.	EMSL-Bill to:	- Annual State of the State of	ALMANA.
Spirit 3344 Lawrence Dri	ve. s	treet:		
		Box #		
Maria Adresolv III		City/State:		
and the second s				
"a me Results to: Name) (a- Results to: (Name)	n-Res	sponsiv	e	
MATRIX	METHOD	TABLE CAREAT	Limit)	
.5.3 Cap.*	SW846-7420, 30508 Mod. / AOAC (974.02)	Flame Atomic Absorption	0.01%	
and Wastewater	SW846-7420	Flame Atomic Absorption	0.4 mg/l water 40 mg/kg (ppm) soil	
and Sail -	er SW846-6010B	ICP	0.1 rog/l water 10 mg/kg (ppm) soil	
	NiOSH 7082 Mod	Flame Atomic Absorption	4 ug Alter	
and in Alexan	or NIQSH 7300 Med	ICP	3.0 og filter	
cod to Wipp*	SW846-7420 / HUD Appendix 14.2 Digest	Flourie Atomic Absorption	10 up wipe	J.Jan da
ga there Type	or SW846-60)/0B	KCP	3.0 ug/wipe	AND THE PERSON NAMED IN COLUMN TWO
	SW846-1311/ 7420	Flame Atomic Absorption	0.4 mg/l (ppr1)	
ICLP Lead ***	ur SW846-6010B	ICF	0.1 mg/3 (pp1 2)	
A.A. A.		Flame Atomic Absorption	0,4 mg/l (ppr1)	
STIC Lead Conferent	CA Title 22 sees 126 / SW846-7420		0 mg/l (pprs)	Andrew Committee of the
	or SW846-60109	ICP	0.03 ug fiker	75
Land to Air ****	NIOSH 7105 Mod.	Graphite Furnace Atomic Absorption	11,700 100	
1 . 18 Watterster	SW846-7421	Graphite Furnace Atomic	0.003 mg/l (ppm) wate	<u> </u>
1 and Sold #	-		0.3 mg/kg (p x 1) soil	8 35
Trisd in Drinlang V/2/er (check state	EPA 239.2 : 280.9	Graphice Furnace Atomic Absorption	0.003 mg/l (ppm)	
Commonton Requirem vits)	NIOSH 0500-0600	Gravimetric Reduction	0.0001g	
7, T (Ternaround)	- Same day. 24 hr - 1 D	ny, 2 Days, 3 Days, 4 Days a Please Refer to Price Quo	, 5 Days, 6-111 Days	~
20 A 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	→ If no box is check	ed. non-ASTM is assumed LOCATION	Air volume L	1.14.3 #
SAMPLE#			Area. in	-734.3
EICOI	El Com	r TX		63742.1
EICAZ		oponoivo	Date 3/4	11/1
Relincuished By: (Person)	Non-Re	sponsive	Date. 3/2	20/04
Received at EMS L By:			Date:	CONTRACTOR OF THE STATE OF THE
Received at E MSL By:	hanne damienta this farm	and use additional sheets if	occessary.	
Note: P	ing these samples to the labora	agery artests to the accuracy of the in	Sermation reported on this ch	ain of C. 1000.
Lord Chain New 203 av STLC.doc				

SA VPLE#	LOCATION	Air volume, L Area, in ²	LAB#
E1184	ElCampo, TX		13342 7
EICH 5			r
C 66			٤
707	7		
108	1		
- 7			
7£16 6 3			
7			
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
	A A A A A A A A A A A A A A A A A A A		
	Ion-Responsiv	Date: 3/	26/04
	MONTH VESPONISIV	Date:5	1/34/04
Received at EMSL By:			7

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

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

Lend Chain Nov 2001 rv STLC.doic

BEST AVAILABLE COPY

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.

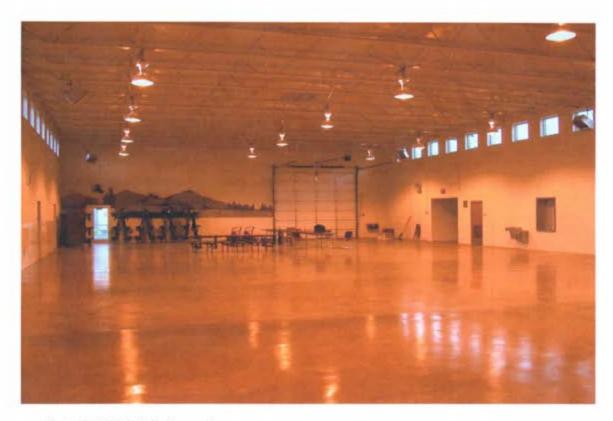


Photo #5: Drill hall facing south.



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

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-ARS-IHSE (40-5f)

10 October 2007

MEMORANDUM FOR: ADJUTANT GENERAL TX ARNG, ATTN.: 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.

- 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.
 - 1. 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. <u>Site Description.</u> 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. <u>Scope of Work.</u> 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. <u>Lead Wipe Samples:</u> 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

SUBJECT: Transmittal of IH Survey, CW5 (Ret) William LaChance, Ellington Field Armory, 1182 Ellington Field, Houston, Texas 77034-5596.

a hazard. The contaminated areas should be properly cleaned and decontaminated in accordance to the instructions found in NG PAM 420-15.

- b. Ashestos Suspect Building Material: No areas were sampled, tested or noted during current survey
- c. <u>Suspect Mold Samples</u> 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. <u>Illumination Survey</u> 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. <u>Noise Survey:</u> 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 artic 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 drup ceilings and have rolled fiber insulation exposed. Occupants

10 October 2007

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.

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
- 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)

10 October 2007

SUBJECT: Transmittal of IH Survey, Non-Responsive Ellington 1182 Ellington Field, Houston, Texas 77034-5596.

Ellington Field Armory,



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

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, CA Agreement #/Scope of Work #/Project #: A121804 / 5122578 /P129562

Sampling date: 9/6/07

Date of inoculation: 9/7/07

General location: National Guard SE Region, 1H Office, Houston, TX

Sampling technique: Wipe sampling

Medium used: Malt extract agar (MEA) and cellulose Czapek agar (CCA) for fangi

Samples submitted by

Date characterization completed: 9/17/07

Wipe samples on MEA and CCA plates

Sample	Sampling Location	Area	Dilution	Fungi on MEA	Stachwhotrys
8		(in ²)	factor	@ 25°C	chartarum
					941 CCA (0) 25°C
ELMS01	Ellington Field HAASF QC, inside		10X-MEA	No fungal growth	Absent
	blank		10X-CCA	CFU/in ² < 10	
ELMS02	Ellington Field HAASF QC, supply	-	4,000X-MEA	1. Cladosporium (483*)	Absent
	duct		10X-CCA	2. Penicillium (96)	
				$CFU/in^2 = 2.3 \times 10^6$	·-
ELMS03	Ellington Field HAASF QC, return	_	4,000X-MEA	I. Cladosporium (171)	Absent
	vent		10X-CCA	$CFU/m^2 = 6.8 \times 10^5$	
ELMS04	Ellington Field HAASF QC, supply	_	4,000X-MEA	1. Acremonium (231)	Absent
	vent		10X-CCA	2. Cladosporium (79)	
				$CFU/in^2 = 1.2 \times 10^6$	
ELMS05	Ellington Field HAASF QC, ceiling	-	4,000X-MEA	1. Cladosporium (> 400)	Absent
	(Mid)		10X-CCA	CFU/in ² > 1.6 x 10 ^k	
ELMS06	Ellington Field HAASF QC, ceiling	1	4,000X-MEA	1. Cladosporium (291)	Absent
	(wall)		10X-CCA	2. Penicillium (1)	
			_	$CFU/in^2 = 1.2 \times 10^6$	
9	Laboratory blank	#VA	10X-MEA	No fungal growth	Absent
			10X-CCA)	

ARNG-07-7R, page 2 of 2

Sample	Sampling Location	Area	Dilution	Fungi on MEA	Stachybotrys
a		(in')	factor	@ 25°C	churtarum on CCA @ 25°C
ELMS07	ELMS07 Ellington Field HAASF QC, black	1	10X-MEA	1. Cladosporium (76)	Absent
	binder desk		10X-CCA	2. Aspergillus sp. (4)	
				3. Penicillium (4)	
				4. Aspergillus versicolor (2)	
				$ CFU/in^2 = 860$	
El.MS08	Ellington Field HAASF QC,		10X-MEA	No fungal growth	Absent
	outside blank		10X-CCA	CFU/in ² < 10	
4					

Colony counts. Not applicable, Ling-Ling Hung, Ph.D. Microbiologist

Quality control checked

Characterization completed by:

EMLab P&K

1150 Bayhill Drive, Suite 100, San Bruno, CA 94066 (650) 829-5800 Fax (650) 829-5852 www.emlab.com

Date of Submittal: 09-07-2007 Date of Receipt: 09-10-2007 Date of Report: 09-12-2007

Client: U.S. Public Health Service C/O. Non-Responsive Re:

DIRECT MICROSCOPIC EXAMINATION REPORT

(Wet Mount)

Background	Miscellaneous	MOLD GROWTH: Molds seen	Other	General
Debris and/or Description	Spores Present*	with underlying mycelial and/or sporulating structures†	Comments††	Impression
Lab ID-Version‡. 1	1459423-1: Tape sar	nple EIMT P1: Ellington, field blank		
Scant	None	None	None	No mold spores detected
Lab ID-Version: 14	159424-1: Tape sam	ple 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: 14	459425-1: Tape sam	ple 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: 14	159426-1: Tape sam	ple EIMT P4: Ellington, supply vent		· · · · · · · · · · · · · · · · · · ·
Heavy	Few	4+ Cladosporium species (spores, hyphae, conidiophores) 2+ coloriess spores typical of Penicillium / Aspergillus (spores) 2+ Acremonium species (spores, hyphae, conidiophores)	None	Moid growth
Lab ID-Version: 14	159427-1: Tape sam	ole EIMT P5: Ellington, ceiling		
Moderate	Few	4+ Cladosporium species (spores,	None	Mold growth

[‡] A "Version" greater than 1 indicates amended data.

EMLab ID: 333712, Page 1 of 1

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

L HEALTH CHAIN-OF, CIISTONY / FIET D DATA SHEET
H H
0
ΤV
_
Щ
- 5
Ć
-
2
Ç
Ç
Ż
HΔ
C
Ė
Ā
Ť
AL
Z O
TION
PATIONAL HEALTH CHAIN-O
CUPATION
OCCUPATION
AL OCCUPATION
RAL OCCUPATION
DERAL OCCUPATION
FEDERAL OCCUP
RVICE, FEDERAL OCCUP
FEDERAL OCCUP
FEDERAL OCCUP
FEDERAL OCCUP
ALIC HEALTH SERVICE, FEDERAL OCCUP
FEDERAL OCCUP

invironmental Microbiology Laboratory.	crobiolag	y Laborat	, Vuo	PROJECTS REFE	PROJE	RENC		For	For Lab Use	Use Only	5	3	Email of the Use Only Conditions on Receipt with Name & Date	Receipt wit	h Name &	Date
And the line of the contract of the line o	o Mall Mas	· Cuita aas		Agreement No.		А		<u>E</u> .	Project /Report #:	× 1,				-		
					T	0			Due Date:							
				Statement		n		ie n	Samples Received Chilled? YES	selved Ch	illed? Y£	S	O (circle one)			
				5	Т			Ser.	**Water Sample Codes	трівісо	des	Tum	Tum Around Time Codes.		"Analysis!Requested	, pe
				Project	ect .	おこれの ないい	ř	8 1	Container Types:	:sed/		STD.	Standard		-	
				_			1	-	P-Plastic, G-Glass, V-VOC	Glass, V	-400	삼	R- Rushe	7.		
				Agency/Project		NEA SOUTHER REYER	FOT RE	_	Preservatives:	 		.Ω	2D. Two Day Rush*	<i>,</i>		
				Name		TH OF FICE (18.	1 1 1 1		A-None, B-H ₂ SO ₄ ,	3-H ₂ SO ₄ ,	. =	Š	ND- Next Day Rush*®	13		
					loi				C-HNO3, D-NBOH	D-NaO	_	3D.	Same Day Rush 🕰	, y :		
o m n	١			(City, State):	tate):	MILANTA (7 5	-				WH	WH- Weekend/Holiday*	::•		
	admes			•	,			¥	Wipe		Water	Turn				
# 0	Type Media	P. Collected	Time	Sample Li	ocation / L	Sample Location / Description	(LPM) (Time Vol.	Volume Area (Litera)	ea Volume	ne Code³	Around Time*	Lab ID#	7 1 P		
このもの	•			ELLINGTON FACIO		TNSIBE BIRNK										RE
ST A				Bisingron Firstd	Fire	Jus /		-							-	STA
11854	,	-	[1:1]	HAA. F GE		List (Swide)			-							VAII
				Ellingrow FLEW/ RTN	Field	RTN Vent			_						-	ABL
	***	رد	1,1,2,1	HAYSE OC	7	(Su 1/9)			*****					 ,	·	E CC
DPY JALLE		-	10 43 44	Ellimy Ton	Field	Ellington Field/Supply very										PY
	-			Fillmores Field/April	100	34 1 TY 6		-	+	-						T
1000	1	id N		HEYT HANSE OF	2	(Swing)			_							
A Re				Ellingion Field/LETITA	1	CIITAG										
	17	3	31.95	16-48 KANSF CEC	\sim			 -	_							
				Ellington Freid		Print Prints								-		<u> </u>
		5	11.7	HNYS.F C.C.		- ".]			<u>``</u>					-		
d #J-1 onal G Page					2 UT	\$ 5 to 10 to										
15-0 uaro 645	6	7	. 7	10 m 1 m		1 K 1 K 1										_
V. Sample, Type Co	Soil & Dust		Sample	Aedia Codes	- 15 5	िक्ष्या sRelinquished By निकास कर	By year See		经 Date: & Time (4.1)	me	K-12.		Received/By	. ∑Dates8	> Date: & Time Time	
Class XI-Wipe 8-Contact Plate	a Plate	4-Preweit	ghted 5-Mi	4-Preweighted 5-MEA 6-CCA 7-R2ATSA	= & ;											
Other	eioii e otileis	10-MCE (Cassette (C	o-Air-O-Ceir Cassette (9.8) 11-MCE Fitter 12-Other	0.45) 2-Other											
OMMENTS:																T

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 PLALIC HEALTH SERVICE, FEDERAL OCCUPATIONAL REALTH CHAIN-OF-CUSTODY / FIELD DATA SHEET

EIJER OLE TOO TOO TOO TOO TOO TOO TOO TOO TOO TO	No.: No.:	invironmental Microbiology Laboratory 50 S. Independence Mail West, Suite 321		OJECTI	T. A. III 以 M. T. A. III 以 M. T. A. III 以 M. T. A. III 以 M. T. A. III 以 M. T. A. III 以 M. T. A. III 以 M. T. A. III 以 M. T. A. III 以 M. T. A. III 以 M. T. A. III 以 M. T. A. III 以 M. T. A. III 以 M. T. A. III 以 M. T. A. II 以 M. T	For Lab Use Only	e only	}	2	REFERENCE 事業の企業の企業の企業の Lab Use Only Conditions on Receipt with Device	Conditions on Receipt with Name & Date	L Date
Samples Recolved Chillect YES NO (erce one) E IFC CC 7 Container Types: TH D F F CC 7 Container Types: TH D F F CC 7 Container Types: TH D F F CC 7 Container Types: TH D F F CC 7 Container Types: TH D F F CC 7 Container Types: TH D F F CC 7 Container Types: TH D F F CC 7 Container Types: TH D F F CC 7 Container Types: The Wiles Same Day Rush-8 Container Types: The Wiles Water Turn William Code Araund Lab ID # Container Types: Container Types: The Wiles Water Turn William Code Araund Lab ID # Container Types: Containe	Samples Recolved Chillect YES NO (circle one) E IFFL CLC 7 Containe Types I A FRUSH I A FT LANTA GA Summer Types I A PLANTA I A FT LANTA I A FT LANT		No.:			Project /Report #: Due Date:	 50 1					
E. Il F. D. Cross Supples Codes Supples Supples Codes Supples Codes Supples Codes Supples Codes Supples Supples Codes Supples Codes Supples Supples Codes Supples Supp	ELIFE CCC 7 Container Types: RIP STO- Standard Colless, VAOC R- Rush Container Types: ETH CFFECTOR AND THIS William Answ Values Answer And And And And And And And And And And					Samples Re	celved C	hilled? Y	S			
Container Types: STD-Standard Relating Golass, WVOC Relating PHastic, Golass, WVOC Relating PHASTIC, Goldss, WVOC Relating Relating Goldss, WVOC Relating Relating Goldss, WVOC Relating Relating Goldss, WVOC Relating Relating Goldss, WVOC Relating Relating Goldss, WVOC Relating Relating Goldss, WVOC Relating Relating Goldss, WVOC Relating Relating Goldss, WVOC Relating Relating Relating Goldss, WVOC Relating Relati	P. P. P. P. P. P. P. P.			Т		WaterS	amplesCo	sepc		Around-Time:Codes		ted
12 F. The Different Strates of CHNOs, D-Nagh Blash CHNOs, D-Nagh Blash CHNOs, D-Nagh Blash CHNOs, D-Nagh Blash CHNOs, D-Nagh Blash CHNOs, D-Nagh CHNOS, D-Na	POT LANIN GA A AND BASO, DASCH BASO, DASCH BASO, CHING, DASCH THE TAN TOWN TOWN THE TAN TOWN TOWN TOWN TOWN TOWN TOWN TOWN TOW			<u>ц</u>	٧	Container 1	ypes:	J0/\?/	ST	Standard		
EH DEFECTOR ANON BHSON, ND-Next Day Rush CHNO, DANGOH SD. Same Day Rush CHNO, DANGOH SD. Same Day Rush CHNO, DANGOH WH- Weekendholdsay Wh- Weekendholdsay Time CHNO, DANGOH CH				N5 B	ASI Keylor	Preservativ	isa:	3	Ŕ	Two Day Rush*		
CHINO, D-NaCH On I Description Frow Tan Wing Water On I Description On I Descrip	HTLANIA GA			THE	1 1 1 1	A-None,	B-H ₂ SO,	٠	Ş	. Next Day Rush 4		
MTLMMin GA				۲		C-HNO3	D-NaO	I	ŝ	Same Day Rush @		
The Tabe Time Volume Are Volume	The Fow Time Water Tum Cook Around Aro								WH	Weekend/Holiday*	}	
TAPE Tape Time Volume Ares Volume Code Around Lab ID # Lab ID ID # Lab ID # Lab ID ID # Lab ID ID # Lab ID ID ID ID ID ID ID ID ID ID ID ID ID	1 TAPE 1 Surply very	1			-	-		Water	Ľ			
1d River Supply S	1 TAPE Burn (TAPE) CARE 1 CARE 1 CARE 2 CARE CELICAGE CARE CARE CARE CARE CARE CARE CARE CARE	Time		non / Description							1	
A Supply	A Supply of a California (TAPE) A Supply of a California (TAPE)		Ellingrain FA				-		_			T
The Supply Con (Table) The Supply Con (Table) The Continuity of the Supply Continuity	1d ATH UCHT (TAPE) 1d Supply Ucht (TAPE) 2d CELICAS 2d	<u> </u>	HAMSF QC				·			-	•	BE
Dividition (TAPE)	1d/ RTN USNT (FDPZ) 1d/ Supply USN (FDPZ) 2d/ CELISTY (FDPZ) 2d/ CELISTY (FDPZ) 2d/ CELISTY 2d/ CELIST		Entingion Fr	_		-	_	_				ST A
1d/ RTM UCNT (TAPE) (TAPE) (TAPE) (TAPE)	1d KTN UZNT (TAPE) (TAPE) (TAPE) (TAPE) (TAPE)			Duct (TAPE)								VAII
id Suppry でで (TAPE) こだしていら (TAPE)	id Supply (Craft) (TAPE) (EHIMYTON FL	/RIN (-	-				ABL
14 Suppy ででは (TAPE) (14 Supply vora (TARE) (CARE) (CAR		HANSIF QL	(r.sp.	······	 -						E CC
A C ELICAS (「APE) (FAPE) (A SWARPHINGUISHEd By Market Market Time (Market Market	A C E L I C A A C E L I C A A A A A A A A A A A A A A A A A A		Ellingion FL			_	_	_				OPY
三角(C E L I CAG) (「A)DE) (A)	まずくことになった。 (TADE) (TA		MAYSE CIC	/ (TAPE)							Mogay	
() () () () () () () () () ()	(1972)	_{=	Ellingion F	n								
会会会会Relinquished By well and the State Received By well and and and and and and and and and and	会会会会Relinquished By water and		MASSE OC	/ (130E)								
会会会表Relinquished By 本学会の会会 SepDates & Timeを会合。 Regeived By enter and and and and and and and and and and	できる And And Shed By Maria Date Act Ime No. Received By Maria Service Teaching Units Hed By Maria Ser											
ইউ বিস্তৃতিই Relinquished By সাই ব্যৱহাৰ প্ৰস্তৃতি বিশ্বস্থা medical and an arrangement of the second of By an arrangement of the second of By an arrangement of the second of By an arrangement of the second of By an arrangement of the second of By an arrangement of the second of By an arrangement of the second of By an arrangement of the second of By an arrangement of the second of By an arrangement of the second of By an arrangement of the second of By an arrangement of the second of By an arrangement of the second of By an arrangement of the second of By an arrangement of the second of By arrangement of By an arrangement of the second of By arrangement of By arrangem	ি শুকুটাইRelinquished By সংখ্যালিক প্রতিষ্ঠা বিশ্বাসকলি শুকুল প্রক্রিক স্থানিক বিশ্বাসকলি শুকুল প্রক্রিক প্রকল											
িজ্ঞান্ত Received By সংখ্যাত প্রতিষ্ঠি By সংখ্যাত বিশ্ব স্থাত ্থাত বিশ্ব স্থা স্থাত বিশ্ব স্থা স্থা স্থা স্থা স্থা স্থা স্থা স্থা	ি প্রতিষ্ঠিতি বিশ্বস্থা প্রস্থা বিশ্বস্থা প্রস্থা বিশ্বস্থা ব											
er	er	Jampi	e Media Codes ু ্		_	Date;&;ī	lme		Regei	Ned Section VB/bev	S. DatesRaTime	
Section 3-MCE Filter 12-Other	Ssette (0.8) 11-MCE Filter 12-Other	7 f 2	AU 3-Matched Weight MEA 6-CCA 7-R2A/TSA		<u> </u>							
		assette	(0.8) 11-MCE Filter 12-0	o) ther								

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.

10 October 2007

SUBJECT: Transmittal of IH Survey. Houston, Texas 77034-5596.

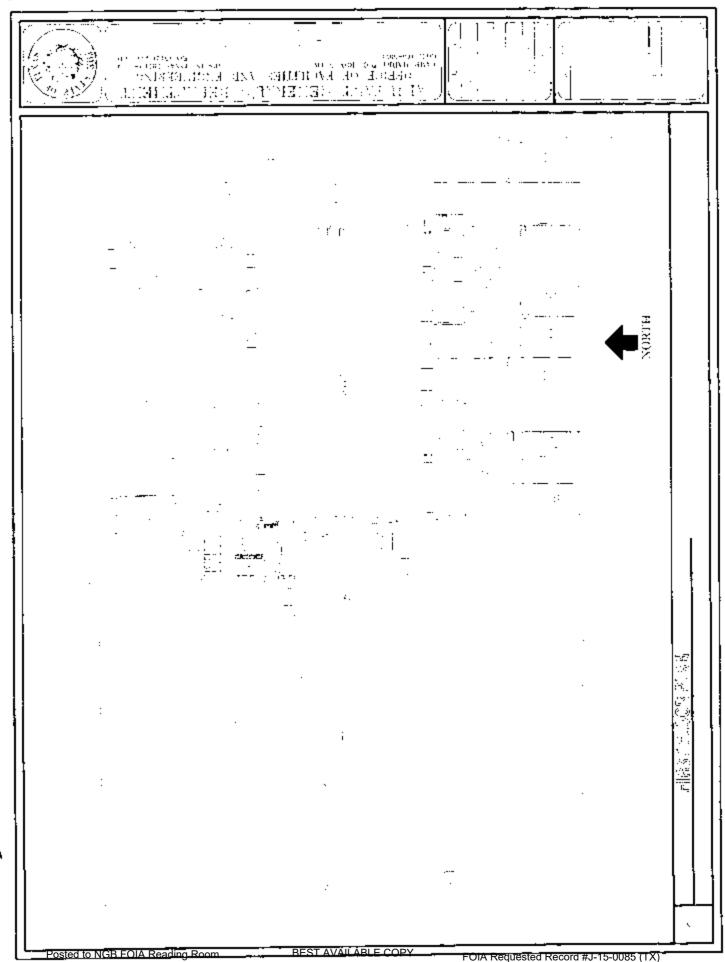


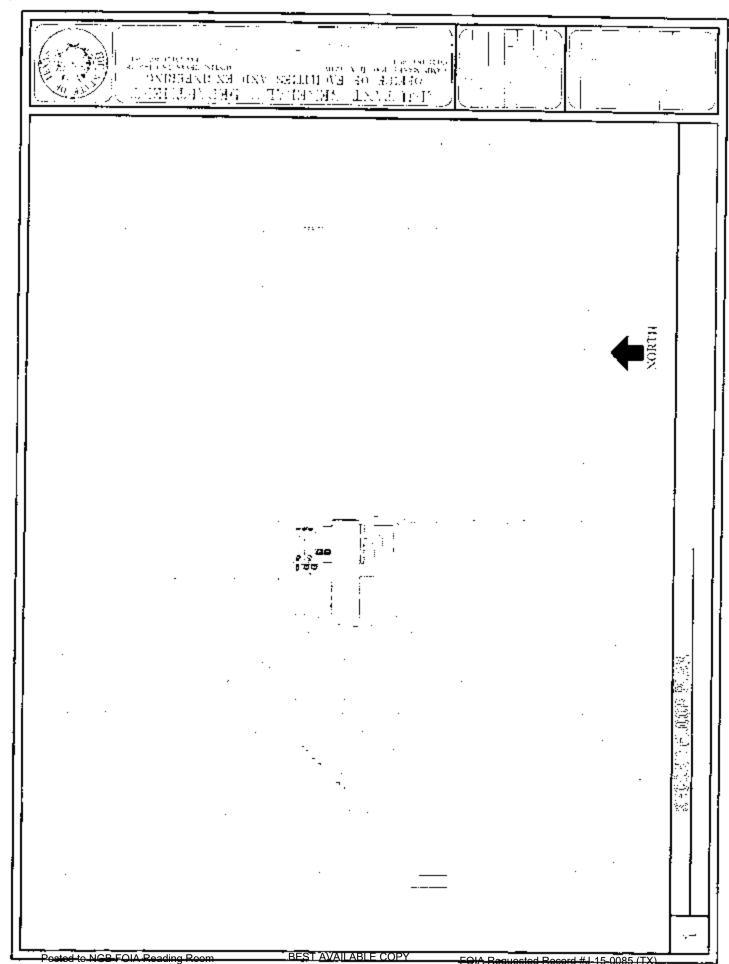
Ellington Field Armory, 1182 Ellington Field,

Appendix C

Photographs and Floor Layout.

May, 2018





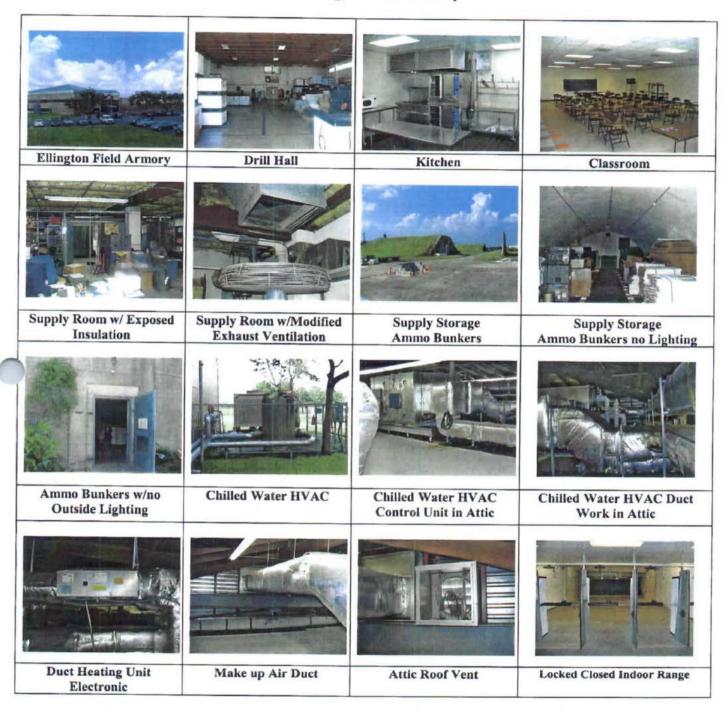
May, 2018

FOIA Requested Record #J 15-0085 (TX). Released by National Guard Bureau Page 649 of 1757 SUBJECT: Transmittal of IH Survey Houston, Texas 77034-5596.

Non-Responsive

Ellington Field Armory, 1182 Ellington Field,

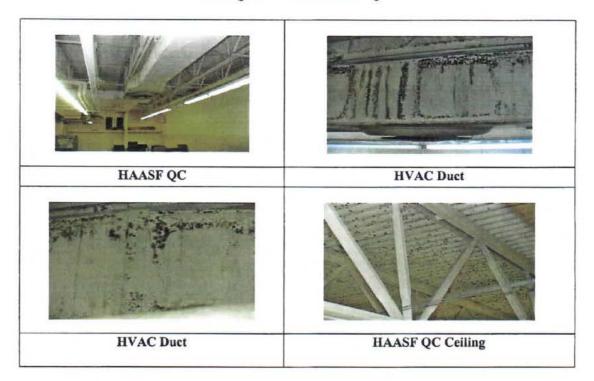
Ellington Field Armory



SUBJECT: Transmittal of IH Survey, Houston, Texas 77034-5596.

Von-Responsivengton Field Armory, 1182 Ellington Field,

Ellington Field HAASF QC



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.

References.

- 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.
- 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.
- 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.
- I. 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.I., 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.I, 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.
- 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 hydiene 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 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



July 2, 2003

BEST AVAILABLE COPY

Table of Contents

Executive Summary	Page]
Subject	Page 2
Background	Page 1
Introduction	
Site Description	
Scope of Work	
Methodology	
Findings & Discussion	
Lead Wipe Samples	Page 3
Aspestos Suspect Building Material	
Noise Survey	
Illumination Survey	Page 5
Heating Ventilating and Air Conditioning (HVAC)	Page S
Recommendations	Page (

Appendices

- A. References.
- B. Laboratory Analytical Results.
- C. Lab Chain of Custody.
- D. Floor Layout and Photographs.
- E. Indoor Firing Range Cleaning Guidance.

Survey Date: 8 May 2003

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.

Тэріс	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.
Illuminatio i Survey	20 to 60 footcandles	No action.
HVAC/IAO	No issues.	No action.

Survey Date: 8 May 2003

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 Scuth 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.

<u>Scope of Work.</u> 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. photograp 1 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



Survey Date: 8 May 2003

<u>Lead Wipe Samples:</u> 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.	QQQC 1 Per		
EW002	Floor in incarcon a Cistory			
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 of the	971		
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 'ead 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

Survey Date: 8 May 2003

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:

Sam	ple	ŧ
-----	-----	---

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.

<u>Noise Survey</u> Area noise readings were collected in the various surveyed areas within the armony 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 Siring 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		

Report Date | 2 July 2003

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.

<u>Illumination Survey</u> 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 Ascembly 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 ERT 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-Condi ioning (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:

 Close the firing range and do not use as an exercise until it is properly cleaned and decontaminated.

Survey Date: 8 May 2003

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

BEST AVAILABLE COPY

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.

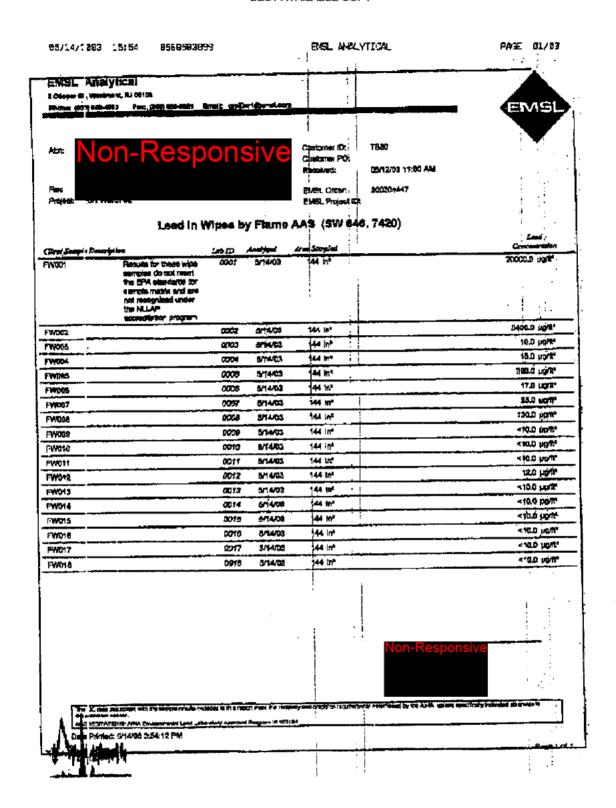
TB MED 503. The Army Industrial Hygiene Program. February 1985.

Title 29, Code Of Federal Regulations (CFR), 1999, revision, Part 1910, Occupational Safety and Health Standards.

TG022, US Anny 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, Inc.

197 Hariston Ave., Westmore, NJ 08108

Phone: (05%) 865 4800 Fax: (556) Beh-1980 Email: #singniffCMSI_eq#



Attn:

Non-Responsive

Customer ID; Customer PO: TS80

Received:

05/12/03 2:35 PM

EMSL Order:

040307586

EMSL Project ID:

Analysia Date: 1/19/03

Asbesto: Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

				Non-Asbeston			Asheston
Sample	Location	Арроппанов	Treatment	% FI	brous	% Non-Fibraris	% Type
FW01A M03078/H-0907	FORT WORTH #2	Tan/White Fibroies Heterogeneous	Teradd	99%	Cellulosa	1% Non-Maraille (Alhor)	None Detected
FW02/\ 010307838-5777	FORT WORTH #Z	Ten/White Fibrous Heterogeneous	Texaed	100%	Collulose		Mone Detected
FWD3A pessysterous	FORT WORTH #2	Green/Grayish Fibrous Hotorogen sous	Teased	1574 574	Glees Min, Wool	80% Non-Rorous (edher)	None Detected
FW04A 049097549-0004	FORT WORTH#2		Teased	-	Collulose Synthetic	18% Non-fibrous (other)	16% Chrysotlie

Non-Responsive

Non-Responsive

(T_AT has bond known; a set to take internity per partition of the process reported which tendors advantable to the partition of the partition

Analysis and the Translation of the Analysis and Analysis of Conference of the Confe

PLM-1

THIS IS THE LAST PAGE OF THE REPORT

BEST AVAILABLE COPY

APPENDIX C

05/14/2003 15:54 8568583399 ENSL ANALYTICAL PAE 03/83 **EMSL ANALYTICAL** CHAIN OF CUSTODY 7,60044447 Redsed 7H/29 SAMPLE # LOCATION Alf volunte, L LAB# Area, in F'N001 FORT MUETH # 2 044421 FW002 FW 003 FvJ004 <u> FN00S</u> EWOOD FWOOT FW003 EMOID MON <u>Eworz</u> E WO13 F-WOI4 FWOIS

A EMBL By: Relinquished By: (Person) Date 5/3/03 Sterla 1100to

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

LEAD

H

7

/ŧ

ť٧

1

¢ 1)

ľY

410 W 7

FWOIR

040307558



EMSL Apalytical, Inc. Revised 07/07/99

CUAIN OF CUSTODY

Asbestes

EMSL Rep: Your Company Name: Street: Box#: City/State: Phone Results to: Name: Telephone f:	3744 Lau	Schemes In Irence Dr. II Zip: 605	<u></u>	P P	(roun ti	pg.ag benuk	, 	Shipping
Project Name/Number:				_	·			
N	ATRIX				TUR	MARC	DUND	
Air Floo	r Tile	□ Soil		3 hrs	☐ 6 Hours	or	Same Day 12 Stours*	1 day
	towater	☐ Miero-Vac		2 days 1021 44+ hours	3 days	_	laya	5 Days
PCM - An NIOSH 7400 OSHA Other: PLM - Ruik EPA 6 XVR-93/11 EPA Point Count NY Stratified Point PLM 140B (Gravint Other: SEM Air or Bulk Quantitative Quantitative	t Count	Chatte	LK.	el II <u>/mise</u> mi (Qualitative)			Water - N' Water-NY 1 MICRO ASTM D:	Water EPA 100.1 Wastewater Drinking Weter OVAC / WIPE
AMPLE N	MBER			LOCATION			ADPRIV	(If Applicable)
CAL501		DA	رد	A5 # 5				N/A
()AL450: CEem Same le # (s) Reilumidake I: Received:	on-Resp	onsive Fedi	- -	Date:	5/8/03	<u>. </u>	Time:	PM 3 8-11



RMSL Analytical, Inc., Review 07/27/19

01/03077558

CHAIN OF CUSTODY

åt ka stas

S IMPLE NUMBER	LOCATION	VOLUME (If Applicable)
£94 503A	DALLAS # 5	NA.
2th 504h		104
DAL 505 A		
` `	+ Seperate Report de	
	JENING DALLAS	
J.(102 H	2	N/A
_£RVC3B		
TG.V 04A		
> 9+	SEPERATE REPORT	
0.4 (2.0) 79		
DIK 202 A	SMLAS # Z	N/A
DIA-203A		
= > 4 Se	0-1	
MIC401A		
064-402A	DALLAS # 4	NA
Mrs 40379		
DAC4%A		
DIAL 405A		
0AL 406A		
2AL403A		
CAC 108A	3	
	SEPERATE REPORT S	- Y
JAL 30/A	DAUASH 3	N/A
DAT 305 4		2
<u>041-303A</u>	1 5	-
14	SEPERATE REPORT #	
_ 	7	

Page 2 1/3.

Off) \$2,1228



EndSL Austyrical, Inc. Revised 07/07/98

CHAIN OF CUSTODY

ASTRESTOS

A INOPLE NUMBER	1.stCATION	VOLUME (If Applicable)
FIGOLA	TOUT WORTH # Z	N/A
FW02 A		<u> </u>
FUOBA		<u> </u>
FW04h		1/2
FWOAR SEPE	PATE REPORTS	2
		<u> </u>
<u></u>		
<u> </u>		. <u> </u>
<u> </u>		
ļ		

Page 3 of 3 3

BEST AVAILABLE COPY

APPENDIX D



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.

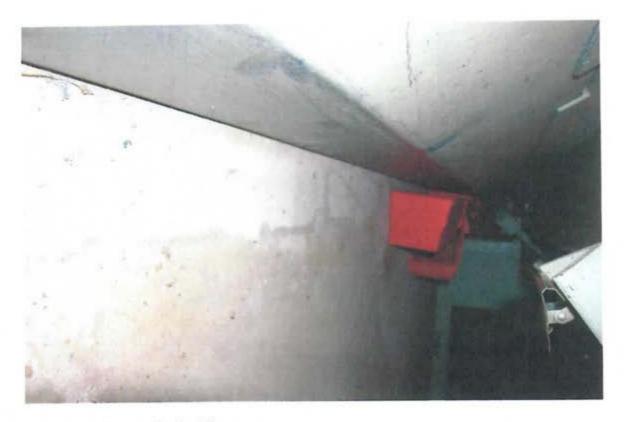


Photo 5: Bullet trap in the firing range.



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.

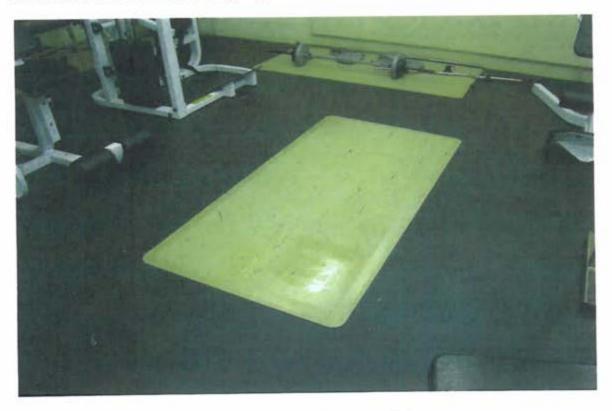


Photo 12: Floor mat in front of the weight machine in the firing range.



Photo 13: Kitchen.



Photo 14: Drill hall facing west.

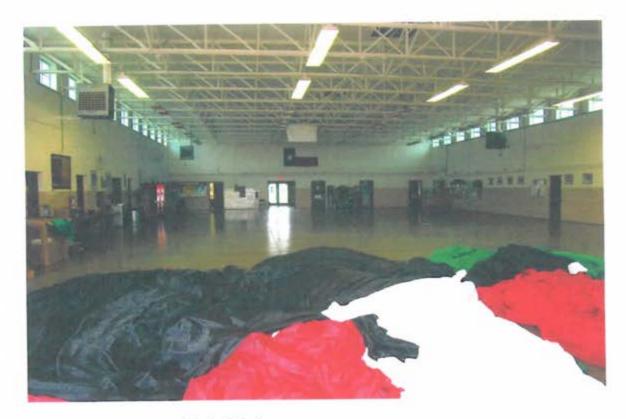


Photo 15: Drill or assembly hall facing east.



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.

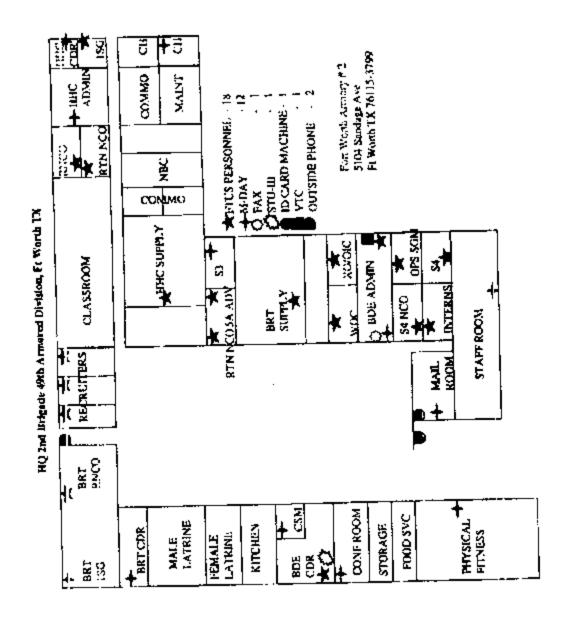
w 10 7



Photo 19: Thermal pipe fitting insulation in the drill hall.



Photo 20: Thermal pipe insulation in drill hall..



APPENDIX E

Indoor Firing Range Cleaning Guldance

- 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 plantic 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 P-ocedures 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.

- 16. 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 FEPA 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 dus, while providing adequate worker protection from airborne exposure visks. 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 I 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 d ist 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, a range 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 HE 'A filters may reduce the vacuum's soction 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 cools.
- (3) Selecting Appropriate Size(s) HEPA vacuums are available in several sizes, ranging from a small lunch bucketsized 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 elect ical 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 Vacouming Procedures Surfaces to be vacoumed 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 capinets, 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 list.
- (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 come 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 Diiution 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 caoinets, 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.
- 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 should be located in or very near the work area. Consult manufacturer's directions for the use of other detergents.* Appropriate Cleaning Equipment- Because a detergent may be used to clean leaded dust from a variety of surfaces, several types of application equipment are needed, including cleaning solution spray bottles, wringer buckets. mops, variously sized hand sponges, brushes, and rags. Using the proper equipment on each surface is essential to the quality of the wet-wash process.
- (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 durage 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 V/et 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 ead 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 pray 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. Scaled 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 costed 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 leed hazard control project must be maintained. During their daily cleaning activities, workers should monitor the sheeting and immediately repair any holes or rips with (-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 far indexed 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 star dards. 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 curpets in cleaning fine dust without increasing airborne dust levels. Vacuums without agitator heads appear to perform relatively poorly on carpets.

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-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.

- 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.
- 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.
- 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.
- Industrial Ventilation, 23rd Edition, American Conference of Governmental Industrial Hygienist, Cincinnati, Ohio.
- USAEHA TG-141, November 1997, Guidelines for Air Sampling and Bulk sample Collection.

NGB-ARS-IHSE (40-5f)

November 24, 2009

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.
- 1. 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.

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



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

References.

- a. Title 29, Code of Federal Regulations (CFR) Part 1910, Occupational Safety and Health Administration (OSHA).
- AR 40-5, Preventive Medicine, 15 October 1990.
- 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
- Department of the Army Pamphlet (DA PAM) 40-501, 27 August 1991, Hearing Conservation
- 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. <u>Background</u>. 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. <u>Facility Description</u>. 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/ft² 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.

LAE Consulting 1218 Scattered Pines Court, Severn, Maryland 21144 Telephone: (410) 551-2717

BEST AVAILABLE COPY

SUBJECT: Industrial Hygiene Survey of Sandage National Guard Armory, Fort Worth, Texas

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.

1.4E Consulting 1218 Scancest Price Court, Severa, Maryland 21144 Telephone: (410) 561-2717

Раде 3

SUBJECT: Industrial Hygiene Survey of Sandage National Guard Armory, Fort Worth, Texas

5. Technical Assistance. For technical assistance, regarding information found in this report.

The property of the control of

- 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

May, 2018

BEST AVAILABLE COPY

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)
- c. 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)

1.AE Computing 1218 Scattered Pines Court, Severa, Maryland 21144 Telephone: (410) 551-2717

Page 5

Sandage Armory Lead Wipe Sample Results

Sample #	Location	Results
Ĺ	D.R. right side wall former backstop	BRI.
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	BŘL
9 :	Floor concrete under universal gym	62 ug/ft ²
10	Right side of wall 7 ft up near Maxi Cam	BRI.
11	D.R. floor 1 ft outside 2 nd 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 I ft outside former range	BRL
17	Dish tray window ledge in drill halt	32 ug/ft²
18	Floor in front of supply 3 fl from door	BRL
19	Center of drill hall floor	BRI.
20	Top of Dr. Pepper machine	BRI.
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	BRI.

^{*}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

Lab Order:

0911923

Project:

Sandage Armory, Forth Worth, TX

Date Received: 11/11/2009 10:30 AM

Delivery Order:

Matrix:

Wipe

PO No:

								
Laboratory	Client Sample	Results	Voits	Report	DF	Date	Date	Analyst
ED	TD.			Limit		Collected	Analyzed	
0911923-001A	SA-BLANK	BRL.	μg/ft²	20	ı	11/10/2009	11/13/2009	MAW
0911923-002A	SA-01	BRL	$\mu g/\Omega^2$	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-IH	BRI.	$\mu g/i t^2$	20	1	11/10/2009	11/13/2009	MAW
0911923-006A	SA-05	BR1.	$\mu g/h^2$	20	1	11/10/2009	11/13/2009	MAW
0911923-007∧	SA-06	BRL	$\mu g/\hat{H}^2$	20	1	11/10/2009	11/13/2009	MAW
0911923-008A	SA-07	BR1.	$\mu g/\Omega^{\gamma}$	20	I	11/10/2009	11/13/2009	MAW
0911923-009A	SA-08	BRL	$\mu g/ft^a$	20	- 1	(1/10/2009	11/13/2009	MAW
0911923-010A	SA-09	62	$\mu g/\Omega^2$	20	1	11/10/2009	11/13/2009	MAW
0911923-011A	SA-10	BRI.	μ ց/Ռ Դ	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	$\mu g/\Omega^{x}$	20	1	11/10/2009	11/13/2009	MAW
0911923-014A	SA-13	BRI.	$\mu g/\Omega^2$	20	1	11/10/2009	11/13/2009	MAW
0911923-015A	SA-14	21	$\mu g/\Omega^{\circ}$	20	1	11/10/2009	11/13/2009	MAW
0911923-016A	SA-15	BRL	$\mu g/\Pi^{\gamma}$	20	1	11/10/2009	11/13/2009	MAW
0911923-017A	SA-16	BRL	$\mu \mathbf{g}/\Omega^z$	20	ı	11/10/2009	11/13/2009	MAW
0911923-018A	SA-17	32	$\mu g/\Omega^2$	20	1	11/10/2009	11/13/2009	MAW
0911923-019A	SA-18	BRU	$\mu g/\overline{n}^2$	20	1	11/10/2009	11/13/2009	MAW
09 1923-020A	SA-19	BRI.	$\mu g/0^{3}$	20	1	11/10/2009	11/13/2009	MAW
0911923-021A	SA-20	BRL	$\mu g/\Omega^2$	20	1	11/10/2009	11/16/2009	MAW
0911923-022A	SA-21	BRL	$\mu g/\Omega^2$	20	ı	11/10/2009	11/16/2009	MAW
0911923-023A	SA-22	BRL	$\mu g/ft^2$	20	1	11/10/2009	11/16/2009	MAW
0911923-024A	SA-23	BRI.	μg/ft²	20	1	11/10/2009	11/16/2009	MAW

Quadfiers:

BRL - Not Descried at the Reporting Limit

DE - Dilution Factor

-	HEA	LTH HAZAI	RD INFORM	ATION	MODULE: IN	DUSTRIA	_ HYGIE	NE SUR	VEY	
			(For use of	this fo	rm, see HHIN	l User's Gu	uide)			
				-		,				
ARLOC			LLATION					.DG/RM N 04 SANDA		
48000		SAND	AGE ARMOR	Y					H, TX 76115	
LOCATION/CODE					OPERATION ADO	N/CODE				
AA SURVEY DATE			EV	ALUATO						
10 NOV 09			LAE	CONSL	ILTING					
MACOM/CODE			SUBMACO	M/COD	E		UPERVI			
NG			xx				lon-Res	ponsive		
Non-Respo	neiv	UNIT/OR	GANIZATION SE ARMORY			RAC	3		FREQUENCY (hrs/day	1)
14011-1 (CSpC	/1151V	SANDAG	E ARMORT						+8 hrs	
NO. CIV(S)	NC). MIL	N	O. CON	TRACTORS	NO. L	OC(S)		NO. OTHER	
			O.	CTIO	2: FACILITY	/ DATA				
LAB HOODS			VAPOR DE				SPRAY B	OOTHS		
0			o		o					
MAINTENANCE BA	YS		OPEN SUF	RFACE	TANKS	,	VENTILA	TION UNI	TS	.
0			0				D			
			S	ECTIO	N 3: SURVEY					
CONTROLS	PRESENT		EVALUATION		UNIT CODE	CONT	ROLS RE	QUIRED	STATUS	
						 				
						 	-			
						 				
			<u> </u>							
PERSONAL PROTEC	CTIVE EQ	UIPMENT (R=	REQUIRED; U	= UTILIZ	ZED)					
GLOVES	RAU	RE	SPIRATOR		NIOSH TC	NO.		MANU	FACTURER	R/U
ACID	1	AIR LINE ABRASIZE BLAS	COOL SALES						·	1
COLD SURFACES HOT SURFACES	1	DISPOSABLE	STING HOOD	-						1
NBC AGENTS	1	FULL FACE AIR								1
OIL SOLVENTS	1	1/2 FACE AIR P					 -			1
SURGICAL GLOVES	1	SELF CONTAIN								1
EYES/FACE	R/U	Tue'	ARING	R/Ü	B.C	ODY	R/U		HEAD/FIT	R/U
		CANAL CAPS		17	APRONS		X/	COLD WE	ATHER BOOTS/HATS	1
CHEMICAL SPLASH FULL FACE SHEILD	X/	EARPLUGS		1 ×/	COLD WEATHER	R CLOTHING	Ť	HARD HA	rs	1
CHEMICAL/SAFETY	X/	HELMETS		- 1	COVERALLS		/	MPERME	ABLE BOOTS ONDUCTIVE SHOES	1
SAFETY/IMPACT	X/	MUFFS	C COMPO	X	FULL BODY SUI		r / -	SAFETY/N	CN-CONDUCTIVE SHOES	X/
WELDING HELMET		MUFF/EARPLU MUFF/EARPLU	G W/TIME LIMIT	1	SAFETY BELT/H		1			1

•	HEAL	TH HAZAR	D INFORM	ATION	MODULE: IN	DUSTRI	AL HYGIE	NE SUR	VEY	
		(For use o	this fo	rm, see H HIM	User's (ouide)			
ARLOC		INSTALL						.DG/RM N 04 SANDA		
48000		SANDAG	SE ARMOR	Y					TH, TX 76115	
LOCATION/CODE					OPERATION	/CODE				
SA SURVEY DATE		· · · · · · · · · · · · · · · · · · ·	EV	ALUATO	SAH R					
SURVET DATE			1							
10 NOV 09				CONSU				200		
MACOM/CODE			SUBMACC	M/CODE	Ē		Non-Res	ponsive		
NG		Turneras	45UZ4TIO1			RAC	3		FREQUENCY (hrs/day	·) —
Non-Respondent			ANIZATION ARMORY	•		RAC	. 3		, , Luce Live (more)	,
Mon-Nespt	ואופווע	GANDAGE							+8 hrs	
NO. CIV(\$)	NO.	MIL	N	O. CON	TRACTORS	NO.	LOC(S)		NO. OTHER	
									2	
	ł .		s	ECTION	2: FACILITY	DATA				
LAB HOODS			VAPOR D	EGREAS	ERS		SPRAY B	COTHS		
0		0					0			
MAINTENANCE BA	YS		OPEN SU	RFACE	TANKS		VENTILA	TION UN	ITS	
0			0				0			
					N 3: SURVEY			OLUBER.	STATUS	
CONTROLS	PRESENT	E	VALUATION	-	UNIT CODE	CO	ITROLS RE	QUIKED	SIAIUS	
						-				
						-			<u> </u>	
						ļ				
						-				
						4				
PERSONAL PROTEC	TIVE EOL	IPMENT (R= R	EQUIRED: U	ı = UTİLİZ	ED)					
			PIRATOR		NIOSH TC	NΛ	1	MANI	JFACTURER	R/U
GLOVES	R/U		PIRATOR		MIOSH TO		+			Í
ACID COLD SURFACES		AIR LINE ABRASIZE BLAST	ING HOOD							/
HOT SURFACES		DISPOSABLE								
NBC AGENTS		FULL FACE AIR P					- -			+-
OIL	1 /	1/2 FACE AIR PU	RIFYING							1
SOLVENTS		1/4 FACE AIR PU SELF CONTAINE								1
SURGICAL GLOVES		OELF CONTAINE								<u></u>
EYES/FACE	R/U	HEA	RING	R/U	ВО	DY	R/U	Τ	HEAD/FIT	R/U
		CANAL CAPS		- ,	APRONS		X/		ATHER BOOTS/HATS	1
CHEMICAL SPLASH FULL FACE SHEILD		EARPLUGS		- X	COLD WEATHER	CLOTHING		HARD HA		1
CHEMICAL/SAFETY		HELMETS		1	COVERALLS			MPERM	ABLE BOOTS	+-+
SAFETY/IMPACT	X/	MUFFS		X	FULL BODY SUT	FD 05 1 05 05 2	SUIT /	SAFETY/	CONDUCTIVE SHOES NON-CONDUCTIVE SHOES	+ ź
WELDING HELMET	1	MUFF/EARPLUG	COMBO	· · · · ·	HEAT REFELEC		- '- '-	DACE 11/	MAIL COMPAGNITE GUALD	1 7
		MUFF/EARPLUG	W/TIME LIMIT		SAFETY BELT/H	CCINA				





View of Hazardous Material storage container

DORSE



Interior view of the Hazardous Material storage container



View of the Converted Indoor Firing Range



View of Flu mist live vaccine (lower tray) stored with food in the kitchen refrigerator



View of Flammable material stoage cabinet located outside the Armory



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. Back wall may have been the former observation room



Former location of range exhaust



View of Lead wipe sample 3, located, Rightr wall of near backstop



Up range view of converted indoor firing range



Straight line on bricks demarks possible location of former observation room



View of Lead wipe samples 1&2. located on back wall were backstop may have been positioned



View of Lead wipe sample 4, located left wall over 3&4 lateral file cabinet



View of Lead wipe sample 5, boatedon right wall 5 ft above golf clubs





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 sample 11, located on floor 1 ft from exit door to outside



View of Lead wipe sample 12, boated 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 half



View of Lead wipe sample 18, located on floor in front of supply room in Drill Hall



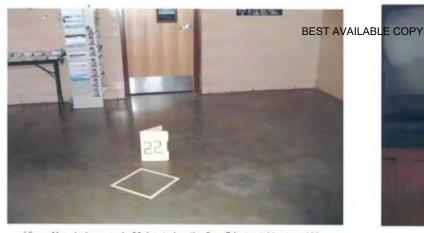
View of Lead wipe sample 19, located on center of drill hall floor



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.

References.

- 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.
- 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.
- 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.
- I. Report of October 2003, Industrial Hygiene Survey, Non-Responsive Technical Solutions Fayetteville, GA.

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

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.



CF:

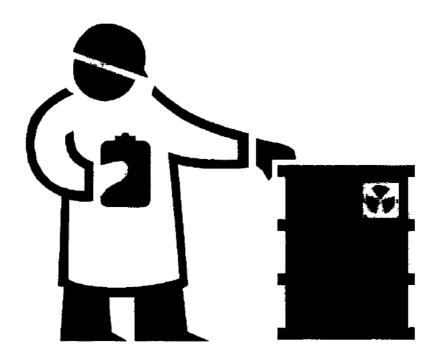
NBG-AVN-SH

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

Non-Respons

BEST AVAILABLE COPY TABLE OF CONTENTS

BACKGROUND:	1
EXECUTIVE SUMMARY	2
TECHNICAL ASSISTANCE:	3
INSTRUMENTATION:	4
FINDINGS:	5
FACILITY DIAGRAM:	5
PERSONNEL DATA:	6
BUILDING CONDITION:	6
Walk-through Observations	6
ADMINISTRATIVE OFFICES:	7
Light Reading Results:	7
Ventilation Sample Results:	
KITCHEN / MESS HALL	8
Light Reading Results:	
Lead Wipe Sample Results:	
DRILL HALL	
Light Reading Results:	9
Lead Wipe Sample Results:	9
Noise Sample Results:	9
HVAC SYSTEM	
SUPPLY ROOM(s) and VAULT(s)	10
Light Reading Results:	10
Lead Wipe Sample Results:	., 10
INDOOR FIRING RANGE	10
MOTOR POOL	10
APPENDIX A - Recommendations:	11
APPENDIX B - Pictures	12
APPENDIX C - Lab Report	13
APPENDIX D - Chemical / Supply List	. 14
APPENDIX F - HHIM Sheets	

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

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:

N.		White		Communication (Communication)	
1	Company A (-) 249	SPT	Non-F	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.

REST AVAILABLE COPY.

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:

San San San San San San San San San San			
Building condition / Indoor Air Quality	 There were no obvious signs of occupational hazards or concerns. 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 µg/ft ²	Continue to follow good hygiene and housekeeping practices.	
Asbestos Bulk Samples	No issues	No action	
Illumination Survey	* 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	

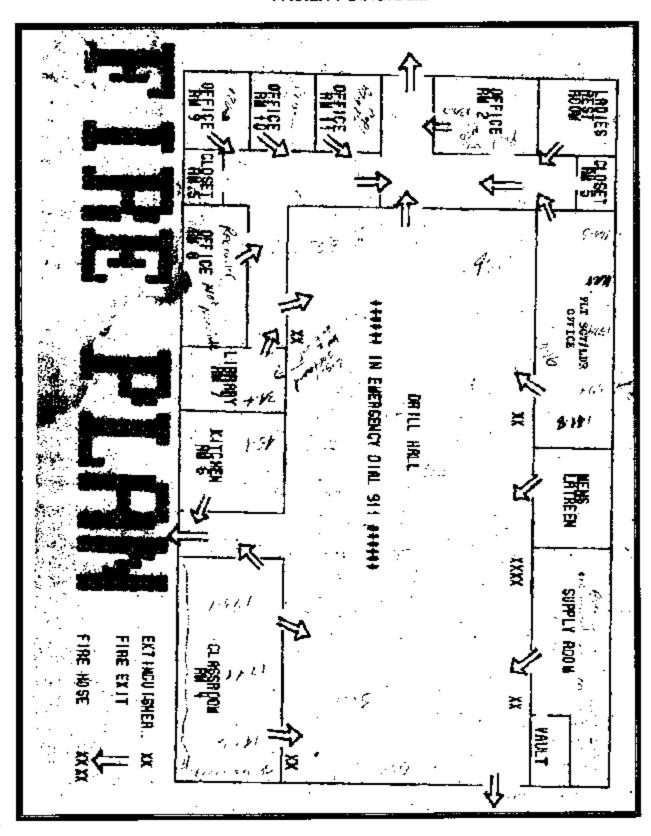
Ergonomics	Ergonomics conserva in Administrative and Supply Areas	Complete ergonomics survey on all personnel and offer ergonomic training or awareness to employees who spend the majority of their time working on a computer terminal
Personal Protective Equipment	No issues	No Action

Non-Responsive

The following survey instrumentation was provided by or for the contractor, and was used to obtain lead wipe dust, illumination, ventiletion, and noise sample measurements. All noise dosimeter instrumentation was calibrated before and after sampling. All other instrumentation was operated according to manufacture recommendations.

Part of the Control o		A French Commence
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:



PERSONNEL DATA:

This facility houses the following full-time personnel:



BUILDING CONDITION:

Walk-through Observations

	 P. Opt. Lant 12	1 - 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
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:

	The Cartines of	$\mathcal{L}_{\mathcal{L}}}}}}}}}}$	energy of the second se
	The variety		
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:

The state of the s	and the South Office	A September 1997	17.17
3 - 112 2	and the state of the state of	0.0	
Readiness NCO	800	12 X 12	
	., ,		

KITCHEM LMESS 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:

	部署(g law law law law law law law law law law	There is a second	
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.

and type		1 1 3 3 A	
1-Fredericksburg	Blank (Administrative Offices,	BRL	Below Reporting Levels
	Kitchen, Drill Hall and HVAC)	<u></u>	
2- Fredericksburg	Kitchen Counter	BRL	

Posted to NGB FOIA Reading Room

May, 2018

DRILL HALL

Personnel officially use the drill half 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:

	Contractor	And the second	r og øje s og o	· · · · · · · · · · · · · · · · · · ·
	North State in			
Drill Hall by back door	55.1			
Drill Hall outside the Supply Room	50.1		1	
Drill Hall near front entrance	39.7			
Drill Hall near PLT SGT / LDR Office	45.1			
	·			
		1		
				<u> </u>

Lead Wipe Sample Results:

Under the Environment Protection Agency standard (40 CFR 745) lead dust levels above 40 micrograms per equare foot on bare and carpeted floors is considered dangerous. The following are the sample results:

	1.00 to 1.00 miles (1.00 miles)		
3-Fredericksburg	Drill Hali by back door	BRL	Below Reporting Levels
4- Fredericksburg	Drill Hall outside Supply Room	BRL	

Noise Sample Results:

Noise levels in the driff 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 cornents, 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:

A KIND DOWNER,		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	'ল প্র
			## ## ## ## ## ## ## ## ## ## ## ## ##
Breaker trips when lights at No light samples were taken	re turned on.		, , , , , , , , , , , , , , , , , , ,
No light samples were taker	I IG GUIS EFER		
		<u>] </u>	

Lead Wipe Sample Results:

Under the Environment Protection Agency standard (40 CFR 745) lead dust levels above 40 micrograms per equare foot on bare and carpeted floors is considered dangerous.

Section 2	TOPING THE STATE OF THE STATE O	77.7 TV	tion of the sector	1
5- Fredericksburg	Blank (Supply and Vault)	BRL	Below Reporting	g Levels
6- Fredericksburg	Supply Desk	BRL		
7- Fredericksburg	Vault Rack	68.0		
8- Fredericksburg	Vault Shelf	63.0		
			. <u> </u>	

INDOOR FIRING RANGE

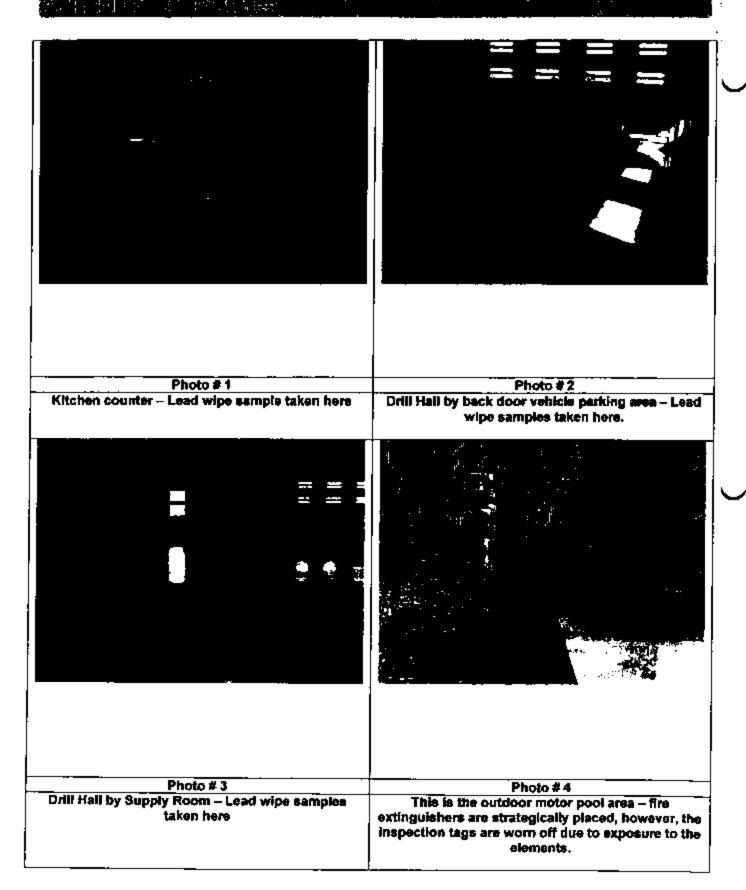
This facility has never had an indoor firing range.

MOTOR POOL

The motor pool is an outdoor area used to park vehicles and perform tight 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.

The discontinuous of the second

- 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 morntoping, inspecting and cleaning HVAC components such as outside air intakes, outside air dampers, air liters, 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 scaled plastic bag. There are no special requirements for the disposal of moldy materials.
- c. Upgrade lighting measurements as required. Replacing blown or broken lights, painting the walls a light stater, cleaning existing light fixtures, rearranging furniture to make better use of available light, and simplemental or tank lighting are considerations in increasing available light levels.
- f. An enganomics survey should be completed for all supply and administrative personnel as a preventitive measure to address and document any ergonomic concerns or problems. An enganesis on maintaining neutral postures and proper lifting techniques should be covered.
- g. Miniarial Safety Data Sheets (MSDS) are required to be kept at the primary workplace facility and to be easily executible 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 stepply 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.
- 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.
- Perform noise dosimetry on maintenance personnel during drill weekend, in order to document noise exposure.
- Portable eyewashes should be maintained on a weekly basis to ensure removal of opportunistic pathogens.



Analytical Environmental Serva, Inc.

Dec 10/34/2003

TOTAL LEAD IN WIPE SAMPLES N7082

CLIENT:

Technical Solutions international

Project:

0310645

Fredericksburg Armory

Data Received:

10/20/2003 12:5

Project No:

Motrix

Lab Order:

Wrpe

PO No:

Frederick drugg

Analysi:

893

Cliens Sample ID	Remits	Undin	MDL	DF	Date Collected	Date Analyzed
-FREDERICKSBURG	BAL	pg, Total	283	ŀ	10/16/2003	10/2 3/2003
-FREDERUCKSBURG	BRL	pp. Total	2.03	1	10/16/2003	10/23/2003
-FREDERICKSEUR	BRL	pg. Total	2 FC)	1	10/16/2003	10/23/2003
FREDERICKSBUR(BRL	pg. Tetal	2 (0)	1	10/16/2003	10/24/2003
FREDEROUGSBURK	BRL	μg. Total	2.60	E	10/16/2003	19/24/2003
-FREDERICK SPEURA	BRL	pg, Total	2.60	1	10/16/2003	10/24/3003
FREDERIKTESELING	621.8	μ ς, Total	2 FC1	1	10/16/2003	10/24/2005
PREDERICK SPEIR	a 3.0	pg. Total	280	1	10/16/2003	10747003
•	FREDERICKSBURG FREDERICKSBURG FREDERICKSBURG FREDERICKSBURG FREDERICKSBURG FREDERICKSBURG FREDERICKSBURG FREDERICKSBURG	FREDERICKSBURG BRU FREDERICKSBURG BRU FREDERICKSBURG BRU FREDERICKSBURG BRU FREDERICKSBURG BRU FREDERICKSBURG BRU FREDERICKSBURG BRU FREDERICKSBURG BRU FREDERICKSBURG BRU	FREDERICKSBURG BRL pg. Total FREDERICKSBURG BRL pg. Total FREDERICKSBURG BRL pg. Total FREDERICKSBURG BRL pg. Total FREDERICKSBURG BRL pg. Total FREDERICKSBURG BRL pg. Total FREDERICKSBURG BRL pg. Total FREDERICKSBURG BRL pg. Total	FREDERICKSSEURC BRL pg. Total 2 83 FREDERICKSSEURC BRL pg. Total 2 83 FREDERICKSSEURC BRL pg. Total 2 83 FREDERICKSSEURC BRL pg. Total 2 83 FREDERICKSSEURC BRL pg. Total 2 83 FREDERICKSSEURC BRL pg. Total 2 83 FREDERICKSSEURC BRL pg. Total 2 83 FREDERICKSSEURC BRL pg. Total 2 83	FREDERICKSSEURC BRL pg. Total 2.83 ! FREDERICKSSEURC BRL pg. Total 2.83 ! FREDERICKSSEURC BRL pg. Total 2.80 ! FREDERICKSSEURC BRL pg. Total 2.80 ! FREDERICKSSEURC BRL pg. Total 2.80 ! FREDERICKSSEURC BRL pg. Total 2.80 ! FREDERICKSSEURC BRL pg. Total 2.80 ! FREDERICKSSEURC BRL pg. Total 2.80 !	Collected Collected FREDERICK SECIEC BRL

MDL - Matheal Detection Emph

NT) - Not Detected at the Reporting Land

DF - Diluton Fester

Page 2 of 1

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	

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.

References.

۴,

- 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 (TLVs) 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.
- I. Report of July 14, 2004, Industrial Hygiene Survey, Tammer Sciences INC, 3744 Lawrence Dr., Naperville, IL.

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)

Recommendations.

- a. Follow all recommendations made in reference 1.1., 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 of reference 1.I, 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.



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



July 9, 2004

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 4
Noise Survey	Page 4
Illumination Survey	
Heating Ventilating and Air Conditioning (HVAC)	Page 5
Recommendations	

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.

Торіс	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.
нvаслаQ	Water damage wa observed in the drill hall.	Repair water leaks and replace all water damaged building materials.

Survey Date: 03 June 2004

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 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.

<u>Site Description.</u> 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.

<u>Scope of Work.</u> 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



<u>Lead Wipe Samples:</u> 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 programme 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.

Ashestos 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.

<u>Noise Survey:</u> 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.

<u>Illumination Survey</u> 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

Survey Date: 03 June 2004

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.

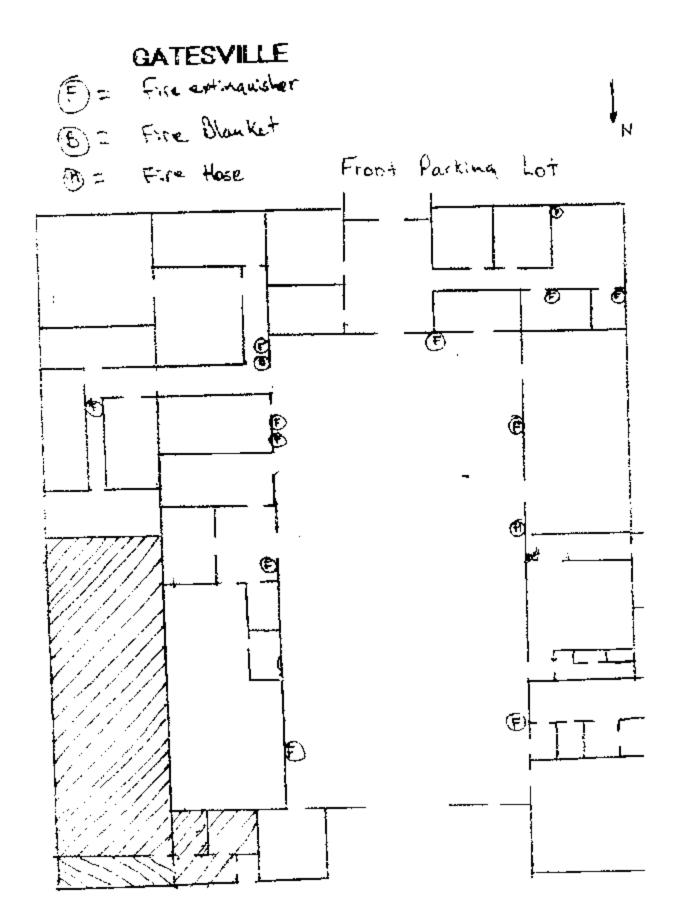
Recommendation:

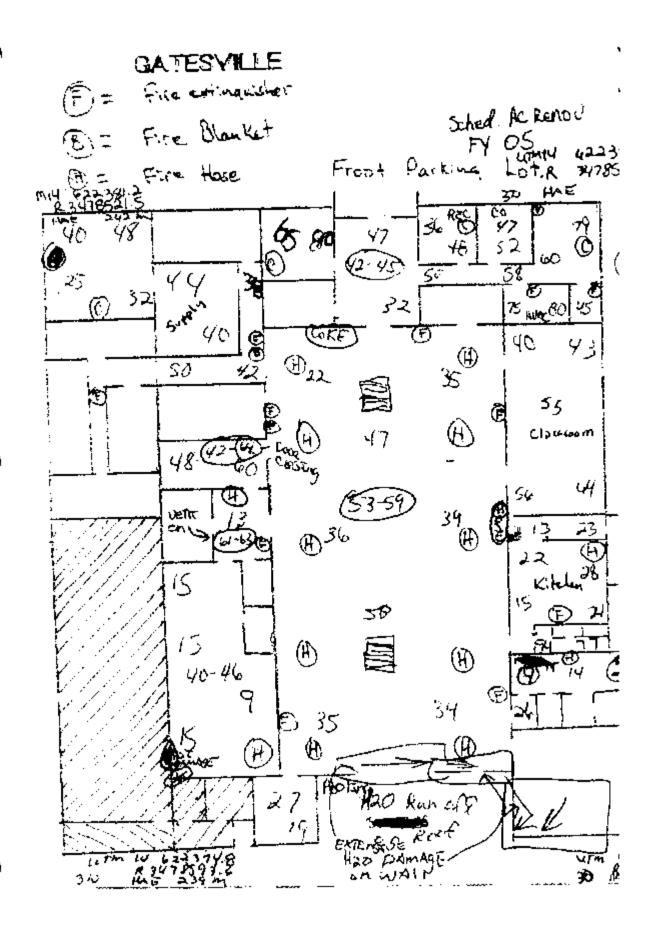
- Clean and decontaminate the firing range in accordance to NG PAM 385-15 specifications.
- 2. Repair water leaks and replace all water damaged building materials.

Technical Assistance: For technical assistance regarding information found in this report

Non-Responsive

APPENDIX A





APPENDIX B

EMSL Analytical

3 Cooper St., Westmont, NJ 08103

Phone: (856) 858-4600 Fax: (656) 858-9551 Email: skauffman@emal.com



Aitn:

Fax:

Project:

Non-Responsive

TS80

Customer PO:

06/07/04 1:19 PM

Received: EMSL Order:

Customer ID:

EMSL Proj:

200406800

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

Clieni Sample De	veription	Lab ID	Analyzed	Aren Sampled	l.cad Cancentration
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	6061	6/16/04	o/a	240.6 µg/wipe
GAT 02		0002	6/16/04	n/a	330.0 µg/мре
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		2005	6/16/04	n/a	1500,0 µg/wipe
GAT 06		0008	6/16/04	n/a	1200.0 µg/wips
GAT 07		0007	6/16/04	r∀a	190.0 µg/wipe
GAT 08		0008	6/16/04	n/a	46.0 µg/wipe
GAT 09	The state of the s	0009	6/16/04	ก/ส	170.0 µg/wipe
GAT 10		0010	6/15/04	n/a	18000.0 µg/wipe
GAT 11		0011	6/16/04	n/a	14.0 µg/wipe
GAT-12		9012	6/16/04	n/a	310.0 ug/wipe
GAT 13		0013	8/16/04	n/a	27003.0 yg/wipe
GAT 14		0014	6/16/04	n/a	23003.0 µg/wipe
GAT 15		0015	6/16/04	r/a	19000.0 µg/wipe
GAT 16		0016	6/16/04	n/a	9800.0 µg/wips
GAT 17		0017	8/16/04	nia	11000.0 µg/wipe
GAT 18		0016	6/16/04	n/a	11000.0 pg/wipe
GAT 19		0019	6/16/04	n/a	15.0 µg/wipe
GAT 20		0020	8/16/04	n/a	11.0 µg/wipe
GAT 21	·	0021	6/16/04	n/a	(10.0 µg/wipe

Non-Responsive

The QC date associated with the sample results included in this report need the recovery and precision requisements elethe comment section. The test results contained either this report meet the sequirements of NELAC unless otherwise noted. This report relates only to stude items tested, Unless otherwise noted. This report have not been blank connected.

ACCREDITATIONS: NUMELAP: 04853, AINA Environmental Lead Laboratory Approval Program: 100194

Date Printed: 6/21/04 4:59:26 PM

EMSL Analytical

3 Cooper St., Westmont, NJ 06108

Phone: (856) 858-4800 Fex: (856) 858-9551 Email: aksuffman@emst.com



Atta:

Fax:

Project: Gatesville

Non-Responsive

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	5/15/04	n/a	<10.0 µg/wipe
GAT 23	0023	8/16/04	n/a	<10.0 µg/wipe
GAT 24	0024	6/16/04	n/a	<10.0 µg/wipe
GAT 25	0025	8/16/04	n/s	<10.0 µg/wipe
GAT 26	0026	6/16/04	n/ia	<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 up/wipe



The OC data associated with the sample results included in this report meet the recovery and precision requirements established by the ABTA, unless specifically indicated otherwise in the comment section. This report results bondained within this report meet the requirements of MELAC unless otherwise noted. This report relates only to those learns tested. Unless otherwise noted, the results in this report have not been blank corrected.

ACCREDITATIONS: NU-NELAP: 04851, AIHA Environmental Leed Laboratory Approval Program: 100194

Date Printed: 6/21/04 4:59:34 PM

EMSL Analytical, Inc.

107 Hoddon Ave., Westmont, NJ 98108

Phone: (356) 858-4800 Fex: (851) 868-4950 Email: eslegel@EMSL.com



Attn:

Fax;

Project

Non-Responsive

Customer ID: Customer PO: TS80

Received:

08/07/04 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

				Non-Asbestos			Asbestos
Sample	Location	Appearance	Treatment	*	Fibrous	% Non-Fibrous	% Type
GAT A01	GATESVILLE	Gray	Dissolved			100% Non-fibrous (other)	None Detected
046416196-0001		Non-Fibrous Heterogeneous				, ,	
GAT A02	GATESVILLE	Gray/White	Teased	40%	Celluiose	20% Non-fibrous (other)	None Detected
049410198-0002		Fibrous Heterogeneous		40%	Giass		
GAT A03	GATESVILLE	Brown	Ashed			100% Non-fibrous (other)	None Detected
040410196-0003		Non-Fibrous Meterogeneous					

Non-Responsive

Non-Responsive

Due to respondication involutions enterior in PLM, astronice floors in derequisity below the resolution sixpability of PLM may not be steriored. Samples reported as ~1% or none steatcast may record a debtiened lessing by TEMs or confirm estimates story in TEMs to confirm estimates only to the terror tested and may not be reported under in only form without the express writing appropriat of EMSL Analytical, inc. EMSL's babely is femiled to the cost of enalysis. EMSL bears no responsibility for sample collection activities or enalytical method invitations, lessing related and use of test results are the results and bear the enally are the results and the containing within this report meet the equiverments of MELAC unless otherwise noted.

Analysis or efforts of DEMSL Westmort (EMSLAP HIGGAD-0, NY ELAF-0, STATE).

THIS IS THE LACK PAGE OF THE BEROR

APPENDIX C

ate. I	EMSL Represer	rtative:	and the second of the second o	Project Name/No.:	P.O.#;		
ompany Name: T	immer So	cience	A. Inc.	EMSL-Bill to:	ne no ball to	and the second	
reet 5744 L				treet:			
				Box #:		***************************************	
lex #: Iny Stata: <u>No po</u> ks	TI de				rw's		
ny State: To Le	Non	Res	nonsiv	City/State:	n-Resp	ons	Т
		-1 (03	porisiv	Fax #:			
ax Results to: (N in MAT R		M	ETHOD	INSTRUMENT	R1. (Reporting Limit)	TAT	_
ead Chys*		SW846- Mod.//	7420, 3050B VOAC (974.02)	Flame Atomic Absorption	0.01% +		_
and Wastevater	1111	SW846-	7420	Flame Atomic Absorption	0.4 mg/l water 40 mg/kg (ppm) soil		
end So 1 -		or SW84	16-6010B	ICP	0.1 mg/ water 10 mg/kg (ppm) soil		
Lenc in Acres		NIOSH	7082 Mod.	Flame Atomic Absorption	d ug/filter		
gangan grave 1883 - 1995		or NIOS	H 7300 Mod.	ICP	3.0 ug/filter		
Lexi in Wips*	ZASTM (7420 / HUD ix 14.2 Digest.	Flame Atomic Absorption	10 ug/wipc	ike in	المار
List Figur Type	-non ASTM		46-6010B	ICP	3.0 ug/wipe		
TCLP Lead **		SW845	13 11/7420	Flame Atomic Absorption	0.4 mg/l (ppm)		
ICIN ECAU	5° - t	1 .	46-6010B	ICP	0.1 mg/l (pprn)		
ST (Clead Caldwrin)	g	CA Title 22 **********************************		Flame Atomic Absorption	().4 mg/l (ppm)	2	
			46-6010B	ICP	0.1 mg/l (ppra)		
Lead to Air ****		NIOSH	7105 Med.	Graphite Furnace Atomic Absorption	0.03 ug/filter	100)
Load Wastewater		SW846	-7421	Graphite Furnace Atomic	0.003 mg/l (ppm) water	† §	
Lead Soil +	a manufacture de la companya de la c	-		Absorption	0.3 mg/kg (p.m) soil	17 5	3
Lead in Drinking Wes	er (check state	EPA 2	9.2 / 200.9	Graphite Furnace Atomic Absorption	0.003 mg/l (pm)		
Certification Requirement	rts)	NIOSI	0500-0600	Darksenion	0,0001g		
TV.	T (Ternaround)	- Same d	ay, 24 hr - 1 L	Day, 2 Days, 3 Days, 4 Days # Please Refer to Price Que ted, non-ASTM is assumed			n_m_+
SA	MPLE#	* If :	to box is chech	LOCATION	Air volume, L Area, in ²	LAB :	*
C harries	A American	<u>a</u>	Capri	esville		16803 1	-1
GATOL -	- GAT 2					1	
(a) Relineuished	By: (Person)	-NO	n-Res	sponsive	Date: (1)	104	
Received at EMS				er ann mille	Date:		
Received at E		Oleago dur	diente this for	n and use additional sheets it	Fnecessary.	in out one the	
	Note: 1	racast uill	modes to the labor	n and use additional sneets of mitory abesis to the accuracy of the i	aformation reported on this cha	in of crains?	

The Results to: Same	EMSL Rep: Your Company Name Street:	Tammer S	acres. Inc	EMSL-Bill t	from the	urty Billing requires ind party (C) weils	erittes authorization		
Tone Results to: Some Results to: Some Results	Bes #:	3744 LA		_ + m p -	-demon-defende-fl				
Name: Cophone 8: roject Fax Fa	City/State:	<u> Mapervalla</u>	IL Zap: 🍪	City/State:	No	n_Ra			
Addr	"hone Results to: Verne: Telephone #: Project Verne/Number:	Non-F	Respons	Name: Fax #:			spons		
Bulk		MATRIX			TURN	AROUND			
Bulk	J Adr D FI	or Tile	□ Soil	□ 3 hrs	C 6 Hours				
EM AIR, 3 hours, 8 hours, Places cell should be absolute. There is a prumine charge for 3 hour tell, places cell 1.806-228-3678 for price prior to centifing cooled. You will be asked be sign and authorization form for this service. It hours (must arrive by 11.09 a.m Mea - Pri.), Please Refer to Price Quote CM - Air FEM AIR NOSH 7400 OSHA Other: EPA Level II FEM BULK/misc EPA Level II Water N EVastewater Water N EVastewater Water N EVastewater Water N EVastewater Drop Mount (Qualitative) EPA Point Count NY Stratified Point Count PLM NOB (Grav metric) NY 198.1 Other: EM Air or Balk Qualitative Quantitative OTHER CATESVILLE FOR ANAL Total Samples is: 3 total Samples is: 3 total Samples is: 3 total Samples is: 3 total Samples is: 3 total Samples is: 3 total Samples is: 3 total Samples is: 3 total Samples is: 3 total Samples is: 3 total Samples is: 3 total Samples is: 3 total Samples is: 3 total Samples is: 4 to Reliable Time: Amales.				2 days	3 days		☐ 120 Hours		
CM - Air NIOSH 7400 OSHA TEM BULK/raise TEM pulk ROVAC / WIPE OCHA TEM NOB (Gravimetric) NY 198.4 TEM NOB (Gravimetric) NY 198.4 OSHA Asbeatos Silica OTHER OCHER OCHER OCHER OCHER OCHER OCHER OCHER OTHER OCHER OCHER SAMPLE NUMBER LOCATION VOLUME (HApplicable) CAT A B Total Samples #: 3 clinquished: SAMPLES: OTHER Total Samples #: 3 Total S	EM AIR, 3 hours, 6 hour	, Please call abond to	schodule. There is a p	remien charge for 3 bo	er tol, places call 1-				
NIOSH 7400		to rigo and normaries	.,,,,		* 03 : 1:04 F:10 (MB)				
OSHA Other: EPA Level II Water N Wastewater Water NV Orinking Water EPA 600/R-93/116 EPA Point Count Other: PLM NOB (Grav metric) Other: Many I 198.1 Chatfield Other: Silica OTHER Quantitative Quantitative Quantitative CATESVILLE Rest Sample # (5) CAT A 33 Total Sample #: Catinguished: SAMPLES Consider Count CAT A 33 Total Sample #: Catinguished: CAT A 33 Total Sample #: Catinguished: CAT A 33 Total Sample #: Catinguished: CAT A 33 Total Sample #: Catinguished: CAT A 33 Total Sample #: Catinguished: Cating				m.m.					
Other: EPA Level II			- ind	- tari					
Water NY Crinking Water Water NY Orinking Water Water NY 198.1 Drop Mount (Qualitative) Water NY 05755-95 Water NY 198.1 Oring Mount (Qualitative) Water NY 05755-95 Oring Mount (Qualitative) Water NY 05755-95 Oring Mount (Qualitative) Water NY 05755-95 Oring Mount (Qualitative) Water NY 05755-95 Oring Mount (Qualitative) Water NY 05755-95 Oring Mount (Qualitative) Water NY 05755-95 Oring Mount (Qualitative) Water NY 05755-95 Oring Mount (Qualitative) Water NY 05755-95 Oring Mount (Qualitative) Water NY 198.4 Water NY 198.4 Oring Mount (Qualitative) Oring Mount (Qualitative) Oring Mount (Qualitative) Oring Mount (Qualitative) Oring Mount (Qualitative) Oring Mount (Qualitative) Oring Mount (Qualitative) Oring Mount (Qualitative) Oring Mount (Qualitative) Oring Mount (Qualitative) Oring Mount (Qualitative) Oring Mount (Qualitative) Oring Mount (Qualitative) Oring Mount (Qualitative) Oring Mount (Qualitative) Oring Mount (Qu	322		<u> </u>	hand .					
EPA 600/3-93/116				LOTES AL					
EPA Point Count	PLM-1804k TEPA 600/3-93/1	16)	MA MEDS	755-95		
NY Straiffed Point Count PLM NOB (Grav metric) NY 198.1 Other: EM Air or Bulk Qualitative Quantitative Quantitative GATESVILLE Went Sample # (s) CAT A Ø 3 Total Samples #: GAT A Ø 3 Total Samples #: GAT A Ø 3 Total Samples #: GAT A Ø 3 Time: A W 3	TERA Daine Count		[Charf	امامة		Ou Land			
PLM NOB (Grav metric) Other: EM Air or Bulk Qualitative Quantitative Quantitative SAMPLE NUMBER LOCATION VOLUME (If Applicable) East Sample # (s) CAT A Ø 3 Total Samples #: 3 elinquished: SAMPLES: exerved: FOR ANAL		nt Coursi	L		NY 198.4	xight or	****		
Other: EM Air or Bulk Qualitative OTHER Quantitative SAMPLE NUMBER LOCATION VOLUME (If Applicable) East Sample # (s) CAT A Ø 3 Total Sample #: Clinquished: SAMPLES: Cat A Ø 3 Total Sample #: Time: A W 7 Time: A W 7 Time: A W 7 Time: A W 7 Time: A W 7 Time: A W 7 Time: A W 7	ALUA .			MOD (GILLAMO-110)	, ,-1 1,014	Asbestos	2		
EM Air or Bulk Qualitative Quantitative SAMPLE NUMBER LOCATION VOLUME (If Applicable) East Sample 8 (s) CATA 03 Total Samples 8: Cinquished: SAMPLES: Catalogue of the control o	day of the same of	iberres 141 s.	7011			Silica	J.		
Qualitative Quantitative SAMPLE NUMBER LOCATION VOLUME (If Applicable) GATESVILLE Hent Sample # (s) CAT A Ø 3 Total Sample #: 3 elinquished: SAMPLES eleved: FOR ANAL									
SAMPLE NUMBER LOCATION VOLUME (If Applicable) GATESVILLE Hent Sample # (s) GAT A Ø Total Samplet #: 3 clinquished: SAMPLES ON-RESPONSIVE Time: A M 37rate:						OTHER			
SAMPLE NUMBER LOCATION VOLUME (If Applicable) GATESVILLE Fort Sample # (s) CATA # 3 Total Samples #: 3 clinquished: SAMPLES NON-RESPONSIVE Time: AM1 37rae:	<u></u>								
GATESVILLE Rent Sample # (s) GAT A # COAT A # Botal Samples #: 3 clinquished: SAMPLES NON-RESPONSIVE Time: A # Total Samples #: 3 retived: FOR ANAL	SAMPLE N	MAFR	1	LOCATION		VOLUM	E (If Applicable)		
Eint Sample # (s) CATA#) - CATA#3 Total Samples #: 3 elinquished: SAMPLES: NON-RESPONSIVE Time: 47-77 erefyed: FOR ANAL	337148 170 1	DITIBON	GA	resville					
etinquished: SAMPLES NON-RESPONSIVE Time: 47771 etelved: FOR ANAL									
ezelved: FOR ANAL	:Eest Sample # (s)	GATA	φ) <u>~</u>	GATA	ø3 To	tul Samples #:	_3		
TON ANAL	telingnished: SAMP	LES_T	on-Re	espor	ISIVE	Time: 🗗	m		
EMSL ANA	·					Inte	Water aggregation of the state		
	EMSL	ANA					i		

APPENDIX D



Photo #1: Armory front entrance.



Photo #2: West side of the armc-



Photo #3: north east side of the armor



Photo #4: North west side of the armor,

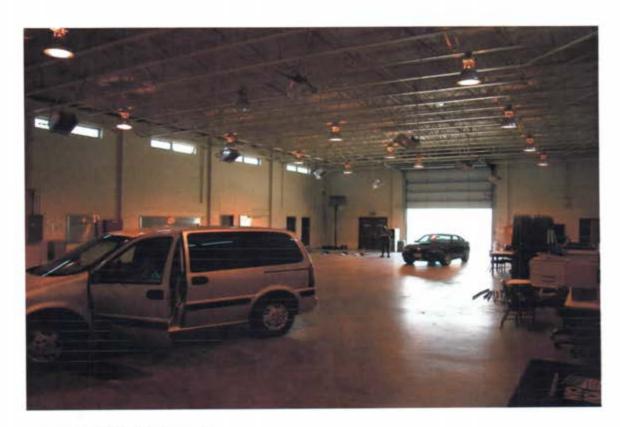


Photo #5: Drill hall facing nortn.



Photo #6: Drill hall facing south.



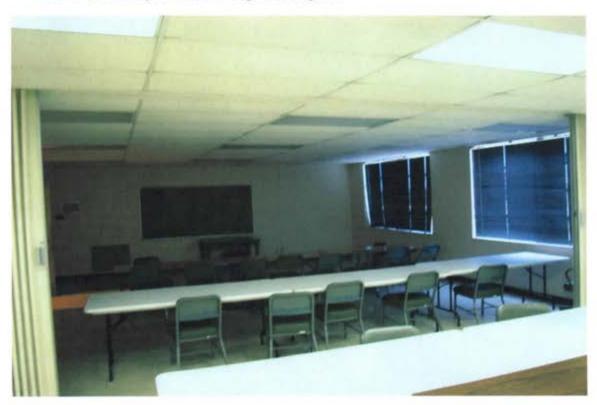
Photo #7: Indoor firing range facing the bullet trap.



Photo #8: Indoor firing range facing the firing line.



Photo #9: The armory's kitchen showing the serving ime.



Photo#10: Armory's classroom.

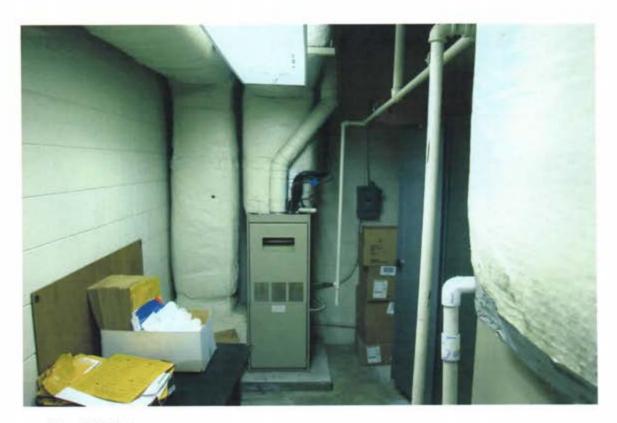


Photo #11: Mecnanicai roor..



Photo #12: Water damage in the drill na...



DEPARTMENT OF ABHIC 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

- References.
 - a. OSHA Standards 29 CFR (Code of Federal Regulations), General Industry, revised 1996 rev.
 - Department of Defense Instruction 6055.1, Department of Defense Occupational Safety and Health (OSH) Program, 19 August 1998.
 - 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.
 - 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.
 - Threshold Limit Values and Biological Exposure Indices (TLV's) for 2009 American Conference of Governmental Industrial Hygienists (ACGIH), Cincinnati, Ohio.
 - Industrial Ventilation, 26th rd Edition, American Conference of Governmental Industrial Hygienist, Cincinnati, Ohio.
 - USAEHA TG-141, November 1997, Guidelines for Air Sampling and Bulk sample Collection.
- 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

March 23, 2015 ARNG-CSG

SUBJECT: Transmittal of Industrial Hygiene In Survey Report Grand Prairie Armory, Grand Prairie, Texas

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



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

Posted to NGB FOIA Reading Room

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



TABLE OF CONTENTS

Executive Summary
Introduction
Methodology
Survey Findings4
Recommendations
References10
Appendices11
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

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 fulltime 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.
 - o 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.

TABLE 1 (LEAD WIPE TEST RESULTS)

SAMPLE LOCATION	Surveyor's Field No	RESULT µa/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	IES Recommendations
	(foot candles)	(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 fice	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 near 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



APPENDIX A Lab Test Results

Analytical Environmental Services, Inc.

34-Sep-14 Date

Lab Order Client

Date Received:

Protect:

Matrix.

1409G51 Punnsele IH

Grand Przune, TN Armory

Wipe 9 17/2014 3 30:00 PM LEAD ON WIPES (N7082)

N7081

Reporting Laboratory ID Date Date Client Sample ID Republi Cain DF Analyst Limit Collected Ausbred 140PG-53-006A IPR411-SPC DICKEN OFFICE ME DO 09-22-2014 1409G-51-007A TRAIS-VAULT-D CO BRI ug 61 36 07/01/2014 09-22-2014 75 1409G52-00EA TRAIL-VAULT-D CO 35 10.02 07 01 2014 09/22/2014 25 1409051-009A PR415-VAULT-D CO BRI 10.50 40 07 01 2014 09 22 2014 75 1409G52-010A JPR416-VAULT-D CO 40 tie 62 07 01 2014 09 22 2014 75 1409Q52-011A TPRAIT-VAULT-D CO-BLANE REL 10 52 20 0T 01 2014 09 22 2014 25 1409G52-012A TPRHIS-SUPPLY RM-D CO. 154 E 22 20 07:01:2014 OP 22:2014 25 1409G52-013A IPR+19-SUPPLY FM-D CO. BRI ug fill 20 07 01 2014 09/22/2014 1409053-0144 JPR420-SUPPLY RM-D CO BFI 48.52 20 07/05/2014 09 22 2014 25 1409G-52-015A TPRADI-VAULT HHC 00 18.52 20 07 01 2014 09 22 2014 75 1409G51-016A TPRATE-VAULT HHC 354 15.52 20 07:01:2014 09/22 2014 1409052-017A TPR42)-VAULT HHC 344 12.02 20 01 01 2014 09/22/2014 1409G52-018A 7PR414-VAULT HBC OAR 48.50 20 07 01 2014 0F 22 2014 250 1409G51-019A TPRADS-VAULT NHO-BLANK BRI 12 ft2 30 07/01/201= 09 22 2014 1409G52-020A TPR426-SUPPLY RM HHC 40. 10.22 20 07/01/2014 09:22:2014 3% 1409Q52-021A PRAZY-SUPPLY RM HHC 111 ug 63 20 07 01 2014 09/22/2014 75 1409G-51-022A TPR-428-SUPPLY RM HHC 57 10.02 20 01 01 2014 09.22.2014 25 1409G51-013A TPR-429-SUPPLY RM HHC 20 48.52 20 01 01 2014 09/22/2014 1409052-024A FRANC-VAULTECO 105 12.02 20 07 01 2014 69 22 2014 20 T409G53-025A TRAJI-VAULT E CO. 871 12.00 20 07:01:2014 09/23/2014 1409Q52-026A TRASI-VAULT E CO BRI Hz 252 36 07 01 2014 09 22 2014 1409G52+027A TPRADD-VAULT E CO. 40 18 22 30 07-01-2014 09/31/3014 75 1409G-52-02EA TRAJA-VAULT E CO BLANK BRI 12.52 20 07-01-2014 09/22/2014 29 1409G53-029A JPEASS-SUPPLY RM E CO 8.5 14.72 20 07-01-2014 09/02/2014 1409G-52-030A JPR436-SUPPLY RM E CO 34 10 th 20 07/01/2014 09/22/2014 1409G52-031A 7PE437-SUPPLY RM E CO REL 10.82 20 07 01 2014 69 22 2014 75 1409G53-032A TPP.+31-1FP. 32 14.52 10 07/01/2014 00/75/5014 1409Q53-033A TPR.439-1FR. 10.00 20 07/01/2014 09/21/2014 3% 1409G52-034A JPR440-IFR 31 26 10.00 01 01 2014 09/03/2014 35 1409G52-035A TPR441-IFR 12 20 12.52 07:01:2014 09/25/2014 25 1409G/52-036A TP9:442-1F9. 20 10.52 01-01-2014 69-22-2014 35 1409Q52-037A TPR443-IFR 35 112.00 20 07 01 3014 09/22/2014 35 1409Q52-03EA TP9.444-1FE. 76 20 me fil 0 01 2014 99 22 2014 25 1409G52-038A 798.445-IFR 28 67 01 2014 10.00 09/22/2014 25 1409G52-040A TP9.446-1F9. 23 20 出産会員 0" 01 2014 09/22/2014 25 1409G52-041A TPR+47-UFR BLANK BRI 20 10.52 07/01/2014 09/22/2014 23

 $\delta M_{\rm T}$. Note Theorems in the Reporting Toronto.

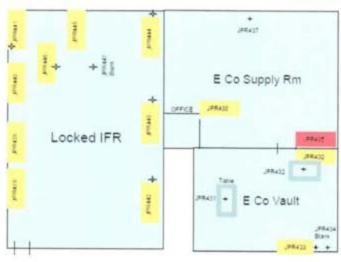
APPENDIX B

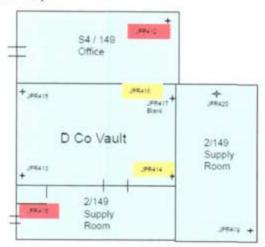
Drawing of Sampled Areas.

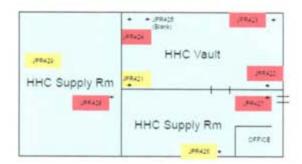
Yellow indicates lead present

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



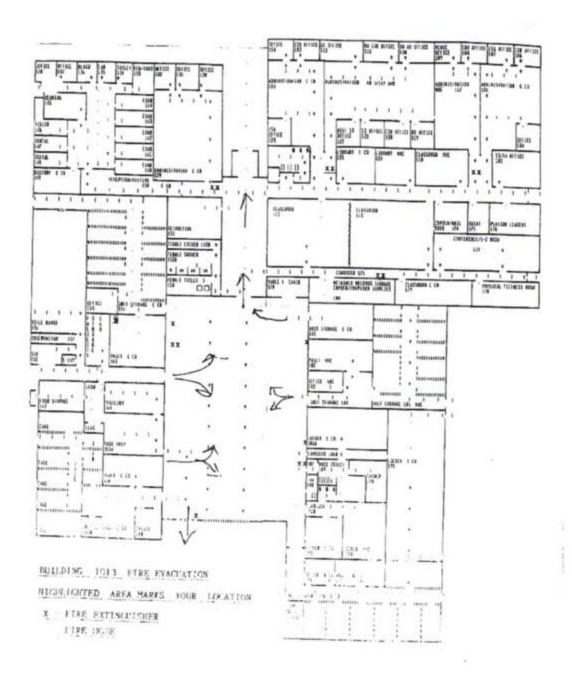
JPR440 IFR



JPR441 IFR



APPENDIX D DRAWING OF FACILITY



APPENDIX E PHOTOS OF FACILITY





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 MUDULE FIELD SURVEY

*SEE PRIVACY ACT STATEMENT ON REVERSE.

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

ECTION I. DE	MOG	RAPHIC DATA							-	
118					Pr	airie, TX			0001 N	10
L LCCATION/COL	00	To B. INSTAL	LATIC		01	C. BLDC	S/RM I	NUMBER .		77
		min duties	_	WC 6				1. DESC		8.
papernor	K,	filing, occ	45.	onal he		1.5tins	4	-,		CONTRACTOR AND ADDRESS OF THE PARTY OF THE P
S. MACOM/CODE/	Nat	Guard NG			w.cor	e Other X	×	SUPER	Non-Resp	onsiv
- TELEPHONEJAL		IN NUMBER NON-	Res	ponsive			FRE		Hrs Per Day	12
m NO CIVISI	2	_ n. NO MIL _CZ	0.	NO CONTHA	ACTO		O LOC	-	s. NO OTHER	0
ECTION 2. IH	STAF	FING DATA							2 110 0 11 211 2	-
4. LAS HOUDS		B. VAPOR DEG	REAS	FRS	t	MAINTENANCE BA	YS	σ.	SPRAY BOOTHS	
. OPEN SURFACE	TANK	· · · · · · · · · · · · · · · · · · ·		I. VENTIL	ATIO	UNITS				
ECTION 3. SU	RVEY	DATA				Non-Respons	ive			
A. SURVEY DAT	E	1 July 2	214	b. EVALUAT	TOR (NITIALS;				
LOONT HOLE PRES	n regression	d. EVALUATION	\neg	e. UNIT COD	6	T. CONTROLS REQU	JIRED		9. STATUS	-
Lighting O.	ffice		-	- FC	_	50-1	20		Adecust.	2
Lighting St	oragi		_	FC	_	20-	-0		Adechat	2
Lighting /to	Murey	+10 Aug	-	FC.	-		10		Adequi	20
	-		-		+		-			
										:
I. RESPIRATOR		VE EGUIPMENT IN-RI			ABLE					
DISPOSABLE	•		MAN	NIFACTURER			110514	IC NO	P/A	
- FACE AIR PU	BIFYI	NG								
L FACE AIR PU										
FULL FACE AIR	PURI	ENIME								
									-4-	
POWERED AIR									-4-	
AIRLINE	PURIF									
	PURIF	YING							-4-	
AIRLINE SELF-CONTAINS	LO STING	YING	H/A	4. HEARING	RVA	5. EODY	R/A	Is HEAD		la ₄
AIRLINE SELF-CONTAINS ABRASIVE BLAS 2. GLOVES	LO STING	1100U	H/A	WHITE SALES	R/A	5. 60DY	R/A	6. HEAD	-4 -4 -4 -4 /FODT	A/A
SELF-CONTAINS ABRASIVE BLAS	LO STING	1100U 3. EYES/FACE CHEMICAL/SPLASH	H/A	MUPPS	R/A	APRONS	R/A	HARD HA	-4 -4 -4 /FOOT	R/A
AIRLINE SELF-CONTAINS ABRASIVE BLACE 2. GLOVES IACID	LO STING	J. EYES/FACE CHEMICAL/SPLASH SAFFTY/MPACT	H/A	MUPPS EARPLUGS	RyA /	EDVERALLS	R/A	MARO MA	FOOT ABLE BOOTS	1
AIRLINE SELF-CONTAINS ABRASIVE SLAS 2. GLOVES	LO STING	1. EVES/FACE CHEMICAL/SPLASH SAFETY/IMPACT CHEMICAL/SAFETY	B/A	EARPLUCE	RJA -/-	EDVERALLS	R/A	MARO MA	FOOT ABLE BOOTS	1
AIRLINE SELF CONTAIN ABRASIVE BLACE 2. GLOVES ACID CIL SOLVENTS	LO STING	J. EYES/FACE CHEMICAL/SPLASH SAFFTY/MPACT	H/A	MUPPS EARPLUGS	R/A	APRONS	R/A	MARO MA	-4 -4 -4 /FOOT	1
AIRLINE SELF CONTAINS ABRASIVE BLAS 2. GLOVES ACID CIL SOLVENTS HCT SURFACES	LO STING	2. EYES/FACE CHEMICAL/SPLASH SAFETY/IMPACT CHEMICAL/SAFETY FULL FACE SHIELD	B/A	EARPLUCE	RJA /	EUL RODY SUIT	R/A	MARO MA	FOOT ABLE BOOTS	1
AIRLINE SELF CONTAINS ABRASIVE BLAS 2. GLOVES SACID CIL SOLVENTS HICT SURFACES COLD SURFACES MED AGENTS	R/A	2. EYES/FACE CHEMICAL/SPLASH SAFETY/IMPACT CHEMICAL/SAFETY FULL FACE SHIELD	,	EARPLUCE	RJA / -/-	EUL RODY SUIT	R/A	MARO MA	FOOT ABLE BOOTS	1
AIRLINE SELF CONTAINS ABRASIVE BLAS 2. GLOVES SACID CIL SOLVENTS HICT SURFACES COLD SURFACES MED AGENTS	R/A	1. EVES/FACE CHEMICAL/SPLASH SAFETY/IMPACT CHEMICAL/SAFETY FULL FACE SHIELD WELDING HEL MET	,	EARPLUCE	RyA / / /	EUL RODY SUIT	R/A	MARO MA	/FOOT ATE ABLE BOOTS ONDUCT SHOES NEW CONDUCT'S	
AIRLINE SELF CONTAINS ABRASIVE BLAS 2. GLOVES SACID CIL SOLVENTS HICT SURFACES COLD SURFACES MED AGENTS	R/A	1. EVES/FACE CHEMICAL/SPLASH SAFETY/IMPACT CHEMICAL/SAFETY FULL FACE SHIELD WELDING HEL MET INVENTORY DATA		EARPLUS FARRILOS GANAL CAPS HELMETS	RVA /	EUL RODY SUIT	R/A	MARO MA	/FOOT ATE ABLE BOOTS ONDUCT SHOES NEW CONDUCT'S	
AIRLINE SELF CONTAINS ABRASIVE BLAS Z. GLOVES ACID DIL SOLVENTS HCT SURFACES COLC SURFACES TION 4. HAZ	R/A R/A	2. EYES/FACE CHEMICAL/SPLASH SAFETY/IMPACT CHEMICAL/SAFETY FULL FACE SMIELD WELDING HEL MET INVENTORY DATA B. HAZ/	4	EARPLUS CANAL CAPS HELMETS HELMETS	RJA /	EUL RODY SUIT		MARO MA	FOOT ABLE BOOTS	CE
AIRLINE SELF CONTAINS ABRASIVE BLAS Z. GLOVES LACID CIL SOLVENTS HICT SURFACES COLE SURFACES MECAGENTS TION 4. HAZ CAS COLE 2719 -92-1	R/A R/A ARD	2. EYES/FACE CHEMICAL/SPLASH SAFETY/IMPACT CHEMICAL/SAFETY FULL FACE SHIELD WELDING HELMET INVENTORY DATA B. HAZ/	AROD	EARPLUS CANAL CAPS HELMETS HELMETS	RJA /	EUL RODY SUIT		MARD MA	FOOT ABLE BROTS CONDUCT SHOES NEW FORD DUET C.F.S. C. MEDICAL SURVEILLAN HECONMEND	CE
AIRLINE SELF CONTAINS ABRASIVE BLAS Z. GLOVES LACID CIL SOLVENTS HICT SURFACES FOLIC SURFACES	R/A ARD	S. EYES/FACE CHEMICAL/SPLASH SAFETY/IMPACT CHEMICAL/SAFETY FULL FACE SHIELD WELDING HEL MET INVENTORY DATA B. HAZ/ CA PATT	ARDO	EARPLUGE CANAL CAPS HELMETS	1	APPONS COVERALLS FULL RODY SUIT SAFETY DELTY HARNESS	1	MARO MA IMPERME SAFETY/ SAFETY/ TIVE SH	ABLE BOOTS COMPUCT SHOES COMPUCT S	CE
AIRLINE SELF CONTAINS ABRASIVE BLAN I. GLOVES ACID DIL SOLVENTS HCT SURFACES FOLC S	R/A RD	INVENTORY DATA	ARO D	EARPLIES CANAL CAPS HELMETS HESCRIPTION ACLE FX to noted	1	APPONS COVERALLS FULL RODY SUIT SAFETY DELTY HARNESS	1	MARIO MA IMPERME SAFETY/ SAFETY/ TIVESH	FOOT ABLE BOOTS CONDUCT SHOES CFS SUPPCILLAN RECOMMEND (VS.S. B. N. NO NO NO NO NO NO NO NO NO	CE
AIRLINE SELF CONTAINS ABRASIVE BLACE Z. GLOVES ACID DIL SOLVENTS HICT SURFACES COLE SURFACES PREC AGENTS 710.14. HAZ CAS COCE PAJ 9 - 92 - 1 PO - STRESS	R/A RD	INVENTORY DATA	ARD D	EARPLIES CANAL CAPS HELMETS HESCRIPTION ACLS Extended	1	APPONS COVERALLS FULL RODY SUIT SAFETY DELTY HARNESS	1	MARO MA IMPERME SAFETY/ SAFETY/ TIVE SH	ABLE BOOTS COMPUCT SHOES COMPUCT S	CE
AIRLINE SELF CONTAINS ABRASIVE BLACE L. GLOVES ACID SOLVENTS HCT SURFACES COLE SURFACES MECAGENTS 710\4. HAZ CAS COLE 74.99-92-1 PO-4.2FTZNG PO-4.77	R/A RD	INVENTORY DATA	ARD D	EARPLIES CANAL CAPS HELMETS HESCRIPTION ACLS Extended	1	APPONS COVERALLS FULL RODY SUIT SAFETY DELTY HARNESS	1	MARIO MA IMPERME SAFETY/ SAFETY/ TIVESH	FOOT ABLE BOOTS CONDUCT SHOES CFS SUPPCILLAN RECOMMEND (VS.S. B. N. NO NO NO NO NO NO NO NO NO	CE
AIRLINE SELF CONTAINS ABRASIVE BLACE Z. GLOVES ACID DIL SOLVENTS HICT SURFACES COLE SURFACES PREC AGENTS 710.14. HAZ CAS COCE PAJ 9 - 92 - 1 PO - STRESS	R/A RD	INVENTORY DATA	ARD D	EARPLIES CANAL CAPS HELMETS HESCRIPTION ACLS Extended	1	APPONS COVERALLS FULL RODY SUIT SAFETY DELTY HARNESS	1	MARIO MA IMPERME SAFETY/ SAFETY/ TIVESH	FOOT ABLE BOOTS CONDUCT SHOES CFS SUPPCILLAN RECOMMEND (VS.S. B. N. NO NO NO NO NO NO NO NO NO	CE
AIRLINE SELF CONTAINS ABRASIVE BLACE C. GLOVES ACID CIL SOLVENTS HICT SURFACES COLE SURFACES PREC AGENTS 710.14. HAZ CAS COCE 7419 -92-1 PO-12FTX/6 PO-15FR ESS	R/A RD	INVENTORY DATA	ARD D	EARPLIES CANAL CAPS HELMETS HESCRIPTION ACLS Extended	1	APPONS COVERALLS FULL RODY SUIT SAFETY DELTY HARNESS	1	MARIO MA IMPERME SAFETY/ SAFETY/ TIVESH	FOOT ABLE BOOTS CONDUCT SHOES CFS SUPPCILLAN RECOMMEND (VS.S. B. N. NO NO NO NO NO NO NO NO NO	CE
AIRLINE SELF CONTAINS ABRASIVE BLACE C. GLOVES ACID CIL SOLVENTS HICT SURFACES COLE SURFACES PREC AGENTS 710.14. HAZ CAS COCE 7419 -92-1 PO-12FTX/6 PO-15FR ESS	R/A RD	INVENTORY DATA	ARD D	EARPLIES CANAL CAPS HELMETS HESCRIPTION ACLS Extended	1	APPONS COVERALLS FULL RODY SUIT SAFETY DELTY HARNESS	1	MARIO MA IMPERME SAFETY/ SAFETY/ TIVESH	FOOT ABLE BOOTS CONDUCT SHOES CFS SUPPCILLAN RECOMMEND (VS.S. B. N. NO NO NO NO NO NO NO NO NO	CE
AIRLINE SELF CONTAINS ABRASIVE BLACE Z. GLOVES ACID DIL SOLVENTS HICT SURFACES COLE SURFACES PREC AGENTS 710.14. HAZ CAS COCE PAJ 9 - 92 - 1 PO - STRESS	R/A RD	INVENTORY DATA	ARD D	EARPLIES CANAL CAPS HELMETS HESCRIPTION ACLS Extended	1	APPONS COVERALLS FULL RODY SUIT SAFETY DELTY HARNESS	1	MARIO MA IMPERME SAFETY/ SAFETY/ TIVESH	FOOT ABLE BOOTS CONDUCT SHOES CFS SUPPCILLAN RECOMMEND (VS.S. B. N. NO NO NO NO NO NO NO NO NO	CE

. HAZARD	L SAMPLE	c. RESULTS	1
ad in Dus	THE RESERVE OF THE PARTY OF THE	See Report	
			
		 	
		1	-+
V 6. PERSONI	NEL DATA		
LAST NAME	D. FIRST NAME	E. MINESEN C.	SSN
See Reso	C+	1 500 Rep	nort.
			
		 	
	I		
	+		
			· · · · · · · · · · · · · · · · · · ·
	1		
7. CONTMENT			
COMMEN	TS caud blank sheel of pap	es if necessury i	
o comolo	ate of hor	1th issues for	
0 20 /5	nea nea	I'm Issues Fr	on person
inhtina	end went to	tion adequate	2011
garing .	veni.ie	non doleguare	2 10 400
		0 -1.	
- 1.1	LUMB MEGI	and cream.	
cility			
cility			
citity			
cility			
colity		Y ACT STATEMPAT	
. ,	· PRIVAC	TY ACT STATEMENT	Company of the Maria
S. Code. Section 301:	PRIVAC	tes the wes of your Social Security A	lumber as a licentifical a hasardous u urbplace

HEALIH HAZARU INFORMATION MUDULE FIELD SURVEY *SEE PRIVACY ACT STATEMENT ON REVERSE. (For use of this form, see IIHIM User's instructions.)

CTION I. DEN	OGR	APHIC DATA		/	A	in to				
4 APLOC 480	00	D. INSTALL	A+101	Grand	ory	C BLDG	RM N	UMBER O	001,5400	1x Ra
& APLOC TO	-			OPERATION	CODE	Warehouse, W.	24	I. DESCRI	PTION	
Heary ESI	ing	Falling Ob,	'ec	ts Word		rin cage			09/225	-
vaults 6	Jor.	King with	ha	zardous		chemicals			-Non Roca	oneiv
S. MACOM/CODE	Vato	Guard Mon	200	nonsive	cool	Other I XA	_	SUPERVIS	ID A	OHSIV
I TELEPHONE/AUT		NUMBER	100	polisive	_ ×-	RAC L	FREC	DUENCY IHE	Per Des /	/
m NO CIVIS)		. R. NUMIL OF	_ 0	NO CONTHA	стоя	(5) _ D _ D. NO	LOC	(5) o	NO OTHER	2
	TAF	FING DATA								
A- LAB HOUDS .		b. VAPOR DEGR	EASP	RS	¢.	MAINTENANCE BAY	s	d. 50	PRAY BOOTHS _	
. OPEN SURFACE	TANK	s		I. VENTILA	TION	UNITS				_
ECTION 3. SUF	RVEY	DATA	SUNNY			Non-Respons	ive			
a. SURVEY DATE	/	Tuly, 201	4	B. EVALUAT	OR (I	NITIALE				
C. DONT HOLS PRESE	INT	. EVALUATION	T	e. UNIT CODE		CUNTROLS REQU	IRED	17	. STATUS	
Lighting O.	Bice	+50 Av		FC		50-10	0		Adles 491	
Lighting Sto	rege	The state of the s		FC.		30-5	0		Adequat	
Lighting Va	211	+10 Avs	-1	FC	4.	10-2	0	/	Adog - of	0-1
			-							
		I			_ !		-			
		VE EQUIPMENT (H+H)			BLE					
1. RESPIRATOR			MAN	LIFACTURER		N	105H	IC NO	R/A	
DISPOSABLE							_			
- FACE AIR PUR					_					
FULL FACE AIR										
POWERED AIR P							en a	-		
AIRLINE		\$1.75 (Mar. +) - < 4 1.	-				-			
SELF-CONTAINE			-							
F TOTAL TE BETTE					-			1		_
12. GLOVES	R/A	3. EYES/FACE	R/A	4. HEARING	R/A	5. BODY	R/A	6. HEAD/	FOOT	R/A
ACID	1	CHEMICAL/SPLASH	1	MUFFS	1	APRONS	1	HARD HAT	rs	1
CIL.	1	SAFETY/IMPACT	1	FARPLUGS	1	COVERALLS	1	IMPERME	BLE BOOTS	1
BOLVENTS	1	CHEMICALISAFETY		CANAL CAPS	1	SAFETY BELT/	1	RAFETY	ONCONDUCT:	1
HOT SURFACES	1	FULL FACE SHIELD	1	HELMETS	1	HARNESS	1	TIVE SHE	F.S.	1
COLE SURFACES	1	WELDING HELMET	1		-	WAY AUTHERT	1	 		-
PHE AGENTS	1		_				_			_
710.5 4. HAZ	APD	INVENTORY DATA								
							1		SURVEILLAN HECOMMEND	CE
TAS COCE		D. HAZ	ARDI	ESCRIPTION			1	PAC UI EPC	LYES OF NO	(21
7439-92-1	20	ad Partic	4/	105	****	PV PT TO DALLY OF PRINCIPAL	T	2	No	
PO-Lifting	_	eary Lift.	0.5				1	3	No	
PO-Falla6;	F		e 27	s	2.7.112		1	3	1 0/2	
An-Eyehaz	EY		late	2 Zo 6	2000	lighting		3	I No	
Po-Strass	We	exly PTTI	ain				1	3	No	
							-		1	-
			-	-			1			
							1		1	
					-	- 1-0-4-14	+			
							1			-
"HA E 271				14	n.np	COLET Washing		in at their fo	nem ore tole	

E. HAZARD	D. SAMPL	E	SULTS
d in Du	st Wine	The state of the s	50L15
	/		that I
		-	
		-	
репеоми			
PERSONN	EL DATA		
MESET SUBSTITUTE OF THE SECOND	-	and the same of the same of	
ST NAME	b. FIRST NAME	E. UI G.SEN	e. 55N
Report		50	& Report
		++	
		+++-	
		-+-+	
		L	
	<u> </u>		
	 		
	1	1-1-1-	
	L		
THE PROPERTY AND ADDRESS OF	STAND BIONE SAFEL OF P	apri if meeritary	
COMMENT	to of heels	the issues a	Fran nors
COMMENT			
complain			e in all
complain		· adequat	- 100 mm
complain	(ventilation	a dequat	
complain chting an	(ventilation		
complain chting an			
complain chting an	(ventilation		
complain chting an	(ventilation		
complain phting and	(ventilation		
complain phting and	(ventilation		
complain phting and	(ventilation		

APPENDIX G Personnel Roster



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.

References.

í

- 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.
- Report of June 30, 2004, Industrial Hygiene Survey, Tammer Sciences INC, 3744
 Lawrence Dr., Naperville, IL.

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.i., 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.I, 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.

- 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.



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

Non-Responsive

June 25, 2004

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 3
Illumination Survey	Page 3
Heating Ventilating and Air Conditioning (HVAC)	Page 4
Recommendations	_

Appendices

- A. Floor Layout and illumination levels.
- B. Laboratory Analytical Results.
- C. Lab Chain of Custody.
- D. Photographs.

Survey Date: 14 April 2004

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.

Торіс	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.
НУАСЛАО	No issues observed or documented.	No action.

Survey Date: 14 April 2004

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.

<u>Site Description.</u> 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.

<u>Scope of Work.</u> 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

<u>Lead Wipe Samples:</u> 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.

<u>Noise Survey:</u> 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.

<u>Illumination Survey</u> Lighting levels throughout the Armory ranged between 10 footcandles 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:

Greenville Armory

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.

<u>Heating Ventilating and Air Conditioning (HVAC)</u> 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

Report Date: 14 June 2004

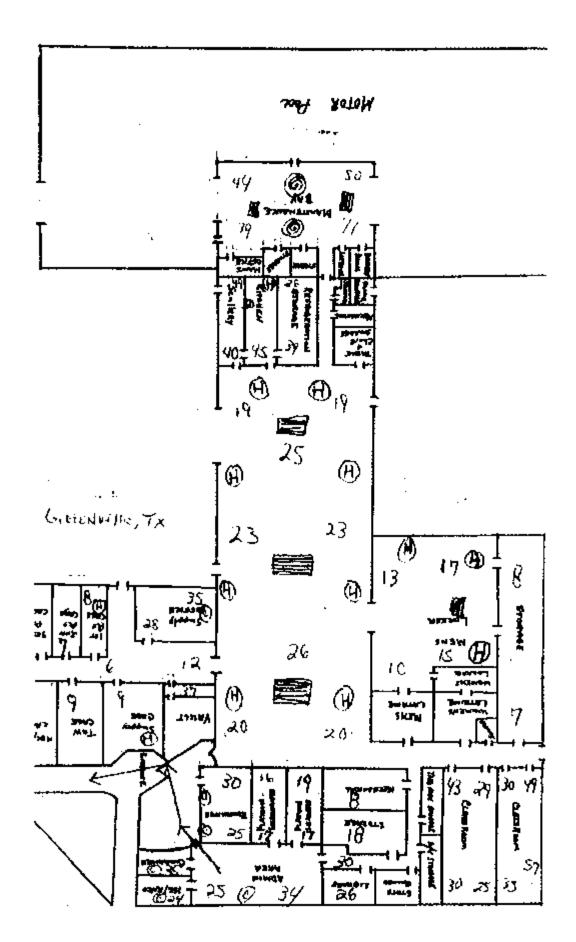
Page 4

BEST AVAILABLE COPY

Survey Date: 14 April 2004

BEST AVAILABLE COPY

APPENDIX A



BEST AVAILABLE COPY

APPENDIX B

EMSL Analytical

\$ Cooper St., Westmark, NJ 88103

Phone: (\$55) 658-4600 Fax: (\$56) 658-6551 Email: skauffman@emsl.com



Atin:

Non-Responsive

Customer ID: T

TS80

Customer PO: Received:

04/22/04 1:41 PM

Fax: Project: Greenville, TX

EMSL Order: EMSL Prof: 200404878

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

Chent Sample D	description	Lah (i)	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 in ^z	<10.0 µg/li*
GR-02		0002	5/7/04	144 in²	<10.0 µg/ft²
GR-03		0003	5/7/04	144 in²	<16.0 µg/ft²
GR-04		0004	5/7/04	144 lm²	46.0 µg/tt²
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 in³	<10.0 µg/ft²
GR-09	<u> </u>	0009	5/7/04	144 ln²	19.0 բյիլը։
GR-10		0010	5/7/04	144 in³	<10.0 µg/R*
GR-11		0011	5/7/04	1,44 (n²	26.0 jug/fit*
GR-12		0012	5/7/04	144 in*	<10.0 µg/ft*



The OC data associated with the sample needs included in this report receil the recovery and practicon requirements established by the APVA, unless specifically included observace in the converted section. This test results contained within this report meet the requirements of NELAC unless otherwise noted. This report retailes only to those litters tested. Unless otherwise noted. This report retailes only to those litters tested. Unless otherwise noted.

CREDITATIONS NUMELAP: 84650, AINA Eministrational Level Laboratory Approval Programs 100194

L 12:14:09 PM

BEST AVAILABLE COPY

APPENDIX C

20046 4774

Company Name: Tamour S		irref:	mino well to	
Bax 6:	-	Box #:		una and manifestation bearing
City State: Naparville D	Zip 64.564	City/State:	Zip:	******
Phone Results to: (Name)	n-Respons	onsive	TWO THE ESPONIENCE	,
MATRIX	METHOD	INSTRUMENT	KL (Kenocang Limit)	1.51
Lord Chips*	SW846-7420, 3950B Med. / AOAC (974.02)	Flame Atomic Absorption	0.01%	
Lead Wax orace	SW846-7420	Flame Atomic Absorption	6.4 mg/l water 40 mg/kg (ppm) soil	!
Lavd Soil	or \$W846-6010B	ICP	fol migh water 10 mights (prim) seil	
RESULTATION	NIOSH 7082 Med.	Flame Atomic Absorption	s ug/filter	
	or NtOSH 7300 Mod	ICP	3.0 ug/Gher	
Lend in Wipo* Z-ASTM	SW846-7420 / HUD Appendix 14.2 Digast	Flame Atomic Absorption	10 ug/wips	Rection
□-por ASTM	or SW846-6010B	IC?	3.0 ug/w/pc	
C. P. Lead **	SW846-1311/7420	Flame Atomic Absorption	0.4 mg/l (ppr)	
	or 5W846-6010B	ICP	Oli mg/l (ppm1)	
ST).C Lead California	CA Tirle 22 ### 126 / SW846-7426	Flame Atomic Abserption	0.4 mg/l (ppra)	
	or SW846-6010B	ICP	0.1 mg/1 (ppc))	-
Lord in Ary ****	NIOSH 7105 Mod.	Graphite Furnace Atomic Absorption	0.05 ug/fficer	
Cold Westewater	SW846-7421	Graphite Furnace Atomic Absorption	0.003 mg/l (ppm) water	N E
Sac Soil			0.3 mg/kg (p.m.) seil	
Level in Danking We'ler (check state Confession Requirements)	BPA 239.J / 200.9	Oraphic Furnace Atomic Absorption	0.003 mg/l (pm)	
	NIOSH 0500-0600	Consideration Description	5 Days, 6-10 Days	15
) / T (Ternaround)		ty, 2 Days, 3 Days, 4 Days, Please Refer to Prize Quot d. non-ASIM is assumed		
SAMPLE#	19 180 Maria 12 Wilder	LOCATION	Air volume, L Area, in ²	IA35
(2R-Ø)	Gra	en Ville, TX	144	64178-1 -L
C, 2 — Ø2 Beinguished By: (Person)	Non-Res	sponsive	Date: 44 /1	9/04
Ecceived at EMSL By:		Ment.	Date: ##	vtry
Received at EMSL By:		and use additional success (<u></u>

INYOYMY LEAD CHAIN OF CUSTODY EMSL ANALYTICAL LABA Air volume, L LOCATION SA APLE# Area, in2 $\alpha \exists$ 10 đ Ш. Non-Responsiv (a. Relinguished By: (Person) Received at EMSL By: Date: Received at EMSL By:

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

(E) The individual sygning and reliniquishing these samples to the faboratory attests to the necuracy of the information reported an idia chain of currently.

Local Chain Nev 2001 of STLC doc



Photo #1: Armory front entrance.

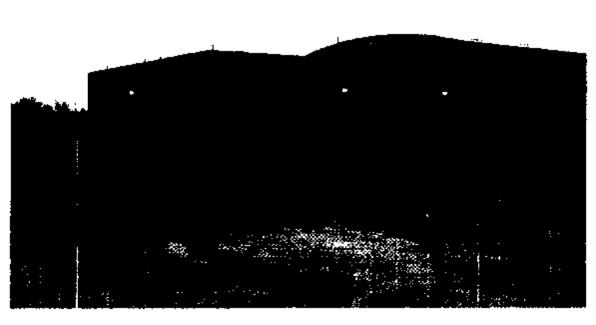


Photo #2: Rear side of the armory.

BEST AVAILABLE COPY

APPENDIX D

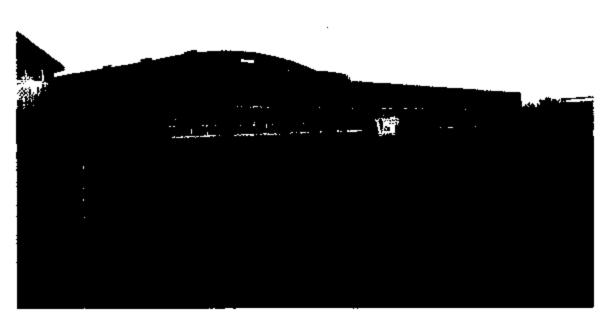


Photo #3: East side of the armory.



Photo #4: Drill hall facing north.

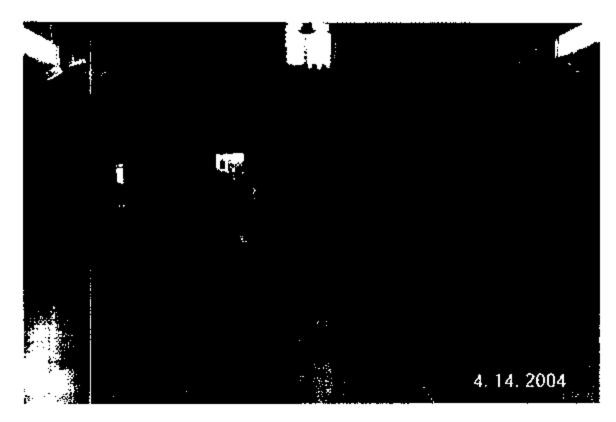


Photo #5: Drill hall facing north.

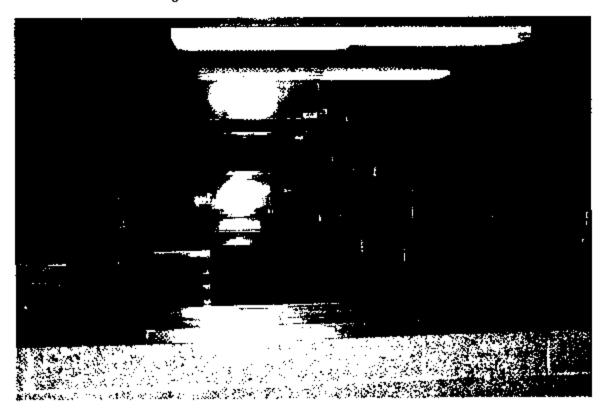


Photo #6: Armory's kitchen showing the serving line.



Photo#7: Armory's kitchen.

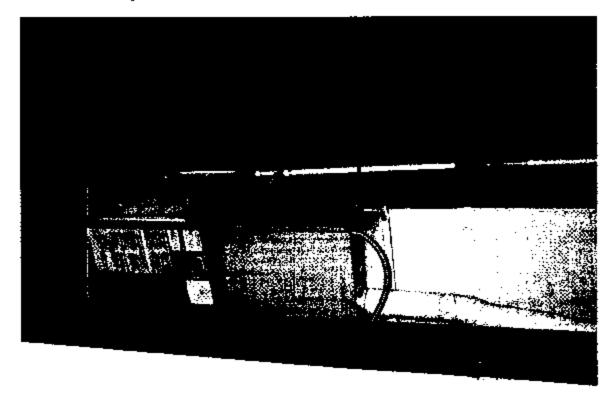


Photo #8: The Armory's furnace

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.

- 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 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.
- 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 1.1., 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.

- 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



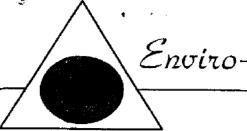
CF:

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.

References.

- Title 29, Code of Federal Regulations (CFR) Part 1910, Occupational Safety and Health Administration (OSHA).
- 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.
- National Institute for Occupational Health and Safety (NIOSH), (76-130) Technical Information, Lead Exposure and Design Considerations for Indoor Firing Ranges GPO, 1975.
- Industrial ventilation, 22nd Edition, American Conference of Governmental Industrial Hygienist (ACGIH), Cincinnati, Ohio.
- 29 CFR 1926.58, The OSHA Asbestos Standard.
- Housing and Urban Development (HUD) Guidelines for the Evaluation and Control of Lead Based Paint Hazards in Housing.
- 2. <u>Purpose</u>. 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. <u>Background.</u> 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 Industrial Hygienist.

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

 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 1 Operations and Administrative Areas

Inactive Firing Range Supply Room/Vault Recruiter's office	Mechanical Room Orderly Room 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.

Findings.

- A. <u>Inactive Firing Range/Vehicle Maintenance Facility and Boiler Room An initial walk</u> 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. <u>Suspect_Asbestos Containing Materials</u>: (1)There were no suspect asbestos containing materials identified in this facility. This is consistent the building having been renovated in 1985.
- 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.

Released by National Guard Bureau

Page 807 of 1757

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. <u>Vault</u> 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. <u>Illumination survey</u> 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 Jesk	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.

Posted to NGB FOIA Reading Room

May, 2018

SYMECT: Industrial Hygiene Survey for the Alford National Guard Armory, Henderson, Texas.

- G. <u>Drill Floor</u> 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. <u>Inactive Firing Range</u> 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. fl. guidelines as required by NG PAM(AR)385-16.
- <u>Kitchen</u> The kitchen is adjacent to the armory floor and is fully functional. The kitchen is not used.
- J. <u>Flammable Storage Operation</u> 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 Afford National Guard Armory, Henderson, Texas.

Recommendations

ſ

- Lighting should be upgraded in all areas which were indicated as deficient.
- 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.
- Material safety data sheets (MSDS's) and a hazardous materials inventory list (HMIL) should be developed for the flammable storage operation.

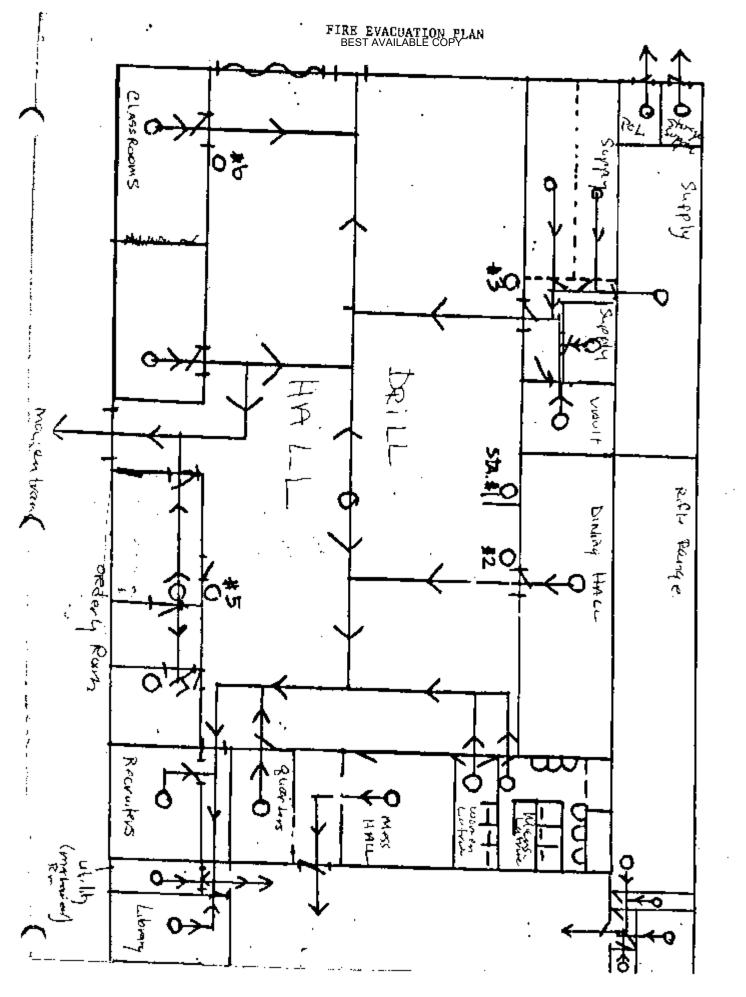
SUBJECT: Industrial Hygiene Survey for the Alford National Guard Armory, Henderson, Texas.

٢

Alford National Guard Amory 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	Dritt 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



BEST AVAILABLE COPY

APPENDIX B





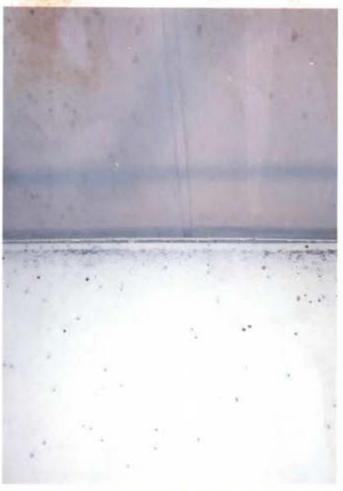






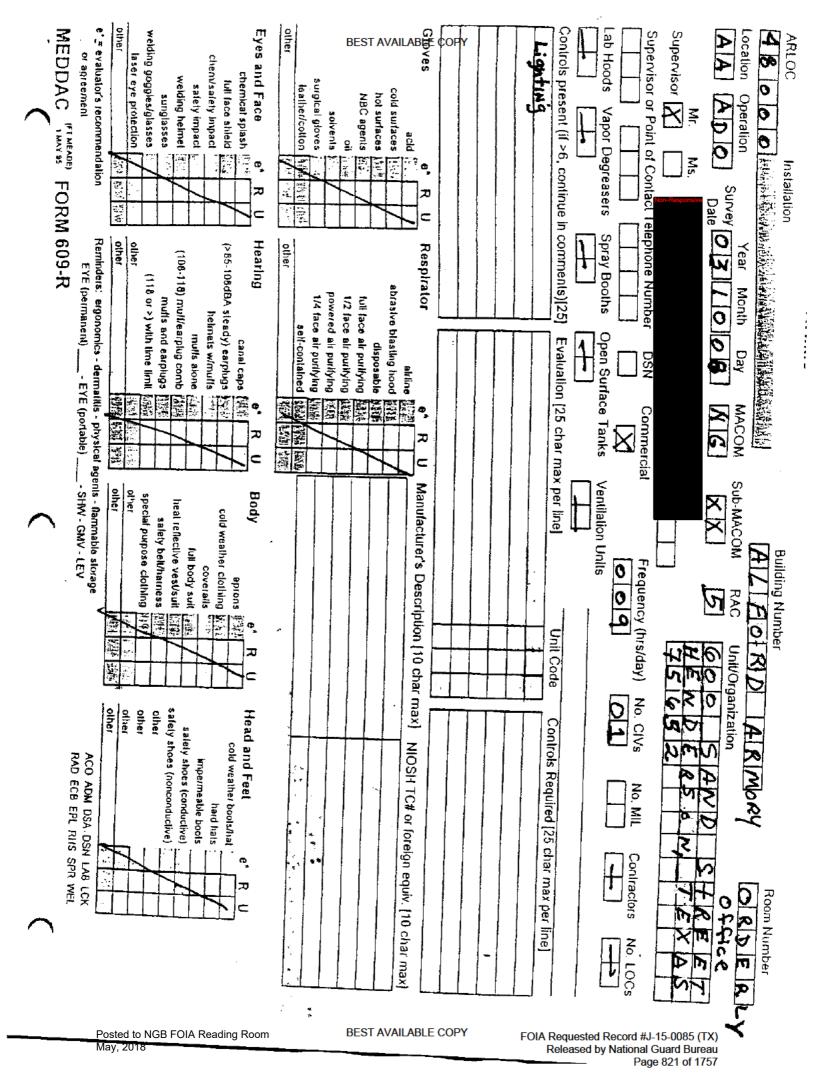








APPENDIX C



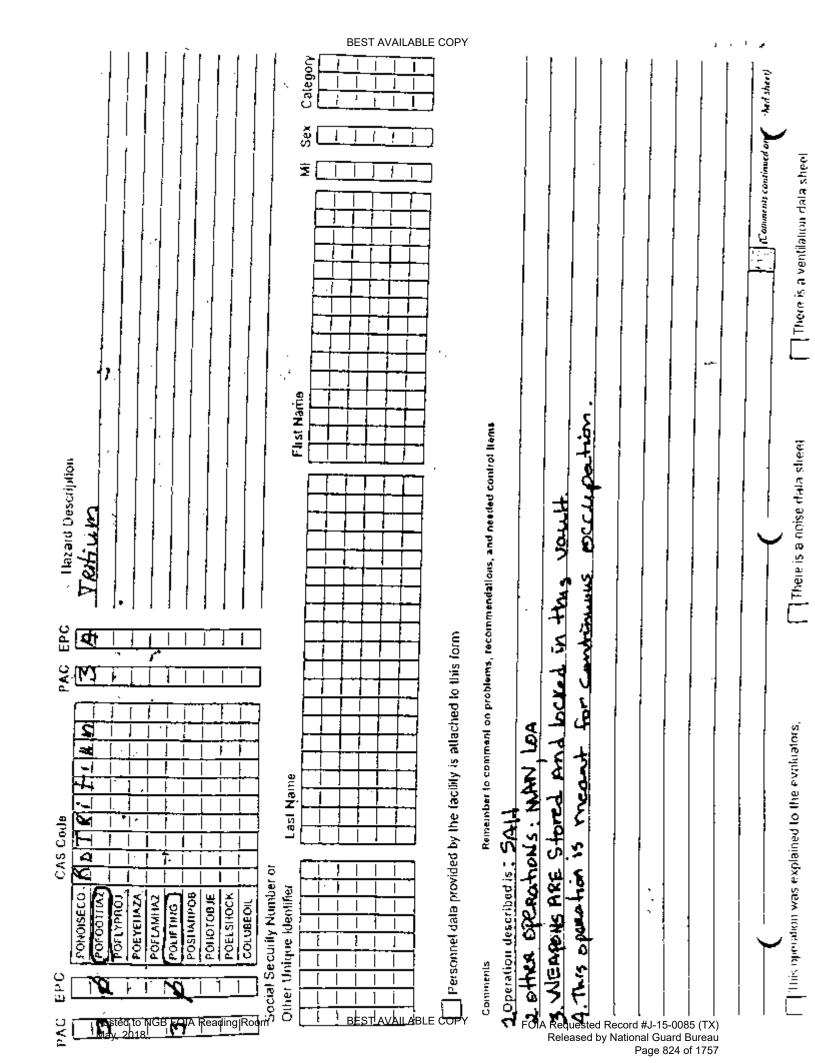
Page 822 of 1757

HHIMS INDUSTRIAL HYGIENE SURVEY FORM

	or agreement or agreement FT MEADE TO BE TO B		laser eye protection	welding goggles/glasses	welding helmel	safety impact	chenysalely impact	chemical splash 选作 /		100 A	leather/cotton 1452 4441 174	solvents	oil	NBC anents Salas	cold surfaces	apd 7	Groves at B II	co	PY		Logical Control	CATO	Controls present /# v& continue in	rapor Degregation		Supervisor or Point of Contact Telephone Number	_	Mr Ms Date	S A W Survey	Della Continuation	5
809-K	ergonomics - dermatitis - physical age (Permanent) - EYE (portable)	other Mar Sin Sin		muns and earplugs [325]	(108-118) mult/earplug comb	mults alone		Hearing engloaps (R U	75 V 12 6	other Control of the Park of the Control of the Con		-	1/2 face air purifying 保護		abrasive blasting hood 報係					Storage CREA	o++ice	_	_	opiay cours open surface tanks		phone Number DSN Commercial		9	O M I D O O O MACOM	"位于特别的现在是一种。" 第一个	The state of the s
	j		_1			full body suit Treat	cold weather clothing 执法	R U								Manufacturer's Description [10 char max]				714	- FTC	per line] Unit Code		Ventilation Units	9	Frequency (hrs/day) No	256	000	_ <u>.</u> _	BLEORD	Building Number
\sim	ACO ADM DSA DSN LAB LCK RAD ECB EPL RHS SPR WEL	other	other	other	safety shoes (nonconductive)	impermeable bools	cold wealher boots/hal	ad and Feet e'R L							4	ax] NIOSH TC# or foreign equiv. (10 char max)					SO - OD ANGT	Controls Required [25 char max per line]			Contractors No. LOCs		5 #X 8 7 N 0 5 2 4 7	STREET		A R MORY ROOM Number	
		Post	ed to	NG	B FC	DIA F	Readir	ıg Ro	om	•	;		В	EST	ΑV	AILAI	BLE	СО	PY		FC	IA R	eau	ested	l Reco	ord #J	I-15-00	85 (T	<u>F</u> `	-	

Posted to NGB FOIA Reading Room May, 2018

FOIA Requested Record #J-15-0085 (1777) Released by National Guard Bureau Page 823 of 1757



R U Hearing canal caps (>85-106dBA steady) earplugs (>85-106dBA steady) ea	B* R U Respirator Birlino R U Manufacturer's Description [10 char max] NIOSH TC# or foreign equiv. [10 char max]	ARLOC TISSUAL PROPERTY OF THE
Posted to NGB FOIA Reading Room May, 2018	[32 ⁸]	FOIA Requested Record #J-15-0085 (TX) Released by National Guard Bureau Page 825 of 1757

e* = evaluator's recommendation Mr. Supervisor olher BEST AVAILABLE MEDDAC (FIMENDE) FORM 609-R Eyes and Face welding goggles/glasses Controls present (if >6, continue in comments)[25] Lab Hoods Supervisor or Point of Contact Telephone Number -ocation laser eye protection chem/safety impact chemical splash welding helmel full face shield surgical gloves salely impact leather/cotton cold surfaces Operation sunglasses NBC agents hot surfaces T F G Vapor Degreasers solvents ackd ₽. ... = Φ, Installation -Survey Z æ Dale 10 5 0 Spray Booths Reminders: ergonomics - dermefitis - physical agents - flammable storage other Year Hearing 즲 (>85-108dBA steady) earplugs Respirator (108-118) mult/earplug comb EYE (permanent)_ (118 or >) with time limit abrasive biasting hood Month powered air purifying muffs and earplugs 1/4 face air purifying 1/2 face air purifying full tace air purifying 0 THE THEODY INDUSTRIAL HYGIENE SURVEY FORM helmets w/muffs self-contained Open Surface Tanks muffs alone Evaluation (25 char max per line) canal caps disposable NSO airline _ - EYE (portable) NG Commercial MACOM 101 E.A. Z Z _ · SHW - GMV - LEV Sub-MACON RAC Ventilation Units Manufacturer's Description [10 char max] oher of her Body special purpose clothing heal reflective vest/suit cold weather clothing safely belitharness BLEORD **Building Number** full body suit Frequency (hrs/day) 000 coveralis aprons Unit Code Unit/Organization Z No, CIVs other safely shoes (nonconductive) other other other Head and Feet Controls Required [25 char max per line] safely shoes (conductive) NIOSH TC# or foreign equiv. cold weather boots/hat ACO ADM DSA DSN LAB LCK RAD ECB EPL RHS SPR WEL impermeable boots No. MIL hard hats Contractors ガヤスの Room Number [10 char max No. LOCs

BEST AVAILABLE COPY

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

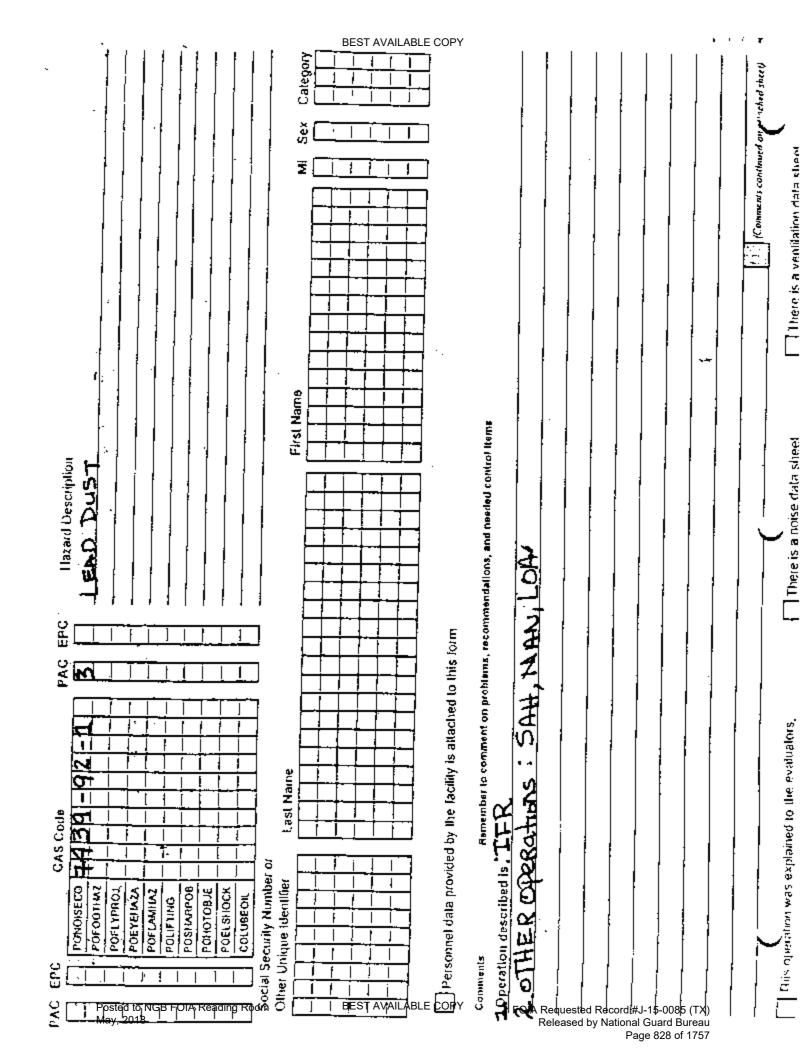
Released by National Guard Bureau

Page 827 of 1757

Posted to NGB FOIA Reading Room

May, 2018

other

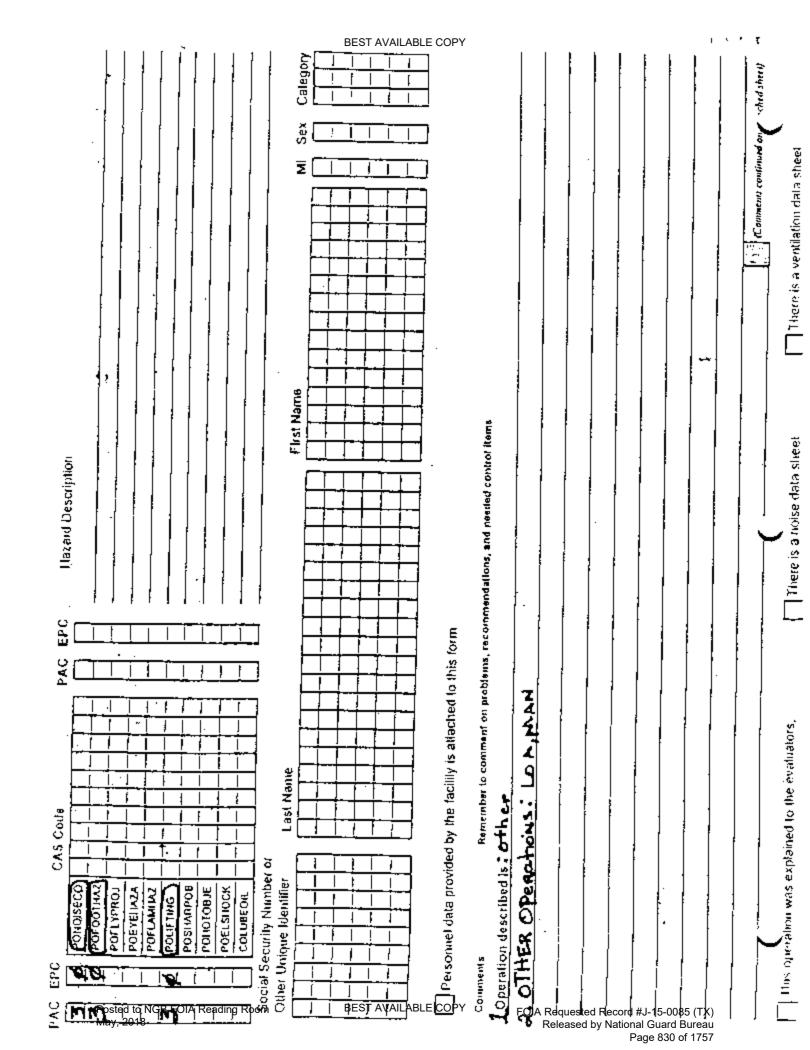


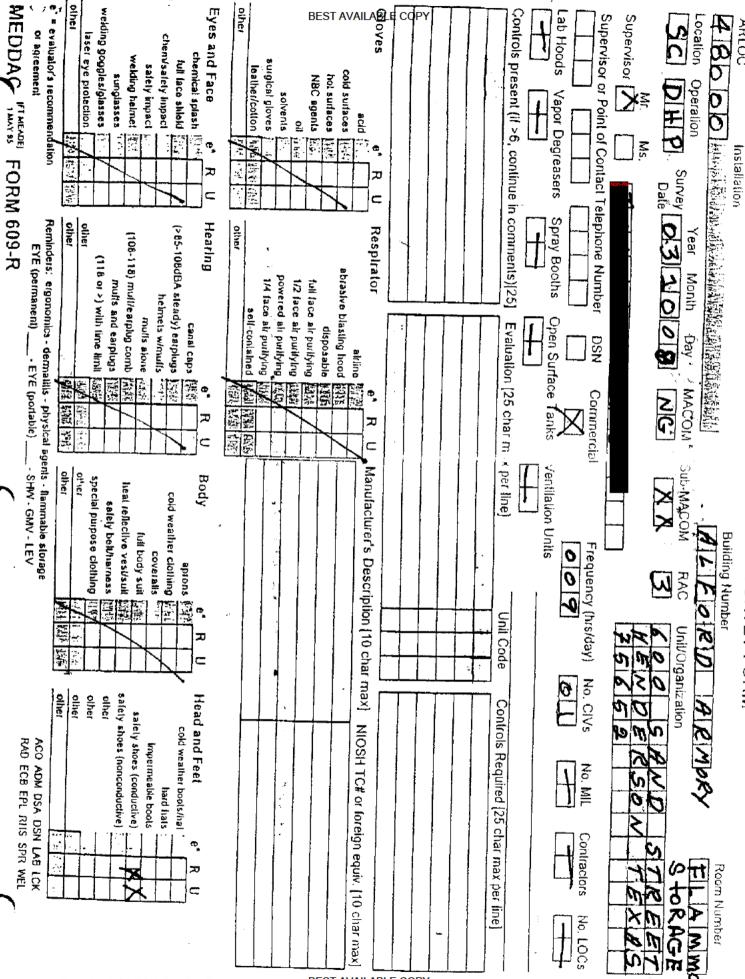
other e evaluator's recommendation MEDDAC (FIMENDE) FORM 609-R Sher welding goggles/glasses Eyes and Face BEST AVAILABEE Mr. Supervisor 📉 Controls present (if >6, continue in comments)(25) Lab Hoods Supervisor or Point of Contact Telephone Number Location Operation ARLOC 4 80000 中小小小小小小小小小小小小小小小小小小小小小小 laser eye protection chem/safety Impact chemical splash welding helmet full face shield surgical gloves safely impact leather/cotton cold surfaces sunglasses NBC agents hot surfaces H 1.0 Vapor Degreasers solvents acid 9, <u>ار</u> نو Ms. œ -Installation Survey [0]3][1]0][0][9] 3 Z 1 Reminders: ergonomics - dermatifis - physical agents - flammable storage Hearing Spray Booths e e other (>85-108dBA steady) earplugs olher Respirator Year (108-118) mult/earplug comb EYE (permanent)_ (118 or >) with time limit abrasive blasting hood Month muffs and earplugs powered air purifying 1/4 face sir purifying 1/2 face air purifying full face air purifying helmets w/mults TITLING INDUSTRIAL HYGIENE SURVEY FORM self-contained mults alone Open Surface Tanks canal caps Evaluation [25 char max per line] disposable Day DSN - EYE (portable) airline E - o **₩**G Commercial MACOM D į, Z - č \subset _ - SHW - GMV - LEV Ventilation Units Sub-MACOM other Manufacturer's Description [10 char max] Body special purpose clothing heat reflective vest/suit ×× cold weather clothing safely belt/harness full body suit Building Number Frequency (hrs/day) 009 coveralls suorde RAC FORD Unit Code Unit/Organization X No. CIVs Sher er safely shoes (nonconductive) other other Head and Feet Controls Required [25 char max per line] safety shoes (conductive) NIOSH TC# or foreign equiv. [10 char max] cold weather boots/hat RAD ECH EPL RHS SPR WEL ACO ADM DSA DSN LAB LCK impermeable boots No. MIL hard hats 0 Contractors Z Room Number OOR No. LOCs ķ

Posted to NGB FOIA Reading Room May, 2018

BEST AVAILABLE COPY

FOIA Requested Record #J-15-0085 (TX) Released by National Guard Bureau Page 829 of 1757





Posted to NGB FOIA Reading Room May, 2018

BEST AVAILABLE COPY

FOIA Requested Record #J-15-0085 (TX) Released by National Guard Bureau Page 831 of 1757

First Name First Name First Name First Name First Name M Sex Calegory Former Heins First Manne M Sex Calegory First Name M Sex Caleg	[1.1] [Comments continued on attached three] [1.0] [Comments continued on attached three]
Petroleum Octroleum Octroleum Mineralions, and needed control	ie is a C state et en
is form	FI-Pre 15 a
POR CONTRACT POSTURING POS	7 (1 ma) 8 (p) (i) (p) (b) (t)e ever) (a) (pm)
FOIA Requeste May, 2018	ed Record #J-15-0085 (TX) by National Guard Bureau Page 832 of 1757

BEST AVAILABLE COPY

APPENDIX D

\$ N. 2 . T

Kenin- PYI

HEADQUARTERS DEPARTMENTS OF THE ARMY AND THE AIR FORCE Washington, DC 20310-2400 31 January 1994

Y () +

NO PAM (AR) 385-16/ ANGPAR \$1.101

Salety

QUIDELINES FOR CONVERTING INDOOR FIRING PANGES TO OTHER USES

Summery. The is a new particular, This guidence prescribes policy, responsibilities, and procedures on how to convent lead-contaminated indoor firing ranges TO OUT OF LEGAL

Applicantity. This guidance applies to all persons responsible for the operation of Army Matierial Guard (APING) and Air National Guard (ANG) indoor firing ranges. As no regulation/publishes can because all all-umons that might arise, the tollowing is written in a broad scape and is intended to be interpreted as to the INTENT of the law by health professionals.

Supplementation. Supplementation of this guidarea is prohibited without prior approval from Chief, National Guard Bureau (NGB-AVN-\$1).

impact on New Hanning System. This guidance ques nel contain information that affects the New Manning System.

Interian changes, interim changes are not official unless they are authenticated by the Onlef, Administrative Services, Users will destroy interim cranges on their expension date unless sooner supersected or rescinded.

Suggested Improvements. The proponent of this publication is the National Guard Bureau. Users are Invited to eend comments and suggested imprayements on DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to Chief, National Guard Bureau, Attn: NGB-AVN-St, 111 South George Mason Utive, Artington, VA 22204-1382.

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

CONTENTS (Listed by paragraph numbers)

Granes.	Para
Purposa	1
References	2
Explanation of abbreviations and terms	3
Policy and procedures	4
Goal	5
Background	ě
Wips Sample Media	Ť
Wipe Sampling Protocol	8
Range Cleaning Instructions	ğ
Cleaning Stored Contaminated Equipment	70
Comminmed Sand and Lead Waste	13
Medical Survaillance	12
Worker Education	13
Personal Protective Equipment	
CAISONS LIGHTSHAR ENGINEES	14
Point of Contact	15
and the second s	

Appendices

A. Sampling Strategy for Collection of Wipe Samples

B. Interpretation of Sample Puscits (Prior to Ceaning) C. Interpretation of Sample Results (After Cleaning)

O. OSHA Instruction CPL 2-2.208

E. Where to Purchase Sample Media and Containers

F. AEKA Form B-R (Bulk Sample Data)

G. Instructions to Complete AEH

§ Form S-R

N. Examples of Computation of Lead Level from Wipe Sample Results

£ Supporting Laboratories and Areas Served

Giossery

1. Purpose

This pamphiet establishes policy and procedures for convening indoor firing ranges to other uses.

Reterances Related publications are listed below.

DODE 8059.1 (Department of Detente Occupational Salety and Health (OSH) Program).

b. 48 13-34 (The Army Respiratory Protection Program),

c. AR 40-5 (Preventive Medicine).

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

a. TR MED 802 (Occupational and Environmental Health Repiratory Protection Program).

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

Title 28, Code of Federal Regulations (CFR) revision, Part 1910 (Occupational Salety and Health Stangards).

is paneary 1994

. . .

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

APPEROIX B INTERPRETATION OF SAMPLE RESULTS (PRIOR TO CLEANING)

5-1 200 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 purcose.

8-X BETWEEN 201 and 200,000 interograms/ with

Partie must be decreased interest. Continue with clearing instructions listed in paragraph 15. Settiple results will be used to establish a beselve. The baseline sample require will be used to ensure the 75 percent reduction is achieved.

O-3 OYER states interegramming to Collecting Your sample media may not be capable of collecting additional lead dust and results that are above 200,000 inferogramming the should be considered auxpect. Larger concentrations of lead dust may exist on surfaces besed other than results indicate. If the initial sampling results are above 200,000 microgramming the results are short HEPA vacuuming and/or were wiping to establish a baseline. After the oleaning procedure is completed, resampling should occur until sample results are under the 200,000 microgramming it limit.

8-4 High sample results may exist due to personnel waiting or moving equipment/vehicles over the range surfaces causing the lead dust to be "ground" into the substraum. 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 O INTERPRETATION OF SAMPLE RESULTS (AFTER CLEANING)

C-1 200 microgramming it or LESS if all sample regular are less than 200 microgramming it, the range sent has convened and/or used for any purpose after a cost of lead-free lines; paint is applied. The paint color must contrast the color of the present substratum.

C-2 ASOVE 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 leadtree latex point must be applied before the area is willized for other purposes. The room can only be used
as a storage area. Storage of kitchen equipment and
tood is prohibited. The room cennot be used for a
child care or nuisery area. It sample results are not

below the 75 percent reduction, a more thorough cleaning of the range is required axing with resampling until cracks are met.

· PLEASE NOTE, that if your original wipe sample results were, i.e., 175,000 base it then you would have to reduce the load level below 13,125 up/sq ft. This would must the 75 percent netection criteria, however, this is an enormous amount of lead dust and ours should be taken to ensure a teaty coat of paint seats the head dust. It is unknown at this time whether of no the remaining amount of lead dust will allow the lates point to adhered to the substratum. If the point peals, late to the flaor and is crushed over a period of time, it will preste another resovable had hazard. It this happens, contact your Regional Industrial Hygiene Office for guidance. Periodically monitor the convented ratios 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

Rx Date/Time

OCT-23-2003 (THU)

P. 010

10/23/2003 18:15

381 5375781

EMSL ANALYTICAL

10/12 PAGE

EMSL Analytical, Inc.

Project: Henderson Amnory

10765 Baltimore Avenue, Beltaville, MÖ 20706

Phone: (301) 937-5700 Fast. (301) 937-8701 Smail: boltsvikalab@uffal.60m EMSL

Alin;

Fex

Ion-Responsive

Customer PO: Received:

LIGASOS 1449-03W 10/22/08 4:32 PM

EMSL Order:

Curromer ID:

180305711

EMSL Project ID:

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

Cliant Sample De	escription.	Lab ID	Analyzad	Area Sempled _		Laca Concentra	44 h
H-01	Ortil floor near rolling door	0001	10/23/2003	144 In ²		110.0 да	Ma.
H-02	Deli flaar omter ôf deli Soor	0002	10/23/2003	144 In ^s	·	180.0 pg	(E)-r
H-03	Onli floor front of mean half	0003	19/23/2003	144 in*		اور 580.0	life.
H-04	Kilonon floor @ entranse	0004	10/20/2003	144 in')	220.0 µb/	/∏²
H-05	<u> </u>	0005	10/23/2003	n/ė		<10.0 µg/	iwipe
H-08	Orderly rm, supply grill	2006	10/23/2003	144 In ⁴		11.0 μ	M.
H-07	!FR builet back slop	0007	10/22/2003	144 in ²		67000,0 12	/E=
H-08	(FR front of bullet tick stop	0008	10/23/2003	164 lm²		7300.0 µ y	/Q*
H-09	1FR réér Wéll next to entjext	0000	10/23/2003	144 in²	,	250.0	M°
H-10	Blank	2010	10/23/2003	n/a		<10.0 tp/	Wipe

or other approved signatory

23/2003 8:07:21 PM

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.

References.

- 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.
- 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.
- 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.
- I. Report of October 2003, Industrial Hygiene Survey, Non-Responsive Technical Solutions Fayetteville, GA.

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)

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.



CF:

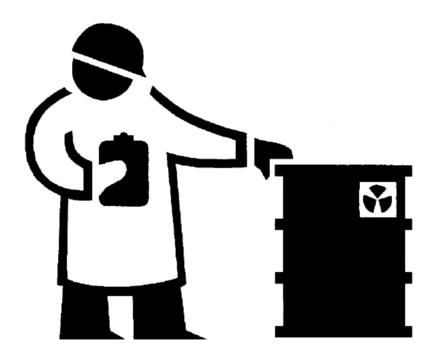
NBG-AVN-SH

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

Non-Responsive

BEST AVAILABLE COPY

TABLE OF CONTENTS

	_
BACKGROUND:	3
EXECUTIVE SUMMARY:	4
TECHNICAL ASSISTANCE:	5
INSTRUMENTATION:	6
FINDINGS:	
FACILITY DIAGRAM:	
PERSONNEL DATA:	8
BUILDING CONDITION:	8
Walk-through Observations	8
Paint Chips Lead Sample Results:	8
ADMINISTRATIVE OFFICES:	9
Light Reading Results:	9
Ventilation Sample Results:	, 9
Lead Wipe Sample Results:	9
KITCHEN / MESS HALL	
Light Reading Results:	10
Lead Wipe Sample Results:	
DRILL HALL	
Light Reading Results:	11
Lead Wipe Sample Results	11
Noise Sample Results:	
HVAC SYSTEM	11
SUPPLY ROOM(s) and VAULT(s)	
Light Reading Results:	
Lead Wipe Sample Results:	
INDOOR FIRING RANGE	
MOTOR POOL	
APPENDIX A – Recommendations:	
APPENDIX B – Pictures.	
APPENDIX C - Lab Report	
APPENDIX D - HHIM Sheets	17

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	Non Dooppender
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 μg/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 contact Astraiois evative 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:



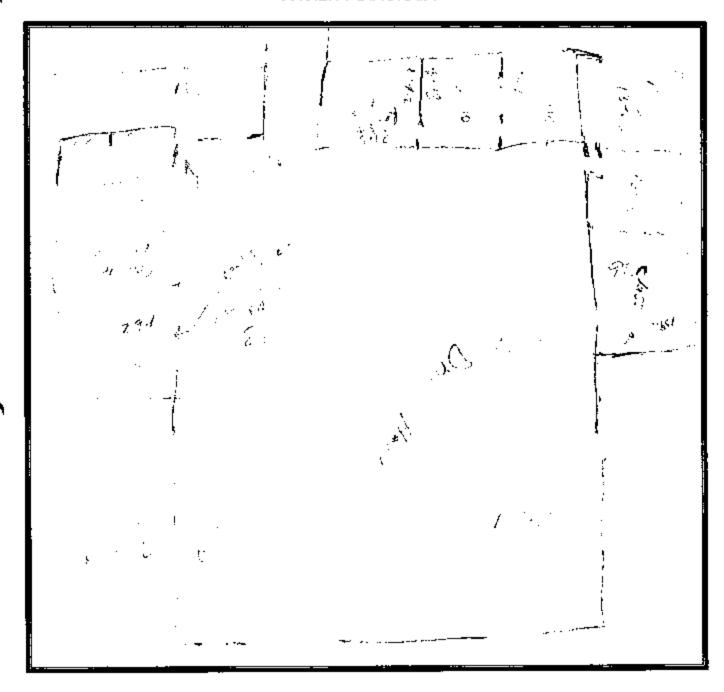
INSTRUMENTATION:

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:



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 (μg/ft²)	Remarks
		+	
		 	
	,		

Posted to NGB FOIA Reading Room

May, 2018

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 (µg/ft²)	Remarks
	_		
	· · · · · · · · · · · · · · · · · · ·	+ +	
	 	<u> </u>	· -
	<u> </u>		

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		
	<u> </u>		
			:

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 (µg/ft²)	Remarks
1-Hondo	Blank (Administrative offices, Kitchen, Drill Hall and HVAC)	BRL	Below Reporting Levels
2-Hondo	Kitchen Counter	BRL	<u>-</u>
	 	 	· -
	 		·
	<u> </u>		
		 	<u> </u>
	· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · ·
	 	-	

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		
Orill 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 equare foot on bare and carpeted floors is considered dangerous. The following are the sample results:

Sample No.	Sample Location	Results (μg/ft ²)	Remarks
3-Hondo	Drill Hall by Supply Office	BRL	Below Reporting Levels
4-Hondo	Drill Hall by Back Door	BRL	
i .			
			<u> </u>

Noise Sample Results:

Noise levels in the drift half 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.

SUPPLIF ROOMING 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 (µg/ft²)	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	
	- /		ļ

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 huildup 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, cating, smoking, chewing tobacco and gun, or applying makeup. Remove all refrigerators, cups, and other utensils from supply and maintenance areas.
- 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.
- 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

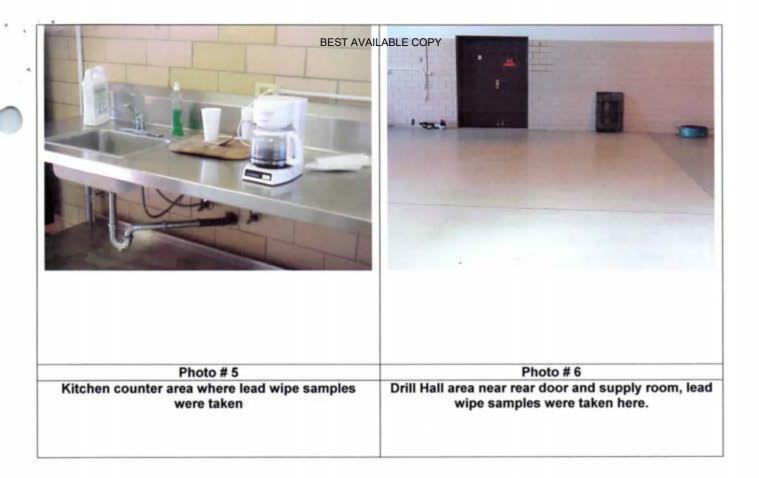




Photo # 3
Evidence of roof leakage in the kitchen area

Photo # 4

Another view of the area that is showing signs of roof leakage in the kitchen area.



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:

Date Received: 10/20/2003 12/5

Project No:

Hordo Armory Hondo Armory

Matrix:

Wipe

PO No:

Analysi:

888

Laboratory	Client Sample	Results	Units	ADL	DF	Date	Date
(D)	m					Collected	Arasiyzed
9310×12-001A	1/按0N(X)	BRI.	pe. l'etal	2 83	;	10-15-2003	10 23 2003
93106124002A	1-RONDO	BRI	pg. Total	283	:	10 15 2003	10/23/2093
0310x124003A	*(k)NDO	BRI	pic Terral	283		16.15.2063	10:23 2095
93106 (2 00 (A	GRONDO	В Щ1.	pre, fotal	2.83	:	10.15.2003	10/23/2003
93106424009A	5-(RONES)	BRL	μg, Iotal	283	:	10.15.2093	16, 20, 2003
93166 IQ4006A	6-4608030	BRI.	pg fetal	2.83	-	16 15 2695	10, 23 70-33
03105424 X 0*A	1-9895030	PARK	ng Total	2.83		16 15 2063	(0.13.20)3
0310∌42 908A	8-380MD0	1220	मुद्र, देशकी	283	:	10 15 2003	16, 20, 2003

MDR - Method Detection Limit

OF - Dibuted Leaves

NO. Not Detected at the Reporting Limit

Page 2 of I

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.

- References.
- 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.
- 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.
- I. 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
- Findings. All Health Hazard information are on the survey findings of the report.(See enclosure 1)
- 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 1.1, 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



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



July 2, 2003

Table of Contents

Executive Summary	Page 1
Subject	Page 2
Background	Fage 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 (

Appendices

- A. References.
- B. Laboratory Analytical Results.C. Lab Chain of Custody.
- D. Floor Layout and Photographs.
- E. Indoor Firing Range Cleaning Guidance.

Survey Date: 6 May 2003

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.

Тэріс	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.
нуаслао	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 Scuth 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.

<u>Scope of Work.</u> 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 Mcter 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

<u>Lead 'Wipe Samples:</u> 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 ead dust as a hazard if levels are greater than 40 micrograms of lead in dust per square foct 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:

Survey Date: 6 May 2003

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 Arua	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 footcandles 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 Ania	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.

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 windows 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, U3 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 Aralytical

3 Cooper St., Westmont, NJ 09100



Atta:

Fax:

Project:



TS00 Customer ID: Customer PO:

05/12/03 11:50 AM

EMSL Orden EMSL Project ID: 200304962

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

Client Sample Description	Lab II) Analysis	Area Sampled	Concreted
IRV 001	5001	144 in ^z	78.0 (m/l²*
IRV 002	0002	164 lp²	43.0 µg/f*
IRV 003	9003	144 in²	88.0 <u>pg</u> ff*
IRV CO4	9904	144 in²	*10,0 µg/II*
IRV 003	9905	144 (n²	200.0 pg/fi*
ITV COS	0006	744 (nº	<10.0 μg/π³
IRV 007	0207	144 in*	<10.0 (igit)
URV 008	8008	144 in ²	<10.0 pg/ft ^a
RVODA	0009	144 Int	<18.0 pg/t²
TRV 010	2010	144 in²	<10.0 µg/fi²

Print d; 5/23/03 5:38:16 PM

EMSL Analytical, Inc.

107 Hacidon Ave., Westmont, NJ 08198

Phone: (969) 957-4900 Fan: (956) 650-4943 Foreil: 0 Ningolf (605), con





Non-Responsive

Fax: Project Customer IO: TS80

Customer PO:

Charomac. L.O.

05/12/03 2:35 PM

EMSI, Order:

040307587

EM&L Project ID:

Analysia Date: 5/19/03

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

					Non-As	bosto	3.	<u>Aspostos</u>
Sample	Location	Appearance	Treatment	% Fit	nrough.	*	Non-Fibrous	% Type
(RV01A exceptatrose:	IRVINGIDALLAS	Gray Fibrolis Hotarageneous	Teased		Calkilose Min, Wool		48% Non-fibrous (other)	None Detected
IRVOZA	IRVING/DALLAS	Yellow Februa Heterogeneous	Tessed		Collulosa Min, Wasi		16% Non-fibrous (other)	None Detected
1RV03A 240307537-0707	IRVING/DALLAS		Texted	50%	Cellulose		50% Non-Remus (other)	None Detected
IRV04A cassists cone	IRVING/DALLAS		Tensed		Celtutose Min. Wool		AS% Non-Abrous (other)	3% Chrysotile

Non-Responsive



id Vind more known i mier debictor in it areal representation of which which remain restablish length of 1,34 immus carrier on parameter, from the presentation of which will be represented to the common of the presentation of

Army year year (perment by 1968), When more ONE AP REQUESTED Up, NY CLAP 10073

THE IS THE LAST PAGE OF THE REPORT

APPENDIX C

EMSL ANALYTIC	CAL		CHAIN	OF CUSTODY	2003649	LEAD
EMSL Rep: Your Company		nar Sein	ness In	DATE: 5/8/63 EWS'Bill to:	Third party hilling requires from that party Some CO DEM'S	
Name: Street:	75/11		ence Or	Street:		
	3744	Lawr	CALL UT	Box #:		
Box#:			H 74-1 4			Zin:
City/State:	Nepec	alle, =	71_ Zip: 60	264 City/State:		
Phono Results to: Name: Telephon > #: Project Name/Number:		on	-Re	Spons Order #:	sive	
				INCOMES INTO A STATE	mdls	TAT
(ATRIX			FFICE	INSTRUMENT	0.01% ++	
Lead Chips	V	SW848-74 -AOAC 5-00		Flame Atomic Absorption	U,U) +	144Krs
Lead Wastewaker	PERMIT	SW846-74	Control of the Control	Flame Atomic Absorption	0,4 mg/l water 50 mg/kg (ppm) soil	to a first of the same of the
Load Soll 4		or SW846		ICP	0.1 mg/i water 10 mg/kg (ppm) soll	
Load in Air***	· ·	MIOSH 70	92	Flama Atomic Absorption	5 up/filer	Co. Co. C. C. C. C. C. C. C. C. C. C. C. C. C.
1"Obe (il voi		or NIOSH	• •	ICP	3.0 ug/ditter	
Property of the second	w (Line process		- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	The second secon	Control of the Contro	STATE OF THE PARTY
Cond in Ware		SW048-74		Flame Atomic Absorption	10 ug/who Some 72 h	5 144 H/SAF
		or SW846		ICP	3.0 ug/wipo	
TCLP Load **		SW846-13	11/7420	, Flume Atomic Absorption	O.A mg/l (ppm)	
		or 5W846		ICP	0.1 mg/i (ppm)	
Leed in Air		NIOSH 71		Graphite Furnace Memic Absorption	0.03 ug/Mar	
Load Wash water	<u> المركمة والمسمر تاريخة</u>	SW848-74	121	Graphite Furnece Atomic Absorption	Q.003 mg/l (ppm) water	
Leod Soil +				- Ansorphori	0.3 mg/kg (ppm) soil	
Lead in Drinking Water (strie Certific Wor Requirer		[EP∧ 239.:]	2	Graphite Furnaco Atomic Abeorption	0.003 mg/l (ppm)	
Total Dust		NIOSH 05		Gravimetric Reduction	0.0001g	
TAT (Turns round) - 3 ho 12 hours (inust anive b 24 hours (1day), 48 hours 	y 11:00.a rs (2 deyr	.m), s), 72 hours	, 96 hours (3 d	eys), 120 hours(4 days), 144	+ hours (6-10 days)	
SAMPL				LOCATION	Air volume, L Area, In ²	LAB#
DM 5001			DALLA	٠ 5	144 m	
DA 5002			DACLE	3 -	1 1	
DA 5003				,	 	
			 			
0PY - 52XX4						
Relinquisted By: (Po	- 1.	VC	<u>)</u> -	Resp	onsi	brille
Date: 5/8/1						
	ALC: N	AND DESCRIPTION OF	on the water is a second	The same of the sa	the transfer of the second	# 10 7 10 1
 And the second of	and constitue Non-thickery	سر ها د جا ساحه د ورسودو ساوده	EPer Acro	THE WATE		~ 1 of 4

	CHAIN OF CUSTODY	, Dans e de	LEAD
SAMPLE #	LOCATION	Air volume, L Area, in ²	LAB#
bht. 5005	DALAS#5	147 inz	
DR-5006	/	11,112	
DA1-5007	_	 	
DAL SOOB	 	 	
DAL 5000	 	 {	
		 	
0AL 5010		 (
DAL SOIL		 - }	 -
DAL 5012	12 ATC 12 CO 0 CC 44	12	
	REPORT &	144 . 7	4· ·····
IRVOOI	DRVING/DALLAS	144 m Z	679(1-1
JRV002	 /	/	1
TRV003	 	 	3_
IRV 004	 	 	<u></u>
IRV 005	 	 /	
TRV 006		 	 -
IRV 007	 	 	1
TEVOOR	· / / /	 /-	<u> </u>
IRV 009		- (
IRVOID			(· · ·)
IRVOIL ?,	<u> </u>	 	Masmin 2000
IRV OIZ	V		1 1000
<u>% 3€0</u>	ERME REPORT Y	<u> </u>	
DA1-2001	DALLASH Z	144 mz	
DAL ZOOZ	<u> </u>		<u></u>
DAL 2003			.
DAC 2004]		<u> </u>
DAL 2005		 / 	
DAC 2006		 \	<u> </u>
DAL 2007		1 /	
DAŁ ZOOS	<u> </u>	1 4	ļ
> 4 5	EPERATE REPORT	4	
DAL 4001	DALLAS # 4	144 m2	
DA (40024	, , , , , , , , , , , , , , , , , , , ,		<u> </u>
DAL4003	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	1 4	

040307587



EMSI. Analytical, Inc. Revised 07/117/20

CHAIN OF CUSTODY

ESDESTOS

KMSL Rep:			·	द्वीत्रपुर देशिय	ly Billing require w I party	riuen audoclarični
Your Company Street:	Nome: Jammer 3744 Las	Sciences. Inc.	EMSL-Bill to: Street:		unce as 5	hippins
Box #: City/State:	1	(I) Zip: 60564	Box #: City/State:			Zip:
City/State:	No treat !!!	() TE - 44. (072/04)				_ ·
Phone Results : Name: Telephone : Project Name/Number	Noi	n-Res	por	nsiv	e	
	MATRIX			TURN	AROUND	
☐ Atr	□ Floor Tile	□ Soil	CI 3 Juna	□ 6 Hears	[] Same Day or (2 Hours*	D 24 Hours 1 day
DY Bulk	Drinking Water	☐ Dust	48 Hours 2 days	☐ 72 Hours 3 days	4 days	120 Hours 5 Days
☐ Wipe	☐ Wastewater	☐ Micro-Vac	144+ hours	6-10 Days	-	,
TEM AIR 31 mm	n, 6 hours. Please call about to be a sked to sign and natherize	schniste. There is a premis atten form for this service. If	un charge for 3 bau Lbours (must arriv	r sat, please call 1-5 a by 61:00 a.m Mor	190-224-3675 for pr - Fri), Please Ref	ica prime in pepillag er in Prime Quoto
		TEM AIR			TEM WATE	
PCM - Au NIOSII 7	400	☐ AHERA			Wastewate	
OSHA		☐ NTOSH 7			~	Vater EPA 100.1 Y Wastewater
Colher:		U Erkken	CI 11			Drinking Water
FI.M Buk EPA 630	/R-93/116	TEM BULK	/mise mt (Qualitative)	ASTM D	SYAC / WIPE 5755-95 tive mostered
EPA Poin	t Count	Chatfield				
1 <u></u> 1	fied Point Count B (Gravimente) NY 1		B (Gravimetric) NY 198.4	XRD Asbestos	
Cther:	B (Cravimente) NY 1	.50.1			Sīlica	
SEM Air or	Bulk				OTHER	~
Qualit di Quanti at						
			LOCATION		VOLID	TE (If Applicable)
	MPLE NUMBER				. , , , , , , , , , , , , , , , , , , ,	W/A
	C501A	DHOD	A5 # 5		-	1-770
131	71_4502A	1				
(Blent Sample	* (s)		noiv.		otal Sautples #:	PM
Relinquishe i:	I-HOVI	Respo		3/0/US	Three	<u> </u>
Received:		•			Times	
		C 1-			Page 1	13 1
		Fedex			, "ye -	0

040307587



ENESI, Analysical, Inc. Rened 07/07/19

CHAIN OF CUSTODY

Athesius

S VARTE NUMBER	LOCATION	VOI. CATE (If Applicable)
DAY 2034	DALLAS # 5	₹\A
bal 504A		5
CAL 5051		4
	SEPERATE REPORT 40	<u> </u>
יָבן וֹסעִיבֹּנִי	JEVING/DALLAS	N/A
I FVOZA	2	
IRV03A	<u> </u>	<u> </u>
IF.VO4A	→	*
	PERMIE REQUET OF C	<u>-</u>
613-L201A	DALLAS # 2	N/A
D14L202A	λ	
0HL203A]
> 4 SEP	EXATE REPORT &	
DINLAGIA	DALLAS # 4	N/A
0f-402A		
011-C 4031A		
DAL434A		<u> </u>
DI1-L 405 A		
OAL 406A	T)	 /
LAL-40∓A		
0A4 108A		}
	SEPERATE BEPORT &	
)AL 301A	DALLAS # 3	N/A
JAL 302A	<u> </u>	1 2
DA1-503 A		- ·
¥4-	SEPERATE REPORT # "	

Page 2 4 3

040307587



ZMSL Analytical, lot. Revises money

CILATN OF CUSTODY

Ashestes

SAMPLE NUMBER	LUCATION	VOLUME (If Applicable)
FIVOIA	TORT WORTH # 2	N/A
FU 02 A		
FU03A		<u> </u>
4>0cn3		<u> </u>
C> SEPE	PRATE REPORTS	<u> </u>
		<u> </u>
	<u> </u>	<u> </u>
<u> </u>		<u> </u>
·		<u> </u>
· · · · · · · · · · · · · · · · · · ·		<u> </u>
		
		·:: - -

Page 3 rd 3 &

APPENDIX D

